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Archaeological Research on the Islands of the Sun and Moon, Lake Titicaca, Bolivia: Final Results of the Proyecto Tiksi Kjarka

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Charles Stanish

and

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Preface

In early 1895, the celebrated archaeologist and naturalist Adolph Bandelier conducted the first systematic research on the Islands of the Sun and Moon. Since that time, scores of researchers and naturalists have visited and worked on the islands. Scholars such as Arthur Posnansky, Alberto Perrin Pando, Johan Reinhard, Javier Escalante, Carlos Ponce Sanginés, and Eduardo Pareja have provided a wealth of information on the prehistory of these fascinating islands. In 1994, almost exactly 100 years after Bandelier's work, we began the Proyecto Tiksi Kjarka on the islands. The name "Tiksi Kjarka" was suggested by our colleague Oswaldo Rivera, then director of the Instituto Nacional de Arqueología in La Paz. The term, an indigenous reference to the Sacred Rock on the Island of the Sun, was adopted as the name of the project.

We decided to work on the islands for several reasons. First, we were aware that the Islands of the Sun and the Moon contained some of the most important religious shrines in the Inca Empire. We wanted to take advantage of this historical information to study this great religious complex, and we were curious as to whether the islands were ritually significant prior to the Inca occupation of the Lake Titicaca region in the late 15th century AD. We were also intrigued by the small size and unusual characteristics of the islands as study areas. Surveys had been conducted in the Titicaca region before this work, and we therefore had a good comparative database. But the Island of the Sun represents a virtually unique ecological niche in the Titicaca Basin. It is the largest island in the lake, and the agricultural conditions are, and were in the past, better than on the mainland due to the higher ambient temperatures from the surrounding water.

We were also drawn to the islands because of the rich quantity of historical material that existed in print and in the archives. The Spanish chroniclers were intrigued by indigenous religious practices on the islands, and they produced a corpus of data on the island sanctuaries. Given that the archaeological sites on the Islands of the Sun and the Moon were relatively undisturbed, we found them to be an excellent research area to test the accuracy of the historical documents against the archaeological record. In 2001, we published a broad summary and interpretation of the results of our work in a book titled Ritual and Pilgrimage in the Ancient Andes.1 Other published work from this project includes an article about the solstice markers near the Sacred Rock (Dearborn, Seddon, and Bauer 1998), an article on excavations at an Archaic and Formative site near Challa (Stanish et al. 2002), and a dissertation on excavations at the site of Chucaripupata (Seddon 1998).

In this present work, we provide the survey and excavation data in much greater detail than before. The publication of these final results of our project will allow other scholars to review the empirical foundations of our interpretations in this and in earlier published work. We also hope that the publication of these data will be an inducement for others to work on the islands and test and refine our ideas. Finally, we hope that this research will encourage the appropriate authorities in La Paz and on the islands to preserve as much of the cultural heritage as possible before unchecked tourism and development irreparably damage the cultural landscape of these unique and beautiful places.

The Proyecto Tiksi Kjarka was conceived as a multiyear research program. We began this work in 1994 and returned for two additional seasons. This three-year research program was funded by the Wenner-Gren Foundation for Anthropological Research, the National Science Foundation, the Field Museum of Natural History, the University of Illinois at Chicago, the Ahmanson Field Research Fund of the Cotsen Institute of Archaeology, the Cotsen Field Research Endowment, Ms. Patricia Dodson, and Mr. Robert Donnelly. Many people assisted us in the project. Johan Reinhard graciously

provided photographs, data, and advice. We thank him for his collegiality. We gratefully acknowledge the help of Oswaldo Rivera, Carlos Ostermann, and Javier Escalante of the Instituto Nacional de Arqueología in La Paz, as well as the Secretaría Nacional de Cultura, Alberto Bailey. We thank Esteban Quelima, of Challa, and many students from the Universidad Mayor San Andrés in La Paz.

We acknowledge the support of Peter Crane, then Vice-President of Academic Affairs at the Field Museum of Natural History. We thank Craig Morris and Sumru Aricanli of the American Museum of Natural History for their assistance and permission to work on the Bandelier collection. Tulane University and Harvard University granted us access to their photographic archives. We also thank the Publications staff at the Cotsen Institute of Archaeology (CIOA) at UCLA for their work on this manuscript. We are grateful to Patricia Dodson for her friendship and support during this project, and Ken and Ligia Keller and Lupe Andrade and her family for their hospitality and kindness during Stanish's stays in La Paz.

We gratefully acknowledge Mr. Lloyd Cotsen for his support of the Publications Unit at the Cotsen Institute of Archaeology. Without his financial assistance and business advice, this quality monograph series would not be possible. We also acknowledge members of the Director's Council of the CIOA for their donations over the years that helped make this, and other publications, possible.

We likewise acknowledge the assistance of many colleagues, including Mark Aldenderfer, Lisa Cipolla, Cecilia Chávez, Edmundo de la Vega, Clark Erickson, Elizabeth Klarich, Chapuruku Kusimba, Joyce Marcus, Michael Moseley, Rolando Paredes, and Katharina Schreiber. We also thank Santiago Mendoza, Edilberto Ticona Ticona, Francisco Ticona, and Felix Mamani for their help in supervising the excavations.

Comments from two anonymous reviewers on this manuscript were particularly helpful. We likewise thank the editorial board of the Cotsen Institute for their help in this monograph series.

A special thanks to Dr. Julia Sanchez, Assistant Director of the Cotsen Institute of Archaeology and Director of Publications. Her dedication to quality publications has greatly enhanced the quality of this book. Ms. Carol Leyba copyedited and produced this monograph, and we are grateful to her for the high standards that she has maintained for our Publications Unit. Ms. Ulli Green prepared a number of the images and line drawings for this publication and helped with certain design elements. We gratefully acknowledge their fine work.

NOTE

1. Parts of this technical monograph have appeared in Bauer and Stanish 2001. They are reproduced here by permission of The University of Texas Press.

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History, Culture, and Geography of the Islands of the Sun and Moon

Charles Stanish and Brian S. Bauer

Introduction

In the southern side of Lake Titicaca are two islands that are uniquely important in the prehistory of South America (Figures 1.1, 1.2). The largest island is called the Isla del Sol (Island of the Sun) or Isla Titicaca (Titicaca Island) (Figure 1.3). This island measures approximately 21 square kilometers (Figure 1.4). The Island of the Moon, also known as Isla Coati, is located a few kilometers to the east of the Island of the Sun. The Island of the Moon is much smaller than the Island of the Sun, covering no more than a few square kilometers in total land area. Both of the islands can be reached from the Copacabana Peninsula in a few hours by motor boat.¹

Despite their relatively small sizes, the Islands of the Sun and Moon are famous in Andean prehistory. At the time of the Spanish conquest of the Inca Empire (AD 1532), indigenous peoples across the Andes had heard of these sacred islands. The fame of the islands was due, in part, to the central role they played in imperial Inca cosmology and their strategies of control in the Titicaca region.

When the Inca Empire entered the Titicaca region, sometime in the 15th century AD (Figure 1.5), they encountered a fragmented political landscape of Aymara-speaking peoples (Figure 1.6). A number of small polities, referred to as *señoríos* by later Spanish writers, were concentrated around Lake Titicaca. The two largest of these polities were the Lupaqa located in the west and southwest of the lake, and the Colla found to the north. Smaller



Figure 1.1. South America.

señoríos included the Pacajes to the south and the Omasuyu to the northeast. The Island of the Sun was essentially on the border between the Lupaqa and Pacajes territories, but it is unlikely that the inhabitants of the region at that time

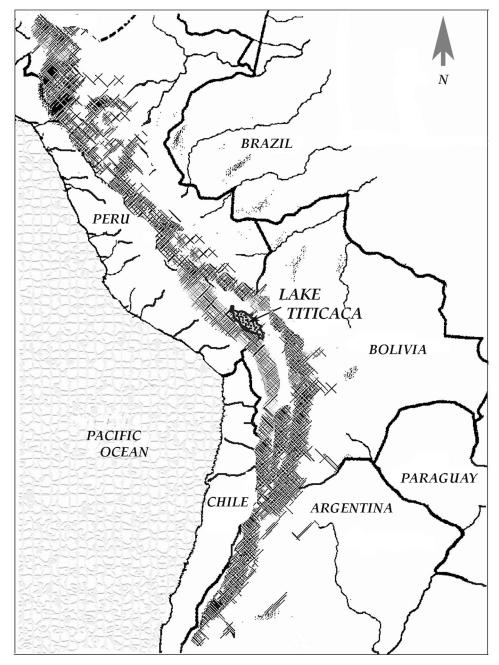


Figure 1.2. Map of the Peru and Bolivia region.

thought in these geopolitical terms. Rather, there was most likely a fluid cultural landscape of political alliances and fissures, with different groups forming temporary coalitions. It is likely that the Island of the Sun was significant because it is the largest island in Lake Titicaca

and because of its geographical location in the southern Titicaca Basin, a culturally precocious area in the region (Stanish 2003). The Island of the Moon may have risen in prominence because of its close proximity to its neighbor island.

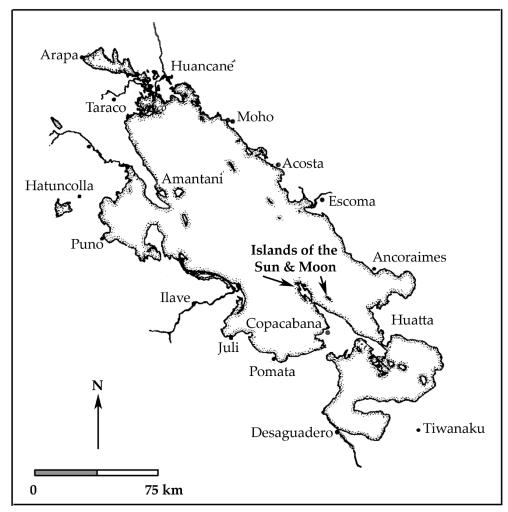


Figure 1.3. Lake Titicaca with the Islands of the Sun and Moon.

Within the Inca Empire, these two islands were sacred places dedicated to the Sun and the Moon. The Inca built religious shrines and facilities on both of them. They converted the Copacabana Peninsula, the Island of the Sun, and the Island of the Moon into a great pilgrimage destination and shrine complex. This Lake Titicaca shrine complex represented one of three great pilgrimage destinations in the late prehispanic Andean world, along with the Coricancha in the capital city of the Inca in Cusco, and the temple of Pachacamac on the Pacific coast.

It is no coincidence that today the mainland town of Copacabana is one of the most important Catholic pilgrimage destinations in South America. Soon after the conquest, Spanish authorities appropriated the sacred nature of the area and moved the center of religious worship from the islands to the nearby mainland. In 1583, a statue of the Virgin Mary was placed in a modest church in this former Inca town. The statue, made by the artist Francisco Tito Yupanqui, grandson of the last Inca to rule a united Inca Empire (Huayna Capac), combined both indigenous and Catholic elements (MacCormack 1990, 1991). In 1589, the Augustinians began to build a large stone church dedicated to the Virgin, a construction project that would take some 80 years to complete. In 1949, the church was elevated in stature to a basilica, and

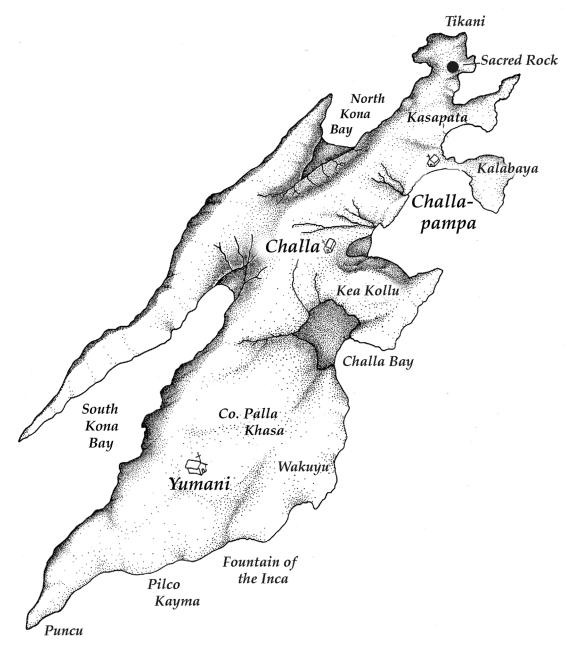


Figure 1.4. The Island of the Sun with modern place names.

it continues to be one of the most visited pilgrimage destinations in South America, especially during the first week of August.

From the writings of early Colonial period priests, we know that in Inca times the Islands of the Sun and the Moon were sacred areas. However, the results of archaeological work on

these islands, beginning with that of Adolph Bandelier (1910), suggest that the Islands of the Sun and Moon were sacred long before the Inca arrived on the shores of Lake Titicaca. In other words, like the Spaniards in the 16th century, as the Inca expanded into the Lake Titicaca region, they incorporated a preexisting ritual area into

Date	West	South	Island of the Sun
AD 1500	Inca	Inca	Inca
1000	Lupaqa	Pacajes	Altiplano
500	Tiwanaku	Tiwanaku V	Tiwanaku
	Late Sillumocco	Tiwanaku IV Qeya	Late Titinhuayani
AD/BC		Kalasasaya Late Chiripa	
500	Early Sillumocco	Middle Chiripa	Early Titinhuayani
1000	Pasiri	Early Chiripa	Pasiri
1500			
2000			

Figure 1.5. Chronology of the Titicaca Basin including the Island of the Sun.

their empire and created a religious center of pan-regional importance that met both the individualized religious needs of pilgrims and reinforced the power of their empire in this perennially rebellious province.

In sum, the Islands of the Sun and Moon have been contested space among the inhabitants of the Lake Titicaca region for millennia. They are of such profound importance that three independent states (Tiwanaku, Inca, and Spanish), one independent republic (Bolivia), and numerous smaller polities have attempted to control and associate themselves with these sacred islands. In the words of Bernabé Cobo (1990:94 [1653: Bk 13, Ch. 18]), an especially

astute Spanish chronicler, the veneration of the shrines was "so widespread that people came to this place on pilgrimage from everywhere. And there was always a large gathering of people there from far away. Thus this place became so famous that its memory will live on among the Indians as long as they last."²

The People and Geography of the Islands For several centuries following the Colonial period, the Island of the Sun was divided into two haciendas: Challa and Yumani (Figure 1.4). At the turn of the 19th century, Bandelier wrote that the owner of Challa, located on the northern part of the island, was a Peruvian, while the

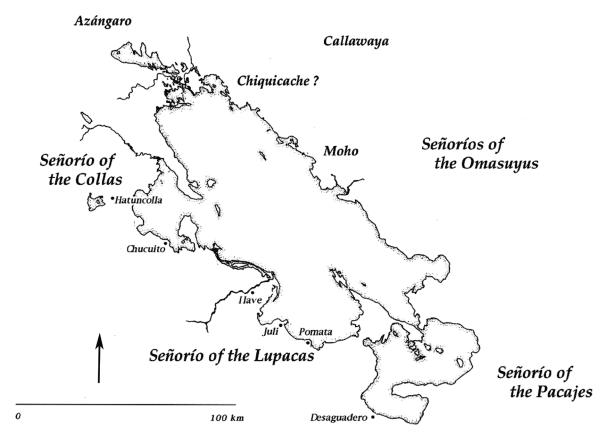


Figure 1.6. Sixteenth-century señoríos in the Titicaca Basin.

owner of the southern side, Yumani, was Bolivian. The 1950s revolutionary reforms that swept across Bolivia redistributed the land to the farmers who actually worked it. Prior to just a few years ago, there were only two communities that corresponded to the old hacienda boundaries. A low stone wall still separates Yumani and Challa.

In recent years, Challa split to form two separate communities (Challa and Challapampa), and this division became more or less official during our stay. The differences between the two communities went back a decade or more, and we are not clear on the reasons for the division. But it appears likely that influence from the outside, particularly development money and tourism, were factors partially responsible for this division. During the excavation phase of our research, one of us (Bauer) lived and worked in Challapampa,

while the other (Stanish) lived and worked in Challa. During the survey, we lived in both communities on a less regular basis.

It is difficult to know precisely how many people permanently reside on the Island of the Sun because many families own houses in Copacabana and in La Paz, which is a five-hour bus ride from Copacabana. A recent census indicates that a few thousand people live or own property on the island. Bandelier (1910:51) noted that there were approximately 800 people resident on the Island of the Sun during his stay. The Island of the Moon is much smaller, with a few families that regularly travel to Copacabana. Bandelier mentions that in 1895, there were 12 to 15 people living on this island, with an occasional temporary increase in population to 30 or 40 with people from the nearby mainland village of Sampaya. According to Bandelier (1910:50), the hacienda owner left the

administration of the Island of the Moon in the hands of the indigenous authorities of this village. Today close relations continue between Sampaya and members of the island.

The people who live on the islands are Aymara speakers. However, documentary sources such as Ramos Gavilán and Cobo suggest that the original inhabitants were removed by the Inca and resettled to Yunguyu (and see Julien 1993:186) and that *mitimae* (colonists) were brought in from around the empire to settle the shrine. If this were the case, then it is surprising that there are very few Quechua

speakers on the island today. What is more likely is that the local Aymara elite were removed from the island and from the Copacabana Peninsula, while the bulk of the non-elite Aymara population were kept on the island to grow food to provision the shrine. The archaeological evidence presented in this book supports this conclusion.

The Island of the Sun can be divided into two primary economic zones: areas where agriculture is possible, and barren areas where even pasturing of animals is difficult. Figure 1.7 shows the maximum extent of the agricultural



Figure 1.7. Maximum extent of agricultural land use today and in the past on the Island of the Sun.

area on the island today and in the past. This is based on modern land use, as derived from topographic maps, air photographs, and ground survey, as well as the extent of abandoned agricultural terraces (Figure 1.8). The land above the springs and canals in the dry season is quite bare, as seen in Figure 1.9, a photograph from the northern side of the island looking south toward the northern Kona Bay. Terraces can be seen in the lower areas near springs, while the higher zones are virtually devoid of vegetation. This was similar to the geography that Bandelier described during his time on the island.

Farming is one of the economic mainstays on the Island of the Sun. Areas in the protected bays and the low peninsulas are particularly productive (Figure 1.10). Tubers, quinoa, and other typical altiplano crops grow in abun-

dance. More importantly, the Island of the Sun is one of the few areas in the Lake Titicaca Basin where maize grows in quantity. This is due to the lake effect on the ambient temperature of the island. Surrounded by water, the agricultural land on the island is substantially warmer than the land in the altiplano away from the lake. These higher temperatures extend the growing season and protect the maize from frost. As a result, maize grows well on the island.

Maize from the Island of the Sun is still prized in the region today. While working on the island, we encountered people from the mainland town of Pomata that we had met during our earlier research in the southwestern side of the Titicaca Basin. They told us that they regularly trade beans and other products for maize with people on the island. There is, in fact, a



Figure 1.8. Terraces in the Kona Bay.



Figure 1.9. View from Chucaripupata to the south with the northern Kona Bay in the upper right background.



Figure 1.10. The Kalabaya Peninsula.

fairly regular interchange between the Aymara on the island and their relatives on the mainland, on both the Peruvian and Bolivian sides.³

The past use of raised-field agriculture is evident by the existence of two areas of relict fields as seen in Figures 1.11 and 1.12. These are classic raised-field constructions similar to those found on the mainland (see Erickson 1988; Janusek and Kolata 2000; Stanish 1994). We suppose, based on evidence from other areas of the Titicaca Basin, that these fields were used to grow quinoa, other cereals, tubers, and probably maize.

The pasturing of animals is common on the island. Again, contemporary people of the island keep the full range of animals that are raised on the mainland, such as cattle, pigs,

sheep, guinea pigs, and to a lesser extent, camelids. Now, as in the past, fishing is also a critical part of the local economy. Tourism is becoming increasingly important, and several hotels have opened in recent years. A number of islanders also own motorboats and run transport businesses from Copacabana to ports on the islands.

Tourism has become a major source of income on the Island of the Sun today. During our stay, we noticed the construction of a number of small hostels and the intensification of the boating service for tourists by islanders. The World Bank had built a communal center in Challapampa, and our project funded a similar center in Challa. By the year 2002, all three communities had hostels and restaurants.

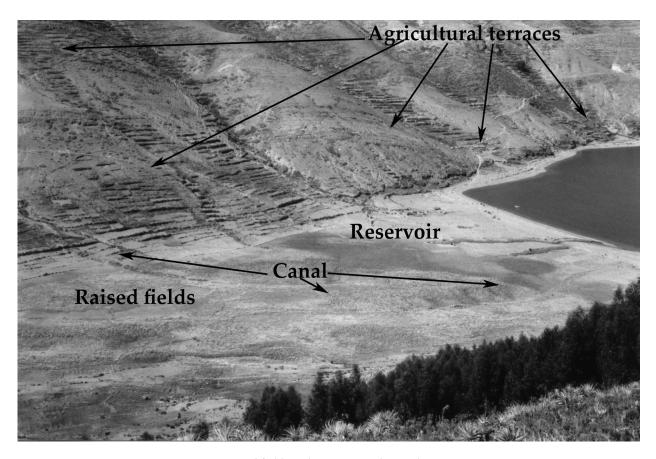


Figure 1.11. Raised fields and reservoir in the southern Kona Bay.



Figure 1.12. Raised fields in the Challa Bay.

EARLY RESEARCH ON THE ISLANDS

When the early Spaniards spoke to Inca priests and intellectuals, they were told that the Sun first emerged from a sacred rock on an island in Lake Titicaca (see Figure 1.13 and Chapter 3). They also learned that the first imperial husband and wife of the Inca Empire rose from this great island. Furthermore, the informants told the Spaniards that this island housed a series of temples that was part of a religious complex on the southern shores of the lake and that the largest temple stood beside the revered rock.

The first Europeans to view Lake Titicaca were two members of Francisco Pizarro's forces. They arrived at the lake in late December 1533 or early January 1534. From their report, and from the others that followed, we learn that the Inca indeed maintained a large temple complex on the Island of the Sun. Cobo visited the islands about 80 years after the first Spanish incursions and interviewed many of the local inhabitants. He provides one of the most detailed descriptions of the islands:

On the basis of its reputation and authority, this sanctuary was the third most im-

portant one for these Peruvian Indians (Notice that for our purposes here we are treating it as if it were a single entity). Actually, it comprised two magnificent temples, which were located on two separate islands of Lake Chucuito [Titicaca].⁴ And since both islands are close to the town of Copacabana, we use this name to make reference to the sanctuary. One of these islands was called Titicaca, and the other Coata [Coati]. The former was dedicated to the Sun, and the latter to the Moon. (Cobo 1990:91 [1653: Bk. 13, Ch. 18], parentheses original)⁵

Cobo's descriptions of the Islands of the Sun and the Moon agree with, and are partially derived from, those of Alonso Ramos Gavilán (1988 [1621]). Cobo and Ramos Gavilán visited the Lake Titicaca region during the same decade, although they belonged to different religious orders and lived in separate towns. Ramos Gavilán resided in Copacabana, a town that was controlled by the Augustinians. Cobo spent time in Juli, a major Spanish town and religious center initially established by the Dominicans but later taken over by the Jesuits.⁶

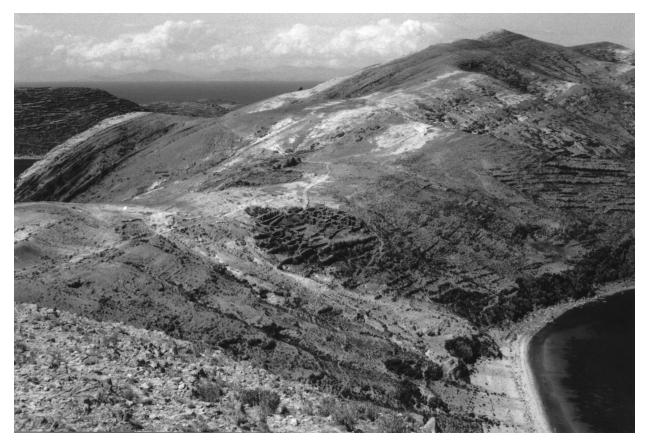


Figure 1.13. The Sacred Rock area from the north on the Tikani ridge.

They were both therefore familiar with the people and geography of the Lake Titicaca Basin.

Ramos Gavilán and Cobo furnish extensive eyewitness accounts of the Inca remains on the islands in the century following the Spanish conquest. They also discuss the nature of the pilgrimages to the shrines. These two chroniclers represent what we believe to be the most accurate documentary sources for the Inca period history of the islands. According to them, the religious complex on the Island of the Sun included the Sacred Rock called "Titikala" (where the Sun and the Moon were born), a temple to the Sun and other sky deities, and a large labyrinth-like structure that housed the "chosen women" of the state who attended the shrine. In addition, they describe a large temple on the Island of the Moon that is now called Iñak Uyu. They imply that the political and ideological importance of the islands was

immense, with the Inca Empire investing considerable resources in maintaining various temples, storehouses, and roads on the Copacabana mainland. And they describe the pilgrimage route that took visitors from the Copacabana mainland, across the narrow but dangerous strait of Yampupata, to Island of the Sun (Figures 1.14–1.17).

Since the 16th century, numerous travelers and scholars have visited the islands and reported on what they observed. These include Joseph Barclay Pentland (1827), a British political attaché to Bolivia, Alcide Dessaline d'Orbigny (1835, 1851), Mariano Eduardo de Rivero y Ustariz and Johann Jakob von Tschudi (1853), Ephraim Squier (1877), and Charles Wiener (1880), all noted naturalists, as well as Edward Pickering, an astronomer from Boston, among others (see Ponce Sanginés 1992:13–20). Modern research, as we understand it today,



Figure 1.14. The crossing between Yampupata (upper left) and the Island of the Sun. Photograph is taken from the southwestern part of the island.



Figure 1.15. A view of the Island of the Sun, in background, from the Copacabana Peninsula.

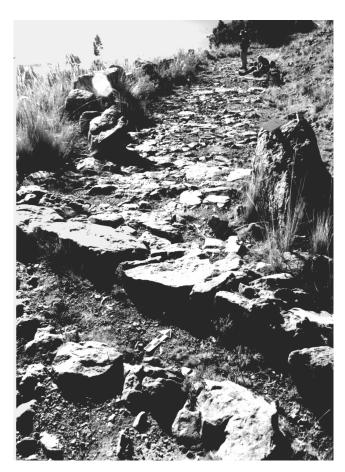


Figure 1.16. A section of the existing Inca road on the Copacabana Peninsula.



Figure 1.17. A section of the existing Inca road on the Copacabana Peninsula.

began with Adolph Bandelier's (1910) work. Bandelier was a Swiss anthropologist and archaeologist working at that time for the American Museum of Natural History in New York. We consider his work to be the beginning of modern research because it was systematic, relatively long-term, and problem-oriented.

MODERN RESEARCH ON THE ISLANDS

Bandelier conducted the first extensive study of the islands in 1895. During his four months of research, he excavated at more than twenty sites, concentrating largely on cemeteries. Unlike the previous researchers who briefly visited the islands, Bandelier worked for an extended period of time. He had a number of goals, including the less-than-noble one of acquiring objects for his benefactors. His scholarly goals included the classic cultural-historical ones of his time. He wanted to locate significant archaeological sites, determine their relative age, associate particular cultures with artifact types, and define a cultural sequence.

Bandelier was responsible for first publishing many of the place names in the literature as seen in Figure 1.18. He notes, however, that he did not attempt to record all the prehistoric

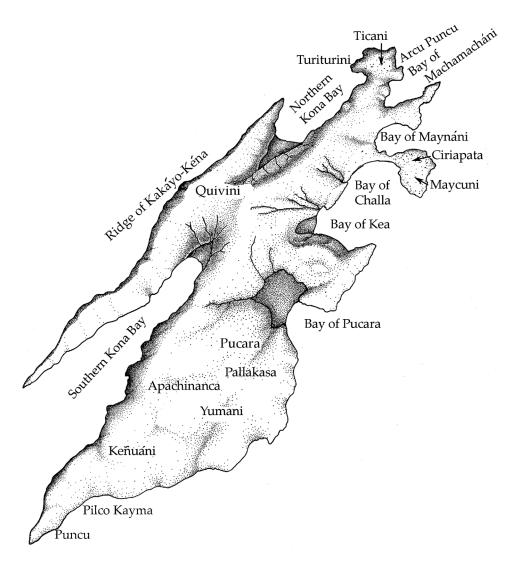


Figure 1.18. Some place names in Adolph Bandelier's 1910 publication.

sites on the island, but visited only those that interested him (Bandelier 1910:165). Working at a time when the outlines of Andean culture history were just emerging, Bandelier knew little of the Inca occupation of the region and even less about the pre-Inca cultures of the Lake Titicaca Basin. He defined two major cultural periods based on pottery from the region: Inca and an earlier one that he called "chullpa" (Bandelier 1910:165–166). Chullpa pottery was coarser and cruder than Inca-style pottery, and he placed it earlier than the Inca.

Bandelier's rivalry with Max Uhle is well known. It is therefore curious that, according to Ponce Sanginés (1992:17), Uhle visited the Islands of the Sun and Moon at the end of 1894. This was about the time that Bandelier and his wife, Fanny Ritter Bandelier, arrived in La Paz. In other words, it appears that Uhle visited the islands just before Bandelier's work in January of 1895. Apparently, Uhle did not find the islands especially interesting and returned to La Paz to negotiate with the Bolivian authorities to excavate at Tiwanaku. Bandelier, in turn, decided to conduct research on the islands.

The hostility between these two men may explain why Bandelier refused to recognize the obvious Tiwanaku presence on the islands. Uhle, along with Alphons Stübel, had recently published Die Ruinenstaette von Tiahuanaco im hochlande des alten Perú (1891).⁷ This classic work established Tiwanaku as one of the most important pre-Inca cultures in the entire Andes. Bandelier does not discuss Uhle and Stübel's book, even though it was available to him for almost two decades prior to the publication of his own book Islands of Titicaca and Koati. Bandelier mentions Uhle's extensive research in Bolivia only once and that is in a footnote where he refers to his unpublished linguistic research.

It is therefore not surprising that Bandelier lumped all the pre-Inca materials that he discovered on the Islands of the Sun and Moon together as "chullpa," including obvious pieces that were Tiwanaku in style. In one of the few references to the "Tiahuanaco" pottery that he

found, Bandelier simply noted that a vessel was "gaudily painted" with "plastic decoration recalling some previously secured at Tiahuanaco" (Bandelier 1910:173). The lack of additional discussion is odd, especially since he recovered a number of obvious Tiwanaku pieces, as evident in the Bandelier collection at the American Museum of Natural History and by a few illustrations in his book. It is also quite odd that he referred to all the non-Inca pottery as "coarse." Certainly, the Altiplano period pottery was not as well fired and decorated as the Inca, but much of the Tiwanaku pottery is as high quality as the Inca materials.

Bandelier also recovered pottery that we now recognize as pre-Tiwanaku in date. Dwight Wallace (1957) defined the Qeya style from Bandelier's collection at the American Museum of Natural History. Qeya is a distinctive pottery type that stylistically and stratigraphically predates Tiwanaku IV or Classic Tiwanaku.8 We have adopted a dual chronology (Stanish 2003) for the Titicaca region that incorporates both a pan-Titicaca Basin stage terminology with local cultural sequences. The Qeya period would be the late Upper Formative period in our regional chronology and would be a pottery type located in the far southern Titicaca Basin around AD 200 to 400 on the mainland. It is possible that an Upper Formative culture existed as late as AD 500 on the Islands of the Sun and Moon, based upon the dates of initial Tiwanaku occupation or influence (see below, this chapter). It would correspond to Ponce's Tiwanaku III period in style, but we differ with him on the dates. The revised dates for Qeya come from the work of Alconini (1993), Janusek (1994, 1999), and Steadman (1994, 1995).

Bandelier also recovered some stone sculpture that appears to be pre-Tiwanaku in date. It is unclear from his notes housed in the American Museum of Natural History whether he obtained these from the Islands of the Sun and Moon themselves or whether he purchased them in Copacabana. Plate LXXXI, opposite page 306 in his 1910 book, illustrates three pre-



Figure 1.19. Sculpture from the Bandelier collection at the American Museum of Natural History, catalog number B/2471 (Reproduced with permission by the American Museum of Natural History).

Tiwanaku sculptures. He identifies two of these as being from Copacabana and one as from the Island of the Moon. Two other pre-Tiwanaku examples recovered during his project and now housed in the American Museum of Natural History (see Figures 1.19, 1.20) are pre-Tiwanaku. Chávez and Chávez (1970, 1975) also note that seated and hunchbacked statues with Pukara elements (a northern Titicaca Basin polity circa 200 BC to AD 400) have been recovered from the island. Likewise, Ponce Sanginés (1992:325) illustrates small stone statues recovered underwater that are most likely pre-Tiwanaku IV in style.

In 1912, the flamboyant Austrian-Bolivian Arthur Posnansky published his *Guía general* ilustrada para la investigación de los monumentos prehistóricos de Tihuanacu é islas del Sol y la Luna (Titicaca y Koaty). Like Bandelier, Posnansky apparently worked up a feud with Uhle (Ponce Sanginés 1992:17). This feud may have been an underlying factor that prevented Uhle from working in Bolivia, for he left for Peru in 1896. Posnansky maintained an interest in the archaeology of the Islands of the Sun and Moon until his death, although his main focus was on the site of Tiwanaku.



Figure 1.20. Sculpture from the Bandelier collection at the American Museum of Natural History, catalog number B/2481 (Reproduced with permission by the American Museum of Natural History).

Posnansky's work countered the impression created by Bandelier that there was no major Tiwanaku occupation on the Island of the Sun. Other work also supported this same observation concerning a strong Tiwanaku presence on the island. For instance, in 1957 Alberto Perrin Pando published a paper describing the contents of some tombs excavated in a large Tiwanaku site in the community of Yumani. Ibarra Grasso published a book on Tiwanaku in 1956 which mentions the Island of the Sun.

John Hyslop reconnoitered the Islands of the Sun and Moon in the 1970s and published his interpretation of the architecture in 1990. Based on information from early colonial writers such as Cobo, Ramos Gavilán, Cieza de León, and Calancha, as well as later writers such as Bandelier and Squier, Hyslop (1990:75-80) correlated many of the Inca settlements and structures on the islands with the historical accounts. He suggested that a small group of Inca buildings to the east of the Sacred Rock on the Island of the Sun corresponded to the Temple of the Sun as described by the early historians. Furthermore, he suggested that an elaborate set of structures, currently called the Chincana and located to the west of the Sacred Rock, represented the labyrinth-like storehouse that the chroniclers located within the sacred area.

Other work by archaeologists from the Instituto Nacional de Arqueología has demonstrated that there were substantial Tiwanaku occupations on the Islands of the Sun and Moon. These archaeologists have conducted various projects over the last few decades on both islands. For example, Javier Escalante Moscoso (1994) provides a number of architectural studies on the islands, as do Carlos Ponce Sanginés, Portugal Ortiz, Eduardo Pareja S., and Leocadio Ticlla (in Ponce Sanginés et al. 1992).

One of the most exciting recent projects involved underwater research near the Island of Khoa, a short distance northeast of the Island of the Sun. The director of this project, Johan Reinhard, reports the discovery of various gold

and silver Tiwanaku and Inca objects which had been placed as offerings on a natural shelf in the lake (Reinhard 1992a, 1992b). His work indicates that this sector of the lake was an important ritual area during both the Tiwanaku and Inca periods. The fact that both cultures used the same shelf in the lake for offerings indicates that the area remained sacred for hundreds of years. The same shelf in the lake for offerings indicates that the area remained sacred for hundreds of years.

PROYECTO TIKSI KJARKA: RESEARCH GOALS AND DESIGN

Almost one century after Bandelier worked on the Islands of the Sun and the Moon, we started the Proyecto Tiksi Kjarka. Early colonial documents and previous archaeological research suggested that the human occupation of the islands extended back at least a millennium. However, the nature of the Inca's use of the Islands of the Sun and the Moon remained to be fully investigated, and critical issues concerning the character and function of the pre-Inca occupations on the islands remained unaddressed.

Our project was conceived as a multistage research program. We were able to investigate the Inca and pre-Inca use of these islands with two independent sets of information. The first consisted of the Spanish accounts written after the European invasion of 1532 and the subsequent collapse of the Inca Empire. These documents were written by a number of chroniclers, including state officials, literate soldiers, educated citizens (both native and Spanish), and most importantly, by the priests of the many Catholic orders that quickly established themselves along the shores of Lake Titicaca.

Our second major source of information on the prehispanic use of the islands was the material remains left there by their former inhabitants. We started with a solid research tradition that began with Pentland (1827) and continued up to the work of Reinhard, Ponce Sanginés, Rivera, and others, as described above. From 1994 to 1996, we conducted an archaeological survey and various excavations on the islands to test models of Inca and pre-Inca period ritual and nonritual land use. In a recent book (Bauer and Stanish 2001), we summarized the cultural history and theoretical significance of these islands based on the data collected for the project. We confirmed that the Inca invested considerable amounts of time, labor, and materials to construct state facilities on the islands, and left a wealth of offerings in the sanctuaries. The Inca also built several new villages on the Island of the Sun. The remains of the state facilities, sanctuaries, and villages survive today. We were able to discover and describe many of these sites. We also excavated several of the major settlements on both islands to answer specific questions about the prehistory of the region.

We began the project by reviewing the historical sources that mention the islands in order to develop working hypotheses. These results, combined with insights from earlier researchers, helped us create our research design which called for an intensive, full regional coverage survey and problem-oriented test excavations. This work required three seasons. During the first season we surveyed two-thirds of the Island of the Sun. In the next year, 1995, we finished surveying the Island of the Sun, and we mapped some of the larger Inca sites on the island. It was also during this season that many of the excavations were initiated. During 1996, Stanish and Bauer completed their excavation program on the Island of the Sun and, with the help of David Dearborn, conducted a series of astronomical studies (see Dearborn, Seddon, and Bauer 1998). It was in this season of research that we also surveyed and conducted test excavations on the Island of the Moon.

Mathew Seddon surveyed the Island of the Sun with us in 1994 and conducted test excavations at the site of Chucaripupata in 1995. In 1996, he expanded his work at this important site. His research at Chucaripupata, which examines the growth and development of one of the largest Tiwanaku sites on the Island of the Sun, formed the basis of his Ph.D. dissertation (Seddon 1998).

The overall goals of our research program on the islands were (1) to examine the historical documents about the Inca occupation and use of the islands; (2) to assess the accuracy of these documents using survey and excavation data; and (3) to determine the extent to which the Inca center was founded on, and developed from, earlier religious traditions of the Lake Titicaca region. This monograph presents the results of our historical and archaeological work on the islands and offers a comprehensive description of one of the most important religious pilgrimage centers in the ancient world. It includes a complete list of all the archaeological sites documented on both islands (see Table 2.1). We likewise summarize the excavation data from a number of sites that were excavated during the project. While this monograph is intended to stand alone as an archaeological report, it also complements and reinforces many of the interpretations presented in our earlier book Ritual and Pilgrimage in the Ancient Andes (Bauer and Stanish 2001).

In short, we discovered that humans were living on the Island of the Sun as early as 2000 BC (Stanish et al. 2002). There was a continuous demographic growth and occupation of the island for four millennia, up through the present day. During the Tiwanaku period, the islands were slowly incorporated into the political orbit of the Tiwanaku state society. The work by Seddon, as described in Chapter 5, provides a detailed history of a principal Tiwanaku site on the Island of the Sun. This site, Chucaripupata, was founded prior to Tiwanaku influence on the island, and his work shows how it was slowly incorporated into the Tiwanaku political and ritual system. In spite of the de-emphasis on the Sacred Rock area during the Altiplano (or Late Intermediate) period after the Tiwanaku collapse, the Inca appropriated the sacred place and reworked it into a shrine of pan-Andean importance. The Spanish Crown likewise recognized the power of the islands, and the nearby shrine at Copacabana was founded early in the Colonial period.

The Islands of the Sun and Moon have been central to the political and ritual life of the people of the Titicaca Basin for millennia. Through textual analysis and archaeological research, we have been able to provide additional insights on these remarkable places. We hope this monograph represents a small contribution to understanding the historical depth and cultural complexity of these beautiful islands and the people who lived, worked, and worshipped on them.

NOTES

¹ In the past, the trip took much longer with reed boat technologies. Ephraim Squier rode across the lake in the 19th century and described it as a harrowing experience.

experience.

² La [veneración] fué tan grande, que de todas partes acudían en peregrinación a él, donde era muy extraordinario el concurso que siempre había de gentes extranjeras; con que vino a ser tan célebre y famoso, que vivirá su memoria entre los indios todo lo que ellos duraren (Cobo 1964:192 [1653: Bk. 13, Ch. 18]). Also see Ramos Gavilán (1988:25 [1621: Bk. 1, Ch. 1]).

³ Bandelier (1910:87) mentions that young men made trips from the islands to *yungas*, or lowland regions to the east, to trade highland products for forest ones. This kind of trade has slowed in recent decades because fruit and other tropical products are now trucked to Copacabana for the market.

⁴ In early records, Lake Titicaca was occasionally called "Lake of Chucuito" after the main settlement of the adjacent Lupaqa kingdom. It is likely that the lake had many local names prior to the Inca period.

⁵ Tenía este santuario el tercero lugar en reputación y autoridad cerca destos indios peruanos, el cual (dado que tratamos del como si fuera solo uno) comprendía dos magníficos templos, puestos en dos islas distintas de la laguna de Chucuito; y por estar ambas cerca del pueblo de Copacabana, le damos el nombre sobredicho. La una destas islas se decía Titicaca, y la otra, Coatá; aquélla era dedicada al sol y ésta a la luna (Cobo 1964:189 [1653: Bk. 13, Ch. 18]).

⁶ See Meiklejohn (1988) for a discussion of the relationships between the Church and the Lupaqa peoples in the Colonial period.

⁷Alphons is also spelled Alfons.

⁸ Ponce, in his various publications, refers to this time period as Tiwanaku III. In our revised chronology, as discussed in this chapter, Tiwanaku III generally corresponds to the Qeya style and period.

⁹ Reinhard then raised private funds and built a small museum in the town of Challapampa so that the artifacts recovered in his project would remain on the island. Following his example, our project built a storage room adjacent to the Challapampa museum to hold all the artifacts collected during our work on the islands. Charles Stanish also raised funds to build a community center in the town of Challa.

¹⁰ It is important to note that a number of the smaller islands in Lake Titicaca also have Inca and Tiwanaku constructions. Suriki, a small island in the southern half of the lake, has a cut-stone construction (Ponce Sanginés 1992:316) that is similar to that found at the site of Altarani-Bebedero near Juli (Stanish et al. 1997) and in many other sites on the Peruvian side (Arkush 1999). A well-built Inca wall, similar to the one found on the Island of the Moon, is found on the small island of Intja, a few kilometers southeast of Suriki (Ponce Sanginés 1992:317).

The Settlement History of the Island of the Sun

Charles Stanish and Brian S. Bauer

As described in Chapter 1, Proyecto Tiksi Kjarka was executed as a multistage research program that addressed a number of anthropological issues concerning the prehistory of the Islands of the Sun and Moon. In 1994, we surveyed the northern end of the Island of the Sun in the communities of Challapampa and Challa. In 1995, we completed the entire island by surveying the community of Yumani at the southern end. The Island of the Moon was surveyed in 1996. In 1995 and 1996, we conducted test excavations at a total of eight sites on both of the islands (as reported in Chapters 3, 4, and 6, this volume). Simultaneously, Seddon (1998) directed extensive excavations at the site of Chucaripupata on the Island of the Sun (see Chapter 5, this volume). This chapter summarizes the results of the survey of the Island of the Sun and provides data for each site. Results from the Island of the Moon are incorporated in Chapter 6.

Our work is just the most recent research conducted on the islands. In Chapter 1, we highlighted the contributions of earlier scholars, beginning with Bernabé Cobo in the mid-1600s and continuing up to the present day with archeologists from the National Institute of Culture. In the following pages, we outline the research conducted by our project and our reconstruction of the settlement history of the Island of the Sun.

RESEARCH DESIGN AND FIELD METHODS

Our research design built upon earlier investigations on the islands and work in the Titicaca

Basin in general. The ceramic chronology, site and tomb typologies, and general research strategies were based on several years of research experience by the authors in the central Andean highlands. Members of the Programa Collasuyu, directed by Stanish on the Peruvian side of the lake less than 20 km away (Stanish et al. 1997; Stanish and Steadman 1994; Stanish, de la Vega, and Frye 1993; Stanish 1999, 2003) have conducted survey and reconnaissance over 1000 square kilometers of territory in the Titicaca Basin. Bauer has conducted survey throughout the Cusco region, including work in and around the capital city of the Inca (Bauer 1992a, 1992b, 1998, 1999, 2002; Bauer and Covey 2002; Bauer and Jones 2003).

Survey on the Island of the Sun was intensive and covered virtually 100 percent of the landscape. Only modern cemeteries and the occasional house compound were not surveyed. The absence of roads, heavy farm machinery, and other intensive agricultural technologies, and the relatively low population levels across the islands have prevented the wholesale destruction of sites. Surface coverage was therefore excellent as compared with the conditions we encountered in our work elsewhere in the highlands.¹

Ceramic Chronology

Numerous seasons of excavations, systematic survey, and reconnaissance in the Titicaca Basin have provided a corpus of ceramic types that were manufactured for restricted periods of time in the region. We use a modified type-variety system of pottery classification for work in the central Andean highlands. We recognize the

limitations of such approaches, but our more than 30 years of combined survey and excavation experience in the Andean highlands supports the utility of such a methodology. The following pottery types were used to date sites recorded in the survey:

Inca (Late Horizon), circa AD 1450-1532. Late Horizon pottery is easily distinguished by paste, decoration, surface treatment, and form. Many plainware forms, surface treatments, and pastes are distinct from all previous pottery manufactured in the region. As such, there is no difficulty in dating an Inca site. The best work on Inca-style pottery in the region is that of Julien (1983). Her work defined Hatuncollaarea Inca-style pottery. Likewise, Tschopik defined the Taraco Polychrome "ware" and a Chucuito "series" that are commonly found in the region (Tschopik 1946:22). Examples of chronologically useful Inca types that we used to date sites in the region include those illustrated in the following sources: Julien 1983; Rowe 1944; Stanish et al. 1997: Appendix 1; and Tschopik 1946: Figs. 17j, 18a-c, e, 22a-i, 23a-h, 24c, g, 25d-i, 26e. Publications by Albarracin-Jordan (1996) and Mathews (1992) likewise illustrate Late Horizon local Inca-style pottery.

Altiplano period (Late Intermediate period), circa AD 1100-1450. The Altiplano period corresponds to the time in which one of two pre-Inca polities, known as the Lupaqa or the Pacajes, dominated the mainland. There are several distinctive pottery types that occur only in this period. These types are distinguished largely by paste and surface decoration, and there is one distinctive bowl form. The pottery from this time period from the Island of the Sun fits comfortably into this regional tradition in the south. Red-slipped, moderately fired jars and bowls with black-and-white motifs are the most distinguishing types. Three examples from the Bandelier collection are shown in Bauer and Stanish (2001: Figs. 4.12–4.14).

Tiwanaku Period, circa AD 500–1100. The Tiwanaku period corresponds to the time in which the Tiwanaku state exercised some type of control or influence in the study area. Tiwa-

naku finewares are highly distinctive, based on form and surface decoration. Certain plainware types, based on shapes and pastes, are also chronologically useful. Our research to date indicates that once an area was incorporated by, or came under the political influence of, the Tiwanaku state, all decorated pottery followed Tiwanaku canons (e.g., Stanish and Steadman 1994). Domestic plainwares remained largely unchanged by Tiwanaku contact, with the occasional exception of some additional Tiwanaku plainware types.

Tiwanaku finewares from the southern Titicaca Basin have been ably described in a variety of publications (Alconini 1993; Bennett 1934; Janusek 1994; Ponce Sanginés 1981). Provincial finewares are faithful copies of Tiwanaku ones, although usually executed in a local paste (see Steadman in Stanish and Steadman 1994:61). This appears to be the case with most Tiwanaku sites, as it was with the Inca. Bauer and Stanish (2001: Figs. 4.9–4.11) published examples from Bandelier's collection. Bandelier (1910) likewise illustrates several Tiwanaku examples, including some blackwares. Examples of chronologically useful Tiwanaku period decorated types that we used to date sites in the region include those illustrated in the following sources: Kidder 1943: Fig. 3, Nos. 31, 33-38; Seddon 1998, and this volume, Chapter 5; Steadman 1994: Figs. 156-165; Steadman 1995; and Tschopik 1946: Fig. 27a-f. Burnished, red-slipped incensario scallops were a useful type on survey. Examples of chronologically diagnostic plainware types in the study area are illustrated by Steadman (1994: Figs. 79-80). Tiwanaku diagnostics from the Island of the Sun are also illustrated by Seddon (this volume, Chapter 5).

Upper Formative period, circa 400 BC–AD 500. The Upper Formative was a politically dynamic time in which several complex polities existed in the basin prior to the emergence of Tiwanaku as a regional power (Stanish 1999, 2003). Upper Formative diagnostic types on the Islands of the Sun and the Moon are referred to as Late Titinhuayani and are related to the broad Upper Formative types throughout the southern region.²

These include Late Chiripa (Hastorf 1999); Qeya-related types (although these are rare); a distinctive bottle form that appears to be restricted to this time period (Bauer and Stanish 2001: Fig. 4.6; Wallace 1957); a very distinct plainware bowl with moderate to heavy mica temper and characterized by incised horizontal, opposing nubs (Bauer and Stanish 2001: Figs. 4.7, 4.8), incised and non-incised scalloped Qeya-like bowls (Bauer and Stanish 2001: Figs. 4.4, 4.5; Seddon 1998; Wallace 1957); scalloped *incensarios* with light fiber temper; and a distinctive flaring rim jar or olla characterized by an unslipped light brown paste, with moderate to heavy mica inclusions.³

Middle Formative period, circa 1100-400 BC. This period is referred to as the Early Titinhuayani on the Islands of the Sun and Moon. Stylistically, this pottery is related to the Early and Middle Chiripa types on the mainland. Diagnostics for this period include the Chiripa-like, thick bodied, flat-bottomed, well-fired, painted bowls. Also, it is during the Middle Formative period that the use of fiber tempering is very pronounced. Middle Formative plainwares are easy to define based on this temper. Occasionally, however, we would find a large Inca site with a few sherds that had moderate to light fiber inclusions. It is likely that a small percentage of the local Inca domestic assemblage, well under 5 percent, had some fiber tempering. Therefore, when we found a site with only Late Horizon diagnostics and some fiber-tempered sherds, we were reluctant to assign a Middle Formative phase unless we found other decorated diagnostics from this earlier time period. Examples of Middle Formative types are illustrated by Bauer and Stanish (2001: Fig. 4.3), Hastorf (1999), Stanish et al. (1997), and Steadman (1994).

Early Formative period, circa 2000–1300 BC. The Early Formative assemblage is quite distinct. It is characterized by a complete absence of decorated pottery (confirmed by the analysis of single-component sites and excavations at Site 093) and the use of an unslipped, poorly fired pottery with a very heavy grit and fiber temper. We have discovered similar pottery

types in the Juli-Pomata area where it is referred to as Pasiri. We continue the use of this term for this pottery style on the Island of the Sun. Pasiri pottery is found on a number of single-component sites on the Island of the Sun and is found in association with Late Archaic and Early Formative, multiple-component sites in the Juli-Pomata area (Stanish et al. 1997). Examples of the Pasiri type are illustrated by Bauer and Stanish (2001: Fig. 4.2) and Stanish et al. (1997).

SYNTHESIS OF THE SETTLEMENT HISTORY

The goal of the regional survey was to identify the locations of all prehistoric and early Colonial period sites on the islands (Figure 2.1). Using the settlement and survey data, we were able to refine the chronology of settlement on the Islands of the Sun and Moon (see Chapter 1, Figure 1.5). These data indicate that humans arrived from the mainland as early as 2000 BC. They also indicate that strong cultural ties with mainland cultures continued throughout the history of human settlement. The earliest groups were Late Archaic hunters, foragers, collectors, and possibly horticulturists. These were followed by a small but significant Early Formative settlement that focused on springs near the lakes. There was a substantial Middle Formative occupation, which is culturally linked to the Chiripa tradition on the mainland. Settlements became particularly complex during the Upper Formative period, a time that corresponds to the Late Chiripa and Early Tiwanaku (Qeya) periods on the mainland (Stanish 2003). The Tiwanaku state established a strong presence on both the Islands of the Sun and Moon early during its growth and expansion. The island peoples, like those across the Lake Titicaca Basin, entered into a period of regional warfare and conflict with the fall of the Tiwanaku state. The Altiplano period (Late Intermediate period) occupation was dispersed, with a large fortified hill in the center of the Island of the Sun serving as the primary defensive settlement. The Inca data corroborate late-sixteenth and early-seventeenthcentury documents describing the islands as an important pilgrimage center in the empire.

Perhaps most importantly, the settlement data also yield insights into the pre-Inca use of the islands and raise the compelling possibility that their religious significance is of great antiquity and is closely correlated with the development of complex polities in the Titicaca region. A summary of each of the periods is presented below, followed by a site-by-site description of the prehistoric remains on the Islands of the Sun and the Moon in Appendix 1.

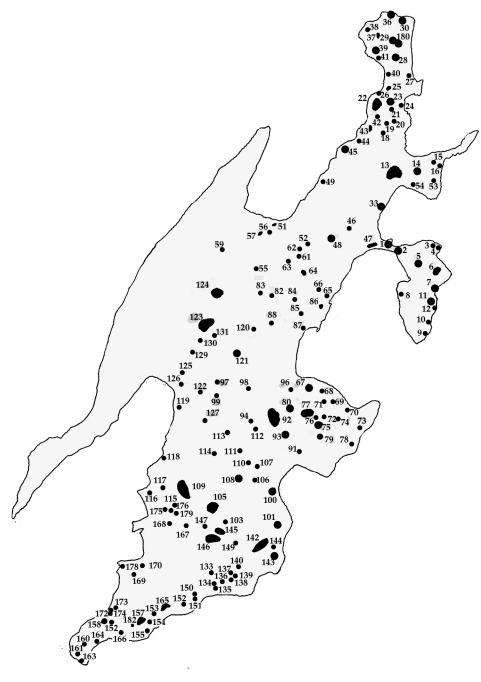


Figure 2.1. All sites discovered on survey.

Early Formative (circa 2000 BC–1300 BC)

The Early Formative period in the Titicaca Basin is defined as the time when the first sedentary populations living in largely permanent villages developed out of the earlier, more mobile, Late Archaic period hunting and gathering lifeways of the region. The earliest occupation on the Island of the Sun was discovered at the site of Ch'uxuqullu (or Site 093) (Stanish et al. 2002). The earliest radiocarbon date at this site was obtained from the lowest cultural level in an almost 2-meter-deep stratified midden. This date, 3780 radiocarbon years B.P., was associated with aceramic levels (Figure 2.2). The 2-sigma range for this date is 4784–3690 BP. The cultural material from this excavation represents the earliest known human occupation on the Island of the Sun, although there certainly could be earlier occupations at other sites not yet excavated. Therefore, the first known occupation of the Island of the Sun was by people pursuing a mixed economy that included

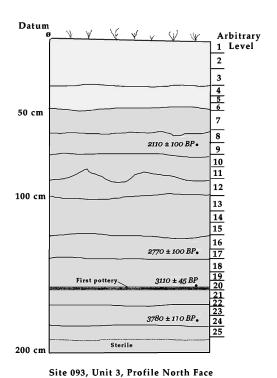


Figure 2.2. Profile from Site 093.

intensive fishing, probably horticulture, and economic exchange by watercraft with the mainland (Stanish et al. 2002). We do not know when the earliest occupation of the Island of the Sun occurred. What we can say is that the site of Ch'uxuqullu has surface indications of the earliest occupation. Excavations to initial levels at the site yielded dates in the third millennium BC. It is possible, if not likely, that additional research on other sites with Archaic materials will indicate even earlier occupations.⁴

As described above, the earliest pottery from the Island of the Sun is similar to the type called Pasiri, first defined in the Juli-Pomata region. This pottery is known to date to before 1500 BC (Stanish et al. 1997) on the mainland, a date consistent with the newer data provided by Steadman (in press). The first pottery at Ch'uxuqullu and Titinhuayani occurs over aceramic levels and is 90 percent fiber tempered, with a small percentage tempered with sand and mica. The first pottery level at the site of Ch'uxuqullu appears to date slightly later than that on the mainland. A carbon sample obtained from the first pottery-bearing level at Ch'uxugullu is 3110 radiocarbon years BP. The 2-sigma range for this date is 3437–3172 BP.

Ten Early Formative sites were found on the Island of the Sun (Figure 2.3). The typical Early Formative site is a small scatter of pottery on the surface of a field, with no visible architecture. All the Early Formative sites are located near springs in areas that were optimal for the exploitation of extensive agriculture and lake resources. The largest cluster of Early Formative sites is in Challa, the richest area on the island in terms of water, swampy lands, and access to the lake resources. The numerous relict raised fields that are found in the Challa area (see Chapter 1, Figures 1.11, 1.12) attest to the richness of this area in prehistory. It is important to note that all the Early Formative sites are small, representing hamlets at most, and that the total population level of the island was very low. Equally noteworthy is that there are no sites on the resource-poor northern end of the island during the Early Formative period.

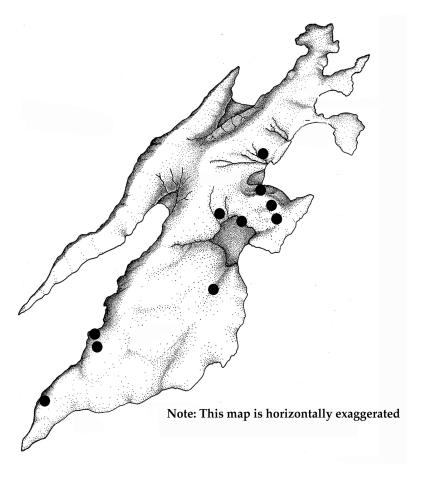


Figure 2.3. Early Formative settlement pattern on the Island of the Sun.

In sum, the Early Formative settlement pattern represents a gradual intensification of Late Archaic lifeways. The introduction of pottery did not in and of itself represent a major change in the economy of the island, but it does correlate to a demographic increase and an expansion of the population across the most fertile zones of the island.

The Middle Formative (Early Titinhuayani) Period (1300 BC–500 BC)

In the southern and southwestern Titicaca Basin, the Early Formative ends with the development of moderately complex polities of the Middle Formative, most notably Chiripa, Early Ckackachipata, and Early Sillumocco (Stanish 2003). The cultural development on the Island

of the Sun during this period parallels that of the mainland in a number of ways. By at least 800 BC, a relatively complex society developed on the island that was organizationally similar to the mainland Middle Formative societies. During the Middle Formative, a new set of ceramic diagnostics also appeared on the island. These new diagnostics are related to the pottery style known as Chiripa. Chiripa-related pottery is found over the entire southern and southwestern Lake Titicaca Basin, from at least the Ilave and Escoma rivers in the north, to areas well south of the lake into Bolivia and extreme northern Chile (see Moseley 1992). On the Island of the Sun, we can date these diagnostics with reference to earlier work done on the mainland by Alconini (1993), Bermann

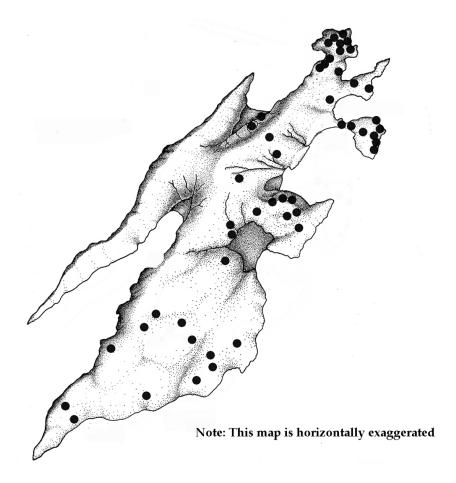


Figure 2.4. Middle Formative settlement pattern on the Island of the Sun.

(1994), Browman (1978), Chávez (1988), Ponce Sanginés (1981), and Steadman (1994, 1995). Our survey and excavation data indicate that during this period the Island of the Sun fell within the general cultural orbit traditionally characterized as "Chiripa."

We name this period, and its associated culture on the island, Early Titinhuayani, after the largest site in the community of Challa. In other words, Early Titinhuayani represents the local expression of the Middle Formative period of the Lake Titicaca Basin as a whole. Based on stylistic comparisons with ceramics on the mainland, Early Titinhuayani dates are bracketed between 1300 and 500 BC, with the peak populations probably after 800 BC.

The Early Titinhuayani settlement pattern reflects some major differences from that of the Early Formative period (Figure 2.4). There is, for instance, a substantial increase in the number and size of sites, indicative of a rise in the island's population. Furthermore, as with the Lake Titicaca Basin in general, there is evidence of the development of site size hierarchies and the emergence of ranked societies. There are two Middle Formative site types on the Island of the Sun: villages and hamlets. The villages range in size from 1 to 3 hectares, while the hamlets are less than 1 hectare in size and may be as small as a single household. The largest site of this time period is Titinhuayani. We calculate that the site was approximately 3 hectares in size during the Middle Formative period.

There are four settlement clusters during this period on the island which may represent the emergence of bounded groups, with modest political ranking, centered on the larger villages. This interpretation is supported by the absence of sites in the southern Challa area. This area is a productive agricultural zone, with no obvious impediments to human occupation. Indeed, later sites were founded in this region. Yet the Middle Formative peoples chose not to live in this area, a fact that left a geographical separation between the Challa cluster of sites and the southernmost group on the island. This is a classic indicator of a social and/or political boundary.

There is another major change between the Early and Middle Formative periods. Although lakeside and spring-side sites continued to be exploited, a series of new sites was established well away from the lake edge by Middle Formative times. The most logical explanation for this pattern is the adoption of terrace agriculture. This is particularly true for the Kalabaya Peninsula and the northernmost site cluster, where there are large areas of relict or in-use terraces.

The overall Middle Formative settlement pattern offers compelling evidence for the development of terrace agriculture on the island. This shift is consistent with paleoclimatic reconstructions of the Lake Titicaca Basin environment for this time. Recent data indicate that the period around 1500 BC was characterized by increased precipitation (Abbott et al. 1997:169; Binford, Brenner, and Engstrom 1992) and that there was "a progressive rise of the lake level" at this time (Wirrmann, Ybert, and Mourguiart 1991). Such a climate shift would make terrace agriculture on the Island of the Sun not only feasible, but highly productive. We can also hypothesize diminishing wild animal resources through time as a result of human population growth. That is to say, the increasing population, the shrinking of wild resources, and the increase in precipitation provided the context for the emergence of intensive agriculture and the development of settlement

clusters which themselves may have promoted the establishment of social and/or political boundaries during the Middle Formative period.

It should also be noted that 11 sites with Middle Formative diagnostics were discovered on the northern peninsula of the island. The existence of a cluster of sites near the Sacred Rock raises the possibility that this area was used as a shrine by peoples of the Early Titinhuayani period. Although this issue cannot be resolved without intensive excavations, several observations from our work can be used to test this possibility. These observations suggest, to the contrary, that the area was not ritually significant during this period. The sizes and nature of the sites on the northwestern peninsula parallel those in the other areas of the island, and there is no single site that stands out as distinctive or unique in the north. Furthermore, the sites in this area are all associated with terraced agriculture or are located near the lake. The settlement distribution is, in other words, explainable by economic factors alone, unlike those of later periods.

In summary, it is most likely that the Early Titinhuayani period sites were characterized by sedentary populations engaged in fishing, agriculture, and economic exchange with the mainland. The general similarities in the ceramic styles between the mainland and the Early Titinhuayani period styles on the island indicate strong cultural linkages. During this time the island was not an isolated area. It was linked to, and part of, the general cultural developments of the southern Lake Titicaca Basin. Importantly, there is no settlement or excavation evidence (see Chapter 3) to suggest that the Sacred Rock area was ritually significant during this period. While there were occupations on the northwestern end of the island, the sites are not significantly different in surface characteristics and settlement distribution from those of other parts of the island. This settlement pattern contrasts with those of the Tiwanaku and Inca periods, during which architecturally and functionally distinct sites were constructed in this region.

Future excavations, of course, could alter this conclusion by demonstrating qualitative differences between the Sacred Rock area sites and those of the rest of the island during the Middle Formative. However, the current evidence suggests that the northern end was not of ritual importance in the Early Titinhuayani period.

The Upper Formative (Late Titinhuayani) Period (500 BC–AD 500)

The Upper Formative on the Island of the Sun is represented by the Late Titinhuayani period. The Early and Late Titinhuayani periods correspond to Early and Late Sillumocco periods from the Juli area, and overlap with Chiripa Llusco and Chiripa Mamani from Chiripa, Late Chiripa, as well as Tiwanaku I (or Kalasasaya) and Qeya from the circum-Tiwanaku Valley. Late Titinhuayani ceramic diagnostics include some Qeya fragments and other styles defined by Steadman (1994) for Tumatumani during this period. Diagnostic Qeya sherds include the feline incense burners with a buff paste, occasionally tempered with light fiber. A few Qeya bottle fragments were also discovered on the site of Qeya Kollu. Its dates are based on stylistic similarities to ceramic sequences on the mainland, such as that from Tumatumani (Steadman 1994). The end of the Upper Formative corresponds to the first control of the island by the Tiwanaku state. Work by Seddon (1998) at the site of Chucaripupata indicates that the Tiwanaku state first controlled the island in the mid-seventh century AD.

The Late Titinhuayani settlement pattern is seen in Figure 2.5. There is a reduction in the number of sites from 48 to 31, a decrease of about one-third between the Early Titinhuayani and Late Titinhuayani times. However, mean site size increases, and when the different lengths of the periods are factored in, there does not appear to be a decrease in population as determined by total habitation site size per period. In other words, there appears to have been a nucleation of a modestly growing population into fewer but larger settlements.

The clustering of sites in the Early Titinhuayani period continues in the Late Titinhuayani period. In fact, the clustering intensifies around the larger settlements, and the majority of the population is still located near agricultural terraces. Settlement around the raised-field system in the Challa area increases dramatically, although settlement next to the terraced fields was still the dominant site location. Research has shown that raised fields were an integral part of the Upper Formative economy on the mainland (Erickson 1988; Graffam 1992; Stanish 1994). The location of the large habitation sites around Challa suggests that raised fields were also an important settlement determinant in the Upper Formative on the Island of the Sun. Another section of raised fields was located in the southern Kona Bay. In this case, they were associated with an Inca ritual and agricultural complex.

The largest Late Titinhuayani site is the type site of Titinhuayani. The site is large by island standards, about 4 hectares in this period, including extensive domestic terrace areas around its hilltop (Table 2.1). Excavations by Esteban Quelima indicate that the site was founded in the Late Archaic and that the top of the hill was rebuilt several times prior to the Tiwanaku period. Excavations also suggest that the hill area was intentionally filled with soil and midden during Late Titinhuayani times. The intent seems to have been to create a large flat area for the construction of some type of corporate architecture. The existence of wellmade cut stones on the surface suggests that there was a sunken court on this flat area.

Three other large sites, each approximately 3 hectares in size, were occupied in the Late Titinhuayani period: Wakuyu, Kurupata, and Chucaripupata. Wakuyu is on the southeast side of the island near the border of Challa and Yumani. It is a typical Upper Formative site in that it is built on a low hill with domestic terraces around its base (Stanish et al. 1997:35–36). Abundant surface pottery, including large quantities of decorated pieces, indicates that Wakuyu was an important secondary center in

the settlement system of the island. The second site, Kurupata, has Upper Formative pottery scattered over a series of domestic terraces on the side of a hill. The site does not have corporate architecture characteristic of a secondary regional center and most likely functioned as a large non-elite settlement. Chucaripupata, the third site, is especially important because it is located in the sanctuary area within view of the Sacred Rock. This is the first time in the settlement history of the island that a site with non-domestic architecture was constructed in the Sacred Rock area (see Seddon, this volume, Chapter 5).

The settlement shift from Early Titinhuayani to Late Titinhuayani at the northern end of the island is intriguing. There is a minor Early Titinhuayani occupation at Chucaripupata, although there is no evidence that it was anything more than a small village or hamlet, and there are a few other small Early Titinhuayani sites on the northern peninsula. During the Late Titinhuayani period, six sites were abandoned, and the total population in the area, adjusted for length of time and calculated by total site size, decreased. Simultaneously, Chucaripupata emerged as the largest site on the northern half of the island, and it ranked among the four largest sites of the entire island. In short, the total population in the Sacred Rock area decreased, but those that remained concentrated themselves in Chucaripupata.

The nature of the political organization on the Island of the Sun during the Upper Formative

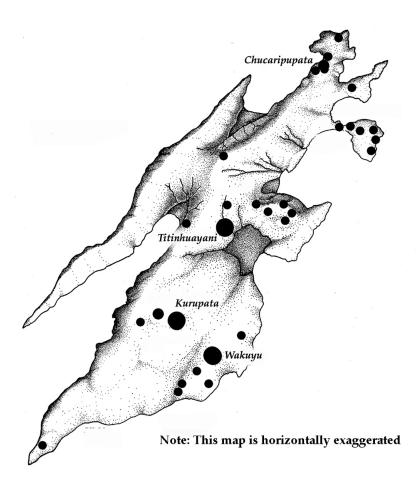


Figure 2.5. Upper Formative settlement pattern on the Island of the Sun.

Table 2.1 Summary of site sizes and periods on the Island of the Sun

Site	Size	Inca	Altiplano	Tiwanaku	Upper Formative	Middle Formative	Early Formative	Archaic
001	0.60	_	XXX	_	XXX	XXX	_	_
002	1.00	XXX	xxx	xxx	xxx	xxx	_	_
003	0.28	XXX	xxx	_	xxx	xxx	_	_
004	0.04	_	xxx	_	_	xxx	_	_
005	0.09	_	_	_	_	xxx	_	_
006	1.00	_	_	XXX	XXX	xxx	_	_
007	0.35	_	_	_	XXX	_	_	_
008	0.04	XXX	_	_	_	_	_	_
009	0.02	XXX	xxx	_	_	_	_	_
010	0.15	XXX	_	_	_	XXX	_	_
011	0.25	XXX	XXX	_	_	_	_	_
012	0.50	XXX	XXX	_	xxx	XXX	_	_
013	5.00	XXX	_	_	_	_	_	_
014	0.25	XXX	_	_	xxx	XXX	_	_
015	0.02	_	_	_	_	_	_	_
016	0.20	_	xxx?	_	_	XXX	_	_
017	0.02	_	_	_	_	_	_	_
018	0.12	XXX	_	_	_	_	_	_
019	0.50	XXX	_	_	XXX	_	_	_
020	0.35	XXX	_	_	_	_	_	_
021	_	_	_	_	_	_	_	_
022	Various	_	_	4.20	3.00	1.00	_	_
023	_	XXX	_	_	_	_	_	_
024	0.06	XXX	_	_	_	XXX	_	_
025	_	XXX	_	_	_	_	_	_
026	0.08	XXX	_	_	_	_	_	_
027	0.15	_	_	XXX	_	XXX	_	_
028	1.50	_	XXX	XXX	_	XXX	_	_
029	0.75	_	_	_	_	XXX	_	_
030	0.75	XXX	_	_	XXX	XXX	_	_
031	0.15	XXX	XXX	_	_	_	_	_
032	1.25	XXX	_	_	_	_	_	_
033	1.50	XXX	_	_	_		_	_
034 035	_	_	<u>—</u>	_		xxx?	_	_
		xxx —	<u>—</u>			XXX	_	_
036 037	1.00 0.15	xxx?		XXX		XXX	_	_
037	0.13		xxx?	_	_	XXX	_	_
039	0.50	xxx —	_		_	_	_	_
039	0.30	_	_	XXX			_	_
040	0.24	xxx?	_	_	xxx —	xxx —	_	_
041	0.37	— XXX:	_	_	_	xxx	_	_
042	0.15	_	_	xxx	xxx	XXX	_	_
043	0.15	_		_	_	_	_	_
UTT	0.00	_	_	_	_	_	_	_

Table 2.1 Summary of site sizes and periods on the Island of the Sun (continued)

Site	Size	Inca	Altiplano	Tiwanaku	Upper Formative	Middle Formative	Early Formative	Archaic
044	0.06	_				_	_	
045	0.50	_	_	xxx	_	_	_	_
046	0.75	xxx	_	_		_	_	_
047	1.00	XXX	_	_	_	_	_	_
048	0.50	xxx	_	_	_	_	_	_
049	0.15	_	_	_	_	_	_	_
050	Modern							
051	2.00	XXX	_	_	_	_	_	_
052	0.01	XXX	_	_	_	_	_	_
053	0.53	_	_	_	_	xxx	_	_
054	0.25	XXX	_	_		_	_	_
055	0.06	_	_	_	_	_	_	_
056	0.25	_	_	_	_	xxx	_	_
057	1.50	_	xxx	_	_	xxx	_	_
058	Modern							
059	0.60	_	_	_	XXX	_	_	_
060	1.00	_	_	_	_	_	_	_
061	0.15	_	_	_	_	_	_	_
062	0.25	XXX	_	_		_	_	_
063	0.09	XXX	_	xxx	_	XXX	_	_
064	1.00	XXX	_	_		_	_	_
065	0.15	XXX	_	_	_	_	_	_
066	0.09	_	_	_	_	_	_	_
067	1.00	_	_	_	_	XXX	_	_
068	0.09	_	_	_	_	XXX	_	_
069	0.12	_	XXX	_	_	_	_	_
070	_	_	_	_	_	_	_	_
071	0.16	_	_	_	xxx?	_	_	_
072	0.75	_	XXX	_	XXX	XXX	_	_
073	0.06	_	_	XXX	_	_	_	_
074	0.06	_	XXX	_	_	_	_	_
075	1.50	_	XXX	XXX	XXX	XXX	XXX	_
076	0.04	_	_	_	_	XXX	XXX	_
077	0.75	_	XXX	XXX	XXX	_	_	_
078	0.09	XXX	_	_	_	_	_	_
079	0.75	_	_	_	_	XXX	_	_
080	1.44	_	_	_	XXX	XXX	_	_
081	Modern							
082	0.09	XXX	_	_	_	_	_	_
083	0.15	XXX	xxx?	_	_		_	_
084	0.25	XXX	_	_	_	_	_	_
085	0.04	XXX		_	_		_	_
086	0.25	_		_	_		XXX	_
087	0.09	XXX	_	_	_	_	_	_

Table 2.1 Summary of site sizes and periods on the Island of the Sun (continued)

Site	Size	Inca	Altiplano	Tiwanaku	Upper Formative	Middle Formative	Early Formative	Archaic
088	0.37	_	_	_	_	_	_	_
089	Modern							
090	Modern							
091	0.15	_	_	_	_	_	_	_
092	Various	0.50	0.50	2.00	4.00	3.00	XXX	XXX
093	0.25	_	_	_	xxx	XXX	XXX	XXX
094	0.37	XXX	_	_	_	_	_	_
095	0.15	_	_	_	_	_	_	_
096	0.25	XXX	_	xxx	_	xxx	XXX	_
097	0.12	_	_	_	_	_	_	_
098	0.01	_	_	xxx?	xxx?	_	_	_
099	0.01	_	_	_	_	_	_	_
100	0.50	XXX	_	_	_	_	_	_
101	0.15	_	_	_	xxx?	_	_	_
102	Modern							
103	0.01	xxx?	_	_	_	_	_	_
104	_	_	_	_	_	_	_	_
105	Various	2.00	3.75	3.75	3.00	2.00	_	_
106	0.35	XXX	XXX	XXX	_	XXX	_	_
107	0.25	XXX	_	_	_	_	_	_
108	0.15	XXX	_	_	_	_	_	_
109	3.00	XXX	XXX	XXX	_	XXX	_	_
110	0.20	XXX	_	_	_	_	_	_
111	0.06	XXX	_	_	_	_	_	_
112	0.06	_	_	_	_	_	_	_
113	0.04	_	_	_	_	_	_	_
114	0.06	XXX	_	_	_	_	_	_
115	0.09	_	XXX	_	XXX	XXX	_	_
116	0.06	_	_	_	_	_	_	_
117	0.06	XXX	_	_	_	_	_	_
118	0.08	XXX	_	_		_	_	_
119	0.08	_	_	_	XXX	_	_	_
120	0.50	_	_	_		XXX	_	_
121	0.04	_	_	XXX	_	_	_	_
122	0.09	XXX	_	_	_	_	_	_
123	2.00	XXX	_	xxx?	_	_	_	_
124	1.00	XXX	XXX	XXX	_	_	_	_
125	0.50	xxx?	_	_	_	_	_	_
126 127	0.12 0.01		_	_	_	_	_	_
127	2.00	XXX	_	_	_	_	_	_
128	0.29	XXX	_	_	_	_	_	_
130	0.29	XXX	_	_	_	_	_	_
131	0.03	XXX		_	_	_	_	_
131	0.04	XXX	_		_		_	_

Table 2.1 Summary of site sizes and periods on the Island of the Sun (continued)

			•					
Site	Size	Inca	Altiplano	Tiwanaku	Upper Formative	Middle Formative	Early Formative	Archaic
132	Modern							
133	0.25	xxx	_	_	_	_	_	
134	0.03	_	_	_	xxx?	xxx?	_	_
135	0.25	XXX	_	_	_	_	_	_
136	0.25	XXX		_	xxx	_	_	_
137	0.04	_	_	xxx	_	_	_	
138	Modern							
139	0.06	_	_	xxx?	xxx?	xxx	_	_
140	0.04	_	_	XXX	xxx	XXX	_	_
141	Modern							
142	Various	_	_	4.00	3.00	2.00	XXX	XXX
143	0.03	_	_	XXX	_	_	_	_
144	0.02	_	_	_	_	_	_	_
145	0.50	_	XXX	XXX	xxx?	XXX	_	_
146	0.25	XXX	_	_	_	_	_	
147	0.09	XXX	_	_	_	_	_	_
148	Modern							
149	0.03	_	_	_	_	_	_	_
150	0.15	XXX	_	_	_	_	_	_
151	0.09	XXX	_	_	_	_	_	_
152	1.00	xxx?	_	_	_	_	_	_
153	0.09	XXX	_	_	_	_	_	_
154	0.09	XXX	_	_	_	_	_	_
155	0.09	_	_	_	_	_	_	_
156	Modern							
157	0.50	XXX	_	_	_	_	_	_
158	0.10	XXX	_	_	_	_	_	_
159	0.15	XXX	_	_	_	_	_	_
160	0.09	_	_	_	XXX	_	_	_
161	0.04	_	_	_	_	_	_	_
162	0.08	_	_	_	_	_	_	_
163	0.28	XXX	_	_	_	_	_	_
164	1.00	XXX	_	_	_	_	_	_
165	0.01	XXX	_	_	_	_	_	_
166	0.04	_	_	_	_	XXX	_	_
167	0.05	xxx?	_	_	_	_	_	_
168	0.04	XXX	_	_		_	_	_
169	0.08	_	_	_	_	_	XXX	_
170	0.20	XXX	_	_	_	_		_
171	Modern							
172	0.02		_	_	_	_	XXX	_
173	0.04	xxx?		_	_	_	_	_
174	0.06	_		_	_	_	_	_
175	0.25	_	_	_	_	_	_	_

Site	Size	Inca	Altiplano	Tiwanaku	* *	Middle Formative		Archaic
176	0.04	xxx?	_	_	_	_	_	_
177	Modern							
178	0.01	_	_	_	_	_	XXX	_
180	0.25	XXX	_	_	_	_	_	_

Table 2.1 Summary of site sizes and periods on the Island of the Sun (continued)

is unclear. Based on analogies to the mainland, we would expect to see a unified political entity on the island during this period. This would be evident by a breakdown in the settlement clustering and a distribution of sites for optimal economic maximization in a context of political unification of the island. Furthermore, we would anticipate the rise of a single, quantitatively larger site that represented the paramount village of an emergent ruling lineage.

These expectations are not met with the Upper Formative settlement data. Surface evidence suggests that the four sites of Titinhuayani, Wakuyu, Kurupata, and Chucaripupata were of roughly similar size. Titinhuayani, Wakuyu, and Chucaripupata have evidence of corporate architecture. In contrast, Kurupata does not. Rather than reflecting the settlement pattern of a single overarching political unity centered in a disproportionately large site, the data suggest that there were three polities-Titinhuayani, Wakuyu, and Chucaripupata composed of one large site and three satellite occupations of slightly lesser population. Of course, excavations are required to test this interpretation.

Building on these observations, we propose that there was an emergent elite developing in the economically important Challa and Yumani areas during the Upper Formative. We also suggest that during the Upper Formative, the northern part of the island was taking on different cultural functions as a ritual center (based on the work of Seddon [1998], described in Chapter 5). The site of Chucaripupata was located in the northern part of the island near

the Sacred Rock area. Seddon's research indicates that there was a substantial Upper Formative occupation at Chucaripupata which used elite and ceremonial objects. That is to say, ritually significant objects dating to the Upper Formative were recovered in the area known to contain a sacred complex during the later Inca period. We believe that these data support the hypothesis that a local *huaca* or shrine of islandwide importance had been established on the island during Upper Formative.

The Tiwanaku Occupation (AD 500–1100) Sometime in the middle of the first millennium AD, the peoples of Tiwanaku began to expand from their homeland in the Tiwanaku Valley to create the first altiplano state. At its height, Tiwanaku controlled parts of southern Peru as well as much of northern and western Bolivia around the circum-Titicaca Basin. The Islands of the Sun and Moon were among the first areas to be controlled by this expanding polity.

Evidence of Tiwanaku occupation on the Islands of the Sun and the Moon was discovered more than 100 years ago. Both Uhle and Bandelier recovered Tiwanaku ceramic vessels as well as various gold and silver objects from the islands and the nearby Copacabana mainland. The high quality of many of the ceramic and metal items and their strict adherence to Tiwanaku stylistic canons suggest that some of them were manufactured in Tiwanaku itself.

Our survey and excavation work offers additional information on the Tiwanaku occupations on the sacred islands. The survey located more than two dozen Tiwanaku sites on the Island of the Sun, and two on the Island of the Moon (Figure 2.6). The total number of sites decreased from the Upper Formative, but again the mean site size increased through time, with Tiwanaku settlements averaging over 1 hectare in size. The Tiwanaku state continued the process of settlement nucleation first noted in the Late Titinhuayani period. This consolidation process created the highest average site size in the history of the island.

In contrast to the Late Titinhuayani period, distinct settlement clustering broke down on the Island of the Sun during the Tiwanaku period. The site of Titinhuayani decreased in size. The sites of Chucaripupata, Wakuyu, and Kurupata increased in size. Kurupata continued to be a domestic habitation site without evidence of corporate architecture. The earlier

areas favored by the Upper Formative polities were still occupied by Tiwanaku peoples, but new sites were established between the clusters.

In the Tiwanaku period, the evidence for a centralized political organization is strong. The settlement pattern suggests that the entire island was a single political entity (Stanish 1999). Late Titinhuayani sites were abandoned in a context of population growth. These populations aggregated in larger sites but did not cluster into separate areas. Rather, the population shift was to larger villages and political centers.

From the survey data we can see that the islands were a fundamental part of the early expanding Tiwanaku polity (circa AD 500–600), and we suggest that they were incorporated into the Tiwanaku state at this time (Stanish 2001a). During this period, Titinhuayani ceased

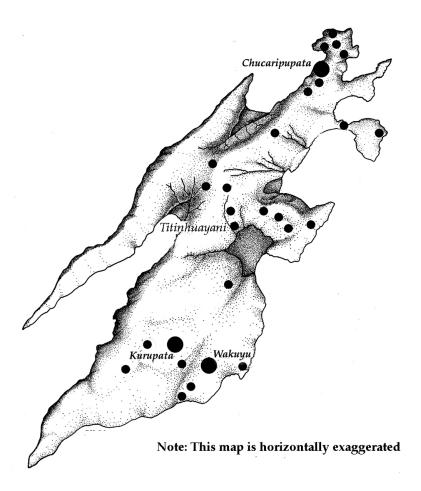


Figure 2.6. Tiwanaku settlement pattern on the Island of the Sun.

to be a political center, and two sites emerged as the dominant settlements on the Island of the Sun: Wakuyu and Chucaripupata. The site of Wakuyu is extensively damaged by modern construction. Nevertheless, it is clear that it was a major Tiwanaku settlement that may have contained elaborate architecture. The site is on a low hill, surrounded by terraces. The terraces have a high density of surface pottery, indicating that they were domestic terraces used at one point as floor surfaces for houses.

This pattern is typical of other Upper Formative and Tiwanaku sites in the Lake Titicaca region (Stanish et al. 1997). The hill above the domestic terraces was modified to create a large, flat surface. Since excavations in other Tiwanaku sites have revealed wall enclosures and a small sunken court in similar flat areas, we believe that this site may contain elaborate structures beneath the modern ground surface. Perrin Pando (1957) excavated at Wakuyu and discovered several burials containing Classic Tiwanaku vessels. He also noted that the hill was artificial and that there was at least one major wall at the site.

During Tiwanaku times, the site of Chucaripupata was about the same size as Wakuyu. Although there is currently no surface evidence of corporate architecture at the site, excavations by Seddon (1998) revealed substantial Tiwanaku architectural constructions, including large walls and terraces. Furthermore, Seddon's excavations, like Bandelier's work at the site, recovered a large number of elite ceramic vessels not typical of simple villages.

With the growth of Chucaripupata in the Tiwanaku period, we see the construction and maintenance of the first state installation on the Island of the Sun. Its location in the sanctuary area, and within sight of the Sacred Rock, suggests that what was a local *huaca* in earlier times was becoming a site of great importance to the mainland populations. Indeed, Chucaripupata is large and many of its artifacts appear to be direct imports from the mainland, if not from Tiwanaku itself. This indicates that some of its inhabitants may have been retainers who were moved to the island to help support what was

becoming a major ritual center within the Tiwanaku polity.

We hypothesize that Chucaripupata was a major ritual center during the Tiwanaku period. We further suggest that Wakuyu, the other large site on the island at the time, was, along with nearby Kurupata, the principal political and population center on the island.

The Altiplano-Period Settlements (AD 1100–AD 1400)

The time immediately prior to Inca expansion into the Lake Titicaca Basin is referred to as the "Altiplano period" by Hyslop (1976) and Lumbreras (1974). It is defined as the time after the collapse of the Tiwanaku state (circa AD 1100) and prior to the control of the area by the Inca sometime in the early 15th century. The collapse of Tiwanaku led to a period of conflict in the Lake Titicaca Basin. During this period, the political organization shifted from a centralized state to a series of smaller polities, and the region witnessed the development of the Aymara kingdoms referred to in historical texts as señoríos.

Figure 1.6 in the previous chapter shows the general political boundaries of the Lake Titicaca region during this period, as reconstructed from 16th-century historical texts. The two largest polities of the lake region during the Altiplano period were the Lupaqa and the Colla. Cieza de León suggests that the Island of the Sun was conquered by one of these polities, but he does not specifically state which one.⁵ In the same section of his book, however, Cieza de León relates that there was subsequent fighting with the Canas and Canchis, and then the famous meeting of Viracocha Inca with the Lupaqa king in Chucuito. If we take the sequence of events as generally correct chronologically, then the Island of the Sun could have been conquered by either polity. However, if we assume that the death of the Colla paramount, at the hands of the Lupaqa at Paucarcolla, meant that the Colla lost regional influence, then it would be likely that the Island of the Sun fell under Lupaqa control, just before Inca forces entered the Lake Titicaca region.

There is also some indirect evidence that suggests that the Island of the Sun may have been part of the Lupaqa polity. First of all, the island is located close to the core Lupaga territory. Second, while the Altiplano period pottery diagnostics on the island fit into the general southern tradition of the Lake Titicaca Basin as a whole, they are extremely similar to the pottery of the Lupaqa area sites along the southwest side of the lake (de la Vega 1990; Stanish et al. 1997). Furthermore, the Inca may have continued the tradition of a Lupaga presence in the Copacabana area by sending representatives of the Lupaqa in their colonizing program (Ramos Gavilán 1988:84-85 [1621: Ch. 20]; Diez de San Miguel 1964:81 [1567]).

During the Altiplano period, people built fortified hilltop sites or *pukaras* in the Lake Titicaca Basin. On the Island of the Sun, the earlier site of Kurupata developed into such a hilltop fort. It is a very typical pukara, similar to hundreds of others in the region during this period. This site grew in importance in the Altiplano period as the principal fortified site on the island.

The other Altiplano period sites are small and widely dispersed across the island, although there is some clustering in the richest agricultural areas such as the Kalabaya Peninsula and the northern side of the Kea Kollu hill (Figure 2.7). The total number of Altiplano period habitation sites drops to a mere 24. The settlement pattern conforms to the model proposed by Stanish (2003) of a major pukara surrounded by smaller, undifferentiated settlements. It is suggestive of very moderate political ranking.

The settlement pattern on the island also indicates a population size substantially lower

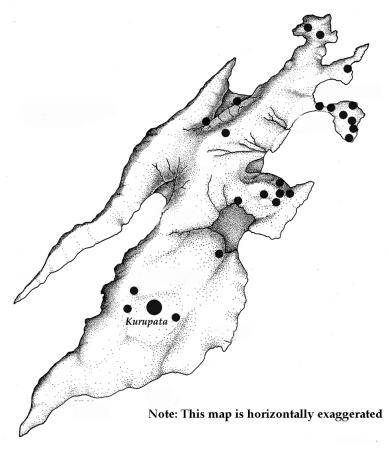


Figure 2.7. Altiplano settlement pattern on the Island of the Sun.

than that of the subsequent Inca period and even lower than the earlier Tiwanaku period. Average site size on the island reverted to pre-Tiwanaku levels. These data conform to the Altiplano period pattern in the Juli-Pomata area (Stanish 1994, 1999, 2003; Stanish et al. 1997).

Settlement on the northern end of the island during the Altiplano period was concentrated in only two sites. These sites do not have complex architecture, and there is no evidence for any special constructions or elite/ceremonial artifacts. It is nevertheless significant that people continued to live in this agriculturally poor, but ritually rich area. The main settlement on the northern end of the island during this period is Site 028, a moderately sized (1.5 hectares) site located some distance from the Sacred Rock.

A series of excavations conducted within the sanctuary area, including some adjacent to the Sacred Rock, as well as in the Inca sites of Chincana and Mama Ojlia, provided no evidence of Altiplano period occupations. Furthermore, extensive research at Chucaripupata indicates that it was abandoned with the collapse of the Tiwanaku and remained unoccupied during the Altiplano period (Seddon 1998, and Chapter 5, this volume). The lack of large sites, special structures, support facilities, elite materials, and offerings suggests that the Sacred Rock area was not of regional importance during the Altiplano period. It seems that what had been a major shrine in the Tiwanaku period, and what would again be a place of profound religious importance for the Inca, was reduced to, at the most, a local huaca of the polity on the island. It is possible that the Sacred Rock was not even venerated at all.

The Inca Settlement Pattern

One of the most striking characteristics of the Inca settlement pattern (Figure 2.8) on the Island of the Sun is the plethora of small sites.⁶ This pattern is typical for highland areas that have been intensively surveyed (Stanish 2001b).

More than 60 of the Inca sites on the island are less than 1 hectare in size, while the largest sites, Apachinacapata (109) and Kasapata (013), are only 3 and 5 hectares in size, respectively. This settlement distribution pattern is characteristic of Inca imperial control strategies recorded on the mainland: a generally bimodal distribution of a few medium-sized administrative centers with a large number of small villages and hamlets surrounding them. For example, a similar Inca settlement pattern has been documented in the Juli-Pomata region (Stanish et al. 1997). In the case of the Island of the Sun, the administrative centers were the sites of Kasapata (Site 013), Apachinacapata (Site 109), and Challapampa (Site 047).

These sites are, however, small by mainland standards. The town of Juli, for instance, was at least 20 hectares during the Inca period (Stanish et al. 1997), and Chucuito was at least 50 hectares. Hatuncolla, located on the northern side of the lake, could have been as large as 80 hectares (Stanish 2003). There is absolutely nothing comparable in size to these sites on the Island of the Sun. It is therefore likely that the Inca settlement of Copacabana was the administrative center responsible for the islands during the time of Inca rule. We do not know the exact size of Copacabana during the Inca occupation, but it was at least three times bigger than the largest Inca site on the Island of Sun. In other words, the site size data alone suggest that the island was not an independent administrative district of the Inca state, but was directly tied to the mainland via Copacabana. Of course, it is possible that ritual settlements are not comparable to administrative sites in terms of size. The small size of the Island of the Sun settlements may simply be a function of the kinds of activities that took place there and its role in the Inca state.

It is also important to note that the bulk of the small Inca settlements on the Island of the Sun are situated in areas of primary agricultural land. The Island of the Sun was indeed a major ritual and pilgrimage center, but the settlement data indicate that the Inca organized the populations to provide for the island's subsistence. This suggests that many of the goods that sustained the people on the island, including the priests, Mamacona ("chosen women" who served as attendants to shrines), and other ritual specialists, were produced on it. This is in contrast to the Island of the Moon, which has only a few small areas of cultivable agricultural land. It is unlikely that the meager resources of the Island the Moon could have supported its inhabitants, so food and other supplies must have been brought to it from the mainland.

There are particular areas of the Inca settlement pattern on the Island of the Sun that are worthy of more detailed commentary. For instance, on the southeastern side of the island there is an extensively terraced valley that surrounds the Fountain of the Inca (Site 165). Unlike other parts of the island, there are no Inca occupations on or in between these terraces. The habitation sites are, in fact, located to the east and west of the valley, where they are concentrated in great numbers. This suggests that the Inca state forced populations to live away from this particular valley for ritual and/or aesthetic reasons. There is a great stone stairway that

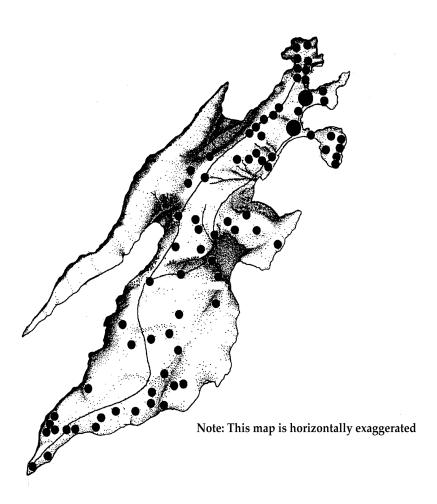


Figure 2.8. Inca settlement pattern on the Island of the Sun.

ascends from the lake toward the Yumani community, and the entire valley is covered with beautiful terraces, which once perhaps held gardens of maize or other special plants. The people who worked these fields apparently were forbidden to live in this section.

Another interesting area of the island is the northwestern end where there were substantial Inca settlements without any appreciable agricultural land. Within and adjacent to the sanctuary area, we identified a number of sites that are not associated with good agricultural land. For example, the Sacred Rock area proper is not an agricultural zone. In this area of the island, the settlement determinants were related to the unique ritual characteristics of the Sacred Rock. Farther north, away from the sanctuary, are several small hamlets on the Tikani Peninsula. These sites are associated with modest terracing and probably housed farmers who cultivated maize and other crops for the religious specialists who cared for the sanctuary.

We also located a road that is not mentioned in the documents. From Apachinacapata (Site 109) to the northwest, a small but clearly identifiable road runs along the ridge to the Titikala area (Figure 2.9). In a number of instances, this road runs past small Inca sites with platforms. There are no agricultural terraces located in this high area. It is likely that the platform sites were ritual in nature and were especially built for offerings. Certainly, the existence of a high road that parallels the low road is suggestive of a complex pilgrimage route that may have involved several pathways.

Finally, we note that the number of sites and the total size of the habitation area during the Inca period on the Island of the Sun are extremely high relative to earlier periods and that this increase cannot be accounted for by natural population growth alone. Even allowing for some minor methodological biases, there is little doubt that people were brought

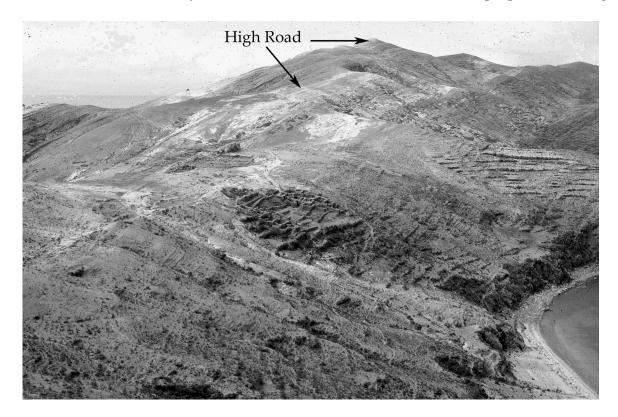


Figure 2.9. A portion of the high road, near Site 063, was constructed with a single line of stones on each side. The road leads directly from Apachinacapata to the Sacred Rock.

into the area from elsewhere. It is also important to note that all three village sites on the island contain no surface evidence of Altiplano period remains. This suggests that the Inca specifically built these villages after the Island of the Sun was incorporated into their empire. These findings concur with the documentary sources which indicate that the Inca imported colonists from across the empire to help maintain the island sanctuaries.

NOTES

¹ Figures 2.3–2.8 are horizontally exaggerated in order to give a better sense of the landscape when discussing the settlement patterns. As a result, the locations of sites are distorted in these maps. Figure 2.1 is adapted from the official topographic maps of the Island of the Sun and provides the precise location of the sites. For those wishing to reanalyze these data, the map in Figure 2.1 plus the site information in Table 2.1 provide exact chronological and spatial data.

² The site of Titinhuayani was named by Bandelier after a local place-name.

³ The flaring-rimmed vessel described here also occurs in early Tiwanaku IV assemblages and was not used alone to phase a site.

⁴ The existence of human occupations on the Island of the Sun raises the issue of the use of watercraft in the Titicaca Basin during the Terminal and Late Archaic. We know from paleoecological data (outlined in Stanish 2003) that the lake has dropped at least 50 meters,

and possibly 100, during droughts in the last few thousand years. An important question, therefore, is whether people first walked to the island when it was connected to the mainland via the ridge extending from the Copacabana Peninsula or if they had a boating technology at this time. The existing bathymetric maps of the lake are unclear as to the depth of the area between the peninsula and the Island of the Sun. In 2002, one of us (CSS), at the suggestion of Michael Moseley, hired a boatman to crisscross the straits between these two pieces of land. We brought a 100-meter tape and tied a heavy rock to the end. In each test, the depth between the peninsula and Island of the Sun was greater than 100 meters. This information therefore supports the notion that the first inhabitants of the Island of the Sun arrived by boat.

⁵ ... that one of them entered the lake of Titicaca, and found on the largest island of that body of water [i.e., Island of the Sun] bearded white men with whom he fought until he had killed all of them. And they say more: that after this they waged great battles with the Canas and Canchis. . . . [Cieza de León 1976:273 (1553: Pt. 1, Ch. 100)]

Y el vno de ellos entró en la laguna de Titicaca: y que halló en la ysla mayor que tiene aquel palude gentes blancas, y que tenían baruas: con los quales peleó de tal manera que los pudo matar a todos. Y más dizen, que passado esto, tuuieron grandes batallas con los Canas y con los Cánchez. (Cieza de León 1984:274 [1553: Pt.1, Ch. 100, f. 125v])

⁶ Figure 2.8 does not include probable Late Horizon sites, only those that are definitively dated to this period.

Excavations at Inca Sites on the Island of the Sun

Brian S. Bauer, Mary Futrell, Lisa Cipolla, R. Alan Covey, and Joshua Terry

During 1995 and 1996, we conducted archaeological excavations at four major Inca sites on the Island of the Sun (Figure 3.1): within the sanctuary area, the sites of Mama Ojlia, the Chincana, and the Sacred Rock (Titikala) (Figure 3.2); and farther south, the site of Kasapata. In this chapter, we outline the major historical references to these sites and summarize the research that has been conducted at them.

MAMA OJLIA (SITE 021)

The site of Mama Ojlia is located in a small valley, on the northern side of the island, halfway between the sanctuary wall and the Sacred Rock along the Inca road. Above the road are the remains of three small structures, several low terrace walls, and a seasonal spring (Figures 3.3–3.5). The water from the spring crosses the road in a channel and flows some 250 meters to the lake. Below the road is a series of long, straight terraces that cross-cut the natural contour of the hill slope. There is also a single low rectangular structure that measures approximately 16.80 x 6.75 meters. Just past the buildings, along the road, are the famous "footprints of the Sun [or Inca]" (Figure 3.6).

Previous Research at Mama Ojlia

The early chroniclers of the region mention the buildings of Mama Ojlia. For instance, Ramos Gavilán (1988:94 [1621: Bk: 1, Ch. 15]) suggests that the structures were "the living quarters of the Ministers of the sanctuary and of the Vir-

gins devoted to the Sun." Similarly, Cobo (1990:98 [1653: Bk. 13, Ch. 18]) states that these remains originally "were lodgings for the attendants and servants of the temple." The fact that these structures lie along the Inca road, and represent the first buildings within the sanctuary area, suggests that they were of importance to the Inca.

Squier is the first of the 19th-century explorers of the island to mention the site. He writes the following:

On a narrow natural platform half-way down to the water are the remains of several structures, which were the residences, it is supposed, of priests and attendants. They are of rough stones, and not architecturally remarkable. From them, leading up to the shrine, is a broad road, partly hewn in the rock. About midway are what are called the "footprints of the Inca," revered among the Indians to this day, as indicating the place where (Topac) Yupanqui stood when he made his pilgrimage to the island, and removed the imperial *llautu* [headband] from his forehead in token of submission and adoration of the divinity whose shrine rose before him. (Squier 1877: 338)

Bandelier (1910:126–127) also describes the archaeological remains in this area. He notes, however, that this section of the road was called Kentipuncu. Bandelier likewise indicates that the ruins were referred to as Mama Ojlia.³

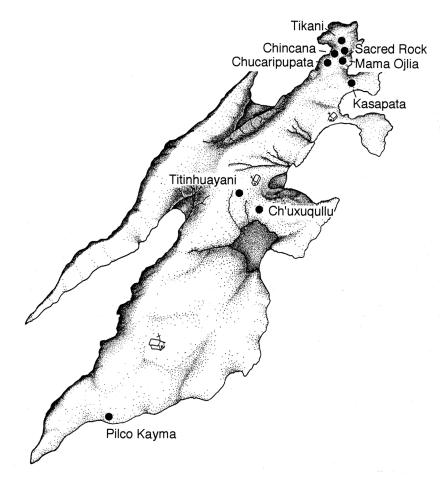


Figure 3.1. The Inca sites excavated on the Island of the Sun during 1995 and 1996 included Mama Ojlia, Kasapata, the Chincana, the Sacred Rock, and the site of Tikani.

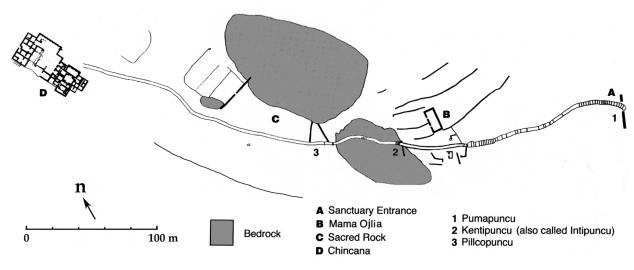


Figure 3.2. The Inca sites in the sanctuary area are concentrated along the road that leads from the sanctuary entrance (A) to the large Inca complex of the Chincana (D). Before arriving at the Sacred Rock (C), the pilgrims passed through three separate gateways (1, 2, and 3) and passed by the building of Mama Ojlia (B).

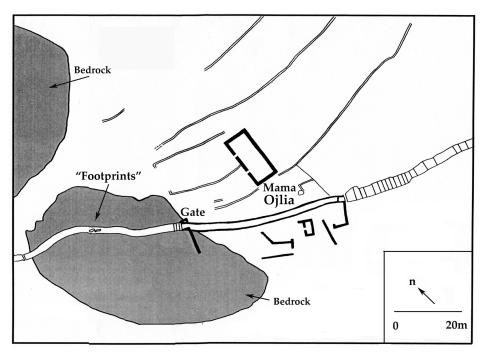


Figure 3.3. The site of Mama Ojlia. The site contains a single large building below the road and a series of small structures above it. Nearby are the remains of a gateway, most likely called Kentipuncu, and the so-called Footprints of the Sun.



Figure 3.4. The bay in front of Mama Ojlia.

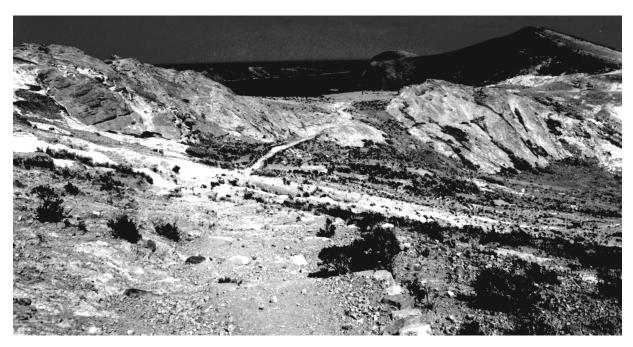


Figure 3.5. The site of Mama Ojlia (center) and the Sacred Rock, looking west from the entrance to the sanctuary.

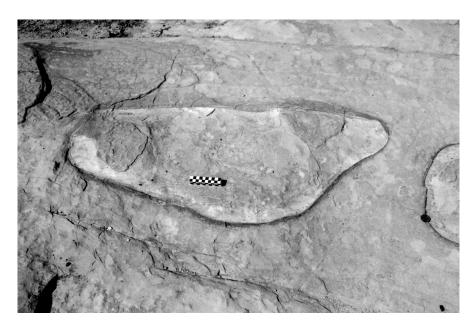


Figure 3.6. One of the so-called Footprints of the Sun (or Inca).

Squier and Bandelier both suggest that the buildings provided housing for the Mamaconas, female attendants of the shrine area. John Hyslop (1990:76), in contrast, believed that these buildings served as the Temples of the

Sun, Thunder, and Lighting. Our research at the site, which included mapping, surface collections, and test excavations, sought to reconcile these descriptions and determine the occupation periods of the site.

Research at the Site of Mama Ojlia during 1995

The survey of the island and our subsequent intensive surface collections at Mama Ojlia recovered more than 160 sherds of Inca-style pottery, including both high-quality and domestic examples, as well as a small number of nondiagnostic fragments. No pre-Inca ceramics were recovered. The abundance of Inca-style pottery and the lack of earlier materials suggest that the site was only occupied during Inca times.

Excavations at Mama Ojlia were conducted in June 1995 and lasted approximately 10 days.

Work at the site was seen as especially important, since Mama Ojlia appears to be the only Inca site in the sanctuary area that has not been extensively looted. Excavations were restricted to the larger structure below the road (Figure 3.7). Its stone and mud-mortar walls are poorly preserved, standing in most places less than 1 meter high. The southern end of the building, containing the best-preserved wall, is cut into the hill slope. The opposite end has been raised approximately 2 meters above the natural hill slope to provide a level floor for the building.

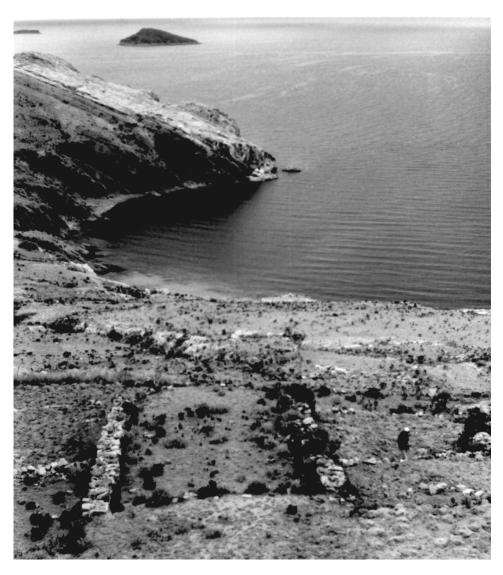


Figure 3.7. The large structure at Mama Oilia.

Excavations began with laying out a 1.0 x 1.0 meter grid system, clearing vegetation from the ground and walls, and drawing a plan of the building. The pre-excavation cleaning of the structure revealed two doors—a common feature of Inca buildings—on its west side. Because of poor preservation, it is not known if the building had any niches.

In total, we excavated an area of 14 square meters in the southwest corner of the building (Figures 3.8, 3.9). This area of the structure contained less than 50 centimeters of archaeological deposits. The results of the excavations were as follows:

Unit 1, a 2.0 x 2.0 meter pit, was placed along the south wall of the building, approximately 1.5 meters from its southeast corner. The levels included a brown sandy loam followed by a shallow sterile layer of orange-brown sandy loam lying on top of the sandstone bedrock. The northwest corner of the test pit yielded a slightly darker matrix that contained a number of Inca-style ceramics, including several large jar fragments in association with carbon. A sample was submitted for dating and provided a radiocarbon date of 370 ± 60 BP.5

Unit 2, a 1.0 x 1.0 meter excavation, was opened in the northwest corner of Unit 1 to further examine the soil change. Unit 2 contained the same upper brown sandy loam as Unit 1, as well as the darker matrix below. This darker earth was labeled Feature A and was excavated separately to bedrock. It began approximately 30 centimeters below unit datum and continued until bedrock at 40 centimeters. The patch of dark earth expanded into the northwest corner of this unit and included many fragments of Inca-style ceramics. A carbon fragment, found in direct association with a bird-head handle from an Inca bowl, was submitted for dating and yielded a radiocarbon date of 420 ± 60 BP.6

Unit 3, a 1.0 x 1.0 meter excavation, was placed in the northwest corner of Unit 2 to continue following Feature A. This excavation revealed a

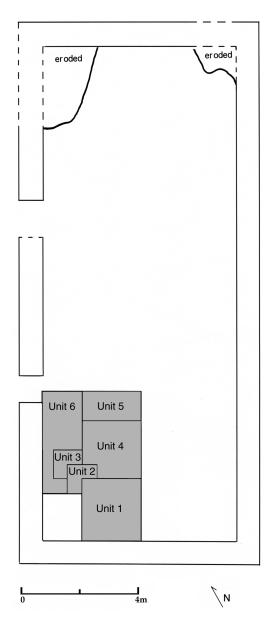


Figure 3.8. Excavation units at Mama Ojlia.

patch of intact floor at 25 centimeters, which lay directly above the stratum of dark earth.

Unit 4, a 2.0 x 2.0 meter test square, overlapped the eastern end of Units 2 and 3. Scattered remains of a floor, perhaps disturbed by cultivation, were uncovered at the same level as the floor in Unit 3. No artifacts were recovered above the floor level, but the dark earth below it continued to yield many large sherds and much carbon. The vast majority of the pottery fragments were Inca.



Figure 3.9. The southern end of the large structure at Mama Ojlia after excavations.

Unit 5, a 1.0 x 2.0 meter unit, expanded the excavation to the north of Unit 4 in hope of finding preserved floor areas. Only patches of the floor were encountered. A few scattered ceramics were found in the plow zone above the floor. A larger number of Inca sherds were recovered below the floor in the dark earth that continued until bedrock.

Unit 6, an irregularly shaped unit, expanded the existing excavations to the west wall and in front of half of a doorway. Inca-style pottery fragments and samples of carbon were recovered in the darker earth that continued to be found below patches of the poorly preserved floor.

In sum, the excavations at Mama Ojlia recovered approximately 450 pottery fragments, the vast majority of which were Inca.⁷ The ceramics were generally of high quality, suggesting a nondomestic function for the building. Vessel shapes represented in the collection include large flared-rim storage vessels (also known as *arybolas*) (Figure 3.10), miniature flared-rim storage vessels, and shallow bowls



Figure 3.10. Large flared-rim storage vessel fragments from Mama Ojlia.

(Figure 3.11). Some plainware utilitarian pieces were also recovered (Figure 3.12).

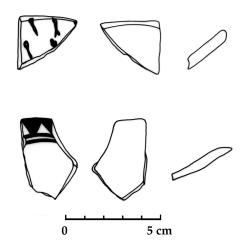


Figure 3.11. Plates from Mama Ojlia.

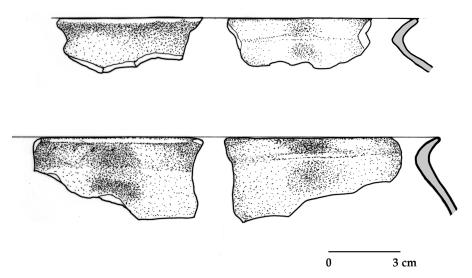


Figure 3.12. Utilitarian pieces from Mama Ojlia.

Overview of Mama Ojlia

Surface and excavated materials from the site of Mama Ojlia indicate that the largest structure was built by the Inca in an area of the sanctuary that had not been used by earlier cultures. The excavations also revealed the partially preserved remains of a floor in the building. The exact date of this floor is not known, since no diagnostic sherds were found that could reliably date its last use.

A level of dark earth below the floor yielded a large quantity of Inca-style ceramics.

These sherds appear to be in situ since they are generally large and well preserved and many fit together. Carbon samples and the recovery of Inca-style ceramics indicate that the building was in use around the time of the Spanish invasion (Table 3.1). The high-quality ceramics recovered in the building suggest an elite and/or ceremonial use of the building. As mentioned, Cobo (1990:97 [1653: Bk. 13, Ch. 18]) and Ramos Gavilán (1988:94 [1621: Bk. 1, Ch. 15]) state that Mama Ojlia was the living quarters of the sanctuary attendants. This proposed func-

Table 3.1 Radiocarbon dates from the Island of the Sun

Site	Lab No.	Radiocarbon Age	Calibrated [*]
Chincana	I-18,556	$340 \pm 80 \text{ BP}$	AD 1400-1850 @ 95.4% confidence
Chincana	I-18,555	$220 \pm 80~\mathrm{BP}$	AD 1490-1960 @ 95.4% confidence
Ch'uxuqullu	I-18,314	$3780 \pm 170 \text{ BP}$	2700-1600 BC @ 95.4% confidence
Ch'uxuqullu	I-18,402	$2770 \pm 100 \text{ BP}$	1220-780 BC @ 94.3% confidence
Ch'uxuqullu	I-18,401	$2110 \pm 100 \text{ BP}$	390 BC-AD 70 @ 95.4 % confidence
Ch'uxuqullu	AA 37210 sample II	$3110 \pm 45~\mathrm{BP}$	1460-1250 BC @ 92.2% confidence
Kasapata	I-18,557	$270 \pm 80~\mathrm{BP}$	AD 1400-2000 @ 95.4 %confidence
Mama Ojlia	LLNL23788	$370 \pm 60~\mathrm{BP}$	AD 1430-1650 @ 95.4% confidence
Mama Ojlia	LLNL23789	$420 \pm 60~\mathrm{BP}$	AD 1410-1640 @ 95.4% confidence
Pilco Kayma	AA34944	$420 \pm 60~\mathrm{BP}$	AD 1410-1640 @ 95.4% confidence
Pilco Kayma	AA34945	$470 \pm 50 \; \mathrm{BP}$	AD 1390-1630 @ 95.4% confidence
Sacred Rock	Beta 10253	$1450 \pm 50~\mathrm{BP}$	AD 1390-1630 @95.4% confidence
Sacred Rock	LLNL 23790	Modern	

^{*} Using OxCal version 3.8

tion is consistent with the range of ceramics found at the site, which included an abundance of finewares and a small percentage of domestic wares. Nevertheless, we note that its exact function remains to be determined.

THE CHINCANA (SITE 025)

A large site with elaborate architecture, called the Chincana (labyrinth), is located a little more than 200 meters from the Sacred Rock on the steep slope of the island (Figures 3.13-3.15). The site offers a spectacular view of a beach below and, in the far distance, the Peruvian lakeshore. The Chincana is composed of rectangular rooms, plazas, and passageways of varying dimensions. Numerous doorways, niches, stairs, and other interior features are still readily visible. Vestiges of doorways can be seen in the uppermost tiers of a few walls, indicating that some of the buildings had second stories. The walls were constructed with field stones and earth mortar and were covered with plaster and painted red and yellow (Bandelier 1910:222). Overall, the construction is similar to the site of Pilco Kayma, located on the other end of the island.

The Chincana has trapezoidal doors and niches typical of Inca architecture. Although these Inca elements are abundant, the overall plan of the complex is distinct from those of Inca sites found in the Cusco area. In the Inca heartland, and in most Inca administrative centers elsewhere in the empire, three or four independent structures were constructed around a rectangular courtyard or *cancha*. In contrast to this basic canon of Inca architecture, there are many rooms in the Chincana connected by twisting passageways.

It is also worth noting that although most of the doorways and niches are trapezoidal, some are rectangular. Furthermore, as in Pilco Kayma, there is a general carelessness of construction that is not found in Inca buildings in Cusco. Most notable is that the sizes and proportions of the doorways and niches greatly vary in the complex. These irregularities may reflect that the building was constructed using large crews of local laborers who worked with only general guidance from state overseers.

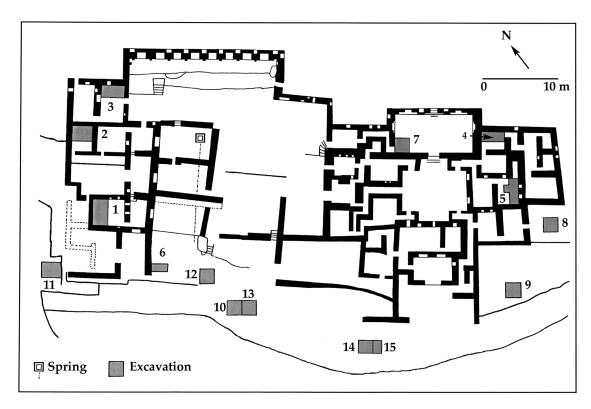


Figure 3.13. Excavation units at the Chincana.

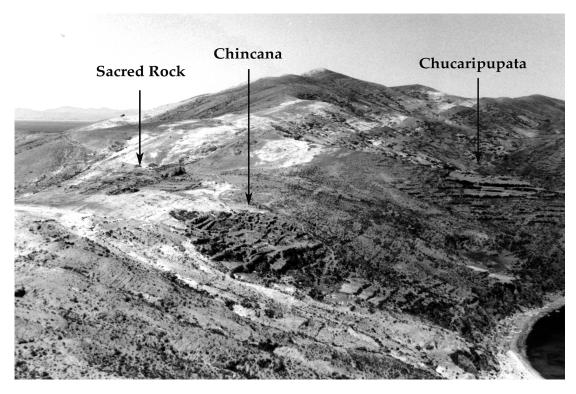


Figure 3.14. The Chincana (center) and the Sacred Rock (center left). Also note the terraces of Chucaripupata (center right) and the edge of Lake Titicaca (lower right).



Figure 3.15. The northwest corner of the Chincana.

Previous Research at the Chincana

The complex organization of the Chincana has long attracted the attention of visitors to the Island of the Sun. Ramos Gavilán (1988:93 [1621: Bk. 1, Ch. 13]), calling the ruins a storehouse of the Sun, tells us that it was already deteriorating in 1618 when he visited the island. Cobo (1990:97 [1653: Bk. 13, Ch. 18]) likewise describes the Chincana as a ruined "storehouse," but he suggests that it also served as a House of the Mamaconas (Cobo 1990:98 [1653: Bk. 13, Ch. 18]).

Joseph Pentland visited the Lake Titicaca region in 1826. Although the primary goal of his travels was to produce a report on the commercial prospects of Bolivia for the British government, Pentland was intrigued by the Islands of the Sun and the Moon, and he wrote a vivid description of what he saw there. He provides the following account of the Chincana:

There is scarcely a point on the Northern part of the Island where remains of ancient edifices are not to be met with, in the same style as those already mentioned. But that which has acquired the greatest celebrity is a heap of ruins called the Chingana, which is represented by the Aborigines to have been the residence of the last Inga before the translation of the Monarchy to Cuzco; its architectural style is the same as that of the edifices already mentioned, being composed of a great number of small contracted chambers opening into each other, and separated by walls of considerable thickness. The front facing the North presents a line of niches 8 feet high [f. 88v] in which statues appear to have been placed; and enclosed in the building is a small square court with a fountain in the centre. The ruins of the Chingana are surrounded by extensive terraces, many covered with Evergreens and flowering shrubs, which have been designated as the Garden of the Inga. The situation of these ruins overlooking a deep and extensive bay, surrounded by terraces of evergreens, and commanding an extensive prospect over the surrounding Lake and the distant Cor-

dillera, offers the most picturesque view in the Island of Titicaca and one rarely to be met with at an elevation exceeding that of the Peak of ***riffe [unreadable] and where all vegetation has ceased to exist in the mountains of the old Continent [f. 89] There appears to be little doubt that this edifice served rather as a dwelling, than as a place of Religious worship, altho some persons have wished to discover in it, the far famed, Temple of the Sun, the tradition of the Riches and magnificence of which has been handed down to us by the Spanish Historians of the Conquest. It is to be regretted that this edifice which had resisted the destructive effects of more than 150 years, and had remained entire until the middle of the 18th Century, having served as a dwelling to some of the early possessors of the Island was stripped of its roof, and the materials employed in the construction of a village Church on the Western shores of the Lake. This vandalism of the last century was the act of a Monk, and was sanctioned by his Dios****n [unreadable] the Bishop [f. 89v] of Chiucuito, [sic] who justified their conduct by their zeal for their religion, and by their desire to obliterate every vestige of the religion and civilization of the former inhabitants of this once Pagan country. (Pentland 1827: f. 88v-89v)

The next recorded description of the Chincana came 50 years later by Squier. He writes the following:

To the front and northward of the Sacred Rock, and distant about two hundred paces, are the ruins of a large edifice which the chroniclers called *Despensa*, or Storehouse, of the Sun, but which is now called La Chingana, or The Labyrinth. It justifies the latter name. It is situated on the slope descending to the little bay of Chucaripe, at a point where the ground falls off very abruptly, so that its lower walls must have been twice or three times as high as those on its upper side. Its leading feature is a

court, with terraces cut into the rock, and with a fountain in its centre. The walls facing inwards on the court are all niched, and on each side are masses of buildings, which had evidently been two or three stories in height. Some of the lower rooms or vaults, probably all of them, had been arched after the manner to be observed in the "Palace of the Inca" [i.e. Pilco Kayma], at the opposite end of the island. The passages leading to the various rooms were narrow and intricate, the door-ways low, and the rooms themselves small and dark, almost precluding the notion that they were intended to be inhabited. From its proximity to the rock, and the identity of its leading features with those of other structures of Peru of known purpose, I am inclined to regard the Chingana as one of the Aclahuasas, or houses of the Virgins of the Sun, one of which existed on the island, and I found no other building that could have served as a retreat for the vestals. (Squier 1877:339-340)

The first engravings of the Chincana were published by Charles Wiener (1880:441, 422). He renders a southwest overview of the site and depicts the interior of one room in the east section (Figures 3.16, 3.17). These engravings are based on a series of early photographs taken on the island. Copies of these photographs and others (Figures 3.18, 3.19) can be seen in the Peabody Museum at Harvard University.⁸

Although Bandelier did not excavate at the Chincana, he spent a considerable time exploring and documenting its remains. Bandelier (1910:230) suggests that some of the structures and passages were paved with pebbles or small cobbles. He also made an early map of the site (Figure 3.20), two studies of architectural details, and took two photographs (Bandelier 1910: plates LVI, LX, LXIII, LXIV, LXV). Other maps of the Chincana have been drawn by Posnansky (1912 [west sector only]) and Escalante Moscoso (1994:361).

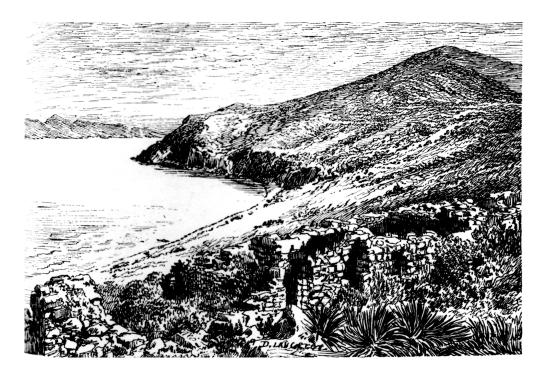


Figure 3.16. A southwest view of the Chincana (Wiener 1880:441). Compare this etching with Figure 3.18.



Figure 3.17. The interior of one of the rooms in the east sector of the Chincana (Wiener 1880:442). Compare this etching with Figure 3.19.



Figure 3.18. Overview of the western side of the Chincana and the nearby bay (Courtesy of Peabody Museum, Harvard University, catalog number H9834).



Figure 3.19. Buildings on the eastern side of the Chincana (Courtesy of Peabody Museum, Harvard University, catalog number H9835).

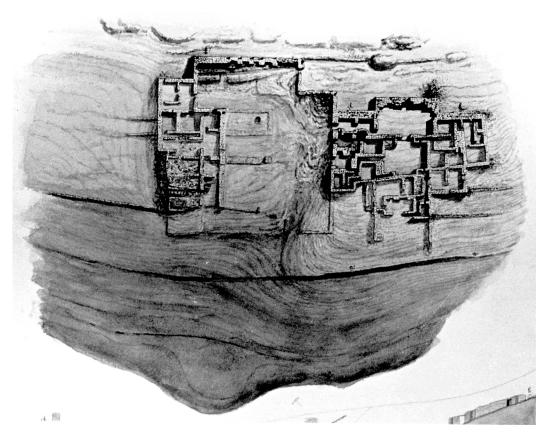


Figure 3.20. Bandelier's map of the Chincana (Courtesy of the Division of Anthropology, American Museum of Natural History).

Research at the Chincana during 1995 and 1996

The Chincana is composed of two architecturally different sectors (Figure 3.13). The east sector is made of small rooms, narrow passageways, and two small central plazas (Figures 3.21, 3.22). Several of the passageways still retain their original slab stone ceilings (Figure 3.23). Although the plan of the east zone is not completely symmetrical, the rooms and passageways lead off both sides of its two adjacent plazas. The multiple passageways and internally connected rooms of this sector lend a maze-like feeling to the complex as a whole (Figures 3.13, 3.20, 3.24).

The western sector is more open than the eastern one (Figure 3.25). It contains two or three parallel rows of larger, interconnecting rooms and a significantly bigger plaza area.

This sector has a massive upper wall with eight interior and eight exterior niches (Figure 3.26), the spring (bath) described by both Ramos Gavilán and Cobo, and a carved rock.

Our 1995 field research at the Chincana began in late June and lasted approximately 20 working days. We first made a detailed map of the site and then conducted systematic surface collections. The surface collections yielded only a few fragments of Inca-style pottery, most of which were found along the steep, eroding southern edge of the site.

After the map and surface collections were completed, seven test excavations (Units 1–7) were placed in different areas of the compound. The goal of these excavations was to determine the age and function of the east and west sectors of this architecturally complex site and to test for evidence of pre-Inca materials beneath it.





(*TOP*): Figure 3.21. The second plaza in the east side of the Chincana. (*BOTTOM*): Figure 3.22. A doorway and stairs lead from the first to the second plaza in the east side of the Chincana.





(*TOP*): Figure 3.23. Many covered passageways still survive in the Chincana. (*BOTTOM*): Figure 3.24. Looking toward the east side of the Chincana.





(*TOP*): Figure 3.25. The main entrance to the west side of the Chincana. (*BOTTOM*): Figure 3.26. A few of the large niches at the Chincana are still well preserved.

In May 1996, we returned to the Island of the Sun and spent an additional two weeks at the site. Since our 1995 excavations within the structures had produced limited results, we concentrated our excavations on the exterior and southern slope of the site where, based on surface collections, we hoped to find Inca trash middens. The results of our field seasons at the Chincana are outlined below.

- Unit 1, a 2.0 x 3.0 meter area, was excavated in the western zone of the site in a room that retained stone slab ceiling supports. The unit was dug to a depth of 50 centimeters. Research identified a looter's pit in the southwest corner of the room and a reconstructed west wall.
- Unit 2, a 1.5 x 3.0 meter area in the western zone, ended with sterile soil at a depth of 70 centimeters. The excavations found that the interior of the structure had been extensively disturbed in modern times.
- *Unit 3*, a 3.0 x 2.0 meter unit in the western zone, also terminated at a depth of 70 centimeters. Although there was no evidence of looting or other disturbances, the structure was almost devoid of artifacts.
- Unit 4, a 1.0 x 3.6 meter area in the eastern zone, was excavated to a depth of 80 centimeters. The research uncovered the collapsed walls and ceiling of the room, but very few artifacts were found.
- *Unit 5* began as a 3.6 x 1.5 meter excavation in a room in the eastern zone. The first five levels were composed of a dark brown silty loam matrix with increasing amounts of gravel and sandstone. These levels yielded a few fragments of Inca-style pottery and a single Colonial period sherd. The sixth level consisted of dark yellow, modeled with brown, clay used by the Inca to level the area before the room construction began. Additional excavations below this fill found a narrow east-west-running wall and a series of possible occupation levels. The narrow wall appears to be pre-Inca, since it is cut by the standing walls of the Chincana. A 1.5 x 1.0 meter expansion was excavated to provide additional information on the narrow wall.

This extension exposed a second narrow wall that ran perpendicular to, and intersected with, the other small wall. Unfortunately, these apparently pre-Inca remains could not be dated because no associated artifacts were recovered.

- *Unit 6*, a 1.0 x 2.0 meter pit, was placed on the lowest terrace of the western zone. Bedrock was reached at a depth of 40 centimeters, and the work produced a very limited number of artifacts.
- Unit 7, a 2.0 x 2.0 meter excavation, was situated in the northwest corner of the first plaza in the eastern zone of the site. Excavations terminated at bedrock, 95 centimeters below the surface, and revealed the wall trenches used in the early stages of construction of the Chincana.
- Unit 8, a 2.0 x 2.0 meter test square, was placed on an agricultural terrace outside the southeast corner of the Chincana near a doorway. Excavations were concluded at a depth of about 1.5 meters. The unit revealed a small ash deposit that was covered by wall fall. A gravel lens above the wall fall reflects a period of erosion well after site abandonment.
- *Unit 9*, a 2.0 x 2.0 meter unit, was excavated on a lower terrace in the southeastern area of the site. Very few artifacts were recovered and no midden was identified.
- Unit 10, a 2.0 x 2.0 meter area, was excavated on a terrace directly south of the site. This excavation reached a maximum depth of 1.6 meters. The first meter was composed of wall fall and eroded soils from the site. This was followed by a 10- to 30-centimeter stratum of nearly black soil with high concentrations of carbon and Inca-style ceramics, which lay above a 40- to 60-centimeter stratum of yellow-brown clay. All strata sloped steeply from north to south. A carbon sample from the black midden, with a depth of more than 1.4 meters below modern ground level, was submitted for dating. The sample yielded a radiocarbon date of 220 ± 80 BP.¹¹

Unit 11, a 2.0 x 2.5 meter test unit, was placed on a terrace at the southwestern corner of the Chincana. It was hoped that work at this location would provide information on the architecture of this poorly preserved area of the site. Removal of the plow zone provided a number of Inca ceramic fragments. Further excavation revealed a north–south-running terrace wall that bisected the unit. The area between the newly discovered terrace wall and the Chincana was carefully packed with stones to form a flat surface. Excavations on the western side of the terrace revealed eroded soils and a large amount of fallen stones.

Unit 12, a 2.0 x 2.0 meter square in the lower plaza area of the Chincana, was directly in front of the large carved rock and stairway. Although no midden deposit was found, a number of ceramic fragments were recovered from the excavation.

Unit 13, a 2.0 x 2.0 meter square, was dug to the east of Unit 10. We excavated a second pit in this area, since Unit 10 had yielded numerous pieces of Inca-style pottery and contained a well-defined midden. Excavations continued to a depth of nearly 2 meters and provided a large number of ceramic fragments as well as some faunal remains.

Unit 14, a 2.0 x 2.0 meter excavation, was situated on the first terrace of the Chincana. A large quantity of carbon was recovered from Level 4 of the excavation as well as from a midden area concentrated near the east wall of the unit. A carbon sample from this midden was submitted for dating, and it yielded a radiocarbon date of 340 ± 80 BP.¹²

Unit 15, a 1.0 x 2.0 meter extension, was adjacent to Unit 14. This unit was dug to recover additional ceramic and bone artifacts as well as carbon samples from the midden found on the slope below the Chincana.

Overview of the Chincana

Research was conducted at the Chincana to determine the age and function of the east and west sectors of the site and to test for evidence of pre-Inca materials beneath them. We began excavations with two alternative explanations for the contrasting east and west sectors of the site. One theory was that the east sector, with its unusual maze-like construction, could predate the Inca arrival and that the west sector represented a later Inca addition to the complex. Alternatively, it was proposed that the two sectors represented areas of distinctly different functions, both built during the Inca period. The east sector, with its many small rooms, could have been a storage facility, while the more open western sector with its spring and large plaza could have served as the living quarters for attendants of the shrine.

The idea that the Chincana contained both pre-Inca (east side) and Inca (west side) components was not supported by data recovered during our research at the site. Extensive surface collections at the Chincana recovered only Inca-style pottery. The absence of earlier ceramics and the presence of Inca materials across the site indicate that the complex was built and occupied exclusively during the Inca period.

Our research also indicated that the structures of the Chincana are relatively empty. We found no evidence of domestic features, such as hearths, and identified no areas of domestic middens within the buildings. In total, our 1995 excavations in various rooms and open areas of the Chincana yielded only 30 sherds of Incastyle pottery, most of which were small, isolated fragments. Excavations in one room did reveal what may be a pre-Inca narrow stone wall. Nevertheless, since no pre-Inca artifacts were found, it seems safe to say that the Inca built their complex in an area of the island that had been little used by earlier cultures.

Excavations in 1996 down slope from the Chincana provided a great many more fragments of Inca-style pottery and evidence of several separate midden deposits. Both fine Inca wares as well as domestic materials were recovered. Two carbon samples from these trash areas provided Colonial dates (see Table 3.1).

The complexity of the Chincana, with its two separate architectural sectors, suggests, however, that the site served other functions as well. Cobo notes that a Temple of the Sun was

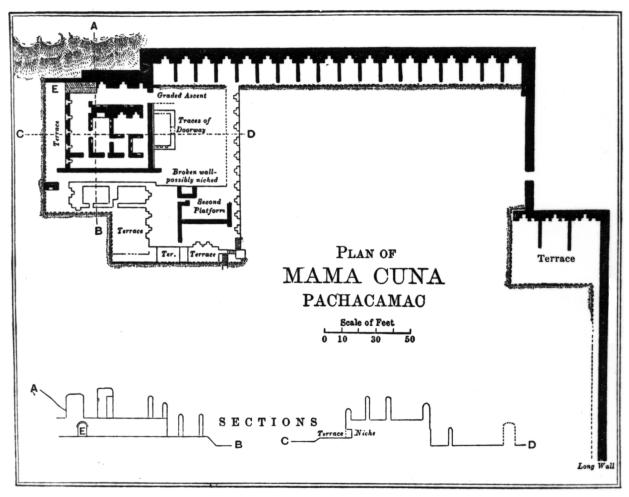


Figure 3.27. The House of Mamacona at Pachacamac shares certain similarities, including a large niched wall and an open plaza area, with the Chincana on the Island of the Sun (Squier 1877:70).

located near the storehouse and that it held a series of "windows, cupboards, or niches along the walls." This could be a reference to the west part of the Chincana with its impressive wall of large niches. Furthermore, Ramos Gavilán specifically describes the spring of the Chincana as being used for the Sun and its cult. Cobo also suggests that the Chincana held the living quarters for Mamacona who "made beverages and finely woven cloth that were used in the services for the shrine." This is not surprising, given the fact that a large number of Mamacona lived in the Coricancha in Cusco to serve

its shrines. In addition, it is worth noting that the architectural layout of the west end of the Chincana shares certain similarities, including a large niched wall and an open plaza area, with a structure at Pachacamac that has long been assumed to be living quarters for Mamacona (Figure 3.27). In sum, given the archaeological and historical data, it is not unreasonable to suggest the Chincana represents a state installation built by the Inca after their conquest of the Lake Titicaca region. It most likely housed some Mamacona and simultaneously served as a temple and storehouse of the Sun.

THE SACRED ROCK (SITE 023)

The Titikala, the Sacred Rock from which the Sun first rose, is a large, exposed outcrop of reddish sandstone (Figure 3.28) that lies on a slightly elevated plain near the center of the sanctuary. One side of the rock descends toward the lake (Figure 3.29), and the other side forms a vertical face near the midline of the island.

A rectangular plaza adjoins the rock (Figure 3.30). The north side of the plaza is formed by the vertical face of the rock which rises nearly 5.5 meters and runs for about 80 meters. The west side of the plaza is about 35 meters long and is defined by the remains of an Inca wall. The wall runs from the Sacred Rock to a smaller, isolated outcrop. It contains a central, trapezoidal doorway, with a set of 11 small, trapezoidal windows. An ephemeral terrace defines the east edge of the plaza. The south side of the plaza is open and is crossed by the

Inca road that leads from the main entryway of the sanctuary in the east to the Chincana in the west.

Previous Research at the Site

The best descriptions of the Sacred Rock come from Ramos Gavilán and Cobo, both of whom visited the Island of the Sun between 1616 and 1618. Ramos Gavilán states that the broad descending side of the outcrop was covered with fine Inca cloth (*cumbi*), "the most subtle and delicate that was ever seen in the Indies." He also indicates that the other side of the rock, the shape of which is noticeably concave, was faced with plates of silver and gold and that an altar was located in a prominent concavity near its center (Ramos Gavilán 1988:115–116, 149, 150 [1621: Bk. 1, Chs. 17, 24]).

Ramos Gavilán (1988:93 [1621: Bk. 1, Ch. 13]) indicates that many gold idols, ceramic vessels, and other objects had already been found by treasure hunters in the sanctuary



Figure 3.28. The Sacred Rock of Titikala.

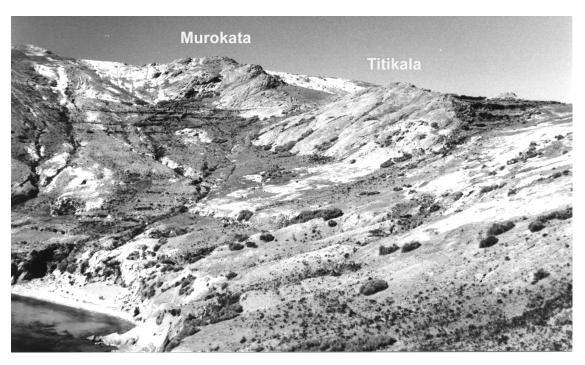


Figure 3.29. One side of the Sacred Rock (center right) descends toward the lake. The terraces of Mama Ojlia (center left) can be seen to its east.

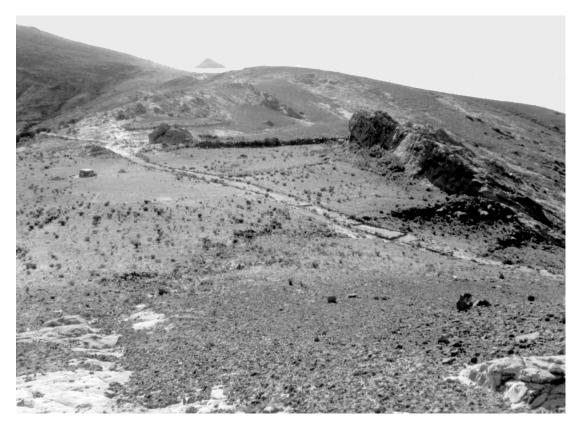


Figure 3.30. The Incas constructed a plaza adjacent to the Sacred Rock.

plaza. Furthermore, he states that there was a large stone basin directly in front of the Sacred Rock into which corn beer offerings were poured. Ramos Gavilán adds that there were still traces of corn beer vessels on the surface of the plaza, and that the round offering stone had been used as a base for a cross that was erected in the plaza (Ramos Gavilán 1988:93, 116 [1621: Bk. 1, Chs. 13, 17]).

Cobo is even more specific in his description of the Sacred Rock area:

The size, form, and location of the sanctuary of Titicaca, after the Inca enlarged and enhanced it, was as follows. The crag that was so venerated was out in the open, and the temple was next to it, located in such a way that this crag was about where the cemetery would be, or to put it more properly, within the main chapel, even though it was out in the open; actually it was the most sacred place. The front of it faces north, and the back faces south; there is not much to the concave part of it, which is what they worshipped. The altar of the Sun was inside. The convex part is the living stone, whose slopes reach out as far as the water, where there is a cove made by the lake. The adornment was a covering over the convex part, a curtain of cumbi, which was the finest and most delicate piece [of cloth] that has ever been seen. And the entire concave part of it was covered with sheets of gold, and they threw the offerings into some holes that can still be seen now. Ahead of this crag and altar a round stone can be seen which is like a basin, admirably wrought, about as large as a medium-sized millstone, with its orifice; the stone is used as the foot of a cross now. The chicha for the Sun to drink was tossed into this orifice. (Cobo 1990:96-97 [1653: Bk. 13, Ch. 18]¹⁷

Many people have visited the Sacred Rock since the fall of the Inca Empire, but few have left descriptions or images of it. Squier supplies the earliest illustration of the rock (Figure 3.31). This figure is somewhat distorted, since it shows the Inca wall, which runs perpendicular

to the rock, directly in front of it. But other aspects of the etching are insightful. For example, a circular depression recorded in the etching suggests that a large looter's hole once dominated the center of the plaza. Squier also provides an interesting description of the rock and its setting:

At almost the very northern end of the island, at its most repulsive and unpromising part, where there is neither inhabitant nor trace of culture, where the soil is rocky and bare, and the cliffs ragged and broken, high up, where the fret of the waves of the lake is scarcely heard, and where the eye ranges over the broad blue waters from one mountain barrier to the other, from the glittering crests of the Andes to those of the Cordillera, is the spot most celebrated and most sacred of Peru. Here is the rock on which it was believed no bird would light or animal venture, on which no human being dared to place his foot; whence the sun rose to dispel the primal vapors and illume the world; which was plated all over with gold and silver, and covered, except on occasion of the most solemn festivals, with a veil of cloth of richest color and materials; which sheltered the favorite children of the Sun, and the pontiff, priests, and king who founded the Inca empire.

Our guides stopped when it came in view, removed their hats, and bowed low and reverently in its direction, muttering a few words of mystic import. But this rock to-day—alas for the gods dethroned!—is nothing more than a frayed and weatherworn mass of red sandstone, part of a thick stratum that runs through the island, and which is here disrupted and standing, with its associated shale and limestone layers, at an angle of forty-five degrees with the horizon. (Squier 1877:336–337)

In 1892, Edward Pickering of the Harvard Observatory traveled to the islands and took the earliest photograph of the Sacred Rock. These pictures show a barren and eroded plaza, as well as a large irregular depression near its

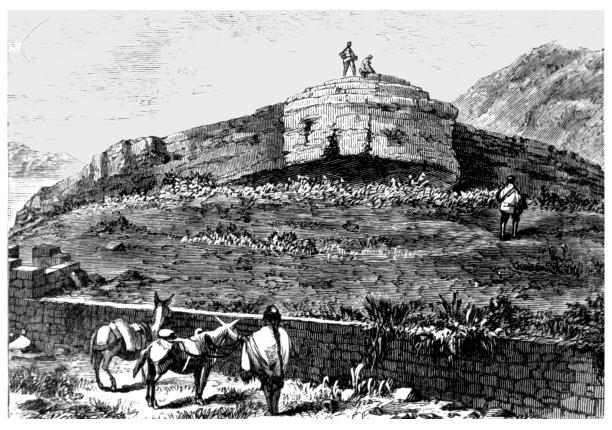


Figure 3.31. Squier visited the Island of the Sun and the Sacred Rock in 1865.

center—in the same area as Squier's etching—suggestive of a looter's pit.

Bandelier began his research on the island three years after Pickering's visit. Bandelier (1910:217) states specifically that looters had seriously disturbed the area in front of the rock. Elsewhere he notes that some of the most famous Inca objects that he purchased from the hacienda owner came from in front of, or near, the rock:

The surroundings of Titi-kala have long ago been searched and rifled. The Garcés collection, now at the [American] Museum [of Natural History], contains gold and silver figurines from this vicinity. The concurrent testimony of the former owners of the collection, as well as of Indians from the Island who excavated for these owners, is that most of the figures of llamas, if

not all, came from this neighborhood, as also the small pins of gold and of silver. (Bandelier 1910:220)

Immediately to the northwest of the plaza, on the other side of the Inca wall, is an expanse of terraced land. Most of Bandelier's excavations took place in the northwest corner of this terraced area. There, under a mass of rubble, Bandelier (1910:219, 257) found several wall alignments. He proposed that these remains represented the Temple of the Sun that is described by Ramos Gavilán (1988:93 [1621: Bk. 1, Ch. 13]) and Cobo (1990:97 [1653: Bk. 13, Ch. 18]) as being 30 to 40 steps from the rock. Bandelier's excavations in the terraced area must not have yielded many artifacts, since he does not describe or illustrate any items from this area.

Research at the Sacred Rock during 1994 and 1995

Our research at the Sacred Rock began during the survey of the island. Surface collections at the Sacred Rock recovered a few modern and Inca sherds, but no pre-Inca materials. A close inspection of the plaza surface revealed a light scatter of small (1–4 millimeters) pieces of greenstone. Although occasional pieces of greenstone were found across the plaza, the west and northwest areas contained the highest density. Subsequent excavations revealed that the greenstone came from a badly disturbed floor that once covered the plaza.

Like Squier (1877:338–339) and Bandelier (1910:218), we noted the presence of cut andesite blocks in the area. These blocks are intriguing, as there is no source of andesite on the island, so they must have been brought in boats from the mainland. A group of andesite blocks

has been placed together, along with a large slab of white sandstone, just south of the plaza. Although this cluster of carved stones attracts the attention of tourists, and serves as the source of imaginative tales by guides, old photographs of the plaza indicate that it is a recent arrangement. Nevertheless, the presence of cut blocks in the plaza area suggests that an elaborate construction, perhaps an altar or a building, once stood in or near it.

Excavations were begun at the Sacred Rock in August of 1995 and lasted approximately two weeks (Figure 3.32). During this time we excavated Units 1 to 21. We returned to the Sacred Rock in late May 1996 to spend two additional weeks excavating Units 22 to 45. The goal of the research was to test for evidence of Inca and pre-Inca activities in the plaza. The results of those excavations are outlined below.

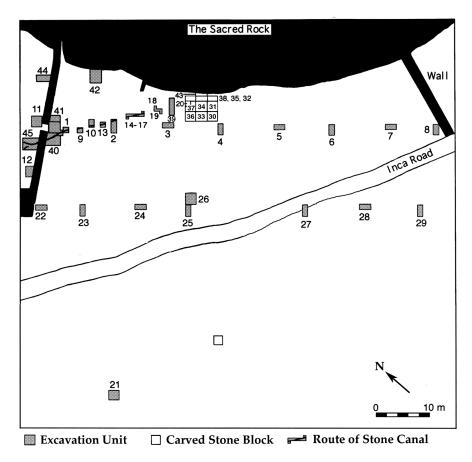


Figure 3.32. Excavation units near the Sacred Rock.

Units 1–8 were dug as a line of test pits across the plaza to systematically test for subsurface remains to determine which areas were least affected by looting. These units were spaced 10 meters apart and averaged between 60 and 80 centimeters in depth. Their disturbed sediments, which yielded only a few ceramic fragments, provided evidence of the extensive looting that has occurred throughout the plaza.

The notable exception was Unit 1, which consisted of a 2.0 x 2.0 meter pit dug adjacent to the west wall of the plaza. Although the upper 60 centimeters of the excavation proved to be heavily disturbed by plowing and looting, the last 20 centimeters above bedrock contained a series of finely stratified levels that passed below the wall foundation (Figure 3.33). There were at least two thin lenses of dark brown, silty clay mixed with

small flecks of carbon, separated by levels of finely laminated sandy silt. The clay lenses appeared to be prepared floors that once covered the plaza.

The most remarkable find in Unit 1 was a floor of crushed greenstone¹⁹ and silty clay, found below these thin lenses and directly above the natural subsoil.²⁰ The greenstone floor was more than 3 centimeters thick in the west but grew gradually thinner in the east. The greenstone varied in size from minute to some pieces as large as 4 millimeters. No artifacts were recovered in association with the floor. A small rectangular stone was also found in the extreme southeast corner of Unit 1, and a 1.0 x 1.0 meter extension was added to the unit in that corner. This extension exposed the remains of a wellmade stone canal that cut the greenstone floor.



Figure 3.33. North profile of Unit 1. Note that the upper 60 centimeters and the far right of the profile is heavily disturbed, while the lower left contains stratified remains.

Units 9, 10, and 13-20 followed the course of the canal found in Unit 1, through a series of test excavations. While the exact origin point of the canal could not be identified due to extensive looting, it appears to have begun somewhere near the concave section of the Sacred Rock. The canal sloped slightly downhill from near the Sacred Rock, crossed the plaza in a straight, although not rigid, line and passed under the Inca wall some 2 meters south of the doorway. Buried at the time of use, the canal survives in varying states of preservation (Figure 3.34). In several areas, we found it complete with capstones and a channel measuring 20 centimeters wide and 30 centimeters deep (Figure 3.35), while in other areas the canal is damaged (Figure 3.36).

Units 11 and 12, two 2.0 x 2.0 meter pits, were placed on the west side of the Inca wall to test this area of the plaza. These excavations yielded no notable features or artifacts.

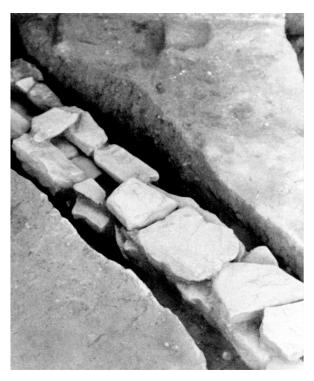


Figure 3.34. Excavations revealed the remains of a stone canal used to drain liquid offerings from the Sacred Rock Plaza.



Figure 3.35. In some locations the canal is still well preserved.



Figure 3.36. In most areas, however, the canal side walls are destroyed.

Unit 21, a 2.0 x 2.0 meter excavation, was placed south of the road to examine the soil depth of this region of the plaza area. The bedrock was found less than 40 centimeters below the modern ground surface, and no notable features or artifacts were identified. This was the last unit excavated during the 1995 field season.

Units 22–29 represent a second line of 1.0 x 2.0 meter test pits dug, in 1996, across the plaza, 15 meters to the south of our 1995 line (Units 1–8), to continue our systematic sampling program. Unit 22 was located adjacent to the west wall of the plaza, and Unit 29 was placed 65 meters to the east. Each of these pits was relatively shallow, between 30 and 60 centimeters in depth, and provided very few artifacts.

Unit 25, which was located near the center of the plaza area, deserves special attention. This unit revealed the edge of a pit cut directly into bedrock. Excavations in this area were expanded with an adjacent 2.0 x 2.0 meter excavation (Unit 26), which exposed a 60 x 50 centimeter rectangular pit cut carefully 60 centimeters into bedrock, as well as several other shallow depressions. Although this area of the plaza has been badly disturbed, it seems likely that the rectangular pit once held offering materials. Bandelier documents that some of the offerings in the Sacred Rock area were placed in stone chests, and he purchased one from the hacienda owner (Bandelier 1910: Plate LXI). George Dorsey bought a nearly identical chest from the Island of the Sun four years earlier, in 1891, for the 1892 World Columbian Exposition in Chicago. This chest, which can be found within the holdings of the Field Museum, measures 39 x 24 x 25 centimeters. Although we will never know for certain, one can speculate that the deeply cut rectangular pit in the plaza once held such a chest.

Units 30–38 and 43 represent a broader area of excavation (6.0 x 5.0 meters) opened in front of the concave section of the Sacred Rock after the systematic sampling program of the plaza was completed (Units 1–8 and 22–29).

This large block excavation was subdivided into Units 30 to 38 and 43. Unfortunately, this area was extremely shallow, less than 30 centimeters in depth, and had been extensively looted. Although all evidence of prehistoric activities was destroyed by looters, we did encounter various small slab cists, which held modern offerings to the rock. Some of the offerings were made within this decade, although others appeared to be much older.²¹

Unit 39, a 1.0 x 4.0 meter excavation, was dug between the last known vestige of the canal, in Unit 18, and the block excavation. Unfortunately this area, like so much of the plaza, proved to be heavily disturbed, and no additional information on the canal was recovered.

Units 40 and 41, two additional excavations, were placed to the north and south of Unit 1. Unit 40 was a 2.0 x 2.0 meter pit excavated to expose a large segment of the canal. It also revealed that the canal passed under the Inca wall. Unit 41 was a 1.0 x 2.0 meter unit excavated to furnish additional information and carbon from the finely stratified lenses and the greenstone floor of the plaza. The upper level of this excavation revealed disturbed sediments, while the lower levels exposed stratified floor remains (Figure 3.37). Carbon flecks collected from the greenstone floor yielded a radiocarbon date of 450 ± 50 BP.²²

Unit 42, a 2.0 x 2.5 meter excavation adjacent to the Sacred Rock near the northwest corner of the plaza, was used to test this region for subsurface remains. We selected this area for additional testing with the hope that it might not be as badly looted as the central area of the plaza and that we might find additional evidence of the greenstone floor. Unfortunately, this area proved to be shallow and disturbed.

Units 44 and 45 were the last units that we dug in the Sacred Rock area. Units 44 (1.0 x 2.0 meters) and 45 (3.0 x 3.0 meters) were dug on the far side of the west wall. Unit 44 yielded nothing of note, while Unit 45 revealed the remains of two separate canal courses, one of

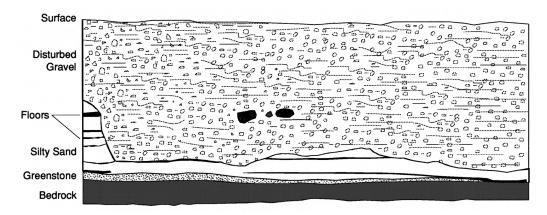


Figure 3.37. North profile of Unit 41. The upper level of this excavation revealed disturbed sediments, while the lower levels exposed stratified floor remains. Carbon flecks collected from the greenstone floor yielded a radiocarbon date of 450 ± 50 BP (AD 1500 ± 50).



Figure 3.38. Unit 45 was dug on the far side of the west wall of the plaza. It exposed the remains of two separate canal courses.

which cut the other (Figure 3.38). The identification of two cross-cutting canal courses on the west side of the Inca wall indicates that the lower drainage of the canal was altered sometime after its initial construction.

Overview of the Sacred Rock

Research in the plaza of the Sacred Rock confirmed widespread evidence of looting. No complete artifacts were recovered, and only a limited number of ceramic fragments were

found (Figures 3.39, 3.40). The most notable artifacts were a few fragments of miniature Inca bowls. Such vessels were common components of Inca offerings.

Excavations at the Sacred Rock revealed the remains of a floor composed of crushed greenstone constructed directly above the natural subsoil of the site. A radiocarbon date from the floor places its construction during Inca times (Figure 3.37). Vestiges of a similar greenstone floor were found on the second level of Pilco Kayma, on the south end of the island (Bauer and Stanish 2001).

The fact that the greenstone floor in the plaza of the Sacred Rock rests on the natural subsoil indicates that the Inca completely leveled and remodeled the area after their occupation of the island.²³ The Inca activities at the Sacred Rock area eventually included the laying of the greenstone floor, construction of the west wall, and the digging of a drainage canal which was itself remodeled at least once.

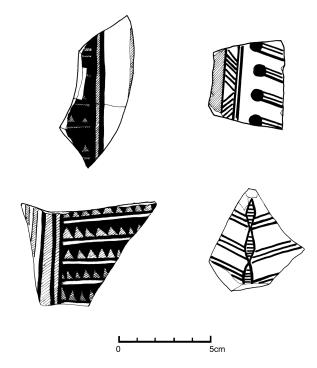


Figure 3.39. Sample of ceramics from the area of the Sacred Rock.

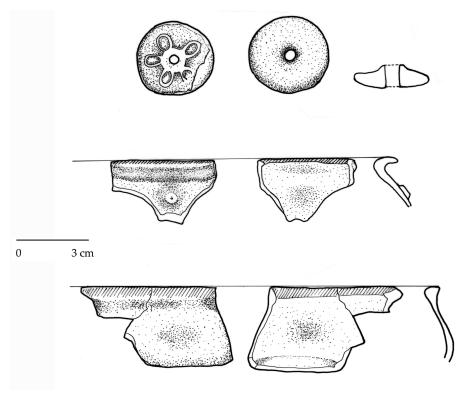


Figure 3.40. Sample of ceramics from the area of the Sacred Rock.

Research also revealed a well-made stone canal that began near the rock and drained to the northwest. Because the canal trench cut through the greenstone floor, it is certain that the canal was a later addition to the plaza area. Given the general origin point of the canal near the concave section of the rock, and the fact that there is no natural source of water in the plaza, it is clear that this canal was built by the Inca to drain liquid offerings from the rock area. Descriptions of such offerings can be found in the Conquest and early Colonial accounts of the sanctuary. For example, the first Europeans to arrive in the Lake Titicaca region state that there were a large number of "women who make chicha [corn beer] in order to throw it upon that stone" (Sancho de la Hoz 1917:163 [1534: Ch. 18]).²⁴ Furthermore, both Ramos Gavilán (1988:116 [1621: Bk. 1, Ch. 17]) and Cobo (1990:96-97 [1653: Bk. 13, Ch. 18]) note that large amounts of corn beer were poured into a stone basin that was placed directly in front of the Sacred Rock.

Three test units were also dug on the west side of the Inca wall. No evidence of the greenstone floor was found there, and no artifacts were recovered. However, excavations did reveal a continuation of the canal. Furthermore, it seems that the drainage of the canal was remodeled at some time, because we also found a section of an abandoned canal.

Additional excavations near the center of the plaza documented a rectangular pit cut directly into bedrock. Bandelier states that Inca offerings were placed into stone chests buried in the plaza, and two such chests—both from the Island of the Sun—are now housed in separate museum collections. Accordingly, it is likely that the rectangular pit found during our excavations in the plaza once held a stone chest with offering materials.

KASAPATA (SITE 013)

The site of Kasapata covers more than 5 hectares and is divided in half by the trail that leads from the village of Challapampa to the

Sacred Rock. On the south side of the road stands a large Inca structure measuring 40 x 10 meters. There are the remains of five trapezoidal doorways on its northern face. In between these doorways, at a considerable height, are pairs of windows (Figure 3.41). The east and west interior-ends of the building contain four niches each (Figure 3.42). The back wall is largely destroyed, but an early map of the building by Squier indicates that it once held a large number of niches.

To the north of the road is a carved stone and various foundations. Cut andesite and sandstone blocks dot the landscape, suggesting that other public structures once stood in the area. Kasapata is also associated with an expansive zone of well-made terraces which in the past served as domestic house platforms.

Pentland offers the earliest description of this site. He visited the area while the remains of adobe gables could still be seen at the ends of the Building with Five Doorways:

At the N.W. extremity of the Island on an elevated neck of land separating two bays, are situated the most extensive ruins of Titicaca, called by the Natives Casapata: they consist of two large squares surrounded by buildings which appear to have served as ordinary dwellings, in the midst of plantations of Evergreens, in the centre of these ruins there is an Appartment 124 feet long by 24 wide pierced with numerous windows, doors and niches, and terminated at each extremity by mud gables still standing. This edifice which bears a strong resemblance to that described in the preceding paragraph, was also in all probability used as a place of worship. The Indians describe it however as having also [f. 88] been a residence of the Inga, and to have formed one of the many pleasure grounds which he possessed throughout the Island. (Pentland 1827: f. 87v-88)

Squier also visited the site of Kasapata. He was frustrated after visiting the Sacred Rock area, since he saw no structure near it that



Figure 3.41. There are high windows between the doorways at the principal building of Kasapata.



Figure 3.42. The east interior-end of the Building with Five Doorways at Kasapata.

resembled a Temple of the Sun. Squier later returned to the island to look for such a temple, and it was during this second trip that he visited Kasapata. He recalls his arrival at the site:

I skirted the eastern flank of the island, following an ancient winding road for nearly a mile, where I found extensive remains, reputed to be those of the temple I was so anxious to find. . . . The Peruvians [i.e., Incas] seem to have a strong liking for what may be called isthmuses as sites for their places and public structures. I use the term isthmus not only in its strict geographical sense, but as designating also the ridge connecting two hills or mountains—the saddle between two eminencies.

The so-called Temple of the Sun occupies the crest of such a ridge, connecting the bulk of the island with a noble promontory rising abruptly from the lake, towards which it presents a sheer cliff two thousand feet high. This crest has been leveled so as to form a broad *terre-plein*, such stained by terraces and reached by flights of steps. (Squier 1877:367–369)

Squier completed a detailed drawing of the Kasapata building as well as its surrounding terraces (Figure 3.43). He also provides this fine description of the remains:

On one side, built up against the slope of the central mass of the island, is the temple, a rectangular structure, 105 feet long by 30 feet wide. Five doors open on the terre-plein at equal distances apart, and each section of wall between them is pierced with two windows. The interior presents a series of niches, three feet high and two feet broad at bottom, and seems to have consisted of a single apartment. The walls are much broken down, being at present only from eight to ten feet high, so that it is impossible to say certainly if the structure consisted of more than one story. It probably did not. It is of rough stones, laid in a tough clay, and was stuccoed and painted inside and out. A single door-way opens to the back of the edifice upon a se-

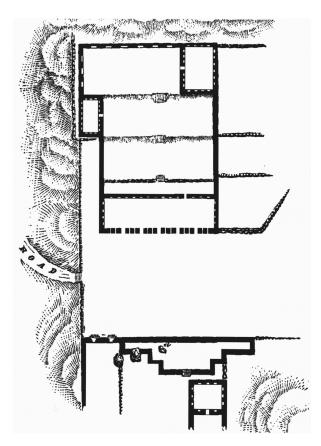


Figure 3.43. Squier (1877:368) completed a detailed drawing of the Kasapata building as well as its surrounding terraces. Few of these remains are still visible at the site.

ries of beautiful leveled rectangular terraces, rising one above the other, and surrounded by a high wall. Flights of steps lead from terrace to terrace, and conduct to two buildings smaller than the temple, but similar in style, both occupying commanding positions, overlooking the lake on either hand. (Squier 1877:368)

The large structure of Kasapata has deteriorated since Squier's visit. Squier notes that the principal building was once stuccoed and painted, but none of the plaster remains today. Furthermore, few of the elaborate terraces, stairs, walls, or buildings shown surrounding the main building on his plan are visible now.

Bandelier (1910:203–214) began his excavations on the Island of the Sun at Kasapata. He furnishes a detailed description of the site and

his excavations. Bandelier notes that many features on Squier's plan were no longer visible and that looters had damaged the site.²⁵ The large hall must have also been in poor condition because Bandelier records only three of its five doors.

Bandelier's work at Kasapata included a variety of trench and broad area excavations. He concentrated his excavations on the north side of the site as well as on the slopes of the adjacent hill called Llaq'-aylli. His research revealed various burials, an unusual 5-meterlong canal that ended in a rectangular pool, and numerous foundations. The work recovered a wide range of cultural material including bones, pottery, grinding stones, stone beads, spindle whorls, and some small metal objects. He found various intact vessels, ranging from domestic cooking pots to plates of the finest Inca craftsmanship. Bandelier also recovered several large Inca vessels, complete with standing rings, which measured more than 1 meter high. The Inca used these vessels to ferment and store chicha. Examples of the artifacts found at Kasapata are illustrated in his book, along with a general map, two detailed excavation plans and a photograph of the site (Bandelier 1910: Plates II, XLV, XLVI, XLVII, XLIX, L, LI, LIII, LIV).

Research at Kasapata in 1996

We began a two-week study of Kasapata in late June 1996.²⁶ Excavations were conducted at the site to understand what activities occurred inside and outside of the principal structure (Figure 3.44). Furthermore, we wanted to compare materials collected at Kasapata with those found at sites within the sanctuary area. We also wished to test for pre-Inca occupations that could have become obscured by large-scale Inca construction activities at the site.

EXCAVATIONS IN THE BUILDING WITH FIVE DOOR-WAYS (UNITS 1, 2, 5–7, 9). Six excavation areas were placed in the principal building of Kasapata.

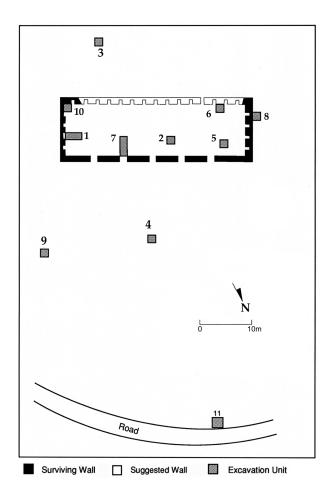


Figure 3.44. Excavation units at the site of Kasapata.

Unit 1 was a 1.0 x 4.0 meter pit placed against the east wall of the structure. An occupation surface was found that included a fire area abutting the wall. Many artifacts were recovered from above and within the occupation surface. The fire area was not formally prepared, but rather consisted of a concentration of carbon with some oxidized sediment surrounding the area.

Units 2, 5, and 6 were all 2.0 x 2.0 meter squares. Unit 2 was near the center of the main structure. Extensive agricultural work and looting has destroyed the Inca floor in this area. Unit 5 was near the northwest corner of the building. The area also appears to have been disturbed; however, patches of a floor were found. Unit 6 abutted the back wall of the

building near its southwest corner. A dense concentration of ceramics, bones, and carbon was exposed in this unit, and a floor was identified. Many of the ceramic pieces came from several large storage vessels that had been lined up along the wall (Figure 3.45). Carbon collected from the occupation level provided a radiocarbon date of 270 ± 80 BP.²⁷

Unit 7 was a 1.0 x 4.0 meter trench that abutted the front wall of the structure between two of the doors. Although some artifacts were recovered, the area appears to have been disturbed.

Unit 10 was a 1.6 x 2.0 meter unit in the southeast corner of the building. A large quantity



Figure 3.45. Several large storage vessels once lined the back wall of the Building with Five Doorways.

of ceramics, burnt bone, and carbon was recovered from this excavation; however, no occupation level was identified.

EXCAVATIONS OUTSIDE THE BUILDING WITH FIVE DOORWAYS (UNITS 3, 4, 8, 9, 11). Our work at Kasapata also included a series of 2.0 x 2.0 meter test squares outside of the principal structure. Unit 3 was situated to the south, Unit 4 was placed to the north, and Unit 8 was located against the west wall of the Building with Five Doorways. Unit 9, positioned northeast of the principal structure, revealed a wall foundation. Unit 11 abutted the main trail that cuts through the center of the site. This excava-

tion exposed a small canal running parallel to the trail and an extremely dense concentration of ceramics, bones, and carbon. From this unit we concluded that the modern trail rests on top of the Inca road, and that in Inca times a canal was built parallel to it.

The exterior excavation units yielded a great quantity of cultural debris, including domestic and finer ceramics (Figure 3.46–3.49), various spindle whorls (Figure 3.50), copper pins (*tupus*), and many animal bones. The fact that we recovered no pre-Inca materials in any of our excavations at the site indicates that the Inca built Kasapata in an area that had not been extensively used by the earlier cultures of the island.

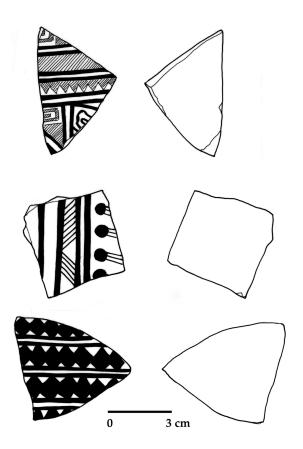


Figure 3.46. Urqusuyo and Inca ceramics from the site of Kasapata.

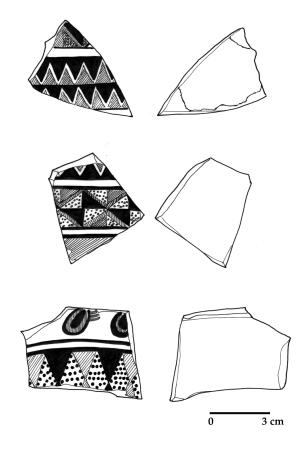
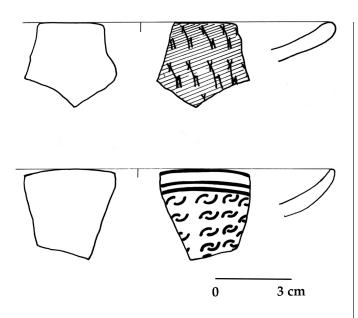


Figure 3.47. Urqusuyo and Inca ceramics from the site of Kasapata.



(ABOVE): Figure 3.48. Pacajes and Sillustani ceramics from the site of Kasapata.

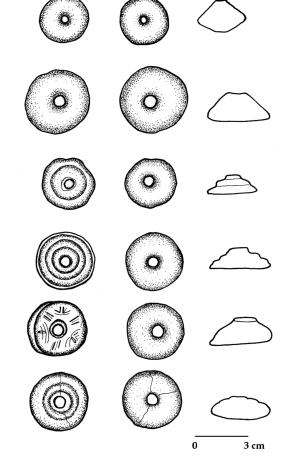
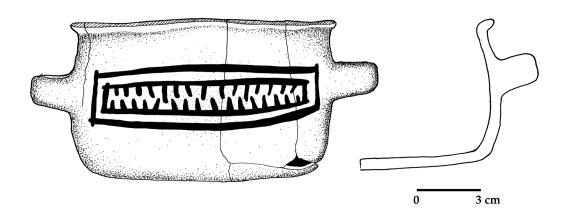


Figure 3.50. Spindle whorls from the site of Kasapata.

(BELOW): Figure 3.49. Inca vessel from the site of Kasapata.



Overview of Kasapata

The large amount and great variety of domestic refuse found by both Bandelier and our research team at Kasapata indicates that the site held a large residential occupation. Nevertheless, the presence of a building with five doorways, a carved rock, and numerous stone foundations suggests that this was no simple settlement. Kasapata may well be the town in which, according to Ramos Gavilán (1988:86 [1621: Bk. 1, Ch. 12]), Topa Inca Yupanque built a royal palace,²⁸ and where Cobo (1990:93 [1653: Bk. 13, Ch. 18]) states there was "an impressive tambo or inn for the pilgrims to stay in."²⁹

Squier, concerned by the fact that there was no single, large building in the sanctuary area, felt that the principal structure at Kasapata was the Temple of the Sun, as described by the early Colonial writers. Bandelier (1910:211-212) dismissed this idea and proposed that the principal building, based on information provided by Ramos Gavilán, was the palace of Topa Inca Yupanque. Most subsequent researchers have followed Bandelier's classification. We suggest, however, that the architecture of the principal building is more suggestive of a structure intended for public use than a building built as a private palace. In fact, long rectangular buildings with multiple doorways are common features of Inca centers (Hyslop 1990; Lee 1998). Garcilaso de la Vega (1966:6, 320 [1609: Pt. 1, Bk. 6, Ch. 4]) states that the largest of these were used to hold festivals during rainy weather.

A close reading of Ramos Gavilán (1988:176 [1621: Bk. 1, Ch. 29]) reveals that this author specifically mentions the principal structure of Kasapata in his description of the June and December solstice celebrations on the island. Ramos Gavilán states that the Inca gathered on a great square, called Aucaypata, onear a "temple" with five doors, to celebrate the solstices.

When the Indians celebrated the solemn festivals of the Sun, particularly that of Capac Rayme [Royal Festival; i.e., December solstice], and that of Intip Rayme [Sun Festival; i.e., June solstice], those of the lineage of the Incas, put all the idols in their litters (that they call *rampa*)³¹ and adorned

them with many flowers, gold and silver plates, and many feathers. Performing their dances and festivals, they all went to the island, and put them in a place called Aucaypata, where there was a great square, and where they held the festivals. There was a large temple with five doors. No Colla Indian was permitted to attend or be found at these festivals nor enter until they were finished. . . . (Ramos Gavilán 1988: 176 [1621: Bk. 1, Ch. 29]; authors' translation, emphasis added)³²

We can infer from this quote that Kasapata contained a large plaza. The plaza was called Aucaypata (Terrace of Tranquility), which was also the name of the central plaza of Cusco where the major celebrations of the imperial capital were held. The plaza of Kasapata and the Building with Five Doorways represented an important ritual focal point for the Inca elite who arrived on the island, possibly carried there in litters.

Our surface collections and test excavations at Kasapata confirmed the presence of a large Inca occupation and provided no evidence of earlier settlements at the site. We excavated eleven test units at Kasapata, six inside the main structure and five outside, for a total exposure of approximately 44 square meters. The units located outside the structure exposed additional architectural remains and confirmed that the trail that cuts through the site is of Inca date. Furthermore, the units provided a large quantity and great variety of artifacts emphasizing the large-scale domestic, as opposed to ritual, use of the site.

The excavation units inside the building revealed various features, including occupation surfaces and concentrations of ceramic fragments. Many of the ceramic remains came from large storage vessels that stood along the walls. Areas of burnt clay, suggestive of ephemeral cooking locations, were also found in the structure. Although all artifacts recovered inside the building are of the Inca period, a carbon sample yielded an early Colonial period date. This sample suggests that the building continued to be in use for a time after the fall of the Inca Empire.

NOTES

- ¹ ". . . casas de habitación de los ministros del santuario, y de las vírgenes dedicadas al Sol" (Ramos Gavilán 1988:94 [1621: Bk. 1, Ch. 15]).
- ². . . eran aposentos de los ministros y sirvientes del templo (Cobo 1964:193 [1653: Bk. 13, Ch. 18]).
- ³ The name Mama Ojlia is no longer in use; the largest building is now simply known as "kayma" (Aymara: *kayma* = temple). Bandelier (1910:294) states that local traditions on the island assigned the name Mama Ojlia to the wife of the first mythical Inca, Manco Capac.

⁴ Approximately 14 percent of the building.

⁵ LLNL 23788; wood charcoal.

⁶ LLNL 23789; wood charcoal.

⁷ Two eroded Tiwanaku fragments were recovered, but they appear to be isolated finds.

⁸ Catalog numbers H9828, H9829, H9834, H9835, and H9836. Photograph H9828 is shown as an engraving (Wiener 1880:442), and H9834 may have served as inspiration for a second engraving (Wiener 1880:441).

⁹ Other notable early photographs of the Chincana can be found in Posnansky (1910, 1912, 1920, 1957), in Wurster (1999:128), and in the Bingham Collection of Yale University.

¹⁰ Also see Sans 1913.

¹¹ Teledyne I-18,555; wood charcoal.

¹² Teledyne I-18,556; wood charcoal.

13 . . . las ventanas, alhacenas o nichos que por las paredes había . . . (Cobo 1964:193 [1653: Bk. 13, Ch. 18]).

¹⁴... hacer brebajes y telas de curiosidad que en aquel ministerio del adoratorio se gastaban (Cobo 1964:193 [1653: Bk. 13, Ch. 18]).

¹⁵ For additional early descriptions of the Island of the Sun and colonial activities in the Copacabana area, see Espinal (1959 [1539]), Cieza de León (1976 [1553: Pt. 1, Ch. 103]), Miranda (1925 [1583]), Salas (1901 [1618]), Rodríguez Barragán (1873), Sancho de la Hoz (1917 [1534: Ch. 18]), Vizcarra (1901), and Espinoza Soriano (1972a, 1972b).

¹⁶ . . . el más súbtil, y delicado, que jamás se vio en Indias (Ramos Gavilán 1988:116 [1621: Bk. 1, Ch. 17]).

¹⁷ La grandeza, traza y disposición del de Titicaca después que lo acrecentó y lo ilustró el Inca, era desta manera. La peña tan venerada estaba descubierta, y junto a ella el templo, con tal disposición, que venía a caer la dicha peña como en su cimenterio, o, por mejor decir, en la capilla mayor dél, aunque descubierta, pues era el lugar de más veneración. Tiene su frente que mira al norte, y las espaldas al sur; lo cóncavo della, que es lo que se veneró, no es mucho; estaba dentro del altar del sol. El convexo es de peña viva, cuyas vertientes llegan a comunicarse con el agua en una ensenada que la laguna hace. El adorno que tenía era que la parte convexa estaba cubierta con una cortina de cumbi, el más sutil y delicado que jamás se vió; y todo lo cóncavo della cubierto de láminas de oro. Delante de la dicha peña y altar se ve una piedra redonda al modo de bacía, admirablemente labrada, del tamaño de una piedra de molino mediana, con su orifico, que ahora sirve al pie de una cruz, en que echaban la chicha para que el sol bebiese [Cobo 1964:193 (1653: Bk. 13, Ch. 18)].

¹⁸ The cluster of andesite blocks is not present in Pickering's 1892 photographs of the plaza, but they can be seen in pictures taken about ten years later by Gregory (1913). Perhaps the stones were assembled in one place after Bandelier's 1895 excavations.

¹⁹ Munsell Color Chart 1994: light greenish gray (Gley 7/1).

²⁰ Green shale is found in abundance on the island, although not within the immediate area of the rock sanctuary.

²¹ Two of the small slab cists contained pairs of miniature vessels. The style of the vessels was unknown to our eldest workers, suggesting that the offerings were certainly more than 50 years old.

²² Beta 102531; wood charcoal.

²³ It is possible that this massive remodeling of the plaza area destroyed the remains of pre-Inca activities adjacent to the Sacred Rock.

²⁴ . . . mujeres que hacen chicha para echarla sobre aquella piedra Tichicasa (Sancho de la Hoz 1898:415 [1534: Ch. 18]).

²⁵ The site has further deteriorated since Bandelier's times. Among the features illustrated by Bandelier (1910:204, Plate LII) that have been lost are a large trapezoidal niche and an impressive gateway.

²⁶ Survey work on the Island of the Sun in 1994 had noted a vast amount of Inca-style ceramics at the site and no evidence of earlier occupations.

²⁷ Teledyne I-18,557; wood charcoal.

²⁸ Formó un moderado pueblo, media legua, o casi, antes de la peña, y adoratorio, y en él labró su Real Palacio (Ramos Gavilán 1988:86 [1621: Bk. 1, Ch. 12]).

²⁹ Un grandioso *tambo* o mesón para hospedaje de peregrinos (Cobo 1964:191 [1653: Bk. 13, Ch. 18]).

³⁰ The central plaza of Cusco shared the same name.

³¹ González Holguín (1989:331 [1608]) writes, "Rampa. Las andas en que lleuauan al Inca a hombros." Similarly Bertonio (1984:188 [1612]) defines "lampa" as "Litera. La de los Caciques antiguos era como una grande hanega, de mimbres, o ramos delgados, con fus palos para lleuarla." Both of these definitions refer to a litter made of thin logs or reeds used to carry nobility.

³² Quando los Indios celebravan las fiestas solenes del Sol, particularmente la del Capacrayme, y la del Intip rayme, los de la parcialidad de los Ingas, ponían todos los Idolos en sus andas (que ellos llaman rampa) y adornándolas con muchas flores, y planchas de oro, y plata, y mucha plumería, hazían sus bayles, y fiestas yvan todos hazia la isla, y las ponían en un lugar llamado Aucaypata, donde estava una gran plaça, y allí se hacían las fiestas. Avía un templo grande con cinco puertas, y no se permitía a ningún Indio Colla, assistir ni hallarse a estas fiestas, ni entrar hasta que fuesen acabadas . . . (Ramos Gavilán 1988:176 [1621: Bk. 1, Ch. 29]).

4

Excavations at Tikani

Matthew T. Seddon and Brian S. Bauer

Tikani is the name of a ridge on the northern end of the Island of the Sun. On this ridge are two rock-walled structures that are designated as Site 180. They are located northwest of the Sacred Rock (the Titikala), the Chincana, and other ruins of the sacred precinct. This site was documented in 1994 during our survey of the island. It has two roughly rectangular rubble structures that are visible from the plaza in front of the Sacred Rock. Observations in 1995 indicated that the June solstice sun, as seen from the plaza area of the Sacred Rock, sets between the two structures. Test excavations were conducted from August 7 to August 15, 1995, to determine the age and function of these structures.

SITE DESCRIPTION

Site 180 is located on a steep rocky ridge with numerous bedrock outcrops. The ridgeline is narrow, no more than 15 meters across. At the time of our excavation a great deal of rock fall and vegetal growth was present, obscuring the exact forms of the structures, although some wall foundations were visible. The structures were visible mainly as roughly rectangular rock piles, approximately 30 meters apart. In this report we refer to these as Structure 1 (the upper structure) and Structure 2 (the lower structure).¹

EXCAVATION METHODOLOGY

We first cleared the rock fall and vegetation from the structures. Various intact wall foundations were encountered in this process (Figure 4.1). Subsequently, 0.50-meter-wide trenches were excavated adjacent to the major foundations to better define them. Unit numbers 1 to 3 were assigned to these trenches. In addition, three other units were opened. Unit 4 was placed along the west side of Structure 1 at a gap in the wall, and Unit 6 was placed in a possible auxiliary room above Structure 1. Unit 5 was placed in the center of Structure 2 (see Figure 4.1).

EXCAVATION RESULTS

Clearing operations provided good data on the architecture of the two structures. Structure 1 is larger than Structure 2. It is approximately 7.0×8.0 meters and is more complex, with double walls, fill areas, a stairway, and a possible upper room area (Figure 4.2). Structure 2 is an irregular rectangle approximately 3.0×2.0 meters (Figure 4.3).

Structure 2 (the Lower Structure)

Clearing rubble from the lower structure revealed an irregular rectangle with fitted stone foundations resting on bedrock (Figures 4.3, 4.4). There was approximately 1 meter of wall standing after clearing, and one especially well-preserved corner (Figure 4.5). The wall facing the sacred area is straight. A parallel wall runs behind it. The upslope ends of these parallel walls abut a number of large natural boulders and a bedrock outcrop. The down slope wall, however, is not perpendicular to these two walls, but runs at a slight angle.

There are traces of semicircular walls forming "patio"-type areas on both sides of Structure 2. These are visible but ephemeral, defined by a single row of rocks often sitting directly on bedrock. Some of the rocks touch, but there are also gaps of up to 0.50 meter between others. It

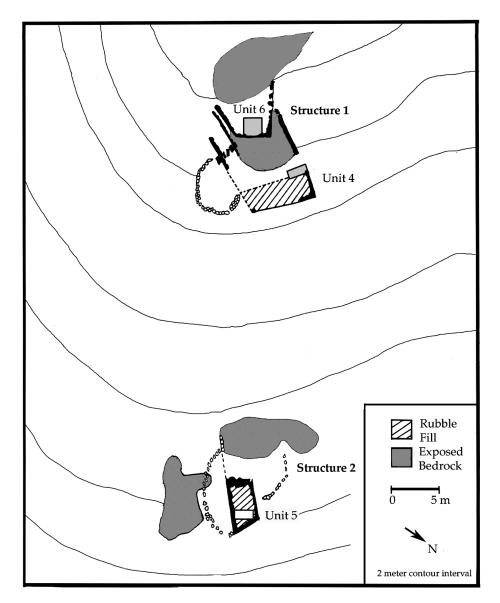


Figure 4.1. The structures on Tikani ridge.

is not clear whether these patios are contemporary with the structure or if they are post-abandonment additions, such as corrals. Trench clearing within these areas, and along the foundations of the structure, recovered few cultural materials. The only artifacts found were highly eroded ceramics of indeterminate date and a single Tiwanaku IV/V *kero* rim sherd.

Unit 5 was placed within the structure. It crosses wall to wall, as well as into a looter's pit. The excavation revealed that the structure was

filled with rock rubble, gravel, sand, and no cultural materials (Figure 4.6).

Structure 1 (the Upper Structure)

Structure 1 encompasses a 3-meter drop in level from its upper area to its lower limits (Figure 4.1). Prior to our work, only a few traces of walls were visible. After the clearing of rubble and vegetation, however, several wall foundations and a stairway could be seen (Figures 4.2, 4.7). Along the north wall, a few stones were

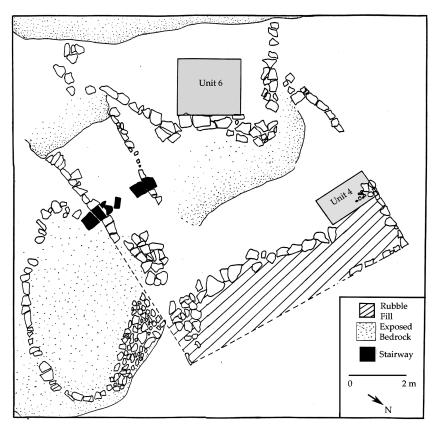


Figure 4.2. Structure 1 (the upper structure).

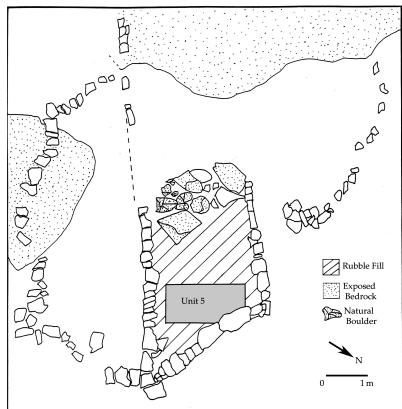


Figure 4.3. Structure 2 (the lower structure).



 $\label{thm:continuous} Figure~4.4.~Clearing~the~rubble~from~the~lower~structure~revealed~an~irregular~rectangle~with~fitted~stone~foundations~resting~on~bedrock.$



Figure 4.5. The northwest corner of the lower structure is especially well preserved.



Figure 4.6. Excavations revealed that the lower structure was filled with rock rubble, gravel, and sand that contained no artifacts.



Figure 4.7. Clearing of rubble and vegetation around the upper structure revealed low, but preserved wall sections.

found in line with the cornerstone, but this soon faded out to a general rubble pile (Figure 4.8). Nevertheless, the general line of the north wall could be inferred from the locations of cornerstones at each end. There was a gap, approximately 2 meters long, in the west wall. This gap was in the center of the structure where there was a level, roughly rectangular area, measuring 2.0 x 6.0 meters.

Unit 4 was placed in the level area to determine if the west wall continued below the modern ground surface. The unit revealed approximately 0.50 meter of windblown silt and sand over bedrock. No features were found or artifacts recovered. Excavation showed that the west wall did not continue upslope and that the down slope area was filled with rubble.

The east side of the structure contains two walls (Figure 4.2). The outermost, or easternmost, wall runs almost 8.0 meters from a bedrock outcrop to the corner of the north wall. The lower section of this wall was disturbed, but

clearly visible. About 2.0 meters into the structure, and slightly upslope, is a second wall. This runs from the bedrock outcrop to a point just above the flat area in the middle of the structure. These two walls are crossed by a stairway containing five large, flat rectangular rocks (Figures 4.2, 4.9).

The upper area of the structure is marked by a roughly trapezoidal wall foundation. The upslope ends of this area abut a bedrock outcrop. Unit 6 was placed in this enclosed area. The excavation revealed no artifacts, only a jumble of wall fall mixed with aeolian silt.

Outside Structure 1, on the eastern edge, a semicircle of rocks forms another "patio" area like those in Structure 2. In this case, many of the rocks abut. However, no more than one row of rocks over bedrock was found, indicating that these "patio walls" were more ephemeral than those of the wall foundations of the structure proper.



Figure 4.8. A well-shaped cornerstone was found along the north wall of the upper structure.



Figure 4.9. The stairway of the upper structure.

In summary, the upper structure is larger and more complex than the lower, although its basic form still approximates a rectangular building. The outermost, east wall and stairway would have been visible from the sacred precinct. A room or platform was located in the uppermost section of the structure (tested by Unit 6), which may have been reached by the stairway.

DATING THE STRUCTURES

The similarity in construction techniques (fitted stone foundations and rubble fill) and lack of any occupation materials at either structure suggest that they are probably contemporary and may have shared similar functions. Dating the structures is difficult because very few diagnostic ceramics were recovered and no features (hearths, trash pits, and the like) were found.

Carbon samples, typically small flecks of terrestrial organic carbon, were recovered from a variety of contexts at the site. The majority of these consist of flecks of burned wood recovered from insecure contexts within the thin (10-to 15-centimeter) layer of aeolian silt found over bedrock.

Attempts to date the structures through carbon samples were complicated by the lack of good samples and secure contexts. Two samples were submitted for dating, but both proved inconclusive. The first sample was recovered during trench clearing operations just outside the south wall of Structure 2. The sample was located about 30 centimeters from the wall, near where the southeast corner of Unit 5 intersects with the wall. It was recovered directly above bedrock at a depth of 0.35 meter. The structure foundations also sat directly above bedrock and were surrounded by the

same sediment that surrounded the sample. The carbon sample returned a radiocarbon date of 1840 ± 60 BP (table 4.1).² These results fall into the Upper Formative period. No other structures of this nature are known from that period. Therefore, it is unlikely that the carbon actually dates the construction of the structure. We suggest that this is older carbon introduced into the construction fill.

The second sample was recovered from Structure 1, during the wall clearing operations of the north wall, just down slope from Unit 4. The sample was taken from within the rubble and returned a modern date.³

Table 4.1. Radiocarbon dates from the site of Tikani

Lab No.	Radiocarbon Age	Calibrated
LLNL 23786	1840 ± 60 BP	AD 20-350 @ 95.4% confidence
LLNL 23787	Modern	Modern

Summary and Interpretation

Following the observation that the June solstice sun sets between the two ridge structures, as seen from the area of the Sacred Rock (Figure 4.10), excavations were conducted to determine whether these structures served as (1) a set of June solstice sunset markers, (2) an occupation site with two structures, or (3) two aboveground tombs (chulpas). The excavation results do not support the latter two of these hypothetical functions. The complete absence of any refuse in or around the two structures indicate that this was not a typical domestic site. Furthermore, excavations within the structures revealed that they were filled with rock rubble, gravel, and sand that contained no cultural remains. The solid form of the structures and the absence of human osteological material also rule out the possibility that they served as above-ground tombs.4

Alternatively, a number of lines of evidence suggest that they served as solstice markers. First, each structure was packed with rubble. Structure 2 was entirely filled with a matrix of cobbles, gravel, and sand, and the lower section



Figure 4.10. On the June solstice, the sun sets between the two structures of Site 180 as seen from the Sacred Rock.

of Structure 1 was also constructed in this way. This fill would have made it impossible to carry out any activities inside of the structures.

Second, selected external parts of the structures, particularly those facing the Sacred Rock area, were constructed of well-fitted stone, while those parts that face away from the Sacred Rock were given less detailed attention. This selective construction suggests that the walls facing the Sacred Rock were the most important. Furthermore, we note that the north wall of Structure 2 is not parallel to the south wall, but angles back sharply to the west wall. This would have lowered the labor investment involved in constructing this building, by reducing the total area and volume of the structure while leaving the east-facing wall unaffected. The structures are, in a sense, expedient, in that areas not visible from the Sacred Rock were less well made than those facing the rock.

Finally, these are the only structures on the ridge, and additional research found that they flank the June solstice sunset position when viewed not only from the Sacred Rock area but

from Site 019 as well. There is abundant historical evidence associating the June solstice with the Inca solar festival called Inti Raymi in Cusco (Bauer and Dearborn 1995). We know that during this festival the Incas marked the sunset with stone pillars on the horizon of Cusco, and Ramos Gavilán (1988:153–154 [1621: Bk. 1, Ch. 4]) suggests that Inti Raymi was observed on the Island of the Sun. As a result, it is difficult to conclude that the two structures on the ridge of Tikani served any other purpose than to mark the June solstice sunset (also see Dearborn, Seddon, and Bauer 1998).

NOTES

¹ In the field they were arbitrarily named Structure A (lower structure) and Structure B (upper structure).

² Sample LLNL 23786; wood carbon.

³ Sample LLNL 23787; wood carbon.

⁴ In the Lake Titicaca Basin, even when tombs or *chulpas* have been looted, large quantities of human bone, and at times broken ceramics, remain on the surface or in the looters' backfill.

Excavations at the Site of Chucaripupata: A Tiwanaku IV and V Temple and Domestic Occupation

Matthew T. Seddon

The site of Chucaripupata is located approximately 100 meters to the southeast of the Titikala rock in the northwestern part of the Island of the Sun (see Figure 5.1). The site was first recorded by Bandelier. He describes it as follows:

About eight hundred feet southeast of the Chincana, separated from it by undulations of the ground on a steep incline, with a few scattered andenes of small extent, lies the plateau called Chucaripu-pata, an irregular quadrangle, originally level, now completely overturned through excavations. This quadrangle appears to have been a platform lined by walls and surrounded by lower terraces on three sides, whereas in the northeast it abuts against a higher plane on the flanks of Muro-Kato. ... Very few traces of buildings remain on this plateau, which overlooks the Lake and the Peruvian coast, dominating, so to speak, the whole northern Bay of Kona. On the east corner is an entrance twenty feet wide, and there are traces of an alley along the northwestern side of the platform. (Bandelier 1910:225)

Chucaripupata is one of the principal Tiwanaku period sites on the Islands of the Sun and Moon. Understanding this site is essential for modeling the expansion of the Tiwanaku culture out of its heartland. During the last half of the first millennium AD, the capital of Tiwanaku at the southern end of Lake Titicaca grew to encompass over 4 square kilometers and included an impressive political and ritual center associated with monumental architecture. At the same time, Tiwanaku-style material culture and architecture appeared throughout the circum-Titicaca region, suggesting that the Tiwanaku polity expanded throughout the region (Bauer and Stanish 2001:38–43; Stanish 2003).

Previous research as well as the Proyecto Tiksi Kjarka survey of the Island of the Sun indicated that the Tiwanaku period occupation of the island was substantial, represented by the settlement of at least 30 sites (see Seddon 1998; Bauer and Stanish 2001:147-154; Chapter 2, this volume). Tiwanaku ceramics have also been recovered as grave offerings from a cemetery at the site of Wakuyu (Perrin Pando 1957). Additionally, Tiwanaku ceramics and gold objects were recovered in an apparent offering area in the lake near the island (Ponce Sanginés et al. 1992; Reinhard 1992a). Investigations undertaken at Chucaripupata revealed a complex series of occupations, beginning in the Middle Formative period, increasing in size and complexity through the Tiwanaku IV and V periods (in the Alconini/Janusek sequence; Alconini 1995; Janusek 1994), with site abandonment at the end of Tiwanaku V. The site also underwent architectural change during the Inca period, probably as part of the Inca state's efforts to transform the Sacred Rock area on the Island of the Sun into a state shrine.

This chapter summarizes the excavations and focuses on the Tiwanaku IV and V occupations of

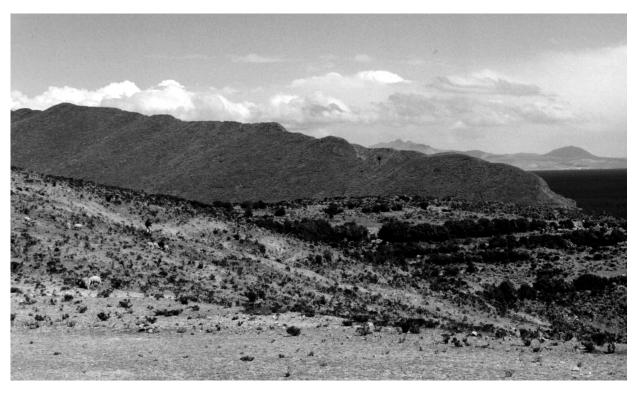


Figure 5.1. View of the site of Chucaripupata from the plaza in front of the Titikala.

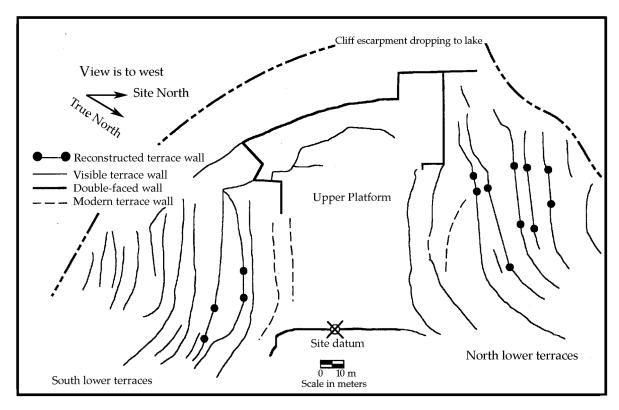


Figure 5.2. Plan view of the site of Chucaripupata.

Chucaripupata, which are the most substantial occupations of the site (see Seddon 1998 for more detail on all occupations of the site).

EXCAVATIONS AT CHUCARIPUPATA

In 1995 and 1996, systematic excavations were undertaken at Chucaripupata to help define the Tiwanaku period occupation of the island. The site of Chucaripupata was selected for intensive work due to its size, surface evidence of Tiwanaku period ceramics and possibly architecture, and its proximity to the Inca period ritual center. The goals of excavation were to define the occupational sequence at the site, investigate the nature of the occupation during the Tiwanaku period, and determine if a ritual center had been established at the site during Tiwanaku times.

Chucaripupata is situated on a ridge that runs in a westerly direction toward the lake from the rock outcrop of Murokato (Figure 5.2). The site is comprised of a walled upper platform (Figure 5.3) and a series of constructed terraces that descend from the north and south sides of the upper platform (Figures 5.4, 5.5). The upper platform forms an irregular square, approximately 60 x 60 meters. Where this platform meets the steeply descending slope of

Murokato, there is a well-made stone wall that ranges from 1.5 to 2.0 meters high. This wall was defined as the "back" of the site. The northern edge of the platform is defined by another stone wall, 2.0 to 2.5 meters high, that runs from the back wall out along the platform to the lake. This wall does not join with the back wall of the site. Instead, it curves to conform to the contours of the ridge area and forms a terrace.

The lake-facing edge of the upper platform is defined by another wall 1.5 to 2.0 meters high. A small square area at the northwest corner of the platform juts out farther than the rest of the upper platform. The lake-facing walls were defined as the "front" of the site. In the southwest corner of the site, the "front" walls join with the south wall with two sharp, 45degree angles forming two acute triangles. Within 10 meters of the front walls of the site, the ridge drops abruptly to the lake as a cliff escarpment. Cultural materials outside the front and back walls were present in low frequencies. Artifacts were most likely present in these locations as a result of erosion. The southern edge of the platform originally had a wall similar to the northern edge. However, this wall has been largely destroyed to create the modern agricultural terraces.



Figure 5.3. View of the upper platform of Chucaripupata.



Figure 5.4. View of the north terraces of Chucaripupata.



Figure 5.5. View of the south terraces of Chucaripupata.

The east, west, and south walls of the upper platform are thick, double-faced walls with rubble fill. They are all approximately 90 centimeters wide. In contrast, the north wall is a simple construction consisting of a face of stones with terrace fill behind it. The wall does

not join with any of the other large walls on the upper platform. The upper platform has a slight slope running from the middle to either side, with a drop of about 1.5 meters from the middle of the platform to the northern and southern edges. Bedrock is visible on the sur-

face at the front, or lake-edge portion of this platform.

On the northern and southern sides of the platform, descending down the original ridge, are a series of constructed terraces (see Figures 5.4, 5.5). Twelve terraces descend from the south side of the upper platform, and eight from the north side. The first three terraces on each side are 4.0 to 6.0 meters wide; the remaining terraces are only 2.0 to 3.0 meters wide. Because the western, or lake-edge, portion of the site drops steeply toward the lake, there are no terraces on it.

The site therefore consists of two major areas defined by walls: a large platform and terraces. In situ cultural materials were restricted to these two areas. Total occupation area can be estimated from surface features and ceramics to be around 4.2 hectares.

EXCAVATION METHODS

Excavation was designed to sample the platform area and to investigate the possibility of domestic occupation on the terraces. Prior to excavation, a surface collection was made utilizing a systematic, stratified, aligned sampling strategy (Seddon 1998). A total of 252 2 x 2 meter units, or 4 percent of the total surface area, was collected. Ceramics identified in the surface collection include Tiwanaku period diagnostics, nondiagnostic non-fiber-tempered sherds, fiber-tempered (Middle Formative) sherds, and a few Late Horizon (Pacajes) sherds.

Quantitative and spatial analyses revealed no major density fluctuations in ceramics of any type across the site, with the sole exception of a slightly higher, but not statistically significant, concentration of decorated Tiwanaku period ceramics in the areas of bedrock at the western end of the upper platform.

Excavations were conducted over two months in 1995 and five months in 1996. Units were defined by their grid coordinates at their southwest corner (site-relative) and were given an arbitrary identification number in the order they were opened (Figure 5.6). Site testing

began in 1995 with a series of six 2 x 2 meter units and one 1 x 2 meter unit placed across the center of the upper platform to define site stratigraphy (Units 3 to 9), and two units placed just inside the back wall at the gap in that wall (Units 1 and 2). This information guided further excavation because, due to modern plowing, cultural features were never found intact where bedrock was close to the surface. Based on the initial tests and observation of bedrock, additional 1 x 3 meter test units were placed so that the pits would cross any cultural features, such as a temple wall, exceeding 10 x 10 meters in size (the size of the semi-subterranean temple at Lukurmata). Twenty-six units were opened in testing, exposing an area of 134 square meters.

On the platform, Unit 13 encountered the edge of a large wall, clarified through opening Units 16 and 17. Initially, it was not clear what

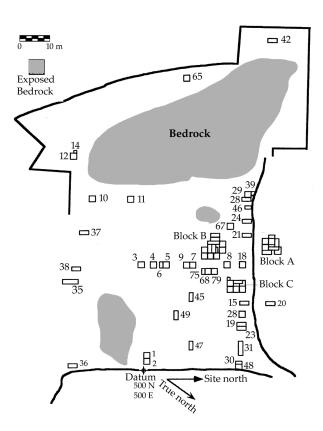


Figure 5.6. 1995 and 1996 excavation units at the site of Chucaripupata.

structure it formed. Additional units were placed at 8-meter intervals along the wall's direction (Units 15, 19, 21, 23, 24, 28, 29, 30, 31, 39, 46, and 48). Other features on the upper platform were exposed in two block excavations (Blocks B and C), as well as in one 2 x 5 meter trench.

Testing was also carried out on the first lower terrace north of the lower platform. Two test units were opened, and one encountered the edge of a structure. A block of units (Block A) was opened to explore the structure.

In total, three large blocks of contiguous units were opened to define major cultural features. Block A was opened on the first northern terrace, Blocks B and C on the platform (see Figure 5.6). A total of 232 square meters was exposed in block excavations. Together with the 26 test excavations, the total area exposed on the site was 366 square meters. Excavations followed a methodology worked out for altiplanoarea sites (see Seddon 1998 for a larger discussion of the methods employed).

EXCAVATION RESULTS: SITE STRATIGRAPHY

The 1995 test excavations in Units 1 through 9 provided evidence of the natural and cultural stratigraphy of the ridge (Seddon 1998). Testing in Units 3 through 6 revealed that natural bedrock was located within 20 to 50 centimeters of the surface. Testing in 1997 at the front (west) of the site (Units 10 to 12) as well as the results from Units 1 and 2 indicated that bedrock lay within 5 centimeters of the surface at the back and front of the site. Consequently, it is apparent that the natural geology of the area was a steeply sloping natural ridge, with yellow gravel and red sediments located over sand-stone bedrock.

Two fill events that raised the level of the upper platform area then occurred along the top of the original ridge. The fill events were defined on the basis of the order of deposition as the "first fill event" and the "second fill event." As discussed in the following, although site stratigraphy was complicated by the use of fill, it was possible to define a relatively discrete series of occupations. Traces of a Formative period settlement were present over natural sediments at the base of the site. The Formative period occupation was followed by site modification and a more substantial Tiwanaku IV settlement. Fill (defined as the first fill event) was placed over this occupation, and substantial structures were placed on top of the fill. This occupation appears to have occurred in the Tiwanaku V period. These structures were then buried by a second fill event which appears to have occurred during the Inca period.

MIDDLE FORMATIVE OCCUPATIONS

Although fiber-tempered Middle Formative ceramics as well as Upper Formative ceramics were present on the surface at Chucaripupata and within the matrices of the fill events, few intact remnants of these occupations were encountered during the excavations. The only undisturbed Formative period deposit consists of a small, irregular patch of light brown (2.5YR 6/4) sandy loam found immediately over the red sediments of the natural hill in Unit 5 (see Seddon 1998: Fig. 4.6). The undisturbed sediments comprise less than 4 square meters total, although originally the occupation would have been larger. While the assemblage from this context is entirely composed of fiber-tempered, Middle Formative ceramics with no Tiwanaku diagnostics, the number of ceramics recovered from it was small. From later fill contexts, fiber-tempered sherds and Upper Formative sherds make up a small percentage (1 to 2 percent) of the total assemblage. The ceramics are almost entirely domestic and utilitarian wares (Seddon 1998). It was therefore concluded that while there was clearly a Formative period occupation at the site, it was small, and the ceramic assemblage suggests that the occupation consisted of a hamlet or a small village (Seddon 1998).

THE TIWANAKU IV OCCUPATION

The Tiwanaku IV occupation of Chucaripupata was much larger than the previous Middle and Upper Formative settlements and is the first to provide clear evidence of nondomestic activities at the site. The intact remnants of the Tiwanaku IV occupation were located between 1.8 and 2.0 meters below the present surface in Blocks B and C. This occupation consisted of a sequence of uses of the area, involving a variety of different feature types. Block B (Figure 5.7) exposed a number of tombs (Features 26, 28, 31, 33, and 35), two circular and one rectangular stone-lined storage pits (Features 24, 29, and 30), a combination trash pit and burial feature (Feature 32), and a trash pit (Feature 25). In Block C, features included a storage pit, a pair of small canals, and a series of tombs (Features 15, 43, 44, 46-49, 52-53; see discussion and figures below). An additional storage pit (Feature 11) was also identified during the 1995 testing in Unit 7.

Based on stratigraphic positions and crosscutting features, it is possible to identify the sequence of feature constructions on an unmodified natural ridge located below what is now the platform during the Tiwanaku IV period (see Seddon 1998). The earliest features in the area were trash and storage pits, followed by the construction of the two small canals. The last features built in the area were tombs.

Tiwanaku IV Trash Pits

Three features—Features 25, 32, and 34—appear to be trash pits. Feature 25 is one of the earliest features in the area (Figure 5.7). It was neatly cut in half at a later point by the construction of Feature 24. Feature 25 is a circular pit dug into the sterile red/orange natural hill sediments overlying bedrock. It is approximately 60 centimeters in diameter and 42 centimeters deep. The pit contained a dark, rich, carbon-filled sediment with numerous ceramic vessel fragments. A number of camelid bones and teeth were also recovered. None of the ceramic vessels are fibertempered, and many are Tiwanaku period forms. A few of these are nearly complete, and several others have been reconstructed from

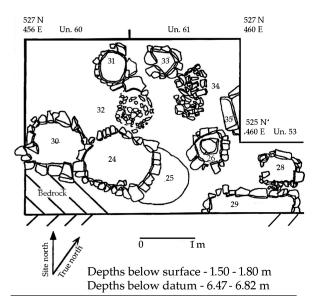


Figure 5.7. Plan view of the Tiwanaku IV occupation in Block B at the site of Chucaripupata.

fragments within the feature. Three vessels were located close to the top of the pit. These include two blackware *keros*, one incised with a wavy line or volute motif, and a redware *kero*, decorated with a cross motif (Figure 5.8). Deeper within the feature, a rare blackware *tazon*, or small serving vessel, was recovered (see Seddon 1998: Fig. 4.12). Many fragmented *ollas* were also present, as was a large handle from a *tinaja*, or storage jar.

Wedged between Feature 24 (storage pit, discussed below) and Feature 31 (tomb, also discussed below) was Feature 32 (Figure 5.7). This feature was visible at first as a dense collection of small rocks. An unslipped and undecorated Tiwanaku period *sahumador*, or incense burner, base was found among the rocks. Below them was a dark mixture of carbon, camelid bones, and *cuy* (guinea pig) bones.

To the east of Feature 32 was a shallow irregular pit filled with rocks, ceramics, and some charcoal, defined as Feature 34 (Figure 5.7). The rim of a Tiwanaku period *tinaja*, decorated with a continuous volute motif, was recovered among the stones. All three of these features contained high frequencies of decorated ceramics, carbon, and faunal remains. The contents of the feature suggest that they



Figure 5.8. Examples of keros from Feature 25, Chucaripupata.

contained trash from feasting events (Seddon 1998).

Tiwanaku IV Storage Features

Formal storage features were encountered in Block B and in Unit 7. They consist of four circular storage features (Features 11, 24, 30, and 45) and one rectangular storage pit (Feature 29). Features 24 and 30 cut an earlier trash pit (Feature 25). Both Features 24 and 30 are circular pits 1 to 1.25 meters in diameter, and they share a wall, indicating that they were constructed simultaneously (Figures 5.7, 5.9). Feature 24 is 73 centimeters deep with a rounded, basin-type bottom. Feature 30 has an eastward-sloping bedrock floor ranging from 32 to 57 centimeters deep. Both were excavated into sterile sediments. The walls of each of these pits are lined with stones, forming a smooth face. The features were filled with debris from the first fill event.

A similar feature was encountered in Unit 7 (Figure 5.10). Feature 11 consists of a rock-lined, circular pit feature, approximately half of which is well preserved. Below the well-preserved section of wall, the feature is lined with stones from top to bottom. The sediment within the feature consists of material from the first fill event. Below this fill are jumbled rocks that had originally formed the opposite wall of the circle and had collapsed into the feature. The feature

base was located approximately 1.0 meter below the feature top.

A circular stone-lined storage pit, Feature 45, similar to the ones in Block B, was constructed near the center of Block C (see Seddon 1998: Fig. 4.21). Like the features in Block B, it



Figure 5.9. View of Tiwanaku IV storage features, Features 24 and 30 at Chucaripupata.

consists of a rock-lined, circular pit, approximately 50 centimeters deep. Only half of the pit is intact; the other half was disturbed by a later tomb construction.

In contrast to Features 11, 25, 30 and 45, Feature 29 is a rectangular pit. It is stone-lined, cut into sterile sediments, and it has a slightly basined bottom. Only half of the feature was excavated, as the other half was under the foundations of a later wall. Feature 29 is 70 centimeters at its longest axis and probably about 40 centimeters wide.

None of the stone-lined features contained their original contents. Features 11 and 24 contained rock fall at the base, but over this, as in the rest of the features, was the same homogenous sediment of the first fill event which buried the entire Tiwanaku IV occupation at the site. The fact that no in situ materials were found in any of these features indicates that

they were cleaned out at abandonment, making it difficult to determine their function. Because they were built as semi-subterranean pits, they most likely functioned as storage bins. Because they were carefully rock-lined, it is clear that they were formal constructions meant to withstand repeated placement and removal of items.

Thus, it is likely that the features were not intended to be used as trash pits. Furthermore, the three trash pits in this occupation (Features 25, 32, and 34) are unlined. Because Feature 24 cut into Feature 25, and Feature 24 shares a wall with Feature 30, these features date to after the filling of Feature 25. Due to the similarity in construction techniques, it is likely that all the stone-lined pits (Features 11, 25, 29, and 30) are roughly contemporaneous. Radiocarbon dates (discussed below) indicate that these features date to the Tiwanaku IV period.



Figure 5.10. Plan view of Feature 11, a Tiwanaku IV storage feature at Chucaripupata.

Tiwanaku IV Canals

Block C contained a number of other features that, based on shared or cross-cutting walls, appear to postdate the construction and use of the storage pits. A wall consisting of one to two courses of flat rocks of varying sizes that curve west to east through the area was located at the northern edge of the excavated area (Figure 5.11). In all likelihood, this wall may have run for a large portion of the north edge of the natural hill. The wall has no finished face and was poorly preserved in some areas. It is unlikely that such an insubstantial wall formed the foundation for any significant structure. Rather, the wall appears in many ways to be a low retention or terrace wall that served to stabilize erosion from the top of the natural hill. It may also have served to demarcate this area, although it in no way would have blocked access to the center or top of the natural hill/ saddle that formed the original site. The curve of the wall is difficult to explain.

At some point after the construction of this wall, two small canals were built in the area (Figures 5.12, 5.13). The best-preserved canal runs south to north through the center of the block. It was constructed by placing small, thin slabs upright in the natural sediments to form a drainage 10 centimeters wide. It runs over the original curving outer wall, utilizing that wall to form part of the base of the canal. This indicates that the canal was constructed after the curving wall. The north-south canal was filled in some portions with thick, black, organic-rich sediment, which may have accumulated after it was abandoned. A flotation sample from this sediment contains high amounts of carbon but few other botanical remains. This canal originally ran from an area near the center of the site, probably where bedrock is close to the present surface. It would have drained toward the north side of the natural hill, although this end was destroyed by the later construction of the north upper platform wall.

The second canal is preserved in only a small portion of its original length, having been significantly impacted by later constructions. It was encountered in the east portion of the block and curves toward the straight north-south canal. It probably joined with the north-south canal at a point where the canal is filled with a concentration of disarticulated rocks.

Both canals are too small to have served as major agricultural irrigation devices. No springs are located in the platform area or on the ridge above the platform area; thus, the canals do not appear to have served to route spring water. They might have been intended to drain rainwater from the center of the natural ridge, yet, given the fairly steep slope of the ridge that forms the site, a special drainage structure seems unnecessary.

Alternatively, the canals might have been intended to manipulate rainwater during rituals in ways similar to those at the Akapana pyramid

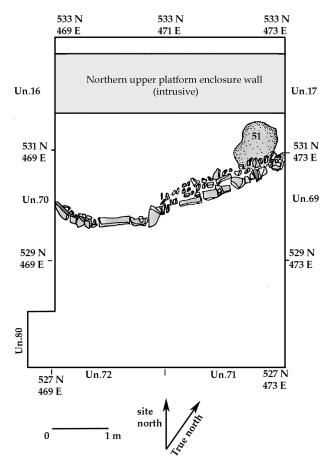


Figure 5.11. Plan view of early features in Block C area, Chucaripupata.

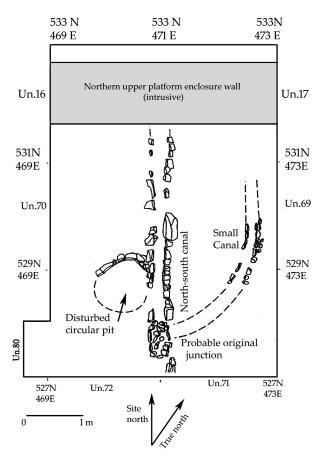


Figure 5.12. Plan view of canals and storage feature in the Tiwanaku IV occupation in Block C at Chucaripupata.

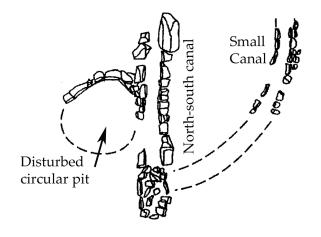


Figure 5.13. Detail of the relationship between the canal and storage feature in Block C in the Tiwanaku IV occupation.

in Tiwanaku, and in the central ceremonial core of Lukurmata, where the drainage of water from central temples was constructed to mimic the natural drainage of water from the surrounding mountainsides (Kolata 1993:115-117, 131-132). Additionally, the canals appear similar in form to the small canal found by Bauer that drained Inca offerings from the nearby Sacred Rock plaza (Bauer and Stanish 2001:204-206, and Chapter 3, this volume). It may be that the canals at Chucaripupata served to drain liquid offerings from an area near the center of the site, where bedrock lies close to the surface. Regardless, it appears likely that these canals were intended for the ritual manipulation of liquids either rainwater itself or liquid offerings made at the center of the site.

Tiwanaku IV Tombs

Fifteen tombs were located in Blocks B and C. Tombs in Block B include Features 26, 28, 31, 32, 33, and 35 (see Figure 5.7). Features 26, 28, and 33 were built with upright slabs arranged in a circle 20 to 30 centimeters in diameter, enclosing a pit about 40 to 50 centimeters deep dug into sterile sand. Feature 26 has a small slab lid covering the cist. Below this were the poorly preserved remains of the skull and disarticulated long bones of an adult. A complete sciatic notch of the pelvis was preserved and indicates that the individual was female. Feature 28 contained no osteological material. The small size of the tomb suggests a child burial. The fragile nature of immature bones would also explain the lack of osteological remains in the tomb, as preservation of adult remains in other tombs was poor at best. Feature 33 held the highly disintegrated bones of a single individual of indeterminate sex. Fully erupted permanent dentition indicates minimally that the individual was an adult. Feature 35 is similar in construction to these tombs, but it runs into an unexcavated area.

Feature 31, while also a slab-lined cist, is larger, 40 centimeters in diameter, and deeper, 50 centimeters from top to bottom, than Features 26, 28, and 33. It was covered by a round slab that had been used previously as a grinding

stone. At the base were the poorly preserved remains of an adult individual of indeterminate sex.

An individual was also interred at the base of Feature 32 (see above and Figure 5.7). Below the trash at the base of the pit were disarticulated human remains. While epiphyseal fusion indicates an adult, the sex is indeterminate. It is striking that this individual was disposed in a simple pit along with trash, while others were placed in well-prepared, slab-lined tombs.

Nine tombs were located in Block C. One cut into Feature 45, and two others cut into the area of the small curving canal, indicating that the tombs were the last constructions in the area. Two of the tombs are small, less than 30 centimeters in diameter (Features 43 and 44). One of these, Feature 43, was constructed of small upright stone slabs with a lid. The second small tomb, Feature 44, consists only of upright slabs and has no lid, like Feature 28 in Block B. Due to their small size, it is likely that these tombs held children or infants.

Two tombs, Features 15 and 53, were disturbed by the later construction of the northern wall of the upper platform. Feature 15 was neatly bisected by the wall. All that remains is a half circle of upright slabs and scattered and highly fragmented human bones found around the destroyed tomb. Feature 53 is better preserved, although it was also disturbed by terrace wall construction. Half of the upright wall slabs are intact, as are several adult long bone fragments in situ at the bottom of the tomb. A broken kero base was also present. However, since much of the original tomb was filled with later sediments, it is difficult to conclude with certainty that the broken kero was associated with the tomb.

In the southern part of the block, five large tombs were exposed (Features 46, 47, 48, 49, and 52). Most of these tombs were dug 40 to 50 centimeters into the sterile sand. They were all lined with large upright stone slabs and covered with stone slab lids. More sterile sand was heaped over the lids, thoroughly burying the tombs.

Features 46 and 47 are unusual. After each tomb was capped, a second rectangular slab was placed between them, connecting the closely placed tombs. Both contained similar remains and grave goods (Figures 5.14, 5.15). Feature 46 had an intact Tiwanaku IV-style *kero*, decorated with a front-face god motif (Figure 5.16). Also present were the poorly preserved remains of one individual of indeterminate sex. Only three molar crowns were recovered, indicating that the individual was an adult.

Feature 47 also held the remains of a single individual of indeterminate sex, along with a Tiwanaku kero offering (Figure 5.17). The kero is decorated with a cross motif. Preservation of the osseous remains is fair. Both the left and right femurs were present, and dental remains were recovered. In addition, the tomb contained the fragmentary remains of the bark of the indigenous Keñwa Colorada (Polilepis Incana) tree, which still grows on the island today. Wood is not unusual in Tiwanaku period tombs, and this example may represent the preserved remnants



Figure 5.14. Kero from tomb feature 46, Chucaripupata.



Figure 5.15. Kero from tomb feature 47, Chucaripupata.

of limb braces used to prop up the tomb lid (Javier Escalante M. and Oswaldo Rivera S., oral communication 1996).

Features 46 and 47 represent an unusual double burial. Both tombs were built at the same time, contained similar grave goods, and, after closure, were joined by a square slab connecting their individual lids. Additionally, examination of the pastes and firing techniques utilized in the production of the kero offerings indicates that they are distinct from the typical local pastes utilized at the site. The paste color is bright orange (2.5YR 5/8-6/8), the material is highly compact, dense, and fine-textured, appearing to have been sintered or melted together, and the firing technique has left the paste incompletely oxidized, with a gray to black interior band. The paste characteristics indicate that these keros were manufactured in a nonlocal paste identical to samples observed from Tiwanaku by the author. The paste and firing characteristics also match the attributes described by Janusek (1994) and Steadman (1994:27) as diagnostic of ceramics manufactured at Tiwanaku. The likeliest explanation is that the vessels in these tombs were imported from the site of Tiwanaku.

Feature 48, a stone-lined cist tomb capped with a large round slab, was located to the southeast of the twin tombs (see Figure 5.13). The tomb contained the fragmented and poorly preserved cranial remains lacking dentition of an adult of indeterminate age and sex. Fragmented pieces of bark of the *Keñwa Colorada* tree were also present. The tomb also contained a vessel offering, in this case a *vasija* (Figure 5.18) decorated with a variety of small anthropomorphic and interlocking motifs. Like the *keros* recovered from Features 46 and 47, the *vasija* was also manufactured with a paste type and firing technique that indicate it came from Tiwanaku.

Two other large intact slab-lined cist tombs were found on the west side of the north-south canal. The form of Feature 49 is nearly identical to Feature 48. Very few remains were preserved within the tomb itself, only 10 to 20

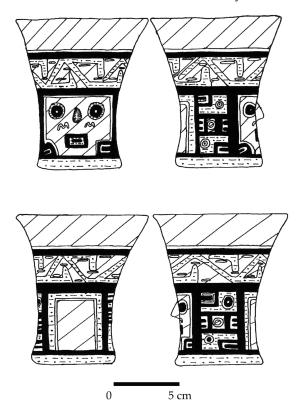


Figure 5.16. Detail drawing of *kero* from tomb feature 46.

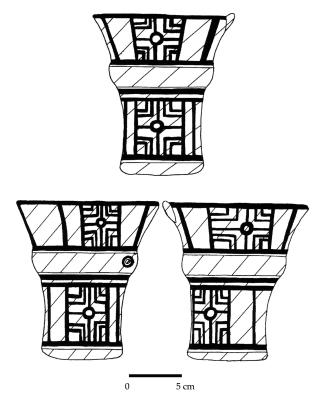


Figure 5.17. Detail drawing of kero from tomb feature 47.

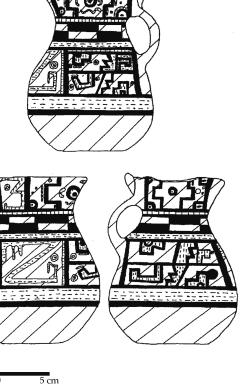


Figure 5.18. *Vasija* from tomb feature 48, Chucaripupata.

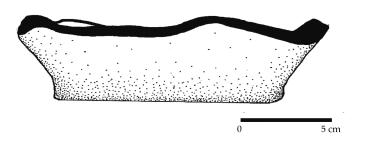


Figure 5.19. Olla base from tomb feature 49, Chucaripupata.

small, unidentifiable bone fragments. However, dentition was well preserved, and 48 teeth were recovered (18 molars, 16 premolars, 8 canines, and 6 incisors). This indicates that at least two individuals were interred. Sex is indeterminate.

The lid of the Feature 49 tomb was intact, and an *olla* base (Figure 5.19) was found placed bottom-down on the tomb floor. Perrin Pando recovered a nearly identical offering from a similar Tiwanaku period slab-lined cist cemetery at the site of Wakuyu in the community of Yumani (Perrin Pando 1957:194, Fig. 49). This type of offering is apparently not uncommon in Tiwanaku tombs for the area. It is possible that the broken *olla* base was originally utilized to hold perishable offerings or incense.

To the northeast of Feature 49 was another large cist tomb. Feature 52 is similar to the other tombs except that two large slabs were used to cap it, and it is significantly deeper, over a meter from top to bottom, and it cuts into an earlier storage pit. Feature 52 contained the best-preserved osteological remains recovered at the site. The individual was an adult. Much of the postcranial skeleton was present, along with most of the cranium and nearly all the teeth. Single caries were present on both the right upper first molar and the left upper third molar. Occlusal wear was heavy, with patches of dentine exposed on some teeth. The epiphyses were present and fused on both femurs, and the proximal epiphysis on the tibia was fused. A tiny fragment of the sciatic notch was recovered and was narrow. The individual was probably male, although the evidence for sex is not conclusive.

The tomb also contained a grave offering, in this case an undecorated *vasija* (Figure 5.20). This *vasija* was crudely manufactured of local paste with no slip, uneven firing, and a rough irregular surface. It is clearly a utilitarian piece, similar to one recovered at Lukurmata by Bermann (1994:211, Fig. 12.30). However, it seems possible that this particular piece was selected because of its similarity to Tiwanaku *vasija* vessels common on the mainland. It is



Figure 5.20. Local *vasija* from tomb feature 52, Chucaripupata.

roughly similar to the Tiwanaku-import offering recovered from Feature 48.

DATING THE TIWANAKU IV OCCUPATION

The deeply buried occupation was dated to the Tiwanaku IV period primarily by several radiocarbon dates (Table 5.1). One sample consists of burned organic material scraped from the interior of a cooking vessel located in a trash pit in the deeply buried occupation of Block B (OS-12671). This sample returned a calibrated 2-sigma age range of AD 559–673. The second sample consists of charcoal from fill sediments that buried the features located over the ridge tip. This fill provides an approximate date for the termination of the deeply buried occupation. The fill sample (OS-12678) returned a calibrated 2-sigma age range of AD 618–691. Both of these dates fall late in the Tiwanaku IV

Table 5.1 Radiocarbon dates from Chucaripupata

NOSAMS Accession #	Bag # - Context	Radiocarbon Years BP	Error (±)	Calibrated Calendar Years	1-Sigma Age Range	2-Sigma Age Range
OS-12671	1904 - F.25	1420	40	AD 643	AD 604–658	AD 559–673
OS-12678	754 - First Fill	1370	35	AD 660	AD 647–674	AD 618–691
OS-12676	1219 - F.22 Pit cut by House	1310	40	AD 687	AD 663–768	AD 655–778
OS-12675	1060 - F.20 House burning	1140	35	AD 894, 925, 935	AD 886–976	AD 780–986
OS-12672	1280 - Burning on plat- form, Inca occupation	475	35	AD 1436	AD 1419– 1493	AD 1405– 1468
OS-12677	1280 - Duplicate	540	35	AD 1409	AD 1332– 1425	AD 1320– 1438

NOTE: Radiocarbon results were calculated by the National Ocean Sciences Accelerator Mass Spectrometry Facility (NOSAMS), using the Libby half-life of 5568 years. Financial support for processing was aided by a cooperative agreement between NOSAMS and the National Science Foundation, No. OCD-9301015. Dates were calibrated utilizing the Stuvier and Pearson (1993) calibration curve and the CALIB (Version 4.3) program (Stuvier and Reimer 1993). Samples OS-12672 and OS-12677 were duplicate samples from the same recovered carbon, with sample OS-12677 submitted as a blind duplicate for accuracy testing by NOSAMS. These results vary slightly from those originally reported by Seddon (1998), due to the use of the revised calibration program.

period, in the Alconini/Janusek sequence (Alconini 1995; Janusek 1994). Diagnostic attributes of the ceramic assemblage associated with this occupation also support a Tiwanaku IV date for the occupation (Seddon 1998).

CERAMICS ASSOCIATED WITH THE TIWANAKU IV OCCUPATION

Contexts dating to the Tiwanaku IV period (circa AD 500–800) at Chucaripupata include features as well as several separate stratigraphic horizons. Features dating to the Tiwanaku IV period include the tombs, trash pits, and storage pits described above. These features and their surrounding sediments are defined as the "Early Occupation" by Seddon (1998). A fill event, defined as the "first fill event" (Seddon 1998), also capped the features and included artifacts that would have accumulated up to the moment of the fill event. Only the tombs and trash pits contained materials contemporaneous with the feature con-

structions; the storage pit features contained fill from the first fill event.

Although there may be slight differences in age between individual features and the sediments around and capping the features, the radiocarbon evidence suggests that they were all deposited during a relatively tight time span during the late Tiwanaku IV period. Consequently, the materials from the tombs and trash features and the first fill event are treated as a group here, although separate data for these contexts are provided by Seddon (1998).

The major contexts that comprise the Tiwanaku IV occupation—the features such as trash pits and tombs and the sediment surrounding and above these features—present significantly different ceramic assemblages. Although a wide variety of artifact types (chipped stone, ground stone, faunal material, and the like) are associated with the Tiwanaku IV occupation of Chucaripupata, the predominant material is ceramics. As these artifacts provide the most detailed insight into the activities conducted at

Table 5.2 Frequency and percent of general vessel type by major depositional context, Tiwanaku
IV occupation, Chucaripupata

Context	Middle Formative, Decorated	Middle Formative, Undecorated	Late Formative, Decorated	Late Formative, Undecorated	Non- diagnostic, Non- Formative	Ollas and Tinajas	Diagnostic Tiwanaku Forms	Total
Early		40	1	1	5 0.6	757	100	15710
Occupation	3	43	1	1	796	757	109	1710
%	0.18	2.51	0.06	0.06	46.55	44.27	6.37	
Feature 25	0	0	0	0	34	156	65	255
%	0.00	0.00	0.00	0.00	13.33	61.18	25.49	
Feature 32	1	2	0	0	33	116	28	180
%	0.56	1.11	0.00	0.00	18.33	64.44	15.56	
First Fill	31	250	1	0	8123	3121	769	12,295
%	0.25	2.03	0.01	0.00	66.07	25.38	6.25	
Total	35	295	2	1	8986	4150	971	14,440
%	0.24	2.04	0.01	0.01	62.23	28.74	6.72	100.00

the time of the occupation, and into the relationship between the occupants of the site and the Tiwanaku polity, this section will focus on ceramic artifacts. Other artifacts are described in detail by Seddon (1998).

In the Tiwanaku IV contexts at Chucaripupata, Tiwanaku diagnostic ceramic forms (see Janusek 1994; Seddon 1998) are present in small numbers (Table 5.2). A small percentage of the assemblage consists of fiber-tempered, Middle and Upper Formative period vessels. These represent vessels from earlier occupations of the site that were incorporated into the sediments associated with later occupations and do not suggest that the sediments date to the Formative period. The vast majority of diagnostic vessel forms are Tiwanaku period vessel forms.

When tiny and indeterminate sherds are removed from consideration, over three-fourths of the identifiable sample consist of cooking or storage vessels such as *ollas* and *tinajas* (Table 5.3). Of the cooking/storage vessels, approximately 80 percent are *ollas*, while approximately 20 percent are *tinajas*. Tiwanaku diagnostic serving vessel forms constitute only 16 percent

of the total assemblage for the context. A high percentage of cooking and storage vessels is typical at Tiwanaku period domestic occupations such as Tiwanaku and Lukurmata (Janusek 1994).

Nonetheless, there is a wide range of Tiwanaku serving and ceremonial vessel forms (see Table 5.3). The assemblage includes keros, tazones, cuencos, escudillas, vasijas, restricted basins, wako retratos, incensarios, recurved bowls, and sahumadores. Nearly all of these vessels are red-slipped and decorated with a variety of Tiwanaku motifs. Blackware vessels are present in the kero, tazon, and vasija vessel groups. The serving/ceremonial sample is dominated by keros. Keros make up nearly 10 percent of all vessels for the context, and 50 percent of serving vessels. Only 15 percent of serving vessels are of forms other than keros or keros/ tazones. Non-kero serving vessels in the Tiwanaku IV occupation are dominated by tazones. A very small number of other serving vessel types, consisting of four cuencos, two escudillas, and two vasija fragments, were identified.

Table 5.3 Frequency and percent of identifiable vessel type by decoration type, with vessel types grouped by major category, Tiwanaku IV occupation, Chucaripupata (continued)

Vessel Type	Anthropomorphic	%	Band	%	Bird	%	Cross	%	Eye	%	Geometric	%	Incised	%	Punctated	%
Cooking/Storage													•			
Olla	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	100.00	0	0.00
Tinaja	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	66.67
Serving																
Kero	5	9.62	8	15.38	2	3.85	15	28.85	4	7.69	10	19.23	0	0.00	0	0.00
Band Kero	0	0.00	3	37.50	0	0.00	0	0.00	0	0.00	4	50.00	1	12.50	0	0.00
Blackware Kero	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	17	100.00	0	0.00
Kero/Tazon	0	0.00	0	0.00	0	0.00	0	0.00	4	36.36	4	36.36	1	9.09	0	0.00
Tazon	0	0.00	1	6.67	0	0.00	0	0.00	1	6.67	2	13.33	0	0.00	0	0.00
Blackware Tazon	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Cuenco	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Local Cuenco	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Escudilla	0	0.00	1	33.33	0	0.00	0	0.00	0	0.00	1	33.33	0	0.00	0	0.00
Vasija	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	50.00	0	0.00	0	0.00
Blackware Vasija	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Restricted Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Basin	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Blackware Wako Retrato	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Serving Vessel Rim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ceremonial	l															
Duck Head	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Incensario	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Recurved Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sahumador	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Wako Retrato	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Unknown	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	5		13		2		15		9		22		22		2	

^{*=}Total of identifiable decorated vessels

Continued on facing page

^{**=}Percent of all vessels

^{***=}Percent of vessels by major class (e.g.,, percent of cooking/storage, percent of serving, percent of ceremonial)

Table 5.3 Frequency and percent of identifiable vessel type by decoration type, with vessel types grouped by major category, Tiwanaku IV occupation, Chucaripupata

Vessel Type	Titi	%	Vertical	%	Volute	%	Wavy Line	%	Total*	%	Slipped	Too Small	Undecorated	Grand Total	**%	%Vessel Type***
Cooking/Storage																
Olla	0	0.00	0	0.00	0	0.00	0	0.00	3	2.63	1	0	3344	3348	65.38	80.67
Tinaja	0	0.00	0	0.00	1	33.33	0	0.00	3	2.63	49	2	748	802	15.66	19.33
Serving																
Kero	5	9.62	0	0.00	0	0.00	3	5.77	52	45.61	97	162	7	318	6.21	33.44
Band Kero	0	0.00	0	0.00	0	0.00	0	0.00	8	7.02	21	33	0	62	1.21	6.52
Blackware Kero	0	0.00	0	0.00	0	0.00	0	0.00	17	14.91	95	0	0	112	2.19	11.78
Kero/Tazon	0	0.00	0	0.00	0	0.00	2	18.18	11	9.65	27	49	6	93	1.82	9.78
Tazon	0	0.00	0	0.00	7	46.67	4	26.67	15	13.16	19	20	1	55	1.07	5.78
Blackware Tazon	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0	0	2	0.04	0.21
Cuenco	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	9	2	0	11	0.21	1.16
Local Cuenco	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	11	11	0.21	1.16
Escudilla	0	0.00	1	33.33	0	0.00	0	0.00	3	2.63	0	3	0	6	0.12	0.63
Vasija	1	50.00	0	0.00	0	0.00	0	0.00	2	1.75	19	10	3	34	0.66	3.58
Blackware Vasija	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0	0	1	0.02	0.11
Restricted Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	0	0	3	0.06	0.32
Basin	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	2	0	0	2	0.04	0.21
Blackware <i>Wako</i> <i>Retrato</i>	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	4	0	0	4	0.08	0.42
Serving Vessel Rim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	224	7	6	237	4.63	24.92
Ceremonial														1		L
Duck Head	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0	1	1	0.02	5.26
Incensario	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	5	0	3	8	0.16	42.11
Recurved Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0	0	1	0.02	5.26
Sahumador	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	1	3	5	0.10	26.32
Wako Retrato	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	3	1	0	4	0.08	21.05
Unknown	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	0	0	1	0.02	
Total	6		1		8		9		114		584	290	4133	5121		

^{*=}Total of identifiable decorated vessels

^{**=}Percent of all vessels

^{***=}Percent of vessels by major class (e.g., percent of cooking/storage, percent of serving, percent of ceremonial)

Blackware *keros* are common in the Tiwanaku IV occupation assemblage. Approximately 30 percent of all *keros* are blackware. The base of one blackware *kero* is incised with what may be a maker's mark (Figure 5.21), as has been reported for examples from Moquegua (Goldstein 1989:140). Blackware *keros* are typical of Tiwanaku IV occupations, and the percentage here is high, approaching the quantities reported for other regions outside the Tiwanaku core area on the mainland (Goldstein 1989).

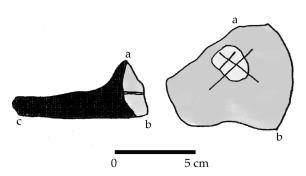


Figure 5.21. Possible maker's mark on a blackware *kero* base from the Tiwanaku IV occupation, Chucaripupata.

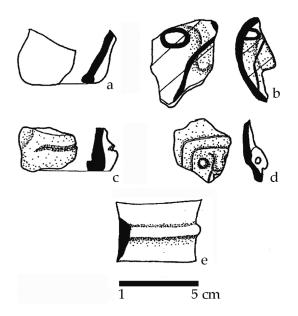


Figure 5.22. Examples of ceremonial vessels from Tiwanaku IV contexts, Chucaripupata: (a) recurved bowl; (b, c) *wako retratos*; (d) blackware *kero* with front-face god motif; (e) miniature banded *kero*.

A few ceremonial vessels are present (Figure 5.22), including three *incensario* fragments and one *sahumador* fragment. Additionally, one sherd from a recurved bowl, four *wako retrato* sherds, and four blackware *wako retrato* sherds were recovered. One of the blackware *wako retrato* sherds appears to have a face representing the front-face god motif (see Figure 5.22d).

Ceramics manufactured at Tiwanaku have a distinct paste, and comparative examples were employed during the analysis in an effort to identify vessels imported from Tiwanaku to the site of Chucaripupata. Local paste, temper, and firing strategies are easy to distinguish from Tiwanaku pastes (see Seddon 1998), and the local vessels, although of Tiwanaku form and decoration, are noticeably thicker and less finely made than vessels from Tiwanaku. Based on the composition of the pastes and tempers used in vessel construction, only a very small percentage of the vessels appear to have been manufactured at Tiwanaku itself (Table 5.4). Thus, the assemblage indicates predominantly local manufacture of classic Tiwanaku vessel forms.

The predominance of serving and ceremonial vessels by keros and, to a lesser degree, tazones, in the Tiwanaku IV contexts at Chucaripupata is unusual. In later contexts at the site, keros do not dominate the serving/ceremonial assemblages in the same way. Furthermore, in Tiwanaku IV contexts at Tiwanaku and Lukurmata, keros form a much smaller proportion of the total serving/ceremonial assemblage; in addition, other forms such as cuencos, escudillas, and vasijas are much more evenly represented (see Janusek 1994: Figs. 7.15b, 7.16b, 7.17b, 8.3b, 8.8b, 8.12b). One implication of this pattern is that a restricted set of Tiwanaku-style forms, primarily keros, were primarily relied upon during the Tiwanaku IV occupation at Chucaripupata.

A limited range of decorations is present on serving vessels (Figures 5.23, 5.24; see also Table 5.3). Aside from one *tinaja* with a volute design, and three incised *ollas*, only *keros*, *tazones*, *escudillas*, and *vasijas* exhibit decoration. *Keros* are decorated with geometric (Figure 5.23a), band (Figure 5.23b), wavy line, cross (Figure 5.23c),

puma (Figure 5.23d, e), anthropomorphic (Figure 5.23f, g), and eye motifs (Figure 5.23h), as well as a single bird motif (Figure 5.23i). Geometric and banded motifs dominate the *kero* decorations; puma motifs form 8 percent of the decorated *kero* sample. *Tazones* have geometric, banded, volute (Figure 5.24c), and wavy line motifs (Figure 5.24d). Volute designs (e.g., Janusek 1994:183, Fig. 7.21; Bermann 1994:170, Fig. 11.20) make up approximately 45 percent of the identifiable decorative sample for *tazones*. Two decorated *vasija* sherds were found, one with traces of a puma motif.

Overall, the sample of ceramics from sediments surrounding the Tiwanaku IV occupation features and the fill over the features (but not from the features themselves) is dominated by local cooking and storage vessels as well as

Table 5.4 Frequency of vessel type by paste type, Tiwanaku IV occupation, Chucaripupata

	Paste Type			
Vessel Type	Local	Tiwanaku		
Band Kero	62	0		
Basin	2	0		
Black Kero	112	0		
Black Tazon	2	0		
Black Vasija	1	0		
Black Wako	4	0		
Cuenco	11	0		
Duck Head	1	0		
Escudilla	6	0		
Incensario	8	0		
Kero	312	6		
Kero/Tazon	92	1		
Local Cuenco	11	0		
Olla	3348	0		
Recurved Bowl	0	1		
Res. Bowl	3	0		
Sahumador	5	0		
Serving Rim	237	0		
Tazon	54	1		
Tinaja	798	4		
Vasija	34	0		
Wako Retrato	4	0		

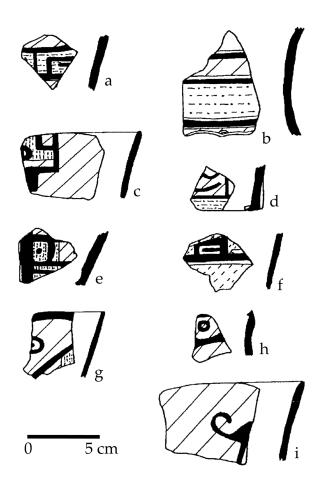


Figure 5.23. Examples of decorated *keros* from Tiwanaku IV contexts, Chucaripupata.

Tiwanaku-style serving and ceremonial vessels. Tiwanaku diagnostic forms comprise all serving and ceremonial vessels, but they tend to be restricted to *kero* and *tazon* forms. Decoration is not common and tends to be restricted to *keros* and *tazones*. Nearly all were manufactured locally, or at least not manufactured at Tiwanaku itself.

This assemblage contrasts with that recovered in the features of the Tiwanaku IV occupation. The trash pit features (Features 25, 32, and 34) contain much higher percentages of Tiwanaku diagnostics (see Table 5.2). In Feature 25, for instance, Tiwanaku period serving vessels make up 25 percent of the total sample. As described above, these include fancy blackware and redware *keros*. One of the blackware *keros*

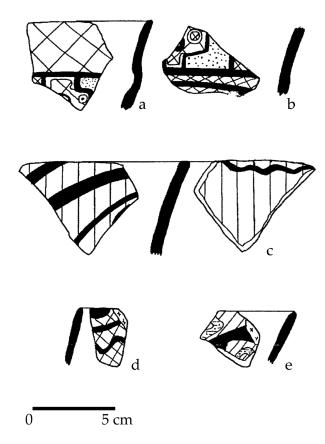


Figure 5.24. Examples of decorated *keros* (a–b) and *tazones* (c–e) from Tiwanaku IV contexts, Chucaripupata.

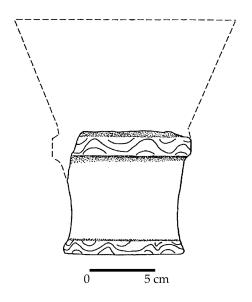


Figure 5.25. Blackware *kero* with incised volute motif from Feature 25, Tiwanaku IV occupation, Chucaripupata.

from Feature 25 is incised at the base and midsection with a wavy volute motif (Figure 5.25). However, other designs (Figure 5.26), notably puma or titi motifs (Figure 5.26a) and anthropomorphic motifs (Figure 5.26b), are also present on vessels in this feature. Volute motifs are also present on other tazones from Feature 25 (e.g., Figure 5.26f). Seventy-six percent of all serving and ceremonial vessel fragments in Features 25, 32, and 34 exhibit decoration. All of these forms were manufactured on local pastes, with the exception of one kero base with a puma face (Figure 5.26a) which is a Tiwanaku import. While keros and tazones still dominate the serving types from these features, some escudillas are also present.

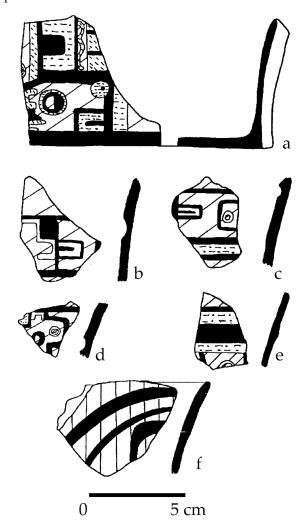


Figure 5.26. Other examples of decorated serving vessels from Feature 25, Tiwanaku IV occupation, Chucaripupata.

As described earlier, the tombs with grave goods present another contrast with the every-day assemblage. Features 46, 47, and 48 all contained fancy serving vessels (two *keros* and one *vasija*) imported directly from Tiwanaku. Exceptions to this pattern are Feature 49, which contained a broken local *olla* base, and Feature 52, associated with a locally made *vasija* copy.

In general, Tiwanaku-import serving and ceremonial vessels are only associated with specialized contexts within the early occupation. While the surrounding sediments contained a low number and restricted range of Tiwanaku vessel forms, this is inverted in the features. Several specialized trash pits, which appear to represent cleanup from feasting events, have higher numbers of Tiwanaku serving vessel forms, with a greater range of decoration. With one exception, all tombs with grave goods had a Tiwanaku-style serving vessel. Several tombs actually contained vessels imported from Tiwanaku itself. One tomb contained a locally made copy of such a vessel. This dual patterning has implications for our interpretation of the site's relationship to the Tiwanaku polity during this period.

The Tiwanaku IV settlement occurred directly over natural sandy hill sediments with little modification of the area, and site structure appears to have changed a great deal over time, as indicated by the numerous constructions that cut into older ones. This cross-cutting enables a reconstruction of the sequence of activities at the site during this period. The first preserved use of the area seems to have been for simple storage (Block C, Feature 51; possibly Block B, Feature 25). By the early Tiwanaku IV period, as evidenced by the trash contents of Feature 25 in Block B and the contents of Features 32 and 34, feasting and serving of beverages may have been a prominent activity in the area. The thin, curving wall seen in Block B may

have been constructed at this time to either sta-

bilize the eroding hill sediments, demarcate the

area, or both. Then, small canals were con-

Summary of the Tiwanaku IV Occupation

structed and utilized to either drain liquid offerings from the center and upper portion of the natural hill or to manipulate rainwater in a manner reminiscent of similar constructions at Tiwanaku and Lukurmata. Sometime later, a large number of deep, circular, rock-lined storage pits were constructed on the hilltop. These were probably utilized for the storage of food and drink for even larger-scale feasting events or for the storage of valuable ritual or redistributive goods. Finally, in its last incarnation, the area was utilized as a cemetery.

Tombs are of two major types—small, shallow, uncapped tombs probably for infants and children, and large, capped, slab-lined subterranean cist tombs. The grave goods in Block C tombs indicate that the cemetery was utilized during the Tiwanaku period. Grave goods range from a broken olla base to elaborate Tiwanaku-import keros and a vasija, as well as a locally made vasija copy. In the large tombs, buried individuals were adults, ranging from young to older, with one case of two adults interred in a single tomb (Feature 49). Sex is generally indeterminate, although one probable male was identified. Although poor preservation precluded definitive identification of corpse processing and positioning, the size of the tombs, and comparisons with similar tombs in other locales, suggest that the individuals were either placed in these tombs in a tightly flexed, seated position, or that bones were placed secondarily in the tombs after decomposition elsewhere (see Seddon 1998 for more detailed illustrations of all tombs).

The tombs of the cemetery fit a pattern for the island. Perrin Pando's (1957) excavations at the site of Wakuyu revealed nearly identical tomb forms. Grave offerings are also similar and include whole *keros* as well as an *olla* base like the one recovered from Feature 49. Slab-lined tombs are present on at least seven other sites on the Islands of the Sun and Moon (Bandelier 1910; Perrin Pando 1957:174-175; Chapters 2 and 6, this volume). Similar tombs were also excavated by the Bolivian National Institute of Archaeology (INAR) at the site of Titicachi on

the Yampupata Peninsula between Copacabana and the island (Javier Escalante M., personal communication). Of all the lines of evidence that can be used to interpret the character of the Tiwanaku IV occupation of Chucaripupata, the form, construction, and contents of the tombs provide the best evidence that the site was occupied by a predominantly local group that was developing contacts with a growing polity on the mainland.

While the serving vessel assemblage contains high frequencies of Tiwanaku-style vessels, and it would be easy to interpret the site as a simple Tiwanaku subject occupation, it is important to emphasize that the construction techniques and burial practices exhibited by the tombs correspond to local practices and do not appear similar to burial practices in the Tiwanaku core area on the mainland. The burials differ greatly from those recovered in Bermann's (1994, 1997:103-104) excavations at Lukurmata and from most of the burials reported by Janusek (1994) for Tiwanaku. Burials at Tiwanaku are typically shallow and oblong or rectangular in shape, rather than round and deep, with individuals placed on their side rather than seated (Bermann 1994: 200-203, e.g., Fig. 12.22; Janusek 1994: Appendix C). Burials at Lukurmata consist of round, dual-chamber tombs (Bermann 1994:199-204 Fig. 12.20). Only one burial reported from Tiwanaku (Janusek 1994; Feature 3, N7859 E5434) is similar to the tombs at Chucaripupata. The burial is an unlined subterranean cist, with a single, probably male, adult, 35 to 40 years old (Janusek 1994:445-446, Figs. C4, C5). Interestingly, it contained a vasija offering much like the one recovered in Block C, Feature 52. However, the tomb is not slab-lined, nor does it have a slab lid. Furthermore, aside from some relatively obvious elite burials at Lukurmata (Bermann 1997:103-104), the tombs encountered at Lukurmata and Tiwanaku were primarily found directly in domestic areas.

There was no closely associated domestic component on the upper platform area at the time the tombs were placed at Chucaripupata. The area was solely utilized for a cemetery. Bermann reports only one formal cemetery at Lukurmata. This contained 14 stone-capped shaft tombs. However, these tombs had a horizontal circular bench near the base and some had adjacent chambers to the shaft, along with multiple grave goods (Bermann 1994:204). Overall, despite the presence of Tiwanakuimport artifacts in the cemetery at Chucaripupata, the tombs are of a distinct, non-Tiwanaku form. These are almost certainly not individuals raised at Tiwanaku and buried at Chucaripupata. They are instead part of the local population, utilizing practices typical for the island and the immediate region. However, the choice of Tiwanaku-style artifacts as preferred grave goods highlights the importance of contacts and symbols of contacts with the Tiwanaku polity. While the first major occupation of Chucaripupata did occur during the Tiwanaku IV period, and there was clear contact and exchange of ideas with the Tiwanaku polity, the occupation is distinct from other Tiwanaku polity occupations. This distinctive local character of the site appears to have undergone a substantial change around the Tiwanaku IV to V transition.

THE TIWANAKU V OCCUPATION

At approximately AD 700 or the start of the Tiwanaku V period on the Island of the Sun, the site of Chucaripupata underwent a significant architectural transformation. The Tiwanaku IV occupation was buried with sterile sand, the top of the hill was walled, and the area within the walls was leveled with fill sediments (Seddon 1998). A temple was placed within the walled area, and a small village grew on the stepped terrace sides of the site. Based on the evidence at the site, it appears that during the Tiwanaku V period, extensive remodeling of the site corresponded with a transformation from a local ritual area to one closely associated with the Tiwanaku polity.

Site Reconstruction: The Upper Platform Walls and First Fill Event

The present appearance of Chucaripupata—a walled upper platform—appears to result from remodeling around the transition from the

Tiwanaku IV to the Tiwanaku V period. The remodeling most likely began with the construction of the upper platform walls. Excavations along the northern portion of the platform revealed what appears to have been a buried segment of its original north wall. This wall was first encountered in Unit 13, 2.0 meters south of the present north wall of the platform. Expansion around this unit in Units 16 and 17 revealed a buried, double-faced, 90-centimeter-thick wall constructed of irregular courses of fitted local sandstones (Figure 5.27).

Additional units (Units 15, 18, 19, 21, 23, 24, 28–31, 39, and 48) were placed at 8-meter intervals to the east and west along the visible axes of the wall to search for its corners. The test units revealed that the wall continued along most of the length of the upper platform and articulated with the existing back and front walls of the platform.

The construction technique of the buried wall and its relationship to the present north wall indicates that the buried wall is in fact the original north wall of the upper platform. Its form and construction is consistent with the other upper platform walls, and it articulates with these walls better than the existing northern upper platform wall. The later wall is only faced on a single side, it is irregularly and haphazardly constructed, and it does not articulate with the buried wall at the western end. Therefore, it is a later addition to the site, not associated with the construction of the original platform walls, and was probably built during the Inca period or later (Seddon 1998).

Testing on the south side of the upper platform revealed traces of a second buried doublefaced wall in line with the wall remnants seen on the surface at the east and west sides of the platform. This wall is 90 centimeters thick and



Figure 5.27. View of buried original northern upper platform enclosure wall in Units 16 and 17, Chucaripupata.

appears to be the original southern wall of the platform (Seddon 1998). The entire system of walls forms an irregularly shaped enclosure (Figure 5.28).

Three andesite cut-stone blocks found around the area of the buried north wall suggest that it was originally topped with courses of cut stone. One block was found in Unit 23, very near the top of the wall itself. A second block was found in Unit 8 in a pit feature filled with sterile sand. A third was found in a pit (Feature 42) that abutted the south face of the north wall in Unit 16 (Figure 5.29). Over this block, the pit was filled with jumbled stones. The cut-stone block and stones in Feature 42 appear to have been a result of falling or being pushed off the wall. The fact that the cut-stone block was one of the first to fall (as it was at the base of the pit), along with the fact that all other cut-stone blocks were found near the north wall, strongly suggests that the original platform wall consisted of a foundation of uncut, fitted local sandstone (observed presently), covered with courses of cut, fitted imported andesite. The other cut-stone andesite blocks from this wall have probably been removed over time, both by the Inca as well as by later inhabitants.

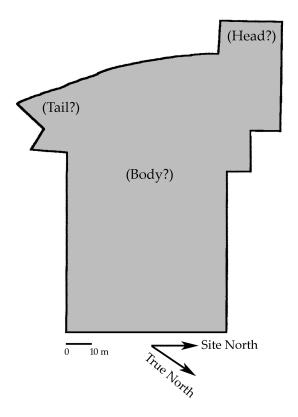


Figure 5.28. Reconstruction to scale of the original upper platform enclosure wall.



Figure 5.29. View of andesite cut-stone block at the base of Feature 42 in Unit 16, Chucaripupata.

Stratigraphic evidence uncovered during the excavation of the buried north wall along the north edge of the platform indicates that this wall was constructed after the Tiwanaku IV period occupation. In places, the north wall cut through a number of features of the Tiwanaku IV period occupation, including two tombs (Features 15 and 53) and the small north-south canal, proving that the wall was placed after these features were no longer in use.

The accumulated evidence indicates that a major transformation in the character of the site occurred when the platform was constructed. With a substantial labor investment, thick and well-made walls, probably topped with courses of imported andesite cut-stone blocks, were placed around the upper portion of the natural ridge at Chucaripupata. Inside the eastern area of this enclosure, fill sediments were identified. These sediments rose to the height of the top of the unfinished portions of the exterior walls and were dated to approximately AD 652-675 (see Table 5.1). The walls and fill created a platform area, surrounded by a wall at least 2.0 meters high (Seddon 1998). The overall effect of this wall construction would have been to cut off the interior portion of the site from view from outside of the enclosure area. In other words, the significant labor investment completely transformed Chucaripupata. What had been an open ritual area and cemetery now became an enclosed and private area.

Ritual Architecture within the Upper Platform Enclosure

Excavation in Block B (Figure 5.30), and in Units 68, 74, and 75, exposed portions of the remains of a large nondomestic structure that was the major architectural feature on the upper platform. The largest portion of the structure was exposed in Block B. The northern boundary of this structure is formed by two thin walls, comprised of a single course of uncut local stones. For most of Block B, they run east-west and parallel to each other, forming a narrow corridor 45 to 50 centimeters wide. The floor of the corridor, located 1.23

meters below the Block B datum and only a few centimeters above the lowest course of stones from both walls, consists of a red-orange clay surface.

At the western end of Block B, the walls cross one another. At the point where the walls intersect, stones are intercalated, indicating that both walls were constructed at the same time. As the walls continue to the west, the original south wall (now north of the original north wall), continue to curve gently to the northwest. The original north wall curves slightly to the south, abruptly runs due west for 1 meter and then corners and runs north for 1 meter. Seventy-five centimeters along this new northward course, another wall segment branches to the west.

In sum, at their western end, the walls form a strange angular area. A small room-like area lies between the two walls, but no floor is present inside this room. The already difficult-to-interpret wall patterning is made more confusing by the fact that bedrock rises sharply in this region. It is visible at the base of the curving wall, and visible on the surface only 1 meter to the west of the edge of the block. Unit 63 was excavated in hopes of determining where the curving wall continued, but bedrock was found

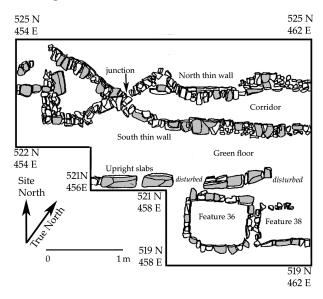


Figure 5.30. Plan view of the Tiwanaku V occupation in Block B, Chucaripupata.

within 50 centimeters of the surface, and no wall traces were encountered. Block B was not expanded to the west as bedrock was close to the surface.

South of the two walls, and two courses above the base of the walls, is a built surface of hard green clay that is remarkably level and free of artifacts. The green clay, which ranges from 5 to 10 centimeters thick, continues south for 1.2 meters to an alignment of large stone slabs or boulders, standing upright west to east and paralleling the other constructions in the block (Figure 5.31). Four of these upright slabs have been pushed out of line, falling to the northwest. The large slabs are interspersed with smaller stones to make a wall. The alignment of slabs was built directly on top of the green clay floor, although the floor does not extend beyond the slabs themselves.

Interior to, or south of, the row of upright slabs is a pair of rectangular features (Features 36, 38; Figure 5.32). The top of Feature 36, the westernmost feature, was encountered at 0.35 meter below the Block B datum, and consists of a 50 x 70 centimeter subterranean rectangular structure, 1.05 meters deep, nicely finished and lined with uncut stone.

Feature 38 is situated immediately to the south, and rocks from the north and south walls of both features abut. Like Feature 36, Feature 38 was originally a 50 x 70 centimeter, stonelined subterranean structure, approximately 1.0 meter deep. However, Feature 38 has been highly disturbed; many of the walls have been pushed into the feature itself, and the clearest evidence of the feature was found near the basal rocks. Both structures were filled with the same overburden that covers all other features at the site, and neither contained any in situ artifacts. These features are reminiscent of the stone-lined pits found in the early occupation, except that they are larger, deeper, and rectangular.

Units 68, 74, and 75 were opened three meters east of the edge of Block B to determine whether the walls and features identified in Block B continued to the east (Figure 5.33). Running across the middle of these units is another wall made of large upright slabs. About 1 meter north of the slabs is a thin wall, identical to the thin southern wall found in Block B. This wall curves slightly from northwest to southeast through the excavated area. Between the upright slabs and the thin wall are traces of the green clay floor. Lying on this floor was the face



Figure 5.31. View of upright slabs in Block B, Chucaripupata.



Figure 5.32. View of Features 36 and 38 in Block B, Chucaripupata.

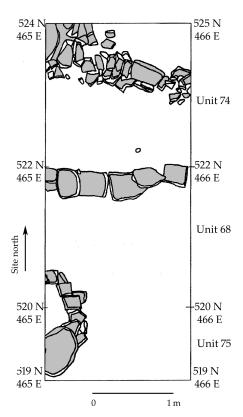


Figure 5.33. Plan view of constructions identified in Units 68, 74, and 75, Chucaripupata.

from a puma effigy *incensario* vessel. One meter to the south of the wall of upright slabs we found the eastern edge of another rectangular stone-lined pit (Feature 50). This feature is identical to Features 36 and 38 found in Block B in similar locations.

Overall, these features are clearly a continuation of the same features found in Block B. The walls and features of Block B and Units 68, 74, and 75 indicate that a large, nondomestic structure was located inside the platform walls (Figure 5.34). It consisted first of a pair of thin, curving, retaining walls. One function of the paired walls may have been to form a narrow corridor just exterior (north) of the large slab wall and associated green clay floor. A second function of the walls may have been to demarcate and block or control access to the other features south of, or inside, these walls.

Interior to the thin walls was a prepared green clay floor which was scrupulously clean. This floor is notably similar in color and cleanliness to greenstone floors identified in the Inca Sacred Rock area and on the second story of the Inca Pilco Kayma structure at the south end of the island (e.g., Bauer and Stanish 2001:171,

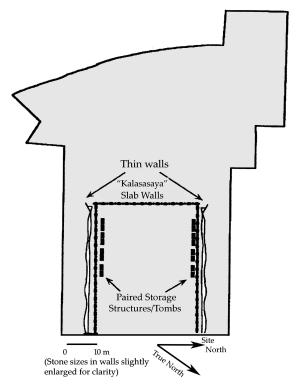


Figure 5.34. Hypothetical reconstruction of the large structure located within the upper platform enclosure, Chucaripupata.

206). The floor runs up to the largest wall of the constructions—the row of upright slabs. These slabs, the largest construction materials found at the site, were undoubtedly chosen for their size and form. Inside the slabs is a series of paired, rectangular, stone-lined pits represented by Features 36, 38, and 50. They are deep and finely made. This pattern may well have been repeated on the south portion of the upper platform enclosure.

The form and construction techniques of this structure strongly argue that it is nondomestic. Architecturally, the feature does not match known Tiwanaku period domestic structures in the Titicaca Basin. It is an order of magnitude larger than any domestic structure excavated by Janusek (1994), Bermann (1994), or de la Vega (1997) in Tiwanaku contexts in the region. The form of the structure—rectangular with few internal divisions other than the storage pits—does not resemble Tiwanaku houses or domestic barrios. The use of large upright, uncut, stone slabs is not a feature of Tiwanaku

domestic occupations. Furthermore, the clean floor located between the walls is not reminiscent of Tiwanaku domestic occupations, which typically are trash-ridden (Janusek 1994:106–107). No domestic features, typically associated with domestic occupations such as hearths, trash pits, middens, simple storage pits, or burials (e.g., Bermann 1994; Janusek 1994), were recovered in the area.

The absence of domestic trash and midden is typical of Tiwanaku ritual areas (Goldstein 1993:40). The structure also differs from a domestic structure identified on the first lower terrace of Chucaripupata (to be discussed later). In other words, the upper platform structure is not a domestic structure: it is strikingly different from other known Tiwanaku domestic structures, and it even differs from a domestic structure at Chucaripupata itself.

However, the form of the structure within the platform at Chucaripupata is strikingly similar to the Kalasasaya temple at Tiwanaku. The Kalasasaya temple at Tiwanaku is a large rectangular temple standing 4 meters above ground level and is approximately 129 x 119 meters (Escalante Moscoso 1994:173). A large staircase enters the temple from the east, with a monumental doorway aligned to catch the first rays of the equinoctial sunrises (Kolata 1993: 143; Posnansky 1957:55-71). The exterior walls of the temple are constructed of spaced, large upright stone slabs interspersed with smaller cut-stone blocks. The interior court area is flanked on the north and south sides by 14 rectangular structures made of cut stone which were originally sunken (although they are now reconstructed as superficial rooms) (Escalante Moscoso 1994:187).

The wall of large upright stone slabs interspersed with smaller stones found at Chucaripupata is similar to the exterior walls of the Kalasasaya temple at Tiwanaku. While the stones used at Chucaripupata are much smaller than the ones at Tiwanaku, the overall size of the Chucaripupata temple is smaller (it was probably originally 44 x 38 meters). In addition, the ratio of the dimensions of the temple at Tiwanaku (129:119 meters, or 1.08) is very similar to

the ratio of temple walls at Chucaripupata (44:38 meters, or 1.15). The slabs used for constructing the large wall of the structure on the platform at Chucaripupata are substantially larger than any building slabs used in any other constructions at the site. This makes them equivalent, in terms of relative magnitude, with the construction of the Kalasasaya at Tiwanaku.

The paired interior storage pits at Chucaripupata are reminiscent of the subterranean storage rooms at the Kalasasaya. They are located in the same relative position inside the temple area. While they are not constructed of cut stone as are the Kalasasaya rooms, the Chucaripupata storage rooms are still finely made. The rooms at Tiwanaku and these pits at Chucaripupata all lacked in situ materials at the time of excavation, suggesting that both sites contained highly valued items (ritual paraphernalia or perhaps mummy bundles) that were removed at the time of abandonment rather than left as trash.

The probable entrance of the structure at Chucaripupata was also located on the east. At the center of the eastern wall of the site, there is a gap where bedrock rises and forms a sharp ridge. Traces of steplike constructions were seen on the surface and in Units 1 and 2. While the traces are not conclusive, they suggest an entrance located to the east, in roughly the same area of the structure as the entrance to the Kalasasaya.

There are, nevertheless, some differences between the Chucaripupata structure and the Kalasasaya temple. The thin walls, exterior to the main upright temple wall at Chucaripupata, do not have a direct analogy at Tiwanaku, at least at the present. Nor are the interior storage structures paired at Tiwanaku as they are at Chucaripupata. However, it is still possible that the overall intent of the architecture of the structure was to mimic the Kalasasaya temple.

In sum, excavation revealed that remodeling of the site of Chucaripupata was laborintensive and resulted in profound modification of the site's previous character. The upper platform constructions created a private and restricted area where there had originally been an open public space. Where there had been a

relatively simple occupation, there was now a large temple, possibly modeled along the lines of a temple in Tiwanaku itself. Additionally, there appears to have been an increase in the population of the site at around this time, as evidenced by the recovery of a domestic structure from the first northern lower terrace.

Tiwanaku V Domestic Terraces at Chucaripupata

Excavations were conducted on the northern terraces below the upper platform in order to determine if a domestic occupation was present at the site. Based on experience at similar sites in the Lake Titicaca region, the lower terraces seemed the most likely area for domestic structures (Stanish et al. 1997). While the initial test unit (Unit 20) encountered only bedrock, subsequent excavation revealed the corner of what appears to be a structure exposed in Block A. Throughout the block, the first 20 to 30 centimeters below surface consists of plow zone. An intact structure was located under this zone. An earlier feature (Feature 22), cut by the later structure, was also located in this block (Figure 5.35).

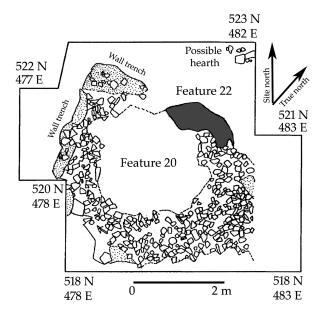


Figure 5.35. Plan view of Feature 20 (domestic) and Feature 22 (storage/disposal), Chucaripupata.

Stratigraphically, Feature 22 is the earlier of the two. It is a large, originally circular, bellshaped pit approximately 1.25 meters in diameter and 65 centimeters deep. The pit held a dark sandy clay loam that contained ceramics, lithic debris, camelid bone, camelid dental fragments, and scattered carbon. Toward the base of Feature 22 we found large clay nodules. These appear to be melted adobe bricks and were found with a dense concentration of carbon and ash that seem to be the remains of a hearth cleaning event. A carbon sample recovered from this context returned a calibrated age of AD 685 (see Table 5.1), in the early Tiwanaku IV period. Overall, this feature appears to have been a large storage pit that was later used for trash disposal. The southwestern half of Feature 22 was bisected by the later construction of Feature 20.

Much of Block A, which stretches from the north terrace wall of the upper platform to the recently reconstructed north terrace wall of the first terrace, was filled by a single construction, designated Feature 20. Feature 20 is a rectangular area defined by four collapsed rock walls (Figure 5.36). Around the edges of the collapsed rock area was a matrix that was distinctly softer than the surrounding clay loam. Excavation of the softer matrix revealed a series of wall trenches that define the exterior of a 4.0 x 2.6 meter structure. At the front of the structure, the wall trench cuts through Feature 22, indicating that the construction occurred after Feature 22 had been filled. The interior surface of the structure is a trampled, but otherwise unprepared floor with few intact artifacts and no features. A gap in the density of rocks on the northeast face may represent the area of a door.

The structure is not oriented evenly along the terrace. The terrace runs along the general contours of the terrain, slightly southwest to northeast. The structure, by contrast, is oriented so that the probable door faced magnetic north. Outside the structure, in the northeast corner of



Figure 5.36. View of Feature 20, Chucaripupata.



Figure 5.37. View of wall and roof collapse over the floor of Feature 20, Chucaripupata.

the block, is a small, square alignment of stone slabs, devoid of in situ materials, which may represent an external hearth or a small storage pit. Rock fall was present to the east of the structure, which may represent a portion of an adjacent structure.

Overall, the form of this structure is consistent with other Tiwanaku domestic structures. While it is not part of a domestic barrio like those identified at Tiwanaku and Lukurmata (Janusek 1994), it is similar to a number of small domestic structures excavated by Bermann on the north ridge at Lukurmata (see Bermann 1994:178-195, esp. Figs. 12.2-12.7, 12.36). Bermann recovered slightly more substantial floors; in fact, his houses were primarily defined on the basis of floor features. Bermann found hearths within nearly every one of his late Tiwanaku IV structures, but the outdoor patios contained hearths as well (Bermann 1994:195). Bermann had fewer intact traces of wall foundations, and no wall trenches, but the overall size and shape of the Lukurmata domestic structures compare favorably with the Chucaripupata Block A structure.

The number of wall stones associated with the Chucaripupata Block A domestic structure (Feature 20) is also significantly greater than one might expect for the typical Andean pattern of a simple foundation row of rocks with an adobe superstructure. In all probability, the walls of this structure were lined with stones to a height of nearly 50 centimeters before the adobe bricks were set in place. The current inhabitants of the island occasionally build this way, and I was informed that a high stone foundation wall prevents the base of the structure from retaining moisture and eventually disintegrating and collapsing.

Much of the floor of the structure was covered in dense rock wall fall, with a high density of charcoal among the rocks (Figure 5.37). Smashed onto the northeast corner of the floor was another dense concentration of carbon that appeared to be burned *ichu* grass or roofing

material. The high concentration of carbon, the fact that rock fall was primarily contained within the structure itself, and the presence of burned roofing material all indicate that at some point after abandonment, or perhaps causing abandonment, the structure burned and collapsed in on itself. A carbon sample recovered from the burned roofing material returned a calibrated date of AD 894, in the early Tiwanaku V period (see Table 5.1). The area of the burned building was then generally covered with a thin layer of organic and carbonrich midden, with a high density of ceramics, lithics, fauna, and other domestic trash. Although this midden was placed after the burning of the structure (either during occupation but still after the burning, or at a much later date during site reconstruction), and consequently is not necessarily related to the occupation of the structure, the form and size of the structure is consistent with that observed at other Tiwanaku period habitation sites (e.g., Bermann 1994), and the structure is probably domestic. The most likely origin for the materials is midden areas at the site, associated with domestic occupation.

While it was not possible to excavate other terraces, the evidence from Block A allows a preliminary reconstruction of the overall domestic component of the Chucaripupata occupation. The size of the terraces, the largest of which are only 10 meters wide, and the orientation of Feature 20 suggest that rather than being organized as patio groups (as Bermann [1994] found at the site of Lukurmata and de la Vega [1997] reports from the site of Sillumocco-Huaquina, near Juli), houses at Chucaripupata were spaced laterally along the terraces. These houses would have faced north (on the north terraces at least). This would expose the front of the house to the maximum amount of annual sunlight. Small, patio-like activity areas containing an exterior hearth may have fronted each house.

In all probability, only the first three terraces on each side of the upper platform were occupied, as the lower terraces are not wide enough for even small houses. These small ter-

races were probably utilized for cultivation. While the occupation was small, Chucaripupata was not an empty ceremonial center.

Dating the Tiwanaku V Occupation

The construction of the upper platform and the domestic terraces can be assigned to the Tiwanaku V period based on dates of charcoal samples recovered from the first fill event and the two major features on the first north terrace (see Table 5.1). A sample of burned wood mixed into the first fill event (OS-12678) was recovered from directly under the base of the northern upper platform enclosure wall in Unit 18. This sample was mixed into the fill events, and it represents a general date for the fill, providing a terminus ante quem for the construction of the wall. The sample returned a calibrated 2-sigma age range of AD 618-691, in the Tiwanaku IV period. The walls of the upper platform enclosure were therefore built at some point after the middle to end of the seventh century AD

Two dates from charcoal recovered in contexts on the first lower terrace—one from Feature 22 and the second from Feature 20's destruction—bracket the timing of the use of the domestic structure. The 2-sigma age range from Feature 22 (OS-12676) is AD 655-778. As this was in a pit cut by the Feature 20 house, the house was therefore built at some point after that date. The 2-sigma age range from the burned roofing material of Feature 20 itself (OS-12675) is AD 780-986. Although the house may have been occupied for a mere two years (using the end of the 2-sigma age range for Feature 22 and the beginning of the range from Feature 20, or AD 778-780), in all probability the house was constructed around the Tiwanaku IV/V transition and occupied during the Tiwanaku V period.

CERAMICS ASSOCIATED WITH THE TIWANAKU V OCCUPATION

Contexts dating to the Tiwanaku V period (approximately AD 800–1100) at Chucaripupata include features as well as several separate stratigraphic horizons. Features with contents

that securely date to the Tiwanaku V period include the domestic structure (Feature 20) and the associated trash pit (Feature 22). The second major context is the second fill event.

The second fill event is the largest single context at the site. The sediment appears, as in the first fill event, to have been derived from the domestic terraces and middens below the upper platform. It was utilized to bury the features of the final Tiwanaku occupation at the site. Artifacts from this final fill event represent an amalgam of activities at all areas of the site over all periods of its occupation. The fill contains small amounts of Inca diagnostic ceramics, and it appears that the fill event occurred during the Inca occupation of the island when they deliberately buried the site (Seddon 1998). However, most of the materials within the second fill event are related to the occupation of the site up to the moment of Tiwanaku abandonment. The second fill event includes evidence from earlier activities, like those contained in the first fill event, as well as any activities and artifacts that would have accumulated after the first fill event. As such, the artifacts from the second fill event provide a general, yet not entirely valueless, cross-section

of the types of materials deposited at the site and their correspondent inferred activities.

Although a wide variety of artifact types (chipped stone, ground stone, faunal material, and the like) were associated with the Tiwanaku V occupation of Chucaripupata, the predominant material recovered was ceramics. In the major Tiwanaku V contexts at Chucaripupata, while clear Tiwanaku diagnostic forms (see Janusek 1994; Seddon 1998) are present in low relative frequencies, most of the nondiagnostic vessels are consistent with those recovered at Tiwanaku period occupations (Table 5.5). A small percentage of the assemblage consists of fiber-tempered, Middle and Upper Formative vessels. These represent vessels from earlier occupations of the site that were incorporated into the sediments associated with later occupations. The vast majority of diagnostic vessel forms are Tiwanaku period vessel forms.

Of the identifiable Tiwanaku vessel forms, 80 percent represent *ollas* and *tinajas*, which are local cooking and serving vessels (Table 5.6). This high percentage is typical for Chucaripupata and other Tiwanaku period occupations at Tiwanaku and Lukurmata (Janusek 1994). Of the cooking/storage vessels, 84 percent are

Table 5.5. Frequency and percent of general vessel type by major depositional context, Tiwanaku V occupation, Chucaripupata

Context	Middle Formative- Decorated	Middle Formative- Undecorated	Late Formative- Decorated	Late Formative- Undecorated	Nondiagnostic, Non-Formative	Ollas and Tinajas	Diagnostic Tiwanaku Forms	Total
Domestic Structure	16	148	0	2	9,547	3,932	1,481	15,126
%	0.11	0.98	0.00	0.01	63.12	25.99	9.79	
Upper Platform Fill	99	1,074	0	4	46,938	16,832	2,831	67,778
%	0.15	1.58	0.00	0.01	69.25	24.83	4.18	
Total	115	1,222	0	6	56,485	20,764	4,312	82,904
%	0.14	1.47	0.00	0.01	68.13	25.05	5.20	100.00

Table 5.6 Frequency and percent of identifiable vessel type by decoration type, with vessel types grouped by major category, Tiwanaku V occupation, Chucaripupata

0 1 5	,	0	J .				1			1 1						
Vessel Type	Anthropomorphic	%	Band	%	Bird	%	Condor	%	Llama	%	Cross	%	Eye	%	Flower	%
Cooking/Storage	<u> </u>															
Olla	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Tinaja	1	6.67	1	6.67	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Serving																
Kero	9	5.11	33	18.75	1	0.57	0	0.00	0	0.00	1	0.57	15	8.52	2	1.14
Band Kero	0	0.00	6	28.57	0	0.00	0	0.00	0	0.00	2	9.52	1	4.76	0	0.00
Blackware Kero	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Kero/Tazon	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	9	40.91	0	0.00
Tazon	1	1.96	1	1.96	0	0.00	1	1.96	0	0.00	0	0.00	9	17.65	0	0.00
Blackware Tazon	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Сиепсо	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Blackware Cuenco							-		-							
Local Cuenco	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Escudilla	0	0.00	5	41.67	0	0.00	1	8.33	0	0.00	0	0.00	4	33.33	0	0.00
Vasija	1	4.17	2	8.33	0	0.00	0	0.00	0	0.00	2	8.33	4	16.67	0	0.00
Blackware Vasija	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Restricted Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Basin	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Serving Vessel Rim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ceremonial					,											
Duck Head	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Incensario	2	0.00	0	0.00	0	0.00	0	0.00	1	33.33	0	0.00	0	0.00	0	0.00
Recurved Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sahumador	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Wako Retrato	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Blackware <i>Wako</i> <i>Retrato</i>	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Unknown	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	14		48		1		2		1	0.25	5		42		2	0.49

^{*=}Total of identifiable decorated vessels

Continued on next page

^{**=}Percent of all vessels

^{*** =} Percent of vessels by major class (e.g., percent of cooking/storage, percent of serving, percent of ceremonial)

Table 5.6 Frequency and percent of identifiable vessel type by decoration type, with vessel types grouped by major category, Tiwanaku V occupation, Chucaripupata (continued)

	-	_	•			-										
Vessel Type	Geometric	%	Interlocking	%	Incised	%	Punctated	%	Sunburst	%	Titi	%	Vertical Line	%	Volute	%
Cooking/Storage													<u> </u>			
Olla	0	0.00	0	0.00	6	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Tinaja	1	6.67	0	0.00	4	26.67	7	46.67	0	0.00	0	0.00	0	0.00	1	6.67
Serving															l	
Kero	71	40.34	4	2.27	1	0.57	0	0.00	0	0.00	28	15.91	0	0.00	0	0.00
Band Kero	5	23.81	0	0.00	2	9.52	0	0.00	0	0.00	1	0.00	0	0.00	0	0.00
Blackware Kero	0	0.00	0	0.00	75	100.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Kero/Tazon	6	27.27	0	0.00	0	0.00	0	0.00	2	9.09	0	0.00	0	0.00	0	0.00
Tazon	11	21.57	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	16	31.37
Blackware Tazon	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Сиепсо	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Blackware Cuenco																
Local Cuenco	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Escudilla	1	8.33	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	8.33	0	2.00
Vasija	8	33.33	1	4.17	0	0.00	0	0.00	0	0.00	3	12.50	0	0.00	0	0.00
Blackware Vasija	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Restricted Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Basin	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Serving Vessel Rim	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Ceremonial																
Duck Head	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Incensario	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Recurved Bowl	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Sahumador	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Wako Retrato	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Blackware <i>Wako</i> <i>Retrato</i>	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Unknown	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Total	103		5	1.23	88		7		2	0.49	32		1		17	

^{*=}Total of identifiable decorated vessels

Continued on next page

^{**=}Percent of all vessels

^{***=}Percent of vessels by major class (e.g., percent of cooking/storage, percent of serving, percent of ceremonial)

Table 5.6 Frequency and percent of identifiable vessel type by decoration type, with vessel types grouped by major category, Tiwanaku V occupation, Chucaripupata (continued)

Vessel Type	Volute	%	Wavy Line	%	Total*	** ⁰ / ₀	Slipped	Too Small	Undecorated	Grand Total	** ⁰ / ₀	%Vessel Type***	
Cooking/Storage													
Olla	0	0.00	0	0.00	6	1.48	3	1	17,382	17392	69.37	83.76	
Tinaja	1	6.67	0	0.00	15	3.70	264	6	3,087	3372	13.45	16.24	
Serving							l					l	
Kero	0	0.00	11	6.25	176	43.46	528	564	28	1296	5.17	31.11	
Band Kero	0	0.00	4	19.05	21	5.19	73	134	1	229	0.91	5.50	
Blackware Kero	0	0.00	0	0.00	75	18.52	273	0	0	348	1.39	8.35	
Kero/Tazon	0	0.00	5	22.73	22	5.43	204	276	3	505	2.01	12.12	
Tazon	16	31.37	12	23.53	51	12.59	90	56	5	202	0.81	4.85	
Blackware Tazon	0	0.00	0	0.00	0	0.00	0	0	0	0	0.00	0.00	
Сиепсо	0	0.00	0	0.00	0	0.00	53	1	9	63	0.25	1.51	
Blackware Cuenco							1						
Local Cuenco	0	0.00	0	0.00	0	0.00	4	0	12	16	0.06	0.38	
Escudilla	0	2.00	0	0.00	12	2.96	5	6	0	23	0.09	0.55	
Vasija	0	0.00	3	0.00	24	5.93	106	48	3	181	0.72	4.34	
Blackware Vasija	0	0.00	0	0.00	0	0.00	12	0	0	12	0.05	0.29	
Restricted Bowl	0	0.00	0	0.00	0	0.00	19	3	2	24	0.10	0.58	
Basin	0	0.00	0	0.00	0	0.00	16	0	1	17	0.07	0.41	
Serving Vessel Rim	0	0.00	0	0.00	0	0.00	1178	46	26	1250	4.99	30.00	
Ceremonial													4166
Duck Head	0	0.00	0	0.00	0	0.00	0	0	0	0	0.00	0.00	
Incensario	0	0.00	0	0.00	3	0.74	40	9	22	74	0.30	51.75	
Recurved Bowl	0	0.00	0	0.00	0	0.00	2	1	0	3	0.01	2.10	
Sahumador	0	0.00	0	0.00	0	0.00	27	2	24	53	0.21	37.06	
Wako Retrato	0	0.00	0	0.00	0	0.00	7	2	0	9	0.04	6.29	
Blackware <i>Wako</i> <i>Retrato</i>	0	0.00	0	0.00	0	0.00	4	0	0	4	0.02	2.80	143
Unknown	0	0.00	0	0.00	0	0.00	0	0	0	0	0.00		
Total	17		35		405		2909	1155	20,605	25,073			

^{*=}Total of identifiable decorated vessels

^{**=}Percent of all vessels

^{***=}Percent of vessels by major class (e.g., percent of cooking/storage, percent of serving, percent of ceremonial)

ollas, while 16 percent are *tinajas*. These vessels are described in detail by Seddon (1998).

Tiwanaku diagnostic serving vessels make up only 5 percent of the total assemblage for the context. However, for the ceramics directly associated with the domestic structure, Tiwanaku serving vessels comprise almost 10 percent of the sample (see Table 5.5). As this context is more directly representative of the domestic assemblage for the period, the relative proportion of Tiwanaku diagnostic vessel forms does indicate affiliation of the site's occupants with Tiwanaku, or at least adoption of Tiwanaku ceramic vessel styles.

Despite the expected high frequency of cooking and storage vessels, there is a wide range of Tiwanaku serving and ceremonial vessel forms (see Table 5.6). The assemblage includes keros, tazones, cuencos, escudillas, vasijas, restricted bowls, basins, wako retratos, incensarios, recurved bowls, and sahumadores. Nearly all of the vessels are red-slipped and decorated with a variety of Tiwanaku motifs. Blackware vessels are present in the cuenco, kero, tazon, and vasija vessel groups. The serving/ceremonial sample is dominated by keros, which make up approximately 5 percent of all vessels for the context, and approximately half of the serving vessels. This is in contrast to earlier contexts at the site where keros represent nearly 10 percent of all vessels and 72 percent of the serving vessels. Tazones and vasijas dominate non-kero serving vessels in the Tiwanaku V occupation.

Blackware *keros* make up 22 percent of all *keros*. This is lower than the 30 percent of blackware *keros* in the Tiwanaku IV occupation. The decline in the amount of blackware suggests that the second fill event contained more materials dating to the Tiwanaku V period.

More ceremonial vessels were present in Tiwanaku V period contexts as compared with Tiwanaku IV contexts. Almost 75 *incensario* fragments and 53 *sahumador* fragments were recovered. Additionally, three recurved bowls, nine *wako retratos*, and four blackware *wako retrato* sherds were found. However, the pro-

portion of ceremonial vessels relative to all vessels remains low.

While the percentage of decorated vessels drops somewhat in the second fill, the range of decoration increases (see Table 5.6; Figures 5.38–5.43). About 4 percent of all vessels in this context are decorated (compared with 6 percent and 7 percent, respectively, in the early occupation and first fill). In addition to decorated keros, decorated tazones, escudillas, and vasijas, incensarios are also present. Decorative motifs on keros include pumas (Figure 5.38), geometric designs (Figure 5.39a-c), bands, wavy lines (Figure 5.39d), anthropomorphic motifs (Figure 5.40ac), eye designs (Figure 5.40d-f), and a single bird design (Figure 5.40g). Geometric motifs dominate the kero sample, forming 40 percent of the decorated kero assemblage

Other vessels display a wider range of decoration than was seen in the Tiwanaku IV contexts

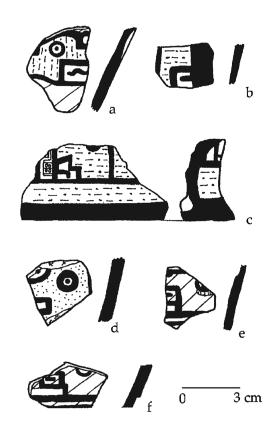


Figure 5.38. Examples of *keros* decorated with puma motifs from Tiwanaku V contexts at Chucaripupata.

at the site. *Tazones* exhibit geometric (Figure 5.41a–d), band, volute (Figure 5.41e–h), anthropomorphic (Figure 5.41i), and eye motifs, and possibly a condor motif (Figure 5.41j). *Escudilla* decorative motifs now include geometric designs (Figure 5.42a), bands and wavy lines (Figure 5.42b), eye motifs (Figure 5.42c), and a condor motif (Figure 5.42d). The condor motif seen on the *escudilla* sherd is the only definitive example of a condor motif recovered from the site. *Vasijas* exhibit geometric, band, eye (Figure 5.42e), and puma motifs (Figure 5.42f).

The number and quality of decorations on ceremonial vessels increase as well (Figure 5.43). Several decorated *incensario* fragments were recovered, including a collar fragment with a puma motif (Figure 5.43a) and a scallop from the body of a scalloped *incensario* (Figure 5.43b). *Sahumadores* are typically undecorated (Figure 5.43c), but decorated examples are present as well (Figure 5.43d). A decorated recurved bowl is also present among the finds (Figure 5.43e).

Nearly all these vessels appear to have been manufactured locally. Based on the composition of the pastes and tempers used in vessel construction, only a very small percentage of the vessels appear to have been manufactured at Tiwanaku itself (Table 5.7). Local pastes are clearly distinguished from Tiwanaku pastes (see Seddon 1998), and the local vessels, although in Tiwanaku diagnostic form and with Tiwanaku diagnostic decorations, are noticeably thicker and less finely made than vessels from Tiwanaku.

The percentage of ceramics with pastes indicating manufacture at Tiwanaku is slightly lower (0.09 percent of the total assemblage) than observed in Tiwanaku IV contexts at the site. Six kero sherds, five kero/tazon sherds, three vasija sherds, one recurved bowl sherd, two sahumador sherds, one tazon sherd, and nine tinaja sherds were manufactured at Tiwanaku and exported to Chucaripupata. Again, it is clear that serving vessels were the preferred import. However, the presence of imported

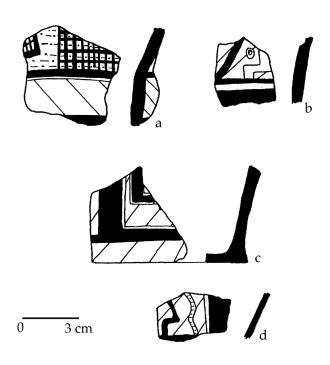


Figure 5.39. Examples of *keros* decorated with geometric and wavy line motifs from Tiwanaku V contexts at Chucaripupata.

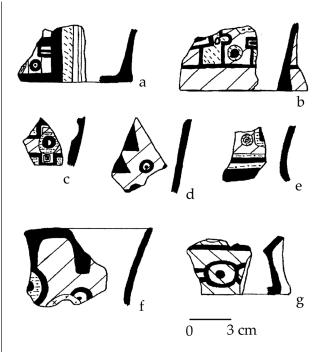


Figure 5.40. Examples of *keros* decorated with anthropomorphic and other motifs from Tiwanaku V contexts at Chucaripupata.

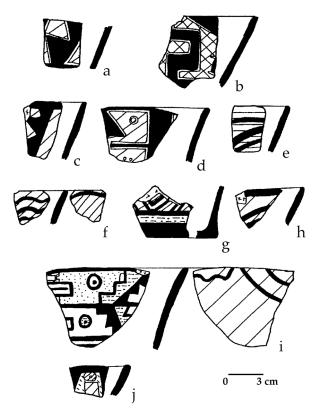


Figure 5.41. Examples of decorated *tazones* from Tiwanaku V contexts at Chucaripupata.

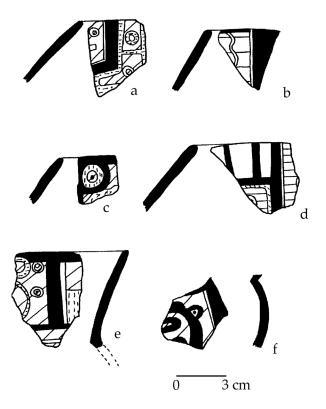


Table 5.7 Frequency of vessel type by paste type, Tiwanaku V occupation, Chucaripupata

	Pas	te Type
Vessel Type	Local	Tiwanaku
Band Kero	229	0
Basin	17	0
Black Cuenco	1	0
Black Kero	348	0
Black Tazon	0	0
Black Vasija	12	0
Black Wako	4	0
Cuenco	63	0
Duck Head	0	0
Escudilla	25	0
Incensario	74	0
Kero	1290	6
Kero/Tazon	500	5
Local Cuenco	16	0
Olla	17392	0
Recurved Bowl	3	1
Res. Bowl	24	0
Sahumador	51	2
Serving Rim	1250	0
Tazon	201	1
Tinaja	3363	9
Vasija	178	3
Wako Retrato	9	0

tinajas indicates that such jars and probably their contents continued to be brought to the site as well. However, the assemblage as a whole indicates local manufacture of classic Tiwanaku vessel forms.

Overall, a greater diversity of Tiwanaku ceramic vessel forms was recovered from Tiwanaku V contexts, along with a wider range of Tiwanaku decorative motifs (Seddon 1998). While most of the ceramics from the Tiwanaku V occupation of Chucaripupata were recovered from a single, large fill event, which is not an ideal context, the artifacts suggest an increasing use of Tiwanaku ceramic vessel forms and decorative motifs when compared with the Tiwanaku IV occupation.

(LEFT): Figure 5.42. Examples of decorated $\it escudillas$ (a–d) and $\it vasijas$ (e, f) from Tiwanaku V contexts at Chucaripupata.

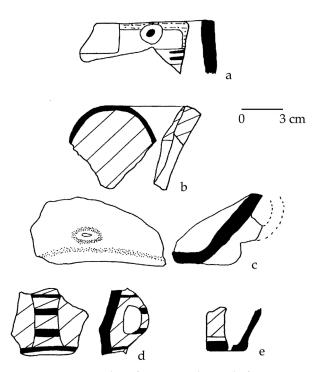


Figure 5.43. Examples of ceremonial vessels from Tiwanaku V contexts at Chucaripupata, including *incensarios* (a, b), *sahumadores* (c, d), and a recurved bowl (e).

NONUTILITARIAN ARTIFACTS FROM THE TIWANAKU V OCCUPATION

There are increased numbers of nonutilitarian artifacts associated with the Tiwanaku V occupation of the site. A single copper pin was recovered from contexts associated with the Tiwanaku IV occupation, but a disproportionately greater amount of copper was recovered from the second fill event. Copper artifacts include several pins or tupus, a number of fragments of sheet copper, a rectangular, thin sheet with a hole at one end that appears to have been used as part of a necklace, thin copper wires, and a ring. The second fill also contained ten turquoise beads of varying sizes and four tubular beads. There is a sudden appearance of a number of artifacts manufactured of precious materials. Two small fragments of sheet gold and one small gold disk were found. A single silver fragment with a curving motif reminiscent of a volute from some type of ornament was also recovered.

CONCLUSIONS

Test and block excavations at the site of Chucaripupata revealed that a complex and dynamic series of occupations and architectural transformations occurred at the site following a small occupation during the Middle Formative period. By far the largest occupation of the site occurred during the Tiwanaku IV and V periods. During these two periods, it is clear that occupants of the site were in contact with the expanding Tiwanaku polity. These contacts appear to have changed significantly over time, such that by the Tiwanaku V period, the site appears to have been remodeled and probably incorporated into the Tiwanaku polity.

The Tiwanaku IV occupation of Chucaripupata certainly is not the earliest occupation at the site, but it is the first well-preserved occupation. The surface of the hill was utilized in various ways, and the architecture and associated artifacts suggest a local occupation that was beginning to develop greater contacts with the emerging polity of Tiwanaku.

The area seems to have first been used for storage, perhaps associated with a domestic occupation below the ridge top. The ceramic assemblage outside of feature contexts consists of a high quantity of non-Tiwanaku wares. Tiwanaku diagnostic forms are present, but the choice of form and decoration is restricted. Tazones and keros are used almost exclusively and are predominantly decorated with geometric and continuous volute motifs. Janusek (1994:284-285) argues that continuous volute motifs are most commonly found at lakeside sites, and the volute design may represent waves or be an early variant of a contemporary Andean fertility symbol. I agree with this argument.

Tiwanaku import vessels and Tiwanaku vessel motifs are most frequent in specialized contexts. The contents of the trash pit (Features 25, 32, and 34) are dominated by highly decorated serving vessels, in quantities much greater than in other contexts at the site. Furthermore, three of the four tombs with grave goods contained Tiwanaku import vessels.

Additionally, formal offerings may have been made at the site utilizing the small canals in Block C, which may have been designed to drain liquid offerings from the center of the site. Given the close proximity of bedrock to the surface in the center of the upper platform, offerings may have been made to an exposed outcrop of bedrock. Alternatively, canals and drainage systems may have been constructed for the ritual manipulation of water in a manner similar to that documented at the Akapana pyramid at Tiwanaku, and at other Tiwanaku centers around the lake at this time (Kolata 1993:131–133). However, the correspondence is not exact. The drainage canals at Chucaripupata do not seem to have been designed to drain a large central sunken temple, as bedrock at the center of the site precludes construction of any such temple. Regardless, the canals are clearly nonagricultural and were utilized for the manipulation of liquids in ways broadly similar to, although not exactly mimicking, activities at other sites in the Titicaca Basin.

Contemporaneous with this formalized offering system at the site, or shortly after it closed down, a series of new and elaborate storage features were placed around the natural hill. These stone-lined storage pits probably stored food or ritual paraphernalia (or both) for large-scale feasting and redistributive events.

The area was last used as a cemetery. A variety of tombs were scattered over the hilltop. The tombs themselves, circular subterranean slab-lined cists, are of a local model, distinct from contemporary tombs at Tiwanaku and Lukurmata. While many were devoid of artifacts, those that had grave goods all contained Tiwanaku vessels, with one exception. In three cases, the offerings were directly imported from Tiwanaku. In another case, a local copy of a vasija was utilized. This strongly suggests that association with the Tiwanaku polity was a prestigious and desirable association to display in mortuary ritual. The vasija copy in Feature 52 only reinforces the prestige of Tiwanaku at this point. When an actual Tiwanaku artifact was not available, a copy was utilized. Nonetheless,

in terms of tomb structure and placement, the burials are not similar to those from core Tiwanaku polity sites such as Tiwanaku and Lukurmata. Overall, the ceramic and mortuary evidence suggests that although the Chucaripupata populace had extensive contact with the Tiwanaku polity, they maintained a distinctive local character.

The artifacts and architecture at Chucaripupata indicate that by the Tiwanaku V period, the site of Chucaripupata underwent a series of major transformations. These transformations occurred over what had been an important, but locally controlled area. During the Tiwanaku IV occupation, the natural ridge at Chucaripupata was a locus of feasting and redistributive events, ritual activity, and mortuary ritual. While there is substantial evidence of contacts with the emerging polity of Tiwanaku—local copies of Tiwanaku serving vessels were being produced, and, by the final use of the area as a cemetery, Tiwanaku artifacts were being imported for use in mortuary ritual—the early occupation still maintained a strong local, non-Tiwanaku character.

The site was changed dramatically at the transition between the Tiwanaku IV and V. The previously open ritual area was enclosed by a massive retaining wall. This wall encompassed both the major portion of previously domestic areas in the eastern portion of the site as well as large sections of exposed bedrock at the front of the site. The thick walls rose from bedrock to a substantial height and were probably topped with finely made cut-stone blocks. The overall effect of these walls was to segregate and restrict access to the interior portion of the site, thereby creating a private space.

Inside these walls, a large temple structure was erected. In overall form and construction technique, this building may have mimicked the Kalasasaya temple at the site of Tiwanaku. Large upright slabs interspersed with smaller fill stones were used to erect the outer wall. Smaller exterior walls, curving and in some sense decorative, created a narrow corridor just exterior to the temple wall. Interior to the

upright wall were paired subterranean storage structures built like similar structures in the Kalasasaya temple at Tiwanaku. While found empty, these probably contained either ritual paraphernalia, redistributive items, or mummies. The fact that these structures broadly resemble the circular subterranean storage structures from the early occupation suggests that similar ritual and/or redistributive activities were occurring in both occupations. By the later occupation, these activities were formalized, larger in scale, and occurred within a structure that announced the presence of the Tiwanaku state. Like transformations at Lukurmata (Bermann 1997:104), the Tiwanaku V occupation at Chucaripupata included the creation of architecture that mimicked constructions in the core area.

These changes are matched by corresponding changes in material culture. Ceramics from the second fill—the context most closely associated with the occupation of the site while the temple was in use—indicate a close affiliation with Tiwanaku. All Tiwanaku serving vessels were in use, following the Tiwanaku state canon. Simultaneously, it is clear from the lack of evidence for long-distance contacts that the inhabitants of Chucaripupata only interacted with Tiwanaku.

The transformation affected domestic life at the site as well, as evidenced by the construction of a house on the flanks of the upper temple. The house located within Block A cut into a pit, evidence of an earlier and smaller domestic component. The artifacts associated with this house are also similar to those found at Tiwanaku domestic occupations in the core area of the polity.

Nonetheless, Chucaripupata still maintained a certain local character. Differences between the Chucaripupata and Tiwanaku Kalasasaya temples, for instance, should not be dismissed. While the Chucaripupata temple was an imposed form—there is no earlier model on the island or elsewhere—it did not represent a precise attempt to copy the Tiwanaku temple. The thin exterior walls attest to slight differ-

ences in architectural planning and/or the activities at the temple. A degree of local flavor was maintained, although attached to a Tiwanaku state construction. It is also possible that this was a Tiwanaku state-directed construction, and that the differences in architectural form only reflect functional differences between the Tiwanaku capital temple and a provincial temple. The dramatic differences in form, coupled with the early highly local character of the site, suggest that, in contrast, there was a certain degree of local input and control in the construction and use of the temple itself.

Despite the retention of certain local attributes, characteristic of the overall segmentary nature of the Tiwanaku polity, the transformation of Chucaripupata indicates complete alignment with the Tiwanaku state in its later phases, if not an outright takeover of the site by Tiwanaku. A local population that had been establishing ties to Tiwanaku now became a Tiwanaku affiliate.

The combined temporal information from ceramics and radiocarbon dates strongly suggests that these transformations occurred at the Tiwanaku IV/V transition. Dates from the early occupation range from circa AD 600 to 700. A date from a trash pit on the initial terrace occupations concurs, showing occupation up to circa AD 750. The domestic terraces then underwent change, as a new house was built in the area of the older trash pit. At a minimum, this construction indicates that population was increasing, and older trash-disposal areas now had to be used for housing. It also suggests that domestic life on the terraces was fundamentally reorganized, with new areas used for living space.

The house was abandoned after AD 800, possibly as late as AD 1000. Therefore, the house was constructed around the time now designated as the Tiwanaku IV/V transition, between AD 750 and 850, and was occupied until its destruction sometime thereafter (and certainly by the end of the Tiwanaku V period). Ceramic evidence, particularly the declining proportion of blackware, also suggests that the transformations at the site straddled the Tiwanaku IV/V

transition. In all probability, as major changes occurred at the site of Tiwanaku between the Tiwanaku IV and V periods, simultaneous transformations occurred at Chucaripupata.

Changes in settlement on the island suggest that Chucaripupata was a major focus of Tiwanaku interest. During the Tiwanaku V period, Chucaripupata is one of only a few sites on the island with an occupation area larger than 2 hectares. The others are Titinhuayani, Apachinacapata, Wakuyu, and Palla Khasa. Of all these sites, only Chucaripupata and Titinhuayani exhibit surface evidence of substantial architecture like the temple enclosure walls at Chucaripupata. Testing at Titinhuayani revealed that the area of substantial architecture was constructed primarily in the Formative period. Chucaripupata is probably unique in the degree of labor investment during the Tiwanaku V period on the island. Several of the other sites have dense scatters of Tiwanaku ceramics on the surface, most notably Apachinacapata and Wakuyu. Excavations at Wakuyu revealed at least a large number of tombs with Tiwanaku materials, but the remainder of the site is unexcavated, and we have no clear information on the nature of the Tiwanaku period occupation there (Perrin Pando 1957). Of all the other large sites on the island at this time, Apachinacapata seems most similar to Chucaripupata in surface ceramics; it only lacks clear public architecture on the surface.

Additionally, during the Tiwanaku period, a line of sites appears along the western side of the island stretching from Apachinacapata in the south to Chucaripupata in the north. This line probably follows a road established at this time. Traces of this road are still visible along sections of the route. It appears that there was a fairly significant reorganization of settlement on the island at this time. The result of the reorganization established Chucaripupata as one of the major foci of labor investment, and a road was built to link a major site at the south end of the island, Apachinacapata, to Chucaripupata in the north.

In sum, the evidence indicates that the changes in power seen at Chucaripupata are also reflected in the reorganization of settlements on the island. From a fairly small occupation in the Formative period, Chucaripupata became one of the largest sites on the island, and possibly the site receiving the greatest amount of labor investment by the Tiwanaku polity. Several of the nucleated centers established in the Late Formative period were either abandoned or greatly reduced in size. A road was established from the south end of the island to Chucaripupata. This road was of sufficient importance that occupation became concentrated along it, in an area that had seen little previous occupation. While further testing at other sites on the island is needed to test the conclusions drawn from changing settlement patterns, there is evidence that the changes in power seen at Chucaripupata with the establishment of a Tiwanaku temple at a local site were also reflected on the rest of the island.

Excavations at the Site of Iñak Uyu, Island of the Moon

Brian S. Bauer, R. Alan Covey, and Joshua Terry

The Island of the Moon, also called Coati (or Koati), is located 8 kilometers east of the Island of the Sun and approximately 4 kilometers north of the mainland (Figures 6.1, 6.2). We know from Colonial writers that the Inca maintained a temple on this island dedicated to the moon and staffed largely by women (Pizarro 1986:46 [1571]; Ramos Gavilán 1988:120, 170-171 [1621: Bk. 1, Chs.18, 28]; Cobo 1990:95–99 [1653: Bk. 13, Ch. 18]; Salas 1901:30-54 [1618]). The remains of that temple, currently called Iñak Uyu (Aymara: iñak = women, uyu = enclosure), can still be seen on the island (Figures 6.3, 6.4). The temple contains an elaborate Ushaped structure, with multiple inner chambers and 11 enormous exterior niches, as well as a

series of terraces (Figure 6.5). It is one of the best-preserved prehispanic architectural complexes in the Andean highlands. In 1996, we conducted archaeological test excavations at the site to better understand its occupational history and the role that Iñak Uyu played in the development of complex society in the Lake Titicaca region.

THE SITE OF INAK UYU

The site of Iñak Uyu is located about 150 meters from the lake and stands at 3840 m.a.s.l. Squier provides a good description of the site and its surroundings in the 19th century:



Figure 6.1. View from the Island of the Moon toward the Island of the Sun.

The principal monument of antiquity on the island, and which leads to its chief interest, is the edifice called the Palace of the Virgins of the Sun, but which might probably better be called the Temple of the Moon. It is situated on the northern side of the island, about midway of its length, where the shore curves inwards like the crescent moon, conforming to a similar curve in the high ridge running through the island. In the lap of this natural amphitheater, its sweep of terraces lined with wild olive or quenua-trees, with their red trunks and dark foliage, stands the shrine of Coati. (Squier 1877:360)

The principal building at Iñak Uyu is constructed around a rectangular plaza that mea-

sures 56 x 26 meters (Figure 6.6). The south component of the principal building, built along the south side of the plaza, is about twice as long as its east or west wings.² It is made up of a single line of chambers that faces approximately 20 degrees east of magnetic north. Two of the rooms contain immense entryways, and there are five large external niches. The eastern and western wings of the principal building each contain three large external niches. As McArthur (1980:157) notes, the building is balanced but is not completely symmetrical. The east wing is longer than the west wing, although the west wing is larger than the eastern, as it contains a double row of rooms and a large space defined by a curved wall (Figures 6.7, 6.8).



Figure 6.2. The west end of the Island of the Moon.

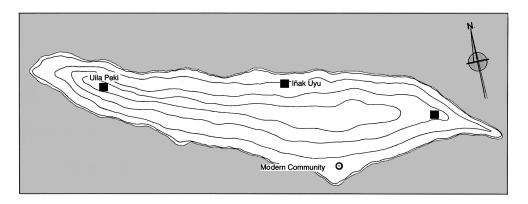


Figure 6.3. The Island of the Moon.

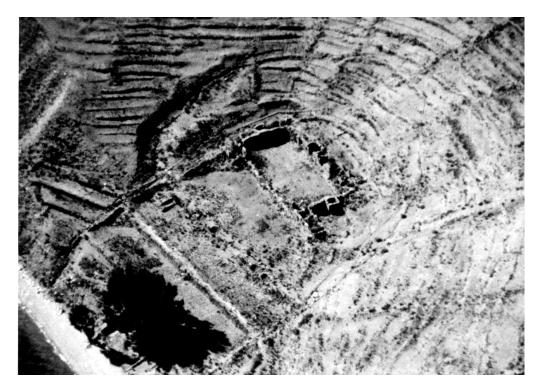


Figure 6.4. Aerial photograph of Iñak Uyu (Courtesy of Johan Reinhard).

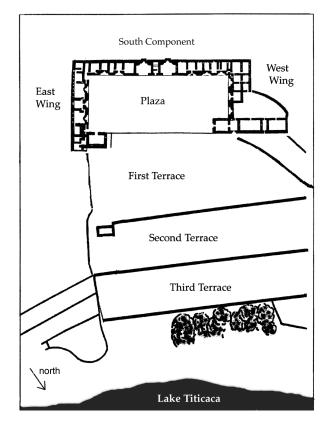


Figure 6.5. The site of Iñak Uyu.

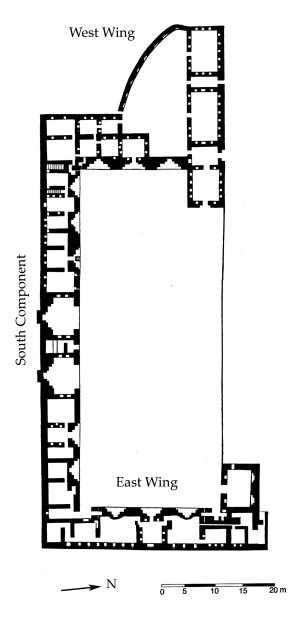


Figure 6.6. The principal structure at Iñak Uyu.

The chambers of the principal building were cut into the steep hill slope of the island, and parts are now buried as a result of centuries of erosion. Nevertheless, sections of 5-meterhigh walls, capped with cornices, still surround the plaza.³ Iñak Uyu remains, even in its rapidly deteriorating state, one of the most impressive Inca sites south of Cusco and perhaps the best-preserved Inca temple anywhere in the empire.

PREVIOUS RESEARCH AT THE SITE

The first modern reference to Iñak Uyu comes from Pentland's 1827 report. He furnishes both a plan of the site (Figure 6.9) and a detailed account that includes descriptions of its well-preserved staircases and adobe gables:

[f. 91] The Island of Coata or as it has been called by some the Island of the Moon, is situated to the East of that of Titicaca in Latitude 16°1′.00″ S. and Long 68°44′.00″. Its form is that of an elongated oval, its greatest length scarcely exceeding 2 1/2 miles: at present it is uninhabited, and uncultivated; it is the property of the same Page who has rented that of Titicaca.

The Island of Coata has acquired much celebrity in the country around from the extensive ruins situated on its Eastern side, which have been considered I know not on what authority to be the remains of a Temple dedicated to the Moon, hence the Island has been supposed to have been connected with the worship of that Divinity, and has thence received its present name, among [f. 91v] the Spanish colonists and their descendants: The tradition preserved among the Indians, however, informs us that this edifice was the residence of one of the Collas or wives of the Ingas, who remained here secluded whilst her Husband was absent in pursuit of his conquests towards Cuzco; this tradition is certainly the more likely of the two, judging from the architectural disposition of the Building, but the same tradition is silent as to the time of its construction and of the name of the Inga whose wife was its inhabitant.

This Palace or Temple is situated in a valley descending to the shores of the Lake, surrounded by groves of the Quenua tree, and by terraces planted with the same ornamental shrubs [f. 92] as those of Titicaca. The edifice consists in a range of small square chambers facing the East with a wing projecting at each extremity. On the Northern side and attached to the body of



Figure 6.7. The ruins of Iñak Uyu facing east (Photograph by Wiener in 1877, courtesy of the Peabody Museum, Harvard University, catalog number H9612).

the building is a semicircular Court surrounded by a number of high niches; into this court open several small chambers which according to the Indian tradition served as the residence of the Slaves of the Colla or Queen. The length of the facade of the edifice is 53 yards; in front there is an extensive court or terrace on which many of the chambers open. This terrace overlooking the Lake and commanding an extensive view of the opposite shores of Omasuyos and of the snow capped Cordillera of Soati, is followed by four similar terraces placed between it and the waters

edge. They communicate with each other by means [f. 92v] of stairs, and are supported on the shelving rock which constitutes this part of the Island by massive walls constructed of square blocks of stone, disposed as in the Rustic architecture of the Tuscan palaces. Those terraces appear to have served as pleasure gardens, and were covered with evergreens and flowering shrubs.

The walls of the principal edifice facing the Lake are 20 feet high, surmounted by a cornice and entablature on which a series



Figure 6.8. The ruins of Iñak Uyu facing west (Photograph by Wiener in 1877, courtesy of the Peabody Museum, Harvard University, catalog number H9610).

of triangular gables are raised. These gables supported the roof as in our modern constructions; from some traces which yet remain. This roof appears to have been formed of the coarse grass with which the Island is covered; in each gable there is an opening which served to transmit light into an upper [f. 93] story or range of apartments which existed throughout the extent of the edifice, except in the centre

where two chambers larger than the others, occupy the height of the building and appear to have been destined for the performance of Religious rites. The chambers and walls fronting the East are pierced with niches of different sizes some of which were merely intended to contain utensils of domestic economy, whilst the larger niches, and particularly those on the outside appear to have contained Statues

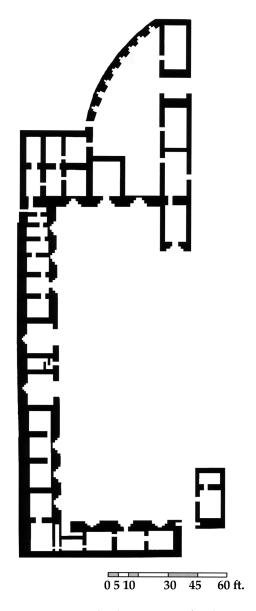


Figure 6.9. Pentland's 1827 map of Iñak Uyu.

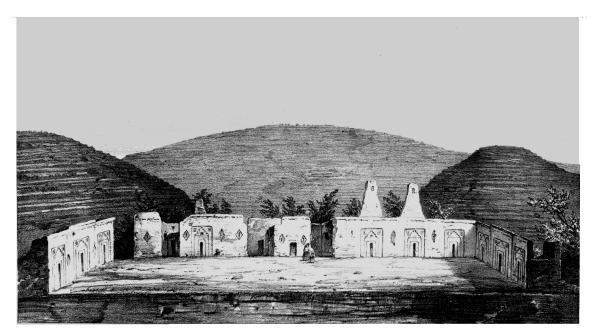
of the Peruvian Divinities such is the use assigned to them by the Indians, and which receives a confirmation from the discovery of fragments of a statue which I made among the rubbish surrounding the ruins representing the head of a male figure bound round with the [f. 93v] band or filled which distinguished the Inca and those of his Race. The Indians also preserve a tradition that a great number of

stone men and women to use their own expression were formed here by the first Conquistadors, who penetrated into the Island: which were partly thrown into the Lake with an immense mass of treasure to save these from invaders, and partly destroyed by the Spaniards as monuments of Pagan idolatry and superstition. (Pentland 1827: f. 91–93v)

In the paragraphs just cited, Pentland mentions that he found "the head of a male figure bound round with the band or fill which distinguished the Inca. . . ." It seems unlikely that this head was of an Inca, since similar figures are unknown in the Inca realm. However, other stone figures with headbands are common features of Tiwanaku art, suggesting that Pentland may have found a pre-Inca carving during his brief stay on the island. This carved head may have been later taken to Germany (Eisleb and Strelow 1975:86).⁴

Many of the 19th-century travelers who journeyed to the Island of the Sun also came to the Island of the Moon. Dessaline d'Orbigny (1835) visited the island in 1833 and provides a short description of the site as well as a reasonably accurate watercolor of it (Figure 6.10). Two decades later, Rivero and Tschudi (1851, 1853) mentioned the site. They provide a view of the front of Iñak Uyu that shows its final terraces, three wings, elaborate niche-entranceways, and stepped-diamond motifs (Figure 6.11). They also furnish a reasonable, although somewhat flawed, ground plan (Figure 6.12), and an imaginative reconstruction.

Squier, during his 1864 tour of the Lake Titicaca region, spent three days on the Island of the Moon, most of which was spent mapping the site of Iñak Uyu (Figure 6.13). At the time of his visit, the site was still well preserved. Squier wrote a detailed account of Iñak Uyu, and he provides an etching of the courtyard (Squier 1877:360–366; Figure 6.14). Fortunately, although not included in his book, four of his original photographs of the site have also survived. These are the earliest known photographs of Iñak Uyu (Figures 6.15–6.18).⁵



ERUINES D'UN TEMIPLE DES HNGAS, dans l'Île de Coati, lac de Titicaca (Bolivia)

Figure 6.10. Dessaline d'Orbigny's (1835) watercolor of the site of Iñak Uyu.

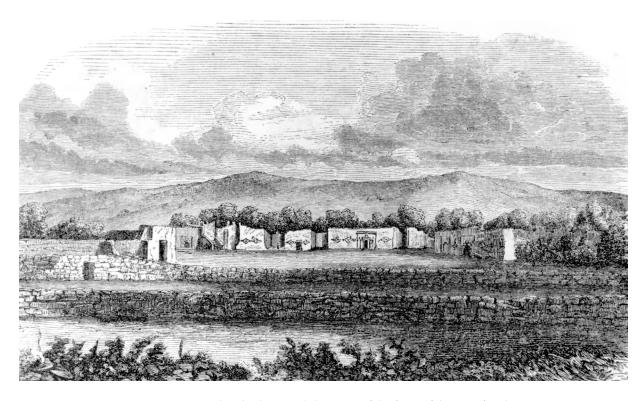
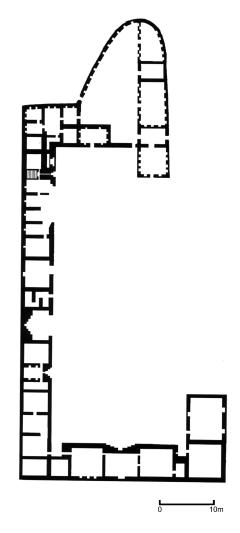


Figure 6.11. Rivero and Tschudi's (1853) depiction of the front of the site of Iñak Uyu.



(RIGHT):

Figure 6.12. Rivero and Tschudi's (1853) map of Iñak Uyu.

(BELOW):

Figure 6.13. Squier's (1877) map of Iñak Uyu.

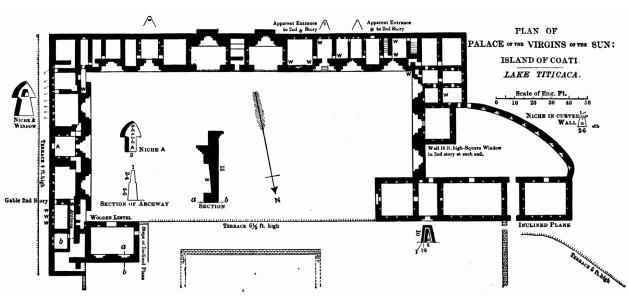




Figure 6.14. The courtyard of Iñak Uyu in 1864 (Squier 1877:360). Compare this image with Figure 6.15.

Thirteen years later, Wiener arrived in the Lake Titicaca region. In 1877, Wiener was near the end of a two-year trip to Peru and Bolivia, and he covered much of the area visited by Squier. Although his book gives little information on the Island of the Moon, Wiener (1880: 473, 489) does include two excellent drawings, one of the fine Inca terrace wall (Figure 6.19) and the other of a large exterior niche (Figure 6.20). Both of these drawings are based on photographs he took at the site. Finally, Max Uhle visited the islands for twelve days in September and two more days in November of 1894. His map of Iñak Uyu has recently been published (Wurster 1999:128–131).

Bandelier's Research on the Island of the Moon

Bandelier arrived on the Island of the Moon in 1895, only a few months after Uhle. He spent some 20 days on the island, noting that many of the details recorded by Squier, some 30 years earlier, had already disappeared (Bandelier 1910:263). Like Squier, Bandelier carefully inspected the site and provided a detailed discussion of the remains as well as a series of maps and illustrations (Figure 6.21). He also had permission from the hacienda owner to conduct excavations on the island. Bandelier was told that the buildings of the temple had been extensively looted, so he dug on the first terrace in front of Iñak Uyu.



Figure 6.15. The east and south façades of Iñak Uyu. Compare this photograph of the site with the image shown in Figure 6.14 (Photograph taken by Squier in 1864, courtesy of The Latin American Library, Tulane University).



(ABOVE):

Figure 6.16. The east façade of Iñak Uyu. Note the well-preserved cornices and the intact doorway at the far left (Photograph taken by Squier in 1864, courtesy of The Latin American Library, Tulane University).

(RIGHT):

Figure 6.17. The west façade of Iñak Uyu (Photograph taken by Squier in 1864, courtesy of The Latin American Library, Tulane University).



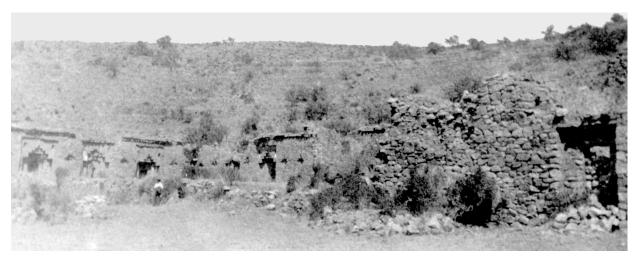


Figure 6.18. The first terrace of Iñak Uyu. Note the large doorway on the far right (Photograph taken by Squier in 1864, courtesy of The Latin American Library, Tulane University).

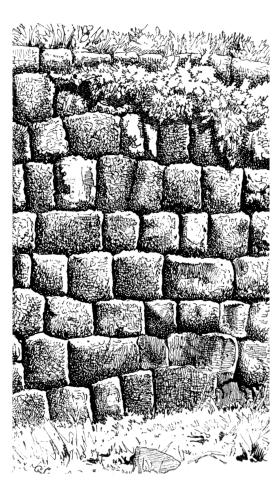


Figure 6.19. Classic Inca-style wall at Iñak Uyu (Wiener 1880:489).

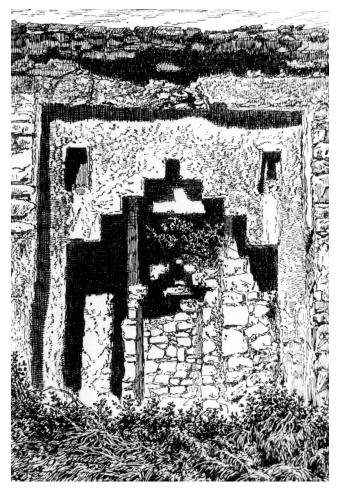
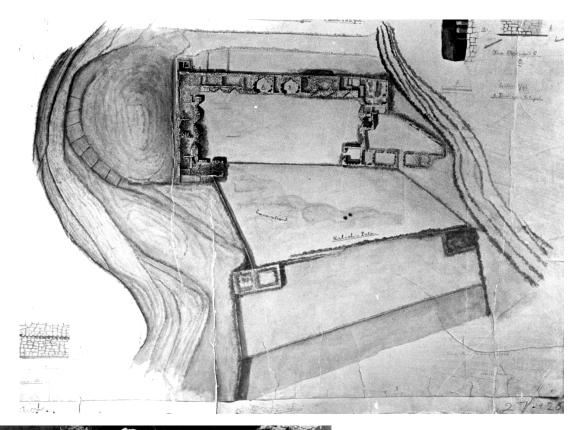


Figure 6.20. Large niche on the east wing at Iñak Uyu (Wiener 1880:489). Compare this image with Figure 6.22.





(ABOVE):

Figure 6.21. Bandelier's 1895 map of Iñak Uyu. Note the large excavation area on the first terrace (Photograph courtesy of the Division of Anthropology, American Museum of Natural History).

(LEFT):

Figure 6.22. Large niche on the east wing at Iñak Uyu. Compare this photograph with the image shown in Figure 6.20 (Photograph by Wiener taken in 1877, courtesy of the Peabody Museum, Harvard University, catalog number H9607).

RECENT RESEARCH ON THE ISLAND OF THE MOON

Over the past century, the Island of the Moon and its prehispanic remains have been mentioned in various works, although never in great detail. Among the most important of these are Posnansky (1912, 1920, 1933), Bennett (1933), Portugal and Ibarra Grasso (1957), Mesa and Gisbert (1966, 1972, 1973), Trimborn (1967), Gasparini and Margolies (1980), Ponce Sanginés et al. (1992), and Hyslop (1990). We have incorporated the most recent data from the Island of the Moon into this section, but we also rely on information provided by Pentland (1827) and Squier (1877), and to a lesser extent Bandelier (1910), all of whom saw the site in a better state of preservation than it is today. Pentland and Squier produced outstanding maps of the principal building at Iñak Uyu which show many details that have since been lost to erosion, looting, and vandalism.

In all, only about 40 percent of the principal building shown on these early maps is visible to-day. We made a new map of the remains, but this new map has been supplemented with many details provided by Pentland and Squier for the areas that have been destroyed or buried over the past century (see Figure 6.6). The areas of greatest losses include the back walls of most of the rooms of the south component, the back walls of the east wing, the cluster of rooms in the west wing, and much of the curved wall.

The Principal Building at Iñak Uyu

The principal building at Iñak Uyu contains eleven immense external niches as well as three sets of chambers surrounding a plaza or court-yard. The niches, which measure 3.0 meters in length and are 1.5 meters deep, are set into the exterior walls of the courtyard with quadruple jambs (Figure 6.22). The complexity of the building, along with its outstanding preservation, deserves a detailed discussion.

THE SOUTH COMPONENT. The south side of the principal building at Iñak Uyu is formed by a single line of rooms. Its plaza façade includes

five large niches as well as two rooms with large entrances (Figure 6.23). These two rooms are among the most impressive features of the site. Their slightly trapezoidal entrances are about 4.1 meters wide at their base and more than 4.0 meters tall. Since these enormous entryways are too large to have held doors, it is clear that the Inca architects intended visitors to view into the rooms from the plaza (Figure 6.24). Both of the rooms contain a large quadruple jamb niche countersunk into their back walls.

Standing nearly 5 meters high and more than 4 meters wide, these are perhaps the largest interior niches found in Inca architecture. The side walls of the rooms have two small niches each. Squier (1877:363) indicates that the floors of these rooms are raised approximately 4 feet above the plaza, an observation that was supported by our test excavations. Although not included in his plan, Squier also states that these rooms were reached by short flights of stone steps. The ceilings loomed some 5 meters above the floors, lending an almost cathedrallike atmosphere to their interiors. The central locations of these rooms, as well as their stairways, elaborate niches, large doorways, and high ceilings strongly suggest that they served special purposes.

An equally intriguing, although significantly smaller, room lies between the two rooms with large entrances (Figure 6.25). This smaller room was already buried under meters of sediment at the time of Bandelier's visit and continues to be buried today. Fortunately, Squier saw the room when it was still in good condition. He writes:

Between the two chambers which I have assumed to be the shrines of the Sun and the Moon is a smaller apartment, entered by a narrow door. The view inwards is cut off by a curtain or transverse wall, behind which is a kind of dais in stone, with a platform in front of it. We can only conjecture that this was in some way connected with the shrines themselves, and the ceremonies to which they were dedicated. (Squier 1877:363–364)



Figure 6.23. The south component of Iñak Uyu has two central rooms with large entranceways.



 $Figure 6.24. \ The \ east \ room \ with \ a \ large \ entrance way \ in \ I\~nak \ Uyu. \ Note \ the \ slightly \ trapezoidal \ entrance \ and \ the \ large \ interior \ niche. \ Excavations \ in \ the \ room \ revealed \ a \ well-preserved \ Inca \ floor.$

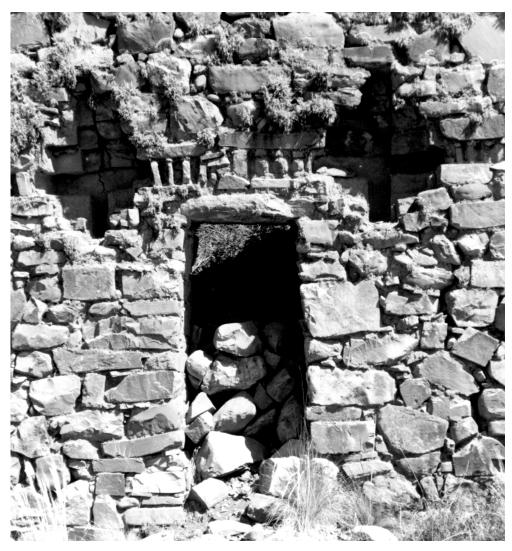


Figure 6.25. The entrance of the small chamber that lies in between the two rooms with large entranceways in the south component. The entrance to the small chamber is now blocked by wall fall.

This small room may have been even more elaborate as both Pentland (1827) and Rivero and Tschudi (1851) show it containing two curtain walls.

The south component of the principal building once had five exterior niches, two to the east and three to the west. These niches are now largely destroyed, but they can be seen in the earlier maps and photographs of the site. The niches on either side of the rooms with large entrances contained entranceways. Furthermore, the westernmost niche contained a small window, still visible today, which shed light into the chamber behind it. It is not clear

whether this window was a unique feature of this niche or if the other niches, now less well preserved, also contained windows.⁶

THE EAST WING. The east wing of the principal building at Iñak Uyu contains the best-preserved façade of the site. The central niche has a rectangular entrance which leads to the chambers behind it (Figure 6.26), and there is a single door-bar above the entrance on the interior wall (Figure 6.27). The central niche also has a higher external cornice than those of the flanking niches.



Figure 6.26. The east wing of Iñak Uyu. Note that the central niche contains an entrance (Photograph by Wiener taken in 1877, courtesy of the Peabody Museum, Harvard University, catalog number H9613).



Figure 6.27. Door-bar above the entrance on the interior wall of the east wing.

The east wing is an area of limited access and internally connected chambers. Most of the rooms do not have direct access to the plaza. The only entrances to the east wing are through the central niche and the northeast corner.

There are a variety of small niches throughout the principal building; however, the most notable are those running along the back wall of the east wing. Although now buried, it seems that the majority, if not all, of these niches were keyhole-shaped, with curved tops and rectangular bases (Figure 6.28).⁷ Most also had secondary niches in their curved tops.⁸ The other niches at the site, while of different dimensions, tend to be rectangular to trapezoidal in shape and do not have secondary niches.

Squier's and Wiener's photographs indicate that a large lintel once covered the northwest corner of the east wing (see Figures 6.7, 6.16).

This was most likely also true for the southwest corner of the wing, although it collapsed at an earlier date. Both of these two corners have unusual, dead-end corridors. Furthermore, Squier supplies a profile of an extremely narrow, vaulted passageway, now deeply buried (Figure 6.29), in the east wing that ran for nearly 6.0 meters and stood over 2.5 meters high. A small window passes through the dead-end corridor in the northwest corner of the wing and intersects with this vaulted passageway.

Finally, there is a single building standing beside the east wing (Figure 6.30). The foundation of this building is built on the first terrace, but its floor is level with the plaza. Squier's map indicates that this room contained two elaborate, double-jamb internal niches. It is now largely destroyed.



Figure 6.28. Partially excavated keyhole-shaped niche in the east wing of Iñak Uyu. This kind of niche has not been recorded at other Inca sites.



(LEFT): Figure 6.29. The function of this narrow, vaulted passageway in the east wing is not known.

(BELOW): Figure 6.30. The single building that once stood beside the east wing is now largely destroyed.



THE WEST WING. The plaza façade of the west wing is similar to that of the east wing. It holds three large niches. The central niche contains a rectangular entranceway, and there is a door-bar above it on the interior wall. The west wing also has a cluster of rectangular rooms in its south-west corner. Furthermore, a curved, niched wall defines the western edge of the wing. Squier (1877:364) suggests that this curved compound was once a corral. This seems unlikely given that the curved wall was decorated with niches and our excavations found a terrace and a canal crossing the enclosed area.

The northwestern area of the wing holds a line of four rooms and a passageway into the curved compound. There is an east-facing, double-jamb entrance that opens onto the plaza. There is also a north-facing entrance that enters onto the first terrace (Figure 6.31). With double jambs, a trapezoidal outline, and internal doorbars (Figure 6.32), this entrance is one of the most impressive features of the site.

THE EXTERIOR FAÇADE. The exterior façade of the principal building at Iñak Uyu is decorated with a number of ornaments. A linear motif with horizontal bars runs the length of the courtyard and is broken in places with stepped diamonds. The central rectangle of many, but not all, of these stepped diamonds forms a small passage, and provides light to the attached chamber (Figure 6.33). The smaller panels between the niches on the east and west sides held a single stepped diamond, and pairs of stepped diamonds were placed in the larger panels of the south component (Figure 6.34).



Figure 6.31. The north-facing entrance to the Iñak Uyu complex on the first terrace.



Figure 6.32. One of the internal door-bars of the north-facing entrance.



Figure 6.33. Detail of a stepped diamond at Iñak Uyu.



(RIGHT):

Figure 6.34. The exterior façade of Iñak Uyu contains a series of stepped diamonds (Photograph by Wiener taken in 1877, courtesy of the Peabody Museum, Harvard University, catalog number H9608).



(LEFT):

Figure 6.35. The hole in the middle of this wall, just below the second-story ledge, indicates that the floor was supported by a central beam. Also note in this photograph the now-blocked, second-story doorway.

The principal building of Iñak Uyu is made of fieldstones laid with mud mortar and covered with a thick coat of stucco. The plaster, which in places exceeds 20 to 30 centimeters in thickness, was used to shape the step motifs on the large niches, the curved tops of the keyholeshaped niches, and the rectangular elements for the stepped diamonds that decorate the exterior façade of the principal building. The stucco contains a large amount of locally grown ichu grass, and in many areas the builders added a rope matrix to help support the plaster. Two carbon samples taken from grass contained within the plaster of the principal building yielded radiocarbon dates of BP 445 ± 45 (AD 1505 ± 45)¹⁰ and BP 470 ± 50 (AD 1480 ± 50; see table 6.1).11

Table 6.1. Radiocarbon dates from the site of Iñak Uyu on the Island of the Moon

Site	Lab No.	Radio- carbon Age	Calibrated [*]
Iñak Uyu	1-18,554	1310 ± 80 BP	AD 590–950 @ 95.4% confidence
Iñak Uyu	1-18,629	$410 \pm 80~\mathrm{BP}$	AD 1400-1660 @ 95.4% confidence
Iñak Uyu	AA34942	$445 \pm 45 \text{ BP}$	AD1400-1630 @ 95.4% confidence
Iñak Uyu	AA34943	$1480 \pm 50 \; \mathrm{BP}$	AD 1320-1630 @ 95.4% confidence

^{*} Using OxCal version 3.8

Although only a few minute patches of painted stucco have survived, we know from earlier researchers that the outside of the temple was painted yellow and that the niches were painted a variety of colors including red, yellow, and white (Squier 1877:362; Posnansky 1912:69). All of these pigments can be produced from mineral deposits found on the Islands of the Sun and the Moon.

SECOND STORIES. Many of the buildings in the complex had second stories. The most important exceptions are the central rooms of the south component and the cluster of rooms in the southwestern corner of the complex. The

latter of these is located high on the hill slope, so their ground level is even with the second stories of the other rooms.

The plan of the upper story followed closely that of the ground level (Squier 1877: 362). The faint remains of entranceways connecting the upper-story rooms can be seen among the highest standing walls, and a few second-story niches have survived. The second-story floors were most certainly supported by wooden beams, which rested on shallow stone ledges on the internal faces of the walls. Many rooms have a hole in the middle of the wall, just below the second-story ledge, indicating that the floors were also supported by a central beam (Figure 6.35).

Rivero and Tschudi's (1851) map shows an internal stairway leading to the second story.¹² Squier (1877:362) confirms the presence of stairways at the time of his visit: "The upper story . . . was reached by stairways of cut stone, some of which are still perfect"; his plan illustrates two separate stairways near the west end of the south component. Bandelier (1910:263) notes that these stairs were no longer visible at the time of his visit, yet he includes three drawings of steps among his architectural details (Bandelier 1910: Plate LXXIV). Since the principal building is cut into a hill, many of the second-story rooms, especially those along the south component, could have been entered from the terrace behind the temple. Squier notes the location of two such back entrances on his map.

The second-story rooms were covered with steeply gabled roofs. The best evidence of this comes from the south component, where two gables can still be seen (Figure 6.36). Squier (1877:362) also drew and described these gables in some detail, and older photographs of the site reveal vestiges of gables along the east wing. The actual roofs would have been made of a thick covering of *ichu* grass, supported on a matrix of wooden rafters, typical of many buildings in the Andean highlands.

THE TERRACES. A series of broad terraces led from the temple toward the lakeshore. These terraces decrease in size as they descend the slope of the island. The first and largest of the terraces is called Kalich Pata. ¹³ This is where Bandelier conducted his excavations. The south wall of the second terrace presents the best example of Inca stonework on the two islands, and it is among the finest in all of Bolivia (Mesa and Gisbert 1966:61; 1972:134; 1973:23). This terrace wall is more than 70 meters long and stands at least 3 meters high. The wall has long attracted the attention of researchers to the island. The earliest etching of it was produced by Wiener based on a photograph taken at the site (Figure 6.37).

Squier states that the wall held an elaborate top:

The retaining-front of the second terrace below the court of the convent is of cut stones, admirably fitted, and along its top runs a wall of stones, breast-high—a kind of parapet or balustrade, pierced at regular intervals with openings, shaped like the niches. (Squier 1877:364)

Oddly, no other writer mentions such a parapet, and Wiener's detailed drawing of the wall and his photograph taken just 13 years after Squier's visit shows no evidence of it either. The wall is now in a poor state of preservation, with only a few sections of the original stonework still standing (Figure 6.38).

TEST EXCAVATIONS IN 1996

Our field research at the site of Iñak Uyu began in June 1996 and lasted approximately 25 days. During the course of the investigation, we made a new map of the site and excavated 15 test units. These units were concentrated within the principal structure as well as on the first terrace (Figure 6.39). The goal of our excavations was to determine the age and function of the standing ruins and to test for pre-Inca materials beneath them. Defining any pre-Inca component was particularly important, given that the architecture at the site included some apparently non-Inca elements. These elements have led researchers to question whether the standing architecture at the site was built during

Tiwanaku times (Portugal and Ibarra Grasso 1957) or if it was built during the period of Inca rule but in a style that incorporated local canons (Gasparini and Margolies 1980:264). Brief descriptions of the excavated units are provided below.

Unit 1 was a 1.0 x 3.0 meter trench located in the plaza of the complex. It was placed against the east wing of the principal building in front of its central niche. The ground surface was irregular because of wall fall, especially at the east end of the unit. Natural subsoil was reached within 50 centimeters, and the unit yielded no noteworthy artifacts or features.

Unit 2 (2.0 x 2.0 meters) and Unit 3 (1.0 x 2.0 meters) were placed near the center of the first terrace to investigate what appeared to be the remains of two stone canals. Excavations confirmed the presence of two converging canals in this area and exposed a dense collection of Inca-style ceramics, stone, and carbon. Among the recovered ceramics were fragments of a large plate with an approximate diameter of 35 centimeters and a small, nearly intact vessel. A minute piece of gold foil was also found.¹⁴

Unit 4 was a 3.0 x 1.0 meter trench located at the far eastern side of the first terrace in hopes of finding a trash midden. In the plow zone, we recovered various fragments of eroded pottery as well as three small scraps of gold foil. The middle levels yielded Inca-style ceramics, while the lowest provided Middle Formative, Upper Formative, and Tiwanaku sherds.

Unit 5 was a 2.0 x 1.5 meter excavation in the curved compound at the far western edge of the principal structure. The upper levels of the unit provided many examples of fine Inca-style pottery, while the lower levels exposed the remains of a terrace wall. The terrace wall defined a small east–west-running alleyway. Additional excavation in the unit revealed a small stone canal, covered with capstones, at the base of the terrace



(LEFT):

Figure 6.36. The remains of second-story gables and their large niches can still be seen at the site.

(BELOW):

Figure 6.37. The second terrace wall in 1877. Note the even, final row of stones on this wall. Also compare this photograph with the images shown in Figures 6.19 and 6.38 (Photograph by Wiener taken in 1877, courtesy of the Peabody Museum, Harvard University, catalog number H9609).

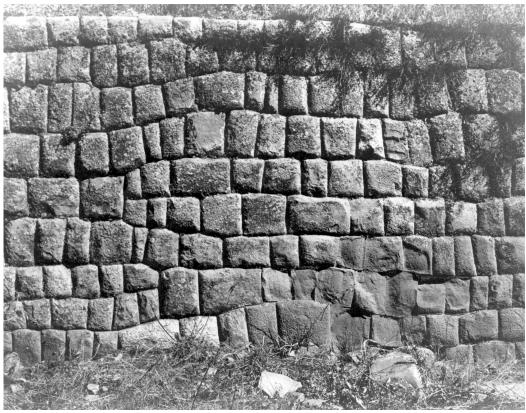




Figure 6.38. The second terrace wall is now in a poor state of preservation.

(Figure 6.40). The humid conditions of the soil suggest that this canal and others at the site were used to drain the area during the rainy season.

Unit 6 was a 1.0 x 3.0 meter trench in the curved compound at the west side of the site. The excavation unit was tangent to the southwest outer corner of the single square building in this area. The ground level was extremely uneven because of wall fall from both the square building as well as the circular wall. Several fragments of elaborate Incastyle pottery were recovered from the first levels of the excavation. At approximately 1 meter below the ground surface there was a distinct change to a darker brown sediment. There was also an increase in the amount of carbon and an irregular lens of cobbles that may be an occupation level. No Inca materials were recovered in the darker matrix, but

there was the sudden appearance of many Upper Formative and Tiwanaku ceramic fragments. Carbon from the darker sediment provided a radiocarbon date of 1310 ± 80 BP $(640 \pm 80 \text{ AD}).^{16}$

Unit 6A was a 2.0 x 2.0 meter square that overlapped with the western end of Unit 6. The unit was excavated to expose a slab-lined cist that was identified in the west profile wall of Unit 6. The burial was well constructed and undisturbed but yielded only a single fragment of pottery. The absence of any skeletal remains in the cist was the result of the high humidity of the surrounding soil.

Unit 7 was a 1.0 x 1.0 meter pit placed near the center of the curved compound area. The sediments proved to be relatively shallow, and no artifacts were recovered.

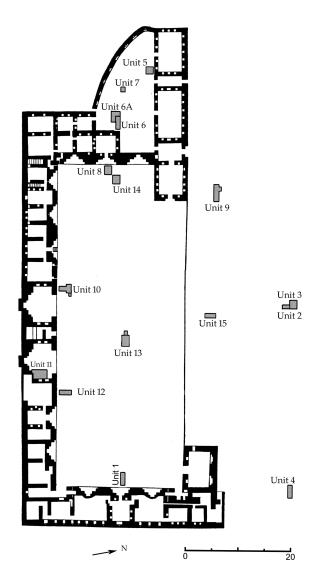


Figure 6.39. Test excavations at the site of Iñak Uyu.

Unit 8 began as a 1.0 x 2.0 meter excavation located at the western edge of the plaza; however, it was soon expanded into a 2.0 x 2.0 meter square as it became clear that this area contained pre-Inca materials. At around 40 centimeters below the ground surface, the remains of a narrow, east-west-running wall were found. Well beneath the wall, near the center of the pit, we encountered the badly disturbed remains of two cist burials. The only skeletal remains to be preserved were a few tooth fragments. The lower sediments provided examples of Middle Formative, Upper Formative, and Tiwanaku ceramics. Perhaps the most noteworthy finds were various incense burner (incensario) fragments, including a pair of Upper Formative puma heads (Figure 6.41) and a camelid foot (Figure 6.42) which were recovered adjacent to the cists. Another cist was identified in the west profile of this unit; however, it was left unexcavated. The burial area had been disturbed by extensive prehistoric digging activities and then reburied under more than half a meter of sand. Unit 8 also revealed the construction trench for the magnificent western façade of the building. The Inca dug a large trench through the pre-Inca deposits of the plaza area and filled it with a mixture of small stones and the natural subsoil of the island, followed by the stone foundation for the façade.

Unit 9 was a 1.0 x 4.0 meter trench placed on the western side of the first terrace. The excavation revealed that the area was extensively



Figure 6.40. A canal with capstones (now removed) was found next to an east–west-running terrace wall in Unit 5.



(LEFT):

Figure 6.41. An Upper Formative puma head incense burner recovered in Unit 8, in the courtyard of Iñak Uyu.

(BELOW LEFT): Figure 6.42. Modeled camelid foot from an Upper Formative incense burner.

(BELOW RIGHT): Figure 6.43. A slab cist burial was found in Unit 10.





disturbed. Nevertheless, three miniature silver *tupus* (pins), two miniature copper *tupus*, various small fragments of silver foil, and the shattered remains of several miniature Inca vessels were recovered. A small extension was also dug off the northern side of the unit to document the poorly preserved remains of a canal.

Unit 10 was located in the plaza against the exterior wall of the south component. It began as a 1.0 x 3.0 meter trench, but was expanded to form a T-shaped unit after a cist was found. Although the cist appeared to be undisturbed, it contained no skeletal or ceramic remains (Figure 6.43). An intact Tiwanaku kero was, however, found in the northeast corner of the unit (Figure 6.44). An additional 1.0 x 1.0 meter square (Unit 10A) placed in this corner yielded only a few additional artifacts.

Unit 11 was a 2.0 x 1.5 meter excavation in the southeastern corner of the east room with a



Figure 6.44. Tiwanaku *kero* with a front-face god motif was recovered in Unit 8 in the courtyard of Iñak Uyu.

large entranceway in the south component. After removing more than 1 meter of wall fall, we found that the Inca floor of the structure was still intact and well preserved. Several pieces of burned Inca-style pottery were found pressed into the floor with carbon on top of them. The carbon was thickest in the southeast corner of the excavation and decreased toward the center of the unit. The large amount of carbon and the burned floor suggests a single event, perhaps a roof burning. Carbon collected from the room provided a radiocarbon date of $410 \pm 80 \text{ BP}$ (AD 1540 ± 80). A small (30 x 40 centimeter) square was dug near the east wall of the building to see what lay below the floor. The floor rests directly above the natural gravel sediment of the island.

Unit 12 was a 1.0 x 2.0 meter excavation located in the plaza, tangent to the southern wall, east of the two central buildings. Work in this unit recovered only a few fragments of eroded pottery.

Unit 13 was a 2.5 x 2.0 meter test pit, placed near the center of the plaza, and *Unit 13A* was a 1.0 x 1.0 meter extension to its west. Although the plaza has been heavily looted, a cultural sequence similar to that found in Units 6, 8, and 14 could be reconstructed. The lowest levels of the excavation, some 110 to 130 centimeters below the modern ground surface, were composed of a very dark brown loam which contained Middle Formative, Upper Formative, and Tiwanaku ceramics. Among the most noteworthy finds was a puma-head incensario fragment nearly identical to those found in Unit 8, and a piece of a large Tiwanaku V incensario (Figure 6.45). The poorly preserved remains of several cist burials (Figure 6.46) were found, as was a lens of small stones which may represent an occupation level. In post-Tiwanaku times, this area was extensively disturbed and remodeled. The lower portions of the hill slope were first filled with small cobbles. The entire area was then covered with 40 to 50 centimeters of sand to form a level plaza. Later still, a large looter pit was dug more

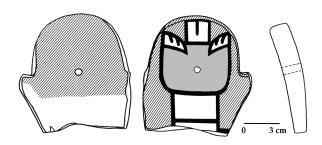


Figure 6.45. A fragment of a large Tiwanaku incense burner recovered in the courtyard of Iñak Uyu.

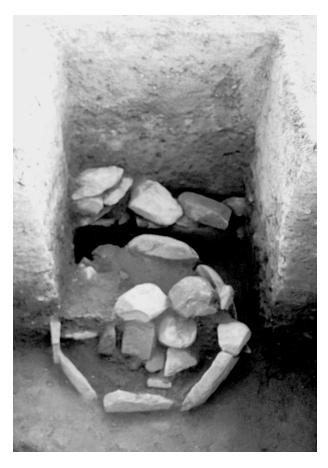


Figure 6.46. The remains of a slab cist burial in Unit 13.

than 1.50 meters into the plaza, cutting through the sand level, the cobble fill, the pre-Inca deposits, and disturbing two of the burial cists.

Unit 14 was situated at the western end of the plaza with its southwest corner tangent to

the northeast corner of Unit 8. The goal of Unit 14 was to further explore the thick sand level that was found in the northern half of Unit 8. In the course of the excavation, sand was again encountered between 50 and 60 centimeters below the modern ground surface. The sand proved to be some 60 centimeters deep on the south side of the unit and more than 1 meter deep on the north side. In the southern half of the unit, the sand rested above two narrow terrace walls¹⁸ as well as sediments containing Middle Formative, Upper Formative, and Tiwanaku materials. In the deeper northern half of the unit, the sand lay above a 70-centimeterthick cobble deposit, which in turn rests above the pre-Inca sediments.

Unit 15 was a 1.0 x 3.0 meter trench on the first terrace. The unit was dug to test for the remains of a "wall" that is shown on Squier's map but is not currently visible on the surface of the site. The area of this unit proved to be very disturbed, and no evidence of the wall was found.

Summary of Excavation Results at Iñak Uyu

Several test excavations were placed along the east, west, and south sides of the plaza, and one unit was positioned near its center. The western and central excavations ultimately reached more than 1.80 meters in depth. The lower levels of these excavations contained Middle Formative, Upper Formative, and Tiwanaku materials, most of which had been disturbed by Inca construction activities at the site. Although our excavations were small, they yielded several elaborate Tiwanaku and Upper Formative artifacts. The Middle Formative collections from these test units contained only domestic materials.

These excavations revealed that the Inca, in an effort to create a large, flat plaza area, first covered the lower, northern slope of the courtyard area with cobbles. Above this deposit of cobbles, and expanding to cover most of the plaza area, the Inca laid down a level of sand which in some places measured more than 1 meter deep. The cobbles could have been found immediately down slope from the site at the lake edge, while the sand was most likely extracted from the sand bar that forms the east end of the island.

Additional test excavations were made in the curved area near the west end of the principal building. These excavations yielded some Middle Formative, Upper Formative, and Tiwanaku remains as well as fine Inca-style ceramics. Another unit in a room in the south component exposed a well-preserved Inca floor.

Excavations in the plaza and in the curved area of the site also exposed nine cists (Figure 6.47). These tombs were polygonal in shape and were buried 0.5 meter to 1 meter below the modern ground surface. Many of the tombs had been looted or disturbed by post-burial activities. None of the cists contained artifacts. The only human skeletal remains preserved in these tombs were fragments of teeth.

A series of test units was also placed on the first terrace level of the site. Bandelier found two burials and many elaborate offerings during his massive excavations on this terrace. Although we found the terrace to be extremely disturbed, we identified the remains of three canals and recovered fragments of Middle Formative, Upper Formative, Tiwanaku, and Incastyle pottery. Among the more notable ceramic artifacts were various fragments of Upper Formative and Tiwanaku incense burners and fragments of a large Inca plate. We also found various pieces of miniature vessels that were frequently included by the Inca in burials and offerings. Despite the fact that the terrace has been extensively looted, three of the units contained small fragments of metal, including gold and silver foil.

Dating the Principal Building of Iñak Uyu The earliest researchers on the island accepted the chroniclers' statements and concluded that the principal structure at Iñak Uyu was built by Topa Inca and then later expanded by Huayna Capac. More recent investigators have, however, struggled with the fact that, like the site of Pilco Kayma at the southern end of the Island of the Sun, Iñak Uyu displays a mixture of clas-

sic Inca as well as regional Lake Titicaca architectural elements. For example, the trapezoidal entranceways, large niches, and gabled windows that are found in Iñak Uyu are common elements of Inca structures. On the other hand, the stepped-diamond motifs found on the façade of the central court are similar to those carved in stone at the site of Tiwanaku (Figure 6.48) and are not widely found in the Cusco region.

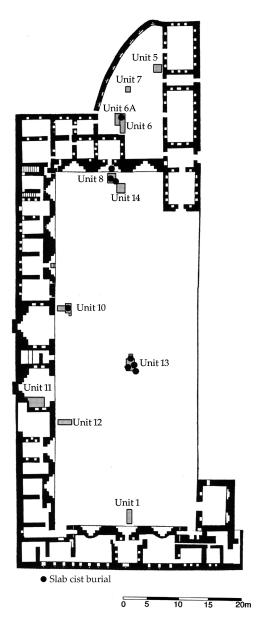


Figure 6.47. Distribution of slab cist burials found at Iñak Uyu.

Based on the fact that stepped-diamond motifs are rarely found in Inca state buildings, Portugal and Ibarra Grasso (1957) and McArthur (1980) propose that the principal building at Iñak Uyu was constructed during either the Tiwanaku period or the Altiplano period. Other researchers, such as Gasparini and Margolies (1980:264), argue that the Inca built the principal building, but included Tiwanaku-influenced decorative within much of the plaster work. The results of our investigations lend support to the latter of these views. While mapping the principal structure, we documented door-bars identical to those in Inca buildings of the Cusco region, in both the east and west wings, and excavations within the principal structure identified an Inca floor with no evidence of pre-Inca materials below it. In addition, grass samples collected from the plaster of the principal building yielded Inca period dates.

The use of Tiwanaku-influenced motifs during the construction of the principal building at Iñak Uyu should not be surprising since the Inca relied on local populations to provide much of the workforce for their projects. Cieza de León (1976:277 [1553: Pt. 1, Ch. 101]) sug-

gests the Inca drew upon the Colla to build the temple on the Island of the Sun. It is likely that they would have drawn on the same labor force to construct the buildings on the Island of the Moon.

The cut-stone masonry of the second terrace wall demands special attention in any architectural discussion of the site. The interlocking masonry of this terrace wall stands in sharp contrast to the earth and fieldstone edifices of the temple. One must ask why this wall, apart from all others on the two islands, was built using this extremely labor-intensive and clearly Inca building style. McArthur (1980:343), who suggests a pre-Inca date for the principal structure of Iñak Uyu, feels that this terrace wall represents the only Inca architectural component of the site. In contrast, we suggest that the architectural differences between this wall and the rest of the complex reflect separate construction phases during the Inca period. Such phases of construction are hinted at in the chronicles. For example, Ramos Gavilán (1988: 120 [1621: Bk. 1, Ch. 18]) states that although the temple on the Island of the Moon was established by one Inca, his son and heir felt a great need to enlarge and improve it.

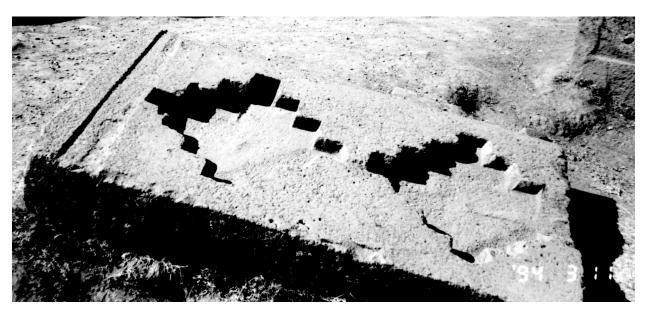


Figure 6.48. The stepped-diamond motifs carved in stone at the site of Tiwanaku are similar to those found at Iñak Uyu on the Island of the Moon and at Pilco Kayma on the Island of the Sun.

DISCUSSION

The chronicles suggest that the Inca constructed a temple on the Island of the Moon that was staffed by women. ¹⁹ The site of Iñak Uyu is most certainly that temple. On the basis of data recovered during our work on the island, and on the materials recovered by earlier researchers, we present a series of conclusions concerning the long-term occupation and use of this island by highland Andean cultures across several millennia.

Unlike the results of research on the Island of the Sun, surface collections and excavations found no evidence of Late Archaic or Early Formative remains on the Island of the Moon. This contrasts with work on the Island of the Sun that indicates occupations back to at least 2000 BC (Stanish et al. 2002). The lack of an early occupation on the Island of the Moon is not surprising given the limited resources of the island. We did, however, recover Middle Formative materials at the sites of Iñak Uyu and Uila Peki.²⁰ The Middle Formative materials were largely domestic, and no ritual or elite artifacts were present. In contrast, the Bandelier collection at the American Museum of Natural History contains a number of elaborately carved stone objects dating to the Middle Formative said to be from the Island of the Moon. Unfortunately, the original field provenience of these objects is in doubt. Although they were sent to the museum by Bandelier and are catalogued as being from the Island of the Moon, Bandelier does not mention them in his book. This is strange, since Bandelier provides extensive notes on the other objects he found during the course of his research on the island, many of which are far less noteworthy. Accordingly, although these stone artifacts are clearly Middle Formative in date and come from the Lake Titicaca region, we cannot be certain that they were actually found on the Island of the Moon.

The nature of the Upper Formative activities that occurred on the island is much clearer. Bandelier (1910) and Portugal and Ibarra Grasso (1957) found stone objects on the Island

of the Moon dating to this period, and several others are illustrated by Eisleb and Strelow (1975). During our stay on the island, we were shown a small stone figure that may date to the Upper Formative period. Furthermore, our excavations recovered a large number of Upper Formative incense burners at Iñak Uyu. Bandelier (1910:275) states that the Island of the Moon was of little importance in pre-Inca times, and that it was only after the conquest of the Lake Titicaca region by the Inca that a shrine was established on it. Our investigations suggest a very different view of the history of this island. The recovery of numerous Upper Formative, ritually significant artifacts at Iñak Uyu indicates that the special nature of the site was already present or being established during this period.

Elite artifacts were used and offered at Iñak Uyu during Tiwanaku times. Our test excavations in the plaza recovered high-quality Tiwanaku ceramics including an intact *kero* with a front-face god motif and fragments of large incense burners. At least six gold Tiwanaku pumas and one silver one have also been recovered on the island (Bandelier 1910; Eisleb and Strelow 1975:94–95).²¹ These artifacts indicate that the Island of the Moon was held in high regard during Tiwanaku times and that the Tiwanaku state may have supported ritual activities on it.

The Altiplano period occupation on the island remains obscure. Excavations at Iñak Uyu and surface collections at Uila Peki yielded only a few Altiplano period pottery fragments. There appears to have been a population decline on the Island of the Moon during this period, although the magnitude of this decline and the nature of the activities on the island during it require further research.

Excavations indicate that the earlier occupations at Iñak Uyu were subsequently disturbed by the Inca. What had been a hill slope during pre-Inca times was filled with cobblestones and sand to form a level plaza. The Inca then constructed the elaborate architectural complex that still dominates the site today.

The forms of the structures were influenced by Lake Titicaca traditions as well as by those of Cusco. The recovery of high-quality artifacts, including large serving plates, fragments of copper, silver, and gold items, as well as fragments of miniature vessels, stress the special nature of the site for the Inca (Figures 6.49, 6.50).

Extensive wealth was extracted from the island after the arrival of the Spaniards. Some of the gold and silver objects may have been taken for Atahualpa's ransom, and it is docu-

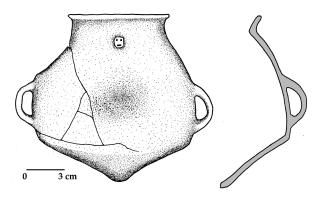


Figure 6.49. An Inca vessel recovered at Iñak Uyu.

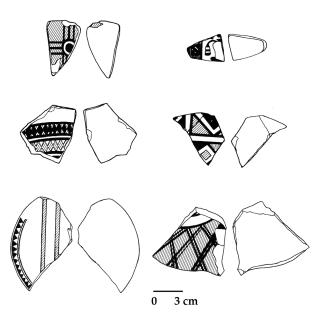


Figure 6.50. Examples of fine Inca-style ceramics found at Iñak Uyu.

mented that numerous gold and silver objects were extracted in the early 17th century to help defray construction costs of the church in Copacabana. The religious importance of the Island of the Moon did not, however, end with the Spanish conquest or the looting of the island in subsequent decades. Elaborate Colonial period materials have been recovered from the island, including two spectacular ponchos. The existence of these textiles, like those purchased by Bandelier from a hacienda owner on the Island of the Sun, indicates that the Island of the Moon continued to be ritually important even after the Inca Empire had collapsed and the Spanish administration was in control of the Lake Titicaca region.

NOTES

¹Earlier researchers refer to this site by a number of names including Temple of the Moon and Palace of the Virgins of the Sun. In this work, we accept the name reported by Bandelier, Iñak Uyu, which continues to be used today.

²As with his description of the Sacred Rock on the Island of the Sun, Bandelier was disoriented in his description of Iñak Uyu. Throughout his discussions, he refers to the south component of the site as the western part.

³ Bandelier (1910:265, Plate LXXIII) suggests that the complex at one time may have been more elaborate, citing evidence of a small structure behind the principal building.

⁴ Many objects from the Island of the Moon can be found in various museums and private collections. For example, the Museum für Völkerkunde in Berlin contains an extensive collection of materials from the Island of the Moon gathered by several individuals between 1880 and 1910 (Eisleb and Strelow 1980:86, 89, 94–95). These items include a carved stone head, two small stone figures, and a carved stone cylinder, all of which date to the Upper Formative or Tiwanaku times. In addition, the museum owns four metal pumas, one etched on silver sheet and three on gold sheet. These pumas are nearly identical to those recovered by Bandelier during his excavations on the island.

Important post-Conquest objects have also been found on the island. Posnansky (1957:70–71: Plates XLVc, XLVIa, c) illustrates three Colonial-era wooden *keros* from the Island of the Moon at the Tiwanaku Institute of Anthropology in La Paz (now the National Institute of Archaeology). However, the most remarkable artifacts said to be from the island are two Colonial-era

ponchos illustrated by Posnansky (1957:136-138, Plates XCVIIa, XCIX). The first is in a private collection, and the second is owned by the Museum of the American Indian.

⁵ Edward Pickering of the Harvard University Observatory visited the Island of the Moon in 1892. His photographic collection in the Peabody Museum contains a dark, offshore picture of the Iñak Uyu terraces (catalog number H9605).

⁶ Looters have dug into the back walls of most of the niches, so it is difficult to determine whether the niches ended with a simple back wall or contained small windows or secondary niches.

⁷ Squier illustrates two of these on his plan of Iñak Uyu and Bandelier (1910: Plate XXXVII) shows a similar niche at Pilco Kayma.

⁸The niche directly behind the central entranceway to the east wing is larger than the other niches of the wing. Although Squier's plan indicates that this niche did not have a secondary niche in its curved top, our inspection of the site suggests that it did.

Also see the drawing by Rivero and Tschudi (1851).

 10 AA 34942; ichu grass.

¹¹ AA 34943; ichu grass.

¹² Pentland (1827: f. 92v) also mentions stairs at the site.

¹³ Squier's map of the site includes a wall segment near the middle of this terrace, several meters from the upper platform wall, and one of his photographs shows an elongated rock pile in this area. However, test excavations by our project (Unit 15) in this area found no remains of a wall.

¹⁴ The gold foil measured 9 mm x 6 mm.

¹⁵ The gold foil fragments measured 4 mm x 2 mm, 4 mm x 3 mm, and 4 mm x 3 mm.

¹⁶ Teledyne I-18,554; wood charcoal.

¹⁷ Teledyne I-18,629; wood charcoal.

¹⁸ Currently, it is unclear if these terrace walls represent the remains of the pre-Inca occupations on the island or were constructed in the plaza by the Inca while it was being filled with sand.

¹⁹ David Dearborn studied the remains of Iñak Uyu in 1996 and found no significant relationship between the orientation of its buildings and the movements of the moon.

²⁰ The site of Uila Peki is located at the west end of the Island of the Moon (Bauer and Stanish 2001).

²¹ These pumas are virtually identical to ones found on the Island of the Sun (Eisleb and Strelow 1980:95), in the lake near the Island of the Sun (Ponce Sanginés et. al 1992; Reinhard (1992a, 1992b), and at the site of Tiwanaku itself (Posnansky 1957: Plate XCII).

Appendix: Sites Discovered on Systematic Survey

Charles Stanish and Brian S. Bauer

SITE NUMBER: 001 (FIGURE A.01)

Name: Colcapata, Collacapata, Colca-pata

Size: 0.60 ha (and see Site 002)

Function: Habitation, cemetery, possible corpo-

rate architecture

Periods: Middle Formative, Upper Formative,

Altiplano

Description: Colcapata is located near Challapampa on a low hill directly above the village. The site was first noted by Bandelier. He drew a ground plan (1910: Plate XXIV) and described the site:

> "Challa" means sand, and the isthmus fully deserves the name. It is a narrow strip of white sand. On the north, it abuts against a low rocky butte called "Collca-Pata," beyond which a long peninsula, shaped like a foot extends eastward. Collcapata . . . is the gateway to the grassy and fertile swellings of Ciriapata . . . and Marcuni . . . which run out in the point of Uajran-Kala. . . . It is at Ciriapata and Collcapata, that we found the greatest number of burial sites declared by the Indians to be Chullpa. On Collcapata are a number of stone cysts [sic] of which we opened twenty-three, finding only four intact ones. With little difference, a few inches in extension and depth, they are like those described from Kea-Kollu Chico. Most of them had been rifled by the Indians long ago, and the positions of such skulls as are left leads to the suspicion of reburial. Artefacts were limited to pottery of the coarser kind and some stone implements. . . . The four well-prepared cysts [sic] had no covers, and the grave proper—the pit walled in with

rude blocks and slabs—began at a depth varying between sixteen and eighteen inches, whereas the depth of the cysts [sic] ranged from eighteen to thirty-two. Three shapeless stone heaps indicated as many "Chullpa" buildings, and the declivities toward the Lake are naturally graded, but supported by artificial walls transforming them into andenes. A wall of stone, nearly three feet in thickness, crossing the summit of the hill, was uncovered. We followed it for a length of fifty-eight feet. It showed better workmanship than that of the walls at Kea-Kollu, still the Indians insisted upon it being "Chullpa". Aside from the three stone-heaps, the long wall, the andenes and graves, Collcapata presented nothing of interest. (Bandelier 1910:176–177)

Bandelier's description of the site area and its topography is accurate. However, for analytical purposes, we have divided his site of Collcapata into two separate sites: Colcapata (001) and Yallipuncu (002). Colcapata is located on the southwest side of the area and Yallipuncu to the northeast on the side. Colcapata is badly looted and eroded, although some terraces are still visible. There are three to five distinct terraces around the hillside of 001, and its summit appears to be artificially flattened. Based on comparisons to sites in the Titicaca Basin (e.g., Stanish et al. 1997), this flat area most likely has a court or another kind of corporate construction. Bandelier excavated a number of tombs in this flat "plaza" area and on the first terrace below it. Located in an agriculturally rich area, the site was one of the principal Middle and Upper Formative settlements on the island. It contains thick middens and other evidence of long-term domestic habitation. Today, some maize is grown on the terraces below the site. Likewise, we observed that the Challa Bay located to the north of Colcapata provides rich fish harvests.

SITE NUMBER: 002 Name: Yallipuncu

Size: 1.0 ha (and see Site 001) Function: Habitation, cemetery

Periods: Middle Formative, Upper Formative,

Tiwanaku, Altiplano

Description: This site was first reported by Bandelier as part of Collcapata. It is indeed associated with 001 and is separated by a wall at the base of the hill. Unlike Colcapata, Yallipuncu has a Tiwanaku occupation. This is one of the reasons why we split Bandelier's

initial site designation into two sites (Figure A.01). Originally, there were three to five terraces at Yallipuncu, but these are now badly eroded.

SITE NUMBER: 003

Name: Ciriapata Size: 0.28 ha

Function: Habitation, cemetery, possible ritual Periods: Middle Formative, Upper Formative,

Altiplano, Inca

Description: The name "Ciriapata" was used by Bandelier to designate the naturally flat area on the Kalabaya Peninsula. This area contains Sites 003, 004, 005, 006, and 008 in our designation here (see Bandelier 1910: Plate XXV). Sites 004 to 006 are located near the lake edge and may be the same tombs excavated by Bandelier (Bandelier 1910: Plate XXVI). Bandelier excavated scores of below-



Figure A.01. Sites 001 and 002.

ground cist tombs on the Kalabaya Peninsula, noting that most of them contained undecorated pottery. In two below-ground tombs, he describes finding one black and one red *kero* (Bandelier 1910:179–180). These would almost certainly be Tiwanaku in date and would corroborate the date of Site 006 which had Tiwanaku materials on its surface.

Bandelier also describes a building that is now destroyed in the Ciriapata area. He notes that it was 9'4" x 6'9" in size with wellmade walls 18 inches thick that stood "about five feet above the ground." The structure had a doorway and a finely made lintel. He states that the building contained as fine an example of Inca stonework as any site on the island and that this structure was built alongside other structures that were much more rustic (Bandelier 1910:182). By his description, it appears that there was an Inca occupation at the site with a finely made structure and a number of domestic ones. Although we noted the presence of Incastyle pottery at the site, the remains of the buildings have long since disappeared, perhaps used in the construction of buildings in the nearby village of Challapampa. We have no mention of this particular site name in the chronicles, although it could have been considered part of Challapampa.

At the recommendation of our informants, we call this particular area Ciriapata. We recorded a light scatter of pottery with a full range of diagnostics, except Tiwanaku. There are a number of looted tombs, several of which were associated with human bone fragments.

SITE NUMBER: 004 Name: Unnamed

Size: 0.04 ha

Function: Cemetery

Periods: Middle Formative, Altiplano

Description: A cluster of looted tombs on the Kalabaya Peninsula. The site is most likely part of the Ciriapata complex that Bandelier excavated. The existence of Middle Formative and Altiplano pottery is explained by the general mixing of sherds over this area.

SITE NUMBER: 005 Name: Unnamed Size: 0.09 ha

Function: Probable habitation Period: Middle Formative

Description: An ephemeral site with a light scatter of Middle Formative pottery. It most likely represents a single household, although it could be the remains of looted tombs.

SITE NUMBER: 006

Name: Lawasani Size: 1.0 ha

Function: Habitation

Periods: Middle Formative, Upper Formative,

Tiwanaku

Description: A light scatter of pottery over a fairly large area. The site covers approximately 1 hectare on what would have been flat or gently sloping land. This was most likely a small village or hamlet that was utilized for a considerable period, from the Middle Formative through Tiwanaku times. It is possible that the *keros* that Bandelier found in the tombs of "Ciriapata" came from this area.

SITE NUMBER: 007 Name: Unnamed Size: 0.35 ha

Function: Habitation Period: Upper Formative

Description: A light concentration of Upper Formative diagnostics found on three to four terraces of the peninsula.

SITE NUMBER: 008

Name: Kuturwitu Size: 0.04 ha

Function: Habitation

Period: Inca

Description: A very light scatter of pottery on the northeast side of the hill called Kuturwitu. The site consists of at least one, possibly two terraces. This is most likely a single house on a favored location during the Inca occupation.

SITE NUMBER: 009 Name: Unnamed Size: 0.02 ha

Function: Habitation Periods: Altiplano, Inca

Description: A single domestic terrace with a light scatter of sherds. This is most likely a single house on a favored location during the immediate pre-Inca and Inca periods.

SITE NUMBER: 010 Name: Unnamed Size: 0.15 ha

Function: Habitation, cemetery (?) Periods: Middle Formative, Inca

Description: A scatter of sherds on the top of a low hill between Huayrankhala and the south side of Lawasani. It is a small site, with a few Middle Formative and Inca diagnostics, that covers no more than two terraces. The site most likely represents a single homestead occupied in the Middle Formative and later reused by the Inca.

SITE NUMBER: 011 Name: Marcunpata Size: 0.25 ha

Function: Habitation Periods: Altiplano, Inca

Description: A scatter of Inca and Altiplano period pottery on the hilltop area near mod-

ern reservoirs.

SITE NUMBER: 012 Name: Unnamed Size: 0.50 ha

Function: Habitation

Periods: Middle Formative, Upper Formative,

Altiplano, Inca

Description: A habitation site located near the lake. There are two very wide terraces about

25 x 50 meters in size that held several households.

SITE NUMBER: 013

Name: Kasapata

Size: 5.0 ha

Function: Habitation, tambo, ceremonial (?),

storage (?) Period: Inca

Description: See Bauer et al., this volume, Chap-

ter 3.

SITE NUMBER: 014

Name: Yacallipata

Size: 0.25 ha

Function: Habitation

Periods: Middle Formative, Upper Formative,

[nca

Description: A scatter of pottery on a low terrace. There are some well-made terraces in the area that are difficult to date with the surface data and that could have been built

during any time period.

SITE NUMBER: 015

Name: Unnamed

Size: 0.02 ha

Function: Habitation

Periods: Post-Middle Formative

Description: A small scatter of post-Middle For-

mative nondiagnostic sherds.

SITE NUMBER: 016

Name: Unnamed

Size: 0.20 ha

Function: Habitation

Periods: Middle Formative, Altiplano (?)

Description: A small scatter of Middle Formative pottery located on two terraces, about 20 meters wide (10 meters each) and approximately 100 meters long. The terraces are located about 100 meters from the lake edge. This is a good example of an early site located on the eastern exposure of the island.

SITE NUMBER: 017

Name: Iñukollo

Size: 0.02 ha

Function: Habitation and cemetery Periods: Inca through modern

Description: A single, square *chulpa* at the top of a hill. The *chulpa* is 5 x 5 meters in size and is built with fine cut stone. The *chulpa* is clearly prehispanic, almost certainly Inca in date. The pottery associated with this *chulpa* is nondiagnostic or modern and is dispersed in an area of about 75 x 75 meters.

SITE NUMBER: 018 Name: Pichiñchuani

Size: 0.12 ha

Function: Habitation

Period: Inca

Description: A single hamlet occupied during

Inca times

SITE NUMBER: 019

Name: La Raya de los Incas (Itanpata)

Size: 0.50 ha

Function: Wall and ceremonial platform

Periods: Upper Formative, Inca

Description: This site is composed of a long straight wall and a platform (Figures A.02–A.04). The wall defines the edge of the sanctuary area and is made with simple field-stones. It rises from the northeast slope of the island, crosses the summit, and drops down to the terraces of Chucaripupata on the other side. Informants say that the wall used to be more extensive and reached to the lake. The wall is almost cardinally oriented (354 degrees) and clearly demarcates the sacred areas of the island from the non-sacred. There are a few uncut, but possibly shaped, upright slabs in the wall today.

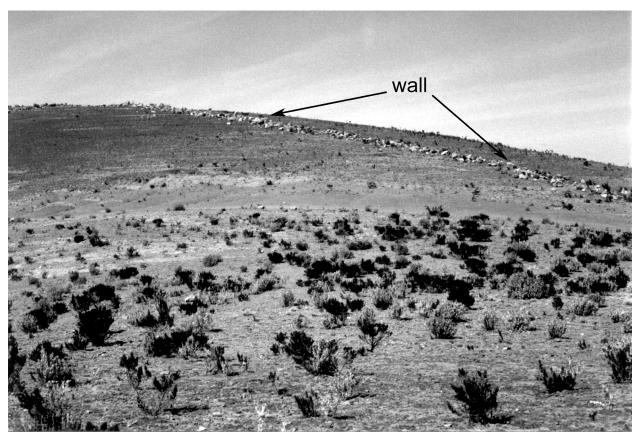


Figure A.02. Site 019, showing the low wall that separates the Sacred Rock area from the rest of the island.



Figure A.03. Site 019, with detail of the low wall.

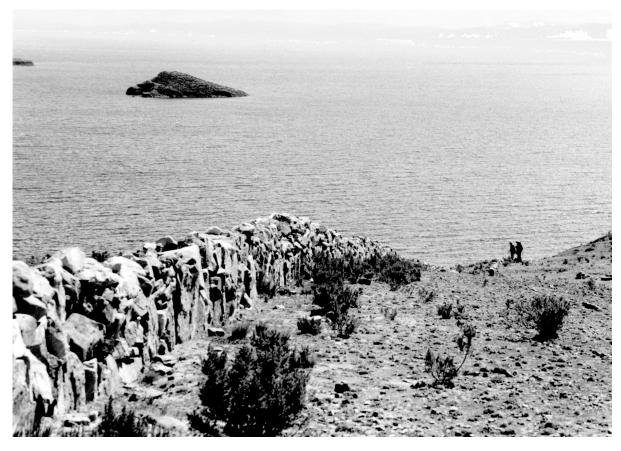


Figure A.04. Site 019, with detail of low wall reconstructed in 2001.

These stones suggest that the wall may have been constructed with upright slabs with smaller fieldstones in between them. This is a common construction pattern in the Lake Titicaca Basin.

La Raya de los Incas was originally described by Bandelier:

At that point [first sight of the Sacred Rock] . . . our attention was arrested by a ruined wall. What is left of it does not suggest good workmanship. Piles of rude stones and pillars of uncut rock form a line of débris to the crest of Murokato. They indicate that Itan-pata, as this wall is called today, was not intended for defense. It rises for a length of 546 feet [166 m], then crosses 35 feet [11 m] of level, and descends steeply 384 feet [117 m] more. . . . The wall, therefore, together with the andenes of Chucaripu . . . divided this end of the Island from the rest. (Bandelier 1910: 215)

The paved road from Kasapata to the Sacred Rock passes through this wall precisely at the point where the Sacred Rock is revealed for the first time. This entranceway into the sanctuary may have once been called Pumapuncu (Ramos Gavilán 1988: 94 [1621: Ch. 15]).

Along the wall, near the crest of this part of the island, there is a roughly rectangular platform defined by terraces and wall foundations. This platform, which we called Site 19 in our survey, contains a light scatter of Inca-style pottery and is about 50 x 100 meters in size. Bandelier (1910:215) also noted archaeological remains in this area, writing, "On the crest, outside of the wall, are faint vestiges of two quadrangular structures." This platform is the only constructed feature adjacent to the wall. Since the platform is located on the outside of the sanctuary, we presume that it was accessible by all pilgrims.

Work by Dearborn indicates that the platform aligns with the solstice towers on the northwest side of the island during the June solstice sunset (see Dearborn, Seddon, and Bauer 1998).

SITE NUMBER: 020

Name: Itanpata Size: 0.35 ha

Function: Ceremonial (?), habitation (?)

Period: Inca

Description: A few meters off the road, to the east of the entranceway, we found a light scatter of Inca-style pottery. This site is about 100 meters from Site 019. All of the artifacts are Inca. The site is heavily eroded by deflation. What is quite impressive is the fact that Sites 019 and 020 are both located on the east side of the wall and that there are no traces of remains on the west side. It is not surprising that the sanctuary was kept clean, while the area immediately outside of it was used for a variety of other activities. It is likely that Sites 019 and 020 as well as the north-south-running wall and the road all comprise an architectural complex at the entrance of the sacred area. Bandelier called the wall area Itanpata. Following our informants, we refer to the wall as "La Raya de los Incas" and the scatter as Itanpata.

SITE NUMBER: 021 (Figure A.05)

Name: Mama Ojlia (Iñak-Uyu)

Size: See Chapter 3

Function: Ceremonial, habitation (?)

Period: Inca

Description: See Bauer et al., this volume, Chap-

ter 3

SITE NUMBER: 022

Name: Chucaripupata (Chucaripu)

Size: 4.2 ha

Function: Habitation, ceremonial, cemetery

Periods: Middle Formative, Upper Formative,

Tiwanaku, Inca

Description: See Seddon, this volume, Chapter 5

SITE NUMBER: 023 (Figures A.06–A.09)

Name: Titikala, Titicala, Ticsikala, Ticsicala,

Thaksi cala, Sacred Rock

Size: See Chapter 3 Function: Ceremonial

Period: Inca

Description: See Bauer et al., this volume, Chap-

ter 3

SITE NUMBER: 024 Name: Tankotalaka

Size: 0.06 ha

Function: Habitation (?), ceremonial (?), quay (?)

Periods: Inca, Middle Formative

Description: A sparse concentration of pottery below the Sacred Rock area. The pottery is dispersed on the beach and on a low terrace. The pottery is not very dense but is very fine. This could have been an offering area, a quay for boats to land, a habitation site, or a combination of these. A few Middle Formative sherds were found as well.

SITE NUMBER: 025 Name: Chincana Size: See Chapter 3

Function: Habitation (?), ceremonial (?), storage

(?) Period: Inca

Description: See Bauer et al., this volume, Chap-

ter 3

SITE NUMBER: 026 Name: Unnamed Size: 0.08 ha

Function: Habitation

Period: Inca

Description: A single terrace near the lake with a light scatter of Inca-style pottery. This site is located on the lowest terrace of a cliff that drops to the lake edge. There is a spring situated to the southeast of the site. It is possible that this small site was part of the Chucaripupata agricultural area during the Inca period.

SITE NUMBER: 027

Name: Arcupuncu Size: 0.15 ha

Function: Habitation

Periods: Middle Formative, Tiwanaku

Description: A very light scatter of artifacts on two terraces near the lake. The 1962 air photographs shows the terraces to be much better preserved.

SITE NUMBER: 028

Name: Unnamed Size: 1.5 ha

Function: Habitation

Periods: Middle Formative, Tiwanaku, Altiplano Description: A scatter of ceramics and lithic artifacts on a number of low terraces on the upper slope of Tikani hill. The artifacts on the surface are not very dense. It is significant, however, that there seems to be a long occupation on this part of the Tikani hill. The site is located near the solstice markers (Site 180) and may be the source of the material that provided the early date discussed in Chapter 4.

SITE NUMBER: 029

Name: Unnamed Size: 0.75 ha

Function: Habitation Period: Middle Formative

Description: A very light distribution of pottery over several (about four) heavily eroded terraces. This is a Middle Formative hamlet associated with a set of terraces above the lake.

SITE NUMBER: 030 Name: Tikani Pampa

Size: 0.75 ha

Function: Habitation

Periods: Middle Formative, Upper Formative,

Inca

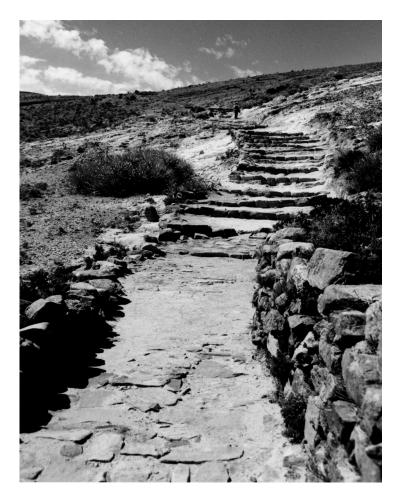
Description: A dispersion of pottery on a set of terraces. There is significant erosion on the north side, and colluvial deposits on the rest of the site may cover up additional terraces.

SITE NUMBER: 031

Name: Isla Khoa (Coa, Koa, Kowa, Qoa, Ccoa, Qowa, K'owa; see Reinhard 1992b:427)

Size: 0.15 ha

Function: Habitation (?), ceremonial (?)



(LEFT): Figure A.05. Steps from Site 019 to Mama Ojlia.

(BELOW): Figure A.06. The Sacred Rock area from Site 019.





Figure A.07. The Sacred Rock.



Figure A.08. The Sacred Rock.



Figure A.09. Niches in wall adjacent to the Sacred Rock.

Periods: Altiplano, Inca

Description: Bandelier briefly mentions the Island of Khoa but does not offer many observations, other than to discuss a natural "portal" that supposedly was the opening to an underground tunnel across the entire island. This island and the reef between it as well as the small island of Pallalla have, however, been described by Ponce Sanginés et al. (1992:329-418). He notes legends about underwater cities, submerged walls, and so forth near the island as related by local informants. Ponce Sanginés also mentions that there is no archaeological evidence of such constructions. We surveyed the entire island and only found a small and light dispersion of pottery on the southeast side. The pottery was heavily eroded but appears to date to the Altiplano and Inca periods. This site is most likely associated with the offerings discovered by Reinhard (1992a) on the underwater shelf to the east. Their publication (Ponce Sanginés et al. 1992) describes the extensive underwater archaeological research that has been conducted off of this island.

SITE NUMBERS: 032A, 032B

Name: Isla Pallalla

Size: 1.25 ha

Function: Cemetery, habitation (?), tambo (?),

ceremonial (?)

Period: Inca

Description: Pallalla was first described by

Joseph Barclay Pentland in 1827:

The four small Islands situated near to the Northern extremity of Titicaca also contain several ruins of [f. 90] former times, and although now barren and deserted, appear to have been formerly the seat of an extensive population: the most remarkable of these four Islands is that of Palalla, a small elongated sandy eminence surrounded by a wall to prevent the action of the waters of the Lake on its loose incoherent soil; throughout its extent on the re***ing [unreadable] the sand to an inconsiderable depth. Sepulchres containing human remains and a variety of antique implements are discovered; of those antiquities the small gold and silver figures which are sometimes met with, have rendered this Island celebrated, and caused it to be called the Isla de los Plateros (Island of Silversmiths). These figures represent a male and female personage, which [f. 90v] are evidently intended for the Inga and his Queen, and it is probable that they served as objects of religious adoration, as the *a*es [unreadable] of the Greek and Roman Mythologies; those representations of the Human figure are frequently accompanied by others of the Llama, in the same precious metals; and it is not improbable that here as among some Eastern Nations, the Llama the only useful domestic animal which they possessed, was held in religious veneration and formed an object of adoration in the mythology of the ancient Peruvians. Those figures are carefully formed of plates of gold and silver soldered together, and are peculiar to the Island of Palalla. (Pentland 1827: f. 90-90v)

Although the island is small, we identified two separate sites on it. One site (032A), on the north, is a 0.25-hectare dispersion of pottery and low structure walls. There are at least two rectangular structures on this side of the island. There are also a number of belowground cist tombs in this area, possibly the ones that Pentland referred to in his report.

The south side of the island has a large rectangular structure 45 meters long and 6 meters wide with interior walls (032B). There is some eroding midden next to this building. This part of the site area covers about 1.0 ha. The significance of this island cannot be overstated. It appears that there was a major Inca structure on this small, relatively isolated island. Why the Incas would have built such a building is intriguing; per-

haps it functioned as storage area or way station. We did not find any metal on the island, and Pentland's description is vague as to whether he actually found the figurines himself in the tombs, or if he is referring to the discovery of Inca figurines in general. Nevertheless, Pallalla is a site that deserves more research.

SITE NUMBER: 033

Name: Santa Barbara

Size: 1.50 ha

Function: Habitation, ceremonial (?)

Period: Inca

Description: Bandelier (1910:203) simply describes this site as having terraces with Incastyle pottery. He (1910:185) also claims that three wooden *keros* were found in the cliffs, called Calvario, above this site. One is said to be a black *kero* with a motif of a fisherman spearing a fish.

Our work indicates that the site of Santa María is indeed strictly Inca in date. Located on the road to the Titikala from Challapampa, it contains a series of nice terraces, as described by Bandelier. There is also an active spring that runs through the site, with traces of cut stone and a possible Inca-style canal. There is a large cut-stone slab that is used as a table by the modern school. Also, three cut-stone slabs have been erected in the form of a gate (Figure A.10). These slabs were almost certainly from a major building that was on the site. The abundant trees that grow in the area today attest to the plentiful water available from subterranean sources in this area.

SITE NUMBER: 034

Name: Isla Chúyu

Size: Entire island (Figure A.11)

Function: Ceremonial, agriculture (?), minor

cemetery Period: Unknown

Description: This is a curious site. There are beautiful terraces around the island. There is also a large, north–south-running wall made



Figure A.10. Cut stones that appear to be Tiwanaku in style are found at the entrance to the Site 033 or Santa Barbara. These stones are not in their original location.



Figure A.11. The Island of Chúyu.

with large stones that cuts the island in half. On the summit of the island there is a trapezoidal-shaped platform, made with a rustic wall. The north (east–west-running) wall of this platform measures 16 meters, the south wall 12 meters, and both side walls measure 25 meters. At least two tombs are found inside the platform area. There appear to have been other structures on this platform as well. However, there are virtually no pottery fragments on the island (we found one Middle Formative paste sherd in total).

SITE NUMBER: 035 Name: Isla Kenata Size: Entire island

Function: Habitation and cemetery Periods: Middle Formative, Inca

Description: The island is terraced, but the terrace construction is not as fine as that found on Chúyu. There is a 6.0-meter diameter depression at the north end of the island. There are no artifacts associated with this feature. There are also some rectangular structures on the summit as well as a few cist tombs that measure 40 to 60 centimeters in diameter. A few fragments of pottery suggest an early use of the island by Middle Formative peoples and a later reoccupation by the Inca. Given the lack of disturbance, it is possible that there are other occupations not evident from surface data.

SITE NUMBER: 036

Name: Liviñusu pampa, Sicuyu (note that one of our informants called this area Kaualluyu. This would contradict Bandelier's location of this site name. Likewise, the map that Bandelier made differs in shape from modern topographic maps that are more precise. Other informants said that this was indeed Sicuyu).

Size: 1.0 ha

Function: Habitation, cemetery, agricultural Periods: Middle Formative, Tiwanaku.

Description: This area most likely represents the site recorded by Bandelier as Sicuyu. He describes it as:

. . . . a low promontory, covered with shrubbery and the rubbish of structures of some kind. We spent there a whole afternoon and later on two days, excavating, but could not discover anything . . . so thoroughly had they been torn down. . . . What our investigations revealed was that nearly the entire promontory, on its upper plane, which stands twenty feet above the Lake, contains stone cysts [sic] of Chullpa type. . . . they are all quadrangular; then they are encased by thin slabs set upright in the ground, and most of them had covers. (Bandelier 1910:228)

From Bandelier's description, it is likely that this site was a Tiwanaku and/or Middle Formative cemetery. The location of tombs on a rise above the lake is consistent with the burial practices of other areas of the Titicaca Basin, but it is a pattern that is largely associated with the post-Tiwanaku periods. However, the existence of "quadrangular" tombs is rare indeed. If Bandelier's observations about the tomb architecture is correct, then we may have the only Middle Formative and Tiwanaku period tombs ever fully described for a site outside of a large population center. It would suggest that, in fact, these tombs were rectangular, slab-lined, and possibly even slightly above ground. This would contrast with the more common round, below-ground cist tombs found in the earlier periods.

Our survey revealed that virtually all traces of the upright slabs have been lost. The site is now characterized by a series of low terraces with a thin but continuous scatter of pottery. A small ravine cuts through part of the site, and exposed pottery and lithics can be seen on the surface. There is a nice set of curved terraces that extends to the southern side of the Tikani ridge and down toward the lake. The existence of agricultural terraces and lithic implements indicates a habitation area as well. This site most likely represented a small village area with an associated cemetery in the Middle Formative and Tiwanaku periods.

SITE NUMBER: 037

Name: Turiturini Mancja

Size: 0.15 ha

Function: Habitation

Periods: Middle Formative, Altiplano (?), Inca

(?)

Description: A very light scatter of pottery on a flat area on the slopes of Tikani. This is the location of a single household in the Middle Formative period that may have been reused

in later times.

SITE NUMBER: 038

Name: Turiturini Size: 0.04 ha

Function: Unknown

Period: Inca

Description: At the very top of Turiturini hill, we found about a dozen sherds, all badly eroded. At least a few of the sherds reflected Inca-style vessel shapes. It is possible that this was a cemetery, although there was no evidence of below-ground tombs or a small offering location. It is an unlikely habitation area, given the topography.

SITE NUMBER: 039

Name: Hiska Turiturini

Size: 0.50 ha

Function: Habitation Period: Tiwanaku

Description: This site is located on a ridge that juts out to the south with some terraces and a light to moderate scatter of Tiwanaku pottery. The area is heavily eroded. The site itself is composed of several terraces as well as a perpendicular wall that cuts through the terraces and follows the ridge line. The wall is poorly preserved but measures about 50 meters in length and about 75 centimeters wide. There is also a likely structure on the terrace higher up on the ridge above this wall.

SITE NUMBER: 040 Name: Unnamed

Size: 0.24 ha

Function: Habitation

Periods: Middle Formative, Upper Formative Description: The site consists of two, possibly three, terraces. It is about 20 meters wide and 40 meters long and is located approximately 200 meters from the lake edge.

SITE NUMBER: 041

Name: Unnamed Size: 0.37 ha

Function: Agricultural Period: Probably Inca

Description: A set of very well-made terraces near a spring with a very light scatter of pottery. The terraces have the well-made cor-

ners typical of Inca field masonry.

SITE NUMBER: 042

Name: Unnamed Size: 0.10 ha

Function: Habitation Period: Middle Formative

Description: This site consists of two small terraces about 20 meters wide and about 50 meters long in total. There is a small scatter of Middle Formative pottery on these terraces, representing an early hamlet.

SITE NUMBER: 043

Name: Unnamed Size: 0.15 ha

Function: Habitation, cemetery (?)

Periods: Middle Formative, Upper Formative,

Tiwanaku

Description: A small but dense scatter of pottery located immediately east of the terraces at Chucaripu. The area has a spring that explains the use of the area as a small hamlet from Middle Formative to Tiwanaku times. There is a possible looted tomb in a natural crevice near the site.

SITE NUMBER: 044

Name: Unnamed Size: 0.06 ha

Function: Habitation Period: Unknown

Description: A small scatter of nondiagnostic pottery located west of the terrace group at Chucaripu.

SITE NUMBER: 045 Name: Rosanjaque (?)

Size: 0.50 ha

Function: Habitation Period: Tiwanaku

Description: A hill with no artifacts on its summit, but a light scatter of Tiwanaku fragments along its slopes. The site consists of two closely spaced concentrations of artifacts of about 0.25 hectare each.

SITE NUMBER: 046 Name: Unnamed Size: 0.75 ha

Function: Habitation

Period: Inca

Description: A light dispersal of Inca-style pottery in a ravine opposite Site 048. This site represents a small village that was located near a good water source in a rather inaccessible area of the island. Sites 046 and 048 are two parts of the same settlement. Together, they made up a fairly substantial village. These sites are typical of the many agricultural settlements of the Inca occupation.

SITE NUMBER: 047 Name: Challapampa

Size: 1.0 ha

Function: Habitation, quay (?)

Period: Inca

Description: The modern town of Challapampa covers this site. We collected along the beach and on the streets between houses. The pottery was all Inca and modern. The town is next to a modern quay, and the site may have also been used as such during Inca times. Site 002 is also part of this settlement.

SITE NUMBER: 048 Name: Wankarani Size: 0.50 ha

Function: Habitation

Period: Inca

Description: A few terraces on the southeast side of the ravine opposite Site 046. There is a light dispersion of artifacts for about 100 meters up the east side of the ravine and an active spring. Wankarani should be considered as part of the same Inca period settlement as Site 046.

SITE NUMBER: 049

Name: Unnamed Size: 0.15 ha

Function: Habitation Period: Unknown

Description: A small set of terraces that extends toward the lake. There is a small scatter of pottery on one of these that is not diagnostic except for one fiber-tempered, possible Middle Formative sherd.

SITE NUMBER: 050 Period: Modern

SITE NUMBER: 051 Name: Unnamed Size: 2.0 ha

Function: Unknown Period: Unknown

Description: Located on the north side of Kona Bay, this extensive but light scatter of non-diagnostic pottery is found along the beach and up some terraces. It is unclear if there was a habitation area here, or if the area was used as temporary agricultural camps associated with the raised fields in the area. It is also possible that the hillsides held some tombs that have since been destroyed.

SITE NUMBER: 052 Name: Wankarani Pata

Size: 0.01

Function: Cemetery, ceremonial (?)

Period: Inca

Description: This round Inca platform or possible *chulpa* base is roughly 3 meters in diameter. There are Inca-style sherds around the site. Nearby, there is also a smaller round structure and a slab-cist tomb.

SITE NUMBER: 053 Name: Unnamed Size: 0.53 ha

Function: Habitation Period: Middle Formative

Description: A set of terrace walls, about 5 to 7 meters in height, located near the lake. Middle Formative pottery sherds are concentrated on one long terrace with a high wall.

SITE NUMBER: 054 Name: Unnamed Size: 0.25 ha

Function: Habitation

Period: Inca

Description: Two terraces, each about 10 meters wide. The terraces on the northeast end of the site are steep and in poor condition, while the opposite ones have a higher density of Inca-style sherds.

SITE NUMBER: 055 Name: Unnamed Size: 0.06 ha

Function: Habitation, cemetery

Period: Unknown

Description: A rectangular, 3.0 x 2.0 meter house foundation. Nearby, there is also a round 1.0-meter diameter structure which is probably a looted tomb.

SITE NUMBER: 056 Name: Unnamed Size: 0.25 ha

Function: Habitation Period: Middle Formative

Description: A series of small, narrow, and low eroding terraces on the colluvial fan across from Site 051. There is a very light scatter of eroded ceramics on each terrace.

SITE NUMBER: 057 Name: Unnamed Size: 1.50 ha

Function: Habitation

Periods: Middle Formative, Altiplano

Description: These terraces are probably a continuation of Sites 056 and 051 and extend to

the next ravine. The quantity of pottery on the surface is high. One low terrace has a 4.0×4.0 meter stone foundation that most likely dates to the Altiplano period.

SITE NUMBER: 058 Period: Modern

SITE NUMBER: 059 Name: Unnamed Size: 0.60 ha

Function: Habitation Period: Upper Formative

Description: A very light scatter of artifacts over 3 terraces in the middle of at least 25 well-made agricultural terraces. This represents a rare Upper Formative hamlet on this side of the island.

SITE NUMBER: 060 Name: Unnamed

Size: 1.0 ha

Function: Habitation Period: Unknown

Description: A square stone foundation on a set of narrow, steep terraces. The terraces are 15 meters long and 10 meters wide. The area is highly eroded, and no artifacts were found on the surface.

SITE NUMBER: 061

Name: Unnamed Size: 0.15 ha

Function: Cemetery

Periods: Altiplano, Inca, and/or early Colonial Description: A cemetery site located on a hill. There are at least ten slab-cist tombs that range in diameter from 3.0 to 5.0 meters. This site could be associated with Site 062.

SITE NUMBER: 062 Name: Unnamed Size: 0.25 ha

Function: Habitation

Period: Inca

Description: A very light scatter of Inca-style sherds along the ridge top and sides. It is located near a series of agricultural terraces.

This is a small hamlet, possibly associated with the tombs at Site 061.

SITE NUMBER: 063 Name: Pachjata Size: 0.09 ha

Function: Habitation, cemetery

Periods: Middle Formative, Tiwanaku, Inca

Description: A small site located adjacent to the crest road across the island. There are abundant modern and colonial materials associated with a corral on this site. A single, slabcist tomb or *chulpa* base, 1.0 meters in diameter, is also found at the site. Figure A.06 shows the nature of the road construction. It is a very thin, single line of stone that follows the ridge top. A number of Inca and Tiwanaku sites are found along this road.

SITE NUMBER: 064 Name: Unnamed Size: 1.0 ha

Function: Habitation, cemetery

Period: Inca

Description: This site contains five to ten low terraces in, and adjacent to, two ravines. There are five circular slab-cist tombs, approximately 0.5 to 0.8 meters in diameter, against the wall of the highest terrace. No ceramic artifacts were recovered near these tombs. There is another set of about ten large terraces extending from ravine to ravine that contain a moderate scatter of Inca-style sherds.

SITE NUMBER: 065 Name: Unnamed Size: 0.15 ha

Function: Habitation

Period: Inca

Description: A scatter of Inca-style pottery on

three narrow terraces.

SITE NUMBER: 066 Name: Unnamed Size: 0.09 ha

Function: Habitation Period: Unknown

Description: A small terrace site located near the beach. The ceramic artifacts are not diagnostic.

SITE NUMBER: 067

Name: Kellallani, Qeyallani, Qeyayani

Size: 1.0 ha

Function: Habitation Period: Middle Formative

Description: This site is located at the summit of a low rise named Kellallani on the northern flanks of the much larger hill of Kea Kollu. The site contains a large scatter of Middle Formative pottery across several domestic terraces. The hilltop is flat, possibly representing a platform. There is also a very high density of lithic artifacts, including waste flakes, tools, and agricultural implements such as hoes.

SITE NUMBER: 068

Name: Unnamed Size: 0.09 ha

Function: Habitation Period: Middle Formative

Description: A light scatter of Middle Formative

pottery on two terraces.

SITE NUMBER: 069

Name: Unnamed Size: 0.12 ha

Function: Lithic scatter Period: Altiplano

Description: A small lithic scatter with associ-

ated Altiplano period plainwares.

SITE NUMBER: 070 Name: Unnamed

Size: Approximately 15 x 20 meters Function: Lithic workshop, quarry

Period: Unknown

Description: A quarry site with a number of primary reduction flakes. It is likely that this quarry was used during the Late Archaic as

well as other time periods.

SITE NUMBER: 071

Name: Unnamed Size: 0.16 ha

Function: Habitation (?), ceremonial (?), ceme-

tery (?)

Period: Upper Formative (?)

Description: Two possible platforms or large terraces with a scatter of probable Upper For-

mative sherds. Holes in the ground suggest looted tombs.

SITE NUMBER: 072 Name: Unnamed Size: 0.75 ha

Function: Habitation

Periods: Middle Formative, Upper Formative,

Altiplano

Description: Several terraces on the western side of Kea Kollu with a light dispersal of pottery

and lithic artifacts.

SITE NUMBER: 073 Name: Caracirca (?) Size: 0.06 ha

Function: Habitation Period: Tiwanaku

Description: A very small habitation site composed of at least three terraces. It is a single-

component Tiwanaku hamlet.

SITE NUMBER: 074 Name: Unnamed Size: 0.06 ha

Function: Habitation Period: Altiplano

Description: A small scatter of Altiplano pottery

on two terraces.

SITE NUMBER: 075 Name: Kea Kollu

Size: 1.5 ha

Function: Habitation, cemetery

Periods: Early Formative, Middle Formative, Upper Formative, Tiwanaku, Altiplano

Description: Pentland (1827: f. 87–87v) provides a brief account of this site, describing it as a "Hill on which are the ruins of a large village, and which is surrounded with ruined Chulpas, or sepulchral monuments of it's [sic] former inhabitants." Bandelier (1910: 168–171) worked at the hill of Kea Kollu. He described the numerous terraces around it, noting that they were not built in an "Inca" style (Figure A.12). He also reports buildings that were "small and quadrangular." His drawings of these buildings (1910: Plate XIX)



Figure A.12. A view of Kea Kollu. Site 075 is located at the summit. A number of other site areas were defined around the base of the hill and on the terraces. The hill is one of the most intensively terraced areas on the island at the present time.

indicate that they were typical rectilinear domestic terrace-type buildings. He notes that these buildings were made of fieldstone masonry, not the finely cut stone commonly found in Inca constructions.

Bandelier describes single-room "buried houses" that show "good workmanship" on top of the hill. We indeed found a number of structure foundations in the locations that Bandelier mentioned, but there were no visible walls remaining in 1994. Bandelier describes the structures as being made with cut-stone andesite, described by the islanders at that time as "Inca." We noticed a few such blocks on the hill, but most were uncut. The blocks that we did see were more typical of Tiwanaku structures and suggest that there may have been a sunken court or other construction at the top of the hill. Such a court would be typical for Upper Formative and Tiwanaku period regional centers in the Titicaca Basin as a whole (see Stanish et al. 1997; Stanish 1999). Bandelier also noted the presence of many looted tombs on the top and the sides of the hill. We likewise noted numerous below-ground tombs at the summit and on the slopes.

We found little evidence of an Inca occupation on the hill. Surface evidence indicates that this was a major pre-Inca habitation, cemetery, and possible ceremonial settlement. Curiously, we found very few "Qeya" pottery fragments there, even though many of the whole vessels recovered by Bandelier from this site were used to define this style by Wallace (1957). It is possible that the Qeya pottery is a rare import to the island, and not an indigenous style.

SITE NUMBER: 076

Name: Unnamed Size: 0.04 ha

Function: Habitation

Periods: Early Formative, Middle Formative
Description: A small habitation area with a scatter of Pasiri and Middle Formative diagnostics on two terraces. It represents one of the earliest settlements on the island.

SITE NUMBER: 077 Name: Unnamed Size: 0.75 ha

Function: Habitation

Periods: Upper Formative, Tiwanaku, Altiplano Description: This site is located on the lower slope of Kea Kollu. It is a large, domestic hillside site with at least three large and wide terraces. The site has a high density of Upper Formative and Tiwanaku pottery fragments. There are a number of lithic artifacts, particularly agricultural implements and lithic debris.

This site would have been included as part of Bandelier's description of Kea Kollu as a whole. In this regard, it is interesting that one of our informants called this site "The house of the Inca," echoing Bandelier's remarks about Kea Kollu.

SITE NUMBER: 078

Name: Kónto Size: 0.09 ha

Function: Habitation

Period: Inca

Description: A small scatter of Inca-style pottery on a single, wide terrace.

SITE NUMBER: 079 Name: Unnamed

Size: 0.75 ha

Function: Habitation Period: Middle Formative

Description: This Middle Formative site is located on three wide terraces on the eastern side of Kea Kollu. It is a fairly large, single-component occupation for this time period.

SITE NUMBER: 080

Name: Kea Kollu Chico

Size: 1.44 ha

Function: Habitation, cemetery

Periods: Middle Formative, Upper Formative Description: This is one of the principal sites excavated by Bandelier (1910:172–174). It is located on a low hill below Kea Kollu (the name means "little Kea Kollu). It sits on the saddle between Kea Bay and the pampa in

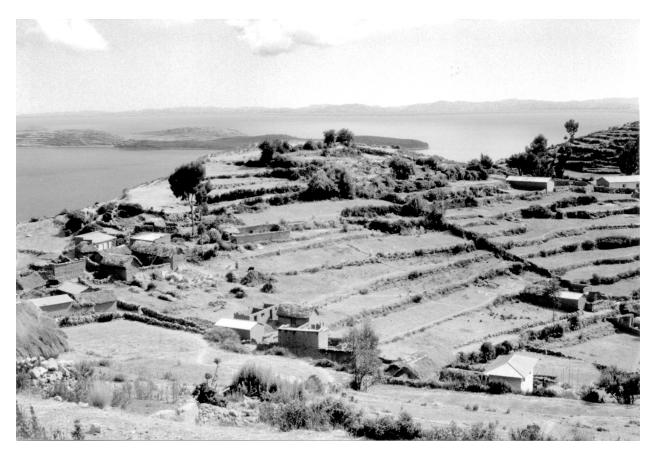


Figure A.13. The site of Kea Kollu Chico (Site 080).

front of the near by bay (Figure A.13). The hill is fairly denuded and heavily looted. Numerous excavated tombs are found over the hill, as are human bones and artifacts. The top of the hill may be artificially flattened, although this would require excavations to determine with any certainty. Bandelier describes it as a "triangular level," 64 feet wide and 74 feet in length. His ground plan of the site shows similarities to the hilltop site on the island of Chúyu (Bandelier 1910: Plate XX). He also describes a 10-foot-long wall that he "dug up" where he found below-ground cist tombs. Metal objects were also recovered in this area.

Bandelier's book describes an area on the side of Kea Kollu Chico that is almost certainly a major cemetery: The *upper slopes* of the hill, however, [contained] . . . an accumulation of human remains, especially in the southeastern quarter. The skeletons were so near each other that it was not possible to determine what belonged to each skull. They had been packed as closely as possible, all bent and mostly on the side, with hands folded on the chest. There were male and female skeletons, but no bones of children. (Emphasis original; Bandelier 1910:172–173)

He felt that the bodies appeared to be a mass grave, as expected in a massacre. However, he noted that there was little evidence of trauma. He goes on to note that there was a rich trove of artifacts, including metal, agricultural implements, mortars, grinders, sod crushers, spindle whorls, cylindrical and turquoise beads, trephined skulls, *tumis*, sculptured slabs, pottery "of the coarser type," bone spoons, and fancy pottery that he described as "gaudy" and similar to those found at Tiwanaku.

Our work indicates that Kea Kollu Chico was a Middle Formative and Upper Formative site. We found no Tiwanaku pottery, but did find Upper Formative fragments of *incensarios* dating to the pre-Tiwanaku or Qeya style. This site is best interpreted as a significant habitation and burial site associated with the contemporary site of Titinhuayani located above Kea Kollu Chico.

SITE NUMBER: 081 Period: Modern

SITE NUMBER: 082 Name: Unnamed Size: 0.09 ha

Function: Habitation

Period: Inca

Description: A small Inca period site on a single

terrace.

SITE NUMBER: 083 Name: Unnamed Size: 0.15 ha

Function: Habitation Periods: Altiplano (?), Inca

Description: A small scatter of Inca and possible Altiplano period pottery located on a single terrace surrounded by a large set of agricul-

tural terraces.

SITE NUMBER: 084 Name: Chaka Chaka

Size: 0.25 ha

Function: Habitation, ceremonial (?)

Period: Inca

Description: This site sits on a series of well-made terraces, both domestic and agricultural. There is a large wall in this site that appears to be a modern corral, and another wall blocks off the habitation area from the agricultural area. There is also a square

structure that measures 4.0 x 4.0 meters, built with fieldstone walls, with a possible round *chulpa* adjacent to it.

SITE NUMBER: 085

Name: Unnamed Size: 0.04 ha

Function: Habitation

Period: Inca

Description: A small site located in a ravine. There is a diversion wall in the ravine that was most likely used to trap water. The site is about 100 meters from the lower road.

SITE NUMBER: 086

Name: Unnamed Size: 0.25 ha

Function: Habitation Period: Early Formative

Description: This site is located on top of a few heavily eroded terraces on a round hill that forms a curve in the shoreline near Challa Beach. The surface has a moderately high scatter of Pasiri pottery. A roughly rectangular area at the very top of the hill is possibly

artificially flattened.

SITE NUMBER: 087

Name: Unnamed Size: 0.09 ha

Function: Habitation

Period: Inca

Description: A small scatter of ceramics on the last three terraces above the beach. This small Inca period household is located

between the road and the beach.

SITE NUMBER: 088

Name: Uyani Size: 0.37 ha

Function: Habitation Period: Unknown

Description: A few nondiagnostic sherds on a

flat terrace above a ravine.

SITE NUMBERS: 089, 090

Period: Modern

SITE NUMBER: 091 Name: Unnamed Size: 0.15 ha

Function: Habitation Period: Unknown

Description: A small 1.5 x 2.0 meter structure foundation made with large rocks located two terraces up from the mouth of the ravine. The pottery was nondiagnostic.

SITE NUMBER: 092

Name: Titinhuayani, Titinwani

Size: 4.0 ha

Function: Habitation, ceremonial, cemetery Periods: Late Archaic (? ha), Middle Formative (3.0 ha), Upper Formative (4.0 ha), Tiwanaku (2.0 ha), Altiplano (0.50 ha), Inca (0.50 ha)

Description: Bandelier spent little time at this site. He notes in passing that he "excavated a number of graves, obtaining skulls, pottery of the coarser kind, and one skull trephined on the forehead" (Bandelier 1910:172). Finding the smaller, adjacent site of Kea Kollu Chico (Site 080) to be richer with intact graves, Bandelier concentrated his excavations there.

The site of Titinhuayani is located in the Challa area in the center of the island. It was mapped and excavated by Mr. Esteban Quelima, in conjunction with the Proyecto Tiksi Kjarka. Titinhuayani is the major Middle Formative and Upper Formative site on the island. We estimate the size of Titinhuayani during the Middle Formative to be approximately 3.0 hectares, with the largest occupation during the Upper Formative at 4.0 hectares. The Tiwanaku occupation is smaller and appears to be confined to the sides of the hill that face the lake.

The site has evidence of elaborate, corporate architecture including stone-faced terrace walls, a possible sunken court, and extensive burial areas. We hypothesize that the surface features of the site indicate an architectural history roughly similar to Chiripa (Hastorf 1999)—that is, a Middle Formative occupation with some corporate architecture and subsequent rebuilding epi-

sodes. Surface pottery on the site is of exceptional quality, including well-made Middle Formative, Upper Formative, and Tiwanaku finewares. An area of raised fields is found on the pampa below the site, indicating that this was an agriculturally rich area.

There has been some looting at Titinhuayani, and a modern cemetery covers about 1 hectare of the site. Of course, we were not able to survey the modern cemetery area proper. In spite of these postoccupational disturbances, many of the terraces and interior walls at the site are intact. Exposed cuts on the hillsides reveal deep, stratified midden areas with abundant carbon, organic remains, and floors. Cut stones on the surface suggest that intact plaza areas or sunken courts will be found below the surface. Excavations by Quelima in this flat area on the hilltop indicate an initial Late Archaic occupation with abundant obsidian, followed by Middle Formative and Upper Formative occupations and a small Tiwanaku settlement. The major period of construction is in the Upper (and possibly Middle) Formative.

According to local informants, there used to be a *chulpa* on top of the hill. Today, no traces remain. The summit and all the terraces on the sides of this hill contain a dense scatter of ceramic artifacts dating from the Middle Formative through the Inca period. At its very top is a roughly square mounded platform that is probably ceremonial. The highest density of materials was recovered in this area. Not coincidentally, the site has a commanding view of both the Kea and Pucara bays.

SITE NUMBER: 093

Name: Ch'uxuqullu

Size: 0.25 ha

Function: Habitation

Periods: Late Archaic, Early Formative, Middle

Formative, Upper Formative

Description: This site has been described in

detail by Stanish et al. (2002).

SITE NUMBER: 094 Name: Khónto Lampa

Size: 0.37 ha

Function: Habitation

Period: Inca

Description: A scatter of Inca-style pottery on a flat area between Cerro Santa Barbara and Site 093. There is an active spring with some small terraces adjacent to this habitation

area.

SITE NUMBER: 095 Name: Unnamed Size: 0.15 ha

Function: Habitation Period: Unknown

Description: A small dispersion of nondiagnos-

tic pottery located on four terraces.

SITE NUMBER: 096 Name: Unnamed Size: 0.25 ha

Function: Habitation

Periods: Early Formative, Middle Formative,

Tiwanaku, Inca

Description: This site is located adjacent to a ravine on three wide terraces. The density of pottery is moderate, but sufficient to indicate that this agriculturally rich area was occupied for a long time, beginning in the Early Formative.

SITE NUMBER: 097 Name: Unnamed Size: 0.12 ha

Function: Habitation Period: Unknown

Description: A light scatter of nondiagnostic sherds spread over the top of three terraces

above a ravine.

SITE NUMBER: 098

Name: Santa Barbara Pata

Size: 0.01 ha

Function: Ceremonial

Periods: Upper Formative (?), Tiwanaku (?) Description: This site is at the top of Santa Barbara hill near a modern *apacheta* (boundary marker or ritual monument made of loose stones). There is some Upper Formative and Tiwanaku pottery at this site. The site is located on the crest road and may be a ceremonial site.

SITE NUMBER: 099
Name: Unnamed
Size: Single tomb
Function: Cemetery
Period: Post-Tiwanaku

Description: A single slab-cist tomb on the ridge

top.

SITE NUMBER: 100

Name: Pucara, Pukara, Turini Pampa

Size: 0.50 ha + niche area

Function: Habitation, ceremonial (?), cemetery

Period: Inca

Description: Pentland provides the first descrip-

tion of this site:

On the N.E. side of Titicaca and on the shores of a delightful Bay, there exists a large mass of ruins which tradition points out as having once formed the residence of an Inga, the only part in a tolerable state of preservation at present, is an edifice about fifty yards in length facing the East. Altho' pierced with several doors, windows and niches, there is reason to believe that the entire building formed but one very large appartment, and that it served ****er [unreadable] as a place of religious worship, than as an ordinary residence. (Pentland 1827: f. 87)

This site is also described by Bandelier (1910:199–201, Plates XLII, XLIII, XLIV). He referred to the entire area of the lower Ahijadero pampa, its raised fields (which he calls "dykes and causeways"), and a building in the pampa as "Pucara." Bandelier at one point (1910:199) describes the Pucara ruins as being located at the base of Kea Kollu, but this appears to be in error. The site he was referring to is at the base of Kurupata or Wakuyu, depending on where one defines the limits of these hills.



Figure A.14. A niche at Site 100.

We also found a wall with niches in the ravine that runs up from the pampa to the hill of Wakuyu (spelled "Uacuyu" by Bandelier) (Figure A.14). Bandelier saw this as well, writing ". . . tall andenes with tall niches line the slope of Kurupata in the rear of the southern wing, and on the lowest declivity of Uacuyu 160 feet from the eastern wall or building, lies an *anden* . . . with at least five ruined niches. . . ." (Bandelier 1910:201). We classified the terraced ravine and the niched building on the pampa as Site 100, and the area of raised fields was designated as Site 104.

Fortunately, Site 100 was described and photographed by Bandelier. His photographs in Plates XLII and XLIV show niches in walls that are now destroyed by modern construction. He described these remains as "a long and solid wall forming an 'L'. . . its thickness . . . seems to vary between four and a half and six feet. The masonry is fairly laid and superior to Chullpa [pre-Inca] work."

He goes on to say, "Its height varies between four and eight feet. In it are a number of large niches, a tall one alternating with a smaller, the former going down to the ground." Bandelier talks about an "eastern wing" being part of the building as well. He also reports purchasing a number of metal tools that came from this site.

We did find some low walls with one possible niche in the area of the pampa where Bandelier suggests a large building was located. Unfortunately, as mentioned, there is a modern hamlet on this site, so most of the older walls are destroyed. We did, however, discover that the area above the niches in the ravine, as well as the terraces on the western side of the ravine, have a domestic occupation covering about 0.50 hectares. It should be noted that, while this site was a major Inca occupation which included both ceremonial and habitation sectors, it is not discussed by any of the chroniclers.

SITE NUMBER: 101 Name: Unnamed Size: 0.15 ha

Function: Habitation

Period: Upper Formative (?)

Description: A light scatter of Upper Formative pottery on this hill. There is a possible square or rectangular structure on top that is badly damaged.

SITE NUMBER: 102 Period: Modern

SITE NUMBER: 103 Name: Pukujawira Size: 0.01 ha Function: Well Period: Inca (?)

Description: A well that is still used today. It is made with fieldstones and has a small groove

in the bedrock that suggests an Inca date (Figure A.15). There is also some concrete in the stones of the well, so we know that it was rebuilt in later times. Water from this spring flows to Site 100, and it provides fresh water for the Ahijadero pampa (Site 104).

SITE NUMBER: 104 Name: Ahijadero

Size: The entire Ahijadero pampa

Function: Raised fields, water diversion walls,

and causeways Period: Various

Description: Pentland (1827: f. 87) provides the first description of these fields. He wrote: "From these extensive ruins [i.e., Site 100] a raised causeway leads across a m***ss [unreadable] to the Northern part of the Island." Bandelier offers an even more detailed description of fields and causeways:



Figure A.15. A well with stone walls above the niches of Site 100. The site number for the well is 103 but the entire quebrada, including the niches and the well, is one architectural complex.

The bottom of the "Ahijadero" is in many places marshy and traversed by dykes dividing it into irregular sections. The elevation of these causeways above the ground is from a few inches to six feet, one side being nearly always higher than the other. Their width varies also, five and thirteen feet being the extremes noticed by us. The rims or borders are lined with rows of stones in single file, and in the case of the widest of these causeways, another row divides it longitudinally also. . . . The dykes are built of earth and gravel, with some stones, so as to make them harder than the surrounding level. (Bandelier 1910:199)

Bandelier felt that these were not agricultural constructions. He was partly correct in that some of the walls were causeways. However, the area is a complex agricultural construction of raised fields, causeways, and other agricultural features, all of which are difficult to date. Some of the causeways cut across the pampa, connecting Site 100 with at least the middle of the pampa and possibly the hill of Kea Kollu on the other side. We excavated one of the causeways and found only Middle Formative pottery diagnostics in the fill. These ceramic artifacts do not date the construction of the causeway, but rather indicate the earliest date that it could have been built. Other structures, which appear to be causeways and are used today as roads, were most likely large stonelined canals. They have a sinuous pattern and run from the ravines of the surrounding hills to the raised field areas. There is also a set of parallel walls that leads from the base of Site 093 to the lake. Below the hill on which Site 092 is situated, there is an oval depression that is most likely a reservoir. In turn, the Ahijadero pampa includes raised fields, causeways, a possible reservoir, as well as water diversion walls. It was a complex agricultural system that is unfortunately difficult to date with surface data.

SITE NUMBER: 105

Name: Unnamed Size: Maximum 3.75 ha

Function: Habitation, cemetery, defensive

Periods: Middle Formative, Upper Formative,

Tiwanaku, Altiplano, Inca

Description: A large hilltop site with a long and intensive occupation. The major domestic areas are found on the north and east sides of the hill on a number of high and wide terraces. The site could also have functioned as a hilltop fort at some point in its history, an observation reinforced by the presence of numerous bola stones at the base of the terraces. The density of artifacts, both ceramic and lithic, is quite impressive.¹

SITE NUMBER: 106

Name: Unnamed Size: 0.35 ha

Function: Habitation

Periods: Middle Formative, Tiwanaku, Alti-

plano, Inca

Description: A set of wide, flat terraces, each about 10 meters wide that creates the

impression of artificial platforms.

SITE NUMBER: 107

Name: Unnamed Size: 0.25 ha

Function: Habitation

Period: Inca

Description: The site is located on a ridge that extends into the pampa. There is a flat area around 40 meters across on the north side of the site and a number of other terraces farther up the hill.

SITE NUMBER: 108

Name: Unnamed

Size: 0.15 ha

Function: Habitation

Period: Inca

Description: A light scatter of mostly Inca-style sherds on a single terrace. This is a typical Inca period hamlet.

SITE NUMBER: 109

Name: Apachinacapata, Apachinaca (note that Bandelier spelled the site "Apachina(n)ca" in his map, but used "Apachinaca" in the text)

Size: 3.0 ha

Function: Habitation, cemetery, tambo (?)

Periods: Middle Formative, Tiwanaku, Alti-

plano, Inca

Description: A major site on the island crest that separates the Yumani political division from that of Challa. Bandelier (1910:167) states that he excavated below-ground cist tombs with pre-Inca pottery at the site. He also reported finding artificially deformed skulls and a few traces of buildings.

This site is on the major modern (and prehispanic) crest road at one of the most strategic locations on the island (Figure A.16). Although there is no existing architecture, the Inca-style pottery on the site is very fine, representing some of the best found during the surface survey. The Inca-style pottery is concentrated on the northern side of the site, while the pre-Inca materials are

found on the south. It is possible that this large site is one of the tambos or villages mentioned by the early documents.

SITE NUMBER: 110 Name: Unnamed Size: 0.20 ha

Function: Habitation

Period: Inca

Description: This site is found on a narrow spur of land above the pampa. There is a light dispersion of Inca-style pottery on three low and wide terraces.

SITE NUMBER: 111

Name: Unnamed Size: 0.06 ha

Function: Habitation

Period: Inca

Description: A small scatter of Inca-style pottery

on three terraces.

SITE NUMBER: 112

Name: Unnamed

Size: 0.06 ha



Figure A.16. A view of Apachinacapata (Site 109) from the east. The mainland is visible in the distance.

Function: Habitation

Period: Inca

Description: A small site with two domestic terraces and a light scatter of Inca-style pottery located high in a ravine.

SITE NUMBER: 113 Name: Unnamed

Size: 0.04 ha

Function: Habitation

Description: A small modern structure with pos-

sible prehispanic pottery.

SITE NUMBER: 114 Name: Unnamed Size: 0.06 ha

Function: Habitation

Period: Inca

Description: This site is found on terraces with three rectangular (5.0×2.0 meters) foundation remains. There is a light scatter of Incastyle and modern pottery on four terraces.

SITE NUMBER: 115 Name: Unnamed Function: Habitation

Size: 0.09 ha

Periods: Middle Formative, Upper Formative,

Altiplano

Description: A moderate scatter of pottery on

two terraces below the crest road.

SITE NUMBER: 116 Name: Unnamed

Size: 0.06 ha

Function: Habitation Period: Unknown

Description: This site, located on a crest above the beach, is likely a Middle Formative site, but the pottery was too eroded to determine

its age with any confidence.

SITE NUMBER: 117 Name: Unnamed Size: 0.06 ha

Function: Habitation

Period: Inca

Description: A light scatter of Inca-style sherds

on three terraces.

SITE NUMBER: 118

Name: Unnamed

Size: 0.08 ha

Function: Habitation

Period: Inca

Description: A light scatter of Inca-style pottery on the beach below some agricultural terraces.

SITE NUMBER: 119

Name: Unnamed

Size: 0.08 ha

Function: Habitation Period: Upper Formative

Description: A light scatter of Upper Formative pottery close to the beach on some terraces.

SITE NUMBER: 120

Name: Kollani Size: 0.50 ha

Function: Habitation Period: Middle Formative

Description: A series of heavily eroded terraces with a light scatter of Middle Formative sherds. Because there were so few artifacts on the surface, we did not collect this site.

SITE NUMBER: 121

Name: Yanakarwi

Function: Habitation (?), ceremonial (?)

Size: 0.04 ha Period: Tiwanaku

Description: A very light scatter of fine Tiwanaku sherds. This site also has surface obsid-

ian, a fairly rare artifact on the island.

SITE NUMBER: 122

Name: Unnamed Size: 0.09 ha

Function: Habitation (?) ceremonial (?)

Period: Inca

Description: A small site near the crest road. The pottery is very nice, suggestive of a ceremonial platform on the road to the Sacred Rock

area.

SITE NUMBER: 123 Name: Unnamed Size: 2.0 ha

Function: Habitation Periods: Tiwanaku (?), Inca

Description: This site is spread over about ten terraces near the low ridge that separates the north and south Kona bays. This site is also associated with Site 124, which has a larger concentration of Tiwanaku pottery. The division between Sites 123 and 124 is arbitrary. This high area between the two bays is a very rich agricultural area with raised fields on either side.

SITE NUMBER: 124

Name: Chiquisani Pampa

Size: 1.0 ha

Function: Habitation Period: Tiwanaku

Description: This part of the ridge is covered with modern corral walls. Site 123 and this site actually make up one settlement, but we arbitrarily divided it for the survey. Unlike the area of Site 123, we found a good representation of Tiwanaku and Altiplano period pottery.

SITE NUMBER: 125 Name: Unnamed Size: 0.50 ha

Function: Habitation Period: Unknown

Description: A site located on the flanks of the hill above the raised field system in the southern Kona Bay. There was a fairly extensive, but light scatter of pottery. The pottery seems Inca, but we were unable to definitively date the sherds.

SITE NUMBER: 126 Name: Unnamed Size: 0.12 ha

Function: Habitation Period: Unknown

Description: A small site next to the raised field system in the southern Kona Bay. The pottery seems Inca, but we were unable to definitively date the sherds. SITE NUMBER: 127 Name: Unnamed Size: 0.01 ha

Function: Ceremonial

Period: Inca

Description: An almost square platform/structure located at the top of the pass on the south side of the crest road. There is a high density of fine Inca-style pottery. The structure, measuring approximately 3.0 x 3.5 meters, was most likely a stop along the pilgrimage route.

SITE NUMBER: 128
Name: Unnamed

Size: Approximately 2.0 ha Function: Agriculture

Period: Inca (?)

Description: An area of raised fields, canals, reservoirs, and diversion canals in the south Kona Bay. Bandelier (1910:235) noted that this area was traversed by causeways, his term for what we now recognize as a raised field complex. There is a major canal that passes through Site 129, a site with large Inca-style niches, and which empties into a reservoir above the raised fields. It is possible that this site (129) in the ravine is directly associated with this agricultural area.

The raised fields seem to be Inca period in date, as suggested by the Inca period sites that surround them and the canal that runs from Site 129 into the reservoir. In short, this area appears to be an area of intensive agricultural production, possibly for ceremonial uses such as maize.

SITE NUMBER: 129 Name: Unnamed Size: 0.25 ha

Function: Ceremonial

Period: Inca

Description: Bandelier describes this site:

At the foot of the eastern declivity of the trough (at which the bottoms of Kona appear), in its southeastern corner, there is a fairly leveled terrace with niches. On the platform not the slightest trace of

buildings can be detected, and not a potsherd nor other artefact of any kind is to be found. Excavations proved fruitless. Nevertheless, the impression becomes strong that this artificially encased rise, with the remains of a descent on the eastern side, may have been leveled for the purpose of erecting on it some edifice. The outline of the terrace is not regular and shows the customary adaptation to natural features, but the walls are well constructed and the two niches (of unequal size) very fairly made. Each of these niches has a ceiling composed of slabs, like some at the Chincana and Pilco-kayma. . . . In some of the ravines that run parallel with those between which the platform stands are similar facings, but much damaged . . . and the marshy bottom is traversed by causeways similar to those at Pucara. (Bandelier 1910: 234-235)

This site is in much worse shape than when Bandelier saw it in 1894. As noted by Bandelier, it is located on the northern bank of a major ravine that feeds the pampa. There is a large, three-sided platform, with walls that stand over 3 meters high. On the southern side of the platform, there is a series of very badly preserved niches. The best-preserved niche appears to have two jambs. While there is no diagnostic pottery on the surface, the architecture is clearly Inca in style.

SITE NUMBER: 130 Name: Unnamed Size: 0.05 ha Function: Habitation

Period: Inca

Description: A small scatter of eroded Inca-style pottery on the side of a low ridge above the Kona Bay. It is associated with the raised field area below.

SITE NUMBER: 131 Name: Unnamed Size: 0.04 ha

Function: Habitation Period: Inca (?)

Description: A small scatter of eroded pottery that is most likely Inca in date. It is located on the side of a low ridge above Kona Bay and is associated with the raised field area below.

SITE NUMBER: 132 Period: Modern

SITE NUMBER: 133 Name: Unnamed Size: 0.25 ha

Function: Habitation

Period: Inca

Description: A light concentration of Inca period and early Colonial pottery on four terraces.

SITE NUMBER: 134 Name: Unnamed Size: 0.03 ha

Function: Habitation

Periods: Middle Formative (?), Upper Formative

Description: A light scatter of pre-Tiwanaku pottery (Middle Formative and Upper Formative plainwares) on two terraces near a ravine. One of the terraces measures about 8.0 x 5.0 meters. There is an eroding midden on the side of this terrace. Its black, organic matrix has bone and pottery fragments, indicating a domestic occupation. This site probably represents a single household.

SITE NUMBER: 135 Name: Unnamed Size: 0.25 ha

Function: Domestic terrace

Period: Inca

Description: A terrace with a scatter of wellmade Inca-style pottery. There is a fine set of agricultural terraces adjacent to the site.

SITE NUMBER: 136 Name: Unnamed Size: 0.25 ha

Function: Domestic terrace

Periods: Upper Formative, Inca

Description: This site is on four terraces above a ravine. There is a dispersal of Upper Formative and Inca-style pottery. This site is located directly across from Site 134 and could be considered as part of the same settlement during the Upper Formative period.

SITE NUMBER: 137 Name: Unnamed Size: 0.04 ha

Function: Domestic terrace

Period: Tiwanaku

Description: This small Tiwanaku site is found on two terraces on the northeast side of a ravine. It represents a small hamlet during the Tiwanaku period.

SITE NUMBER: 138 Period: Modern

SITE NUMBER: 139 Name: Unnamed Size: 0.06 ha

Function: Habitation

Periods: Middle Formative, Upper Formative

(?), Tiwanaku(?)

Description: A light scatter of Middle Formative and possible Upper Formative pottery on top of a ridge.

SITE NUMBER: 140 Name: Unnamed Size: 0.04 ha

Function: Habitation

Periods: Middle Formative, Upper Formative,

Tiwanaku

Description: A light scatter of Middle Formative through Tiwanaku period pottery on top of a

ridge.

SITE NUMBER: 141 Period: Modern

SITE NUMBER: 142 Name: Wakuyu Size: 4.00 ha

Function: Habitation, ceremonial, cemetery

Periods: Late Archaic, Early Formative, Middle Formative (2.0 ha), Upper Formative (3.0 ha), Tiwanaku (4.0 ha)

Description: This site was excavated by Perrin Pando as described in his 1957 publication. He found several subterranean tombs with Tiwanaku pottery. The tombs he describes are typical below-ground, stone-lined cist tombs. He recovered several Tiwanaku banded *keros*. One was a rare blackware example; another had a *parijuana* bird motif. His work clearly demonstrated that there was a cemetery on the site of Wakuyu with Tiwanaku finewares.

This important site has a Late Archaic through Tiwanaku occupation. It was one of the most intensively and continuously occupied areas on the island. It is a classic hilltop site surrounded by terraces. Based on data from other sites in the region, this architectural plan probably was first executed in the Formative period. The terraces have a heavy concentration of artifacts. The pre-Tiwanaku pottery is particularly heavy on the terraces facing the lake. The flat area, which now hosts a football field, may have contained an enclosed architectural area, or even a sunken court. The Tiwanaku occupation is particularly significant at this site. It represents one of the larger centers during the Tiwanaku period.

SITE NUMBER: 143

Name: Unnamed Size: 0.03 ha

Function: Habitation Period: Tiwanaku

Description: A small Tiwanaku hamlet on the east side of the Wakuyu area. It consists of one domestic terrace.

SITE NUMBER: 144
Name: Unnamed

Size: 0.02 ha

Function: Habitation Period: Unknown

Description: A scatter of nondiagnostic pottery

on two small terraces.

SITE NUMBER: 145 Name: Unnamed

Size: 0.50 ha

Function: Habitation, cemetery

Periods: Middle Formative, Upper Formative

(?), Tiwanaku, Altiplano

Description: This site has a wide distribution of artifacts over a flat, high area below the *faro* on the Yumani/Challa border wall. This was a favored location for settlement for millennia, due most likely to the many springs found in the area. There is no existing architecture; however, looted below-ground tombs are found throughout the area.

SITE NUMBER: 146

Name: Unnamed Size: 0.25 ha

Function: Habitation, cemetery

Period: Inca

Description: A single-component Inca period settlement above Site 145. It can be considered the Inca period sector of Site 145.

SITE NUMBER: 147

Name: Unnamed Size: 0.09 ha

Function: Cemetery

Period: Late, probably Inca or Altiplano

Description: A cemetery of below-ground cist tombs associated with Site 146 and possibly

with Site 105.

SITE NUMBER: 148 Period: Modern

SITE NUMBER: 149

Name: Unnamed Size: 0.03 ha Function: (?) Period: Unknown

Description: A light scatter of nondiagnostic pot-

tery.

SITE NUMBER: 150 Name: Unnamed Size: 0.15 ha

Function: Habitation

Period: Inca

Description: A small Inca period site on three

terraces.

SITE NUMBER: 151

Name: Unnamed

Size: 0.09 ha

Function: Habitation

Period: Inca

Description: A small Inca period site on three

terraces.

SITE NUMBER: 152

Name: Unnamed

Function: Hacienda

Size: Approximately 1.0 ha

Period: Early Colonial through modern

Description: The historic hacienda in Yumani. Surprisingly, we found very little Inca-style pottery in the area. However, some residents showed us Inca finewares reportedly excavated from the patio area in front of the haci-

enda.

SITE NUMBER: 153

Name: Unnamed Size: 0.09 ha

Function: Habitation

Period: Inca

Description: A small Inca period site on two ter-

races.

SITE NUMBER: 154

Name: Unnamed Size: 0.09 ha

Function: Habitation

Period: Inca

Description: A small Inca period site on three

terraces.

SITE NUMBER: 155

Name: Unnamed

Size: 0.09 ha

Function: Habitation (?) Period: Unknown

Description: A small dispersion of nondiagnos-

tic pottery on a single terrace.

SITE NUMBER: 156 Period: Modern

SITE NUMBER: 157 Name: Unnamed Size: 0.50 ha

Function: Habitation

Period: Inca

Description: An Inca period site on four terraces.

SITE NUMBER: 158 Name: Unnamed Size: 0.10 ha

Function: Habitation, cemetery

Period: Inca

Description: A small Inca period site on the ridge top. There are looted below-ground cist tombs along with some eroding midden.

SITE NUMBER: 159 Name: Unnamed Size: 0.15 ha

Function: Habitation

Period: Inca

Description: A small Inca period site on three or

four terraces.

SITE NUMBER: 160 Name: Unnamed Size: 0.09 ha

Function: Habitation, cemetery Period: Upper Formative

Description: A small Upper Formative site on

three terraces.

SITE NUMBER: 161 Name: Unnamed Size: 0.04 ha

Function: Unknown Period: Unknown

Description: A small scatter of nondiagnostic

artifacts on two terraces.

SITE NUMBER: 162 Name: Unnamed Size: 0.08 ha

Function: Unknown Period: Unknown

Description: A small scatter of nondiagnostic artifacts on two terraces.

SITE NUMBER: 163 Site Name: Puncu Size: 0.28 ha

Function: Habitation, possible quay

Period: Inca

Description: A moderate scatter of Inca-style pottery at the location identified by Squier as a landing spot for boats from Yampupata. Squier (1877:333) provides a map of an Inca structure that once stood on this spot, and Wiener (1880:412) suggests that there may have been a set of carved rocks near it.

SITE NUMBER: 164

Name: Pilko Kayma, Pilcokaima, Pilcokayma

Size: 1.0 ha Function: Tambo Period: Inca

Description: Pilco Kayma is the best-preserved prehispanic site on the Island of the Sun (Figure A.17). The site rests on a cliff more than 20 meters above the lake in a crescent-shaped bay. It is composed of a nearly square principal building, a set of small outlying buildings to its north, and a suite of surrounding terraces (Bauer and Stanish 2001).

Because Pilco Kayma is relatively close to the mainland and contains standing stone architecture, it is today the most visited archaeological site on the island. Strangely, Pilco Kayma is not specifically mentioned in any of the early Colonial accounts of the island. Pentland visited the island in 1827 and offers the earliest description of Pilco Kayma as well as the first map (Terry and Bauer n.d.). A few years later, Alcide Dessaline d'Orbigny (1835) recorded his 1833 visit to Pilco Kayma in a watercolor. A far less precise rendering of Pilco Kayma is provided by Rivero and Tschudi (1851:185). Squier also documented the site during his stay in the Lake Titicaca region in 1864. He visited Pilco Kayma at least two times and provides detailed floor plans, a description of the re-



Figure A.17. The site of Pilco Kayma (Site 164) from the lake.

mains, and two engravings. Twelve years later, in 1877, Wiener (1880) visited the Islands of the Sun and the Moon. He recorded his visit in a series of engravings based on photographs taken at the site. Bandelier (1910:191-196) also spent several days exploring Pilco Kayma. He made a variety of large- and small-scale maps of the complex, several of which remain unpublished. Bandelier also includes a comprehensive description of the site and illustrates many of the architectural details (1910: Plates XXXIII-XXXVII). Other early visits to Pilco Kayma were made by Sans (1913) in 1885, by Middendorf (1973:318-329) in 1895, and by Bingham (1922) in 1915. The site of Pilco Kayma has also drawn the attention of various modern researchers working in the Lake Titicaca region, as well as scholars interested in Inca architecture. Among the most noteworthy are Mesa and Gisbert (1972), Hyslop (1990), Ponce Sanginés et al. (1992), and Escalante Moscoso (1994).²

The principal building at Pilco Kayma is two stories high and built into the slope of the island. This exceptional building is best known for its closely spaced interior chambers, its high corbeled vaults, and its large doorways on the ground floor. The remains of the second story are poorly preserved, and little of the original layout can be seen. Close examination of the second level during our work on the island did, however, reveal patches of crushed greenstone. These remains suggest that the second level of Pilco Kayma once contained a greenstone floor, not unlike that found during our excavations in the plaza of the Sacred Rock (see Chapter 3).

The date of Pilco Kayma has been the topic of some discussion. Portugal and Ibarra Grasso (1957), followed by McArthur (1980), suggest on the basis of the stepped motifs around the outer doorways and niches of the principal structure and several diamond-shaped motifs on the terrace wall, that the complex was built during Tiwanaku

times or perhaps in the Altiplano period. Other researchers, however, stress that the trapezoidal shape of the exterior doors and niches indicate an Inca period construction date, although they also see the influence of "Tiwanaku" decorative elements at the site. For example, Gasparini and Margolies (1980:13) write that Pilco Kayma contains "the most illustrative example of the Tiwanaku-Inca combination. The typical Tiwanaku double-jamb rectangular doorway takes on the Inca trapezoidal shape retaining on both ends of the lintel the stepped sign which so frequently decorates the doors, windows, and niches of Tiwanaku monuments."

We concur with the latter group of researchers and believe that the complex was built by the Inca. Two samples of grass taken from the plaster at Pilco Kayma were submitted for dating. One samples provided a date of 470 ± 50 BP (AD 1480 ± 50), and the other yielded a radiocarbon date of 420 \pm 60 BP (AD 1530 \pm 60). Both of these dates fall within the period of Inca control of the sacred islands. Nevertheless, we recognize that many of the decorative motifs at Pilco Kayma, like those at the site of Iñak Uyu, on the Island of the Moon, reflect local traditions. This may be the result of the Inca's extensive use of local labor to construct the state facilities on the sacred islands (Gasparini and Margolies 1980:154).

SITE NUMBER: 165

Name: Fountain of the Inca

Size: 0.01 ha

Function: Ceremonial

Periods: Inca

Description: The so-called Fountain of the Inca is one of the most prominent constructions on the southern side of the island. The focal point is a large spring that emerges about midway up the Yumani hill slope. A series of steps descend from the spring to the beach (Figure A.18). A water channel runs beside the steps, and there are large terraces to either side. The fountain, which now has

three openings, had according to Bandelier (1910:197, Plates XXXIX, XL) four openings when he visited the area in 1894. Near the beach, at the base of the terraces there was a large niched wall which is nicely illustrated by Bandelier (1910: Plates XXXVIII–XL), and there may have been other structures nearby (Figure A.19). Today, while the fountain and terrace remain in good shape, the beach area is largely destroyed.

SITE NUMBER: 166

Name: Unnamed Size: 0.04 ha

Function: Habitation Period: Middle Formative

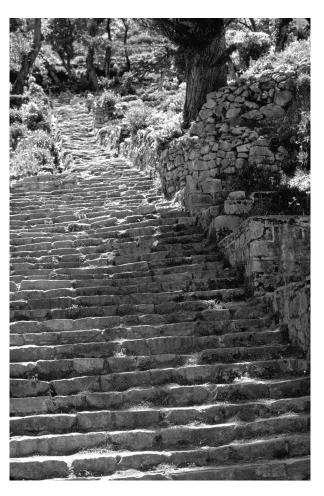


Figure A.18. The stairs at the Fountain of the Inca (Site 165).



Figure A.19. Niches at the first wall on the beach at Site 165 (Fountain of the Inca).

Description: A small Middle Formative domestic site on a terrace above the lake near a spring.

SITE NUMBER: 167 Name: Unnamed Size: 0.05 ha

Function: Habitation (?)

Period: Inca (?)

Description: A very small scatter of probable

Inca-style pottery on one terrace.

SITE NUMBER: 168 Name: Unnamed Size: 0.04 ha

Function: Habitation

Period: Inca

Description: A single terrace site with some

Inca-style ceramics.

SITE NUMBER: 169 Name: Unnamed Size: 0.08 ha Function: Habitation Period: Early Formative

Description: A small Early Formative site located on a flat area on the hillside.

SITE NUMBER: 170 Name: Hacienda Japapi

Size: 0.20 ha

Function: Hacienda, Inca habitation

Period: Inca, early Colonial

Description: This hacienda has a scatter of Inca-

style pottery on the surface.

SITE NUMBER: 171

Periods: Colonial and modern

SITE NUMBER: 172 Name: Unnamed Size: 0.02 ha

Function: Habitation Period: Early Formative

Description: A small Early Formative site

located on two terraces.

SITE NUMBER: 173 Name: Unnamed Size: 0.04 ha

Function: Habitation Period: Inca (?)

Description: A small scatter of probable Incastyle pottery on about three low terraces.

SITE NUMBER: 174 Name: Unnamed Size: 0.06 ha

Function: Habitation Period: Middle Formative

Description: A small Middle Formative site on a

single terrace.

SITE NUMBER: 175 Name: Unnamed Size: 0.25 ha

Function: Agricultural, cemetery, habitation (?)

Period: Possible Tiwanaku (?)

Description: An area with many agricultural terraces and a very light scatter of nondiagnostic pottery. One fine Tiwanaku *kero* fragment was found in one of the terrace walls.

SITE NUMBER: 176 Name: Unnamed Size: 0.04 ha

Function: Habitation

Period: Inca

Description: A small scatter of Inca-style sherds

among agricultural terraces.

SITE NUMBER: 177 Period: Modern

SITE NUMBER: 178 Name: Unnamed Size: 0.01 ha

Function: Habitation Period: Early Formative

Description: This small site measures only 10 x 10 meters but has a very high density of

Pasiri pottery.

SITE NUMBER: 179 (NUMBER SKIPPED)

SITE NUMBER: 180 Name: Tikani Size: 0.25 ha

Function: Solar markers

Period: Inca (?)

Description: Two small structures on the Tikani ridge. Excavations at this site are described in Chapter 4. (Also see Dearborn, Seddon, and Bauer 1998).

NOTES

¹ Bandelier may have also visited this site, perhaps calling it Kurupata. Unfortunately, inconsistencies between the place names on his map, his descriptions of site locations, and his index raise several questions as to the location of Bandelier's "Kurupata."

² For a more lengthy description of Pilco Kayma, see

Bauer and Stanish (2001:163-173).

References Cited

- Abbott, Mark B., M. Binford, M. Brenner, and Kerry Kelts
- 1997 A 3500 ¹⁴C high-resolution record of water-level changes in Lake Titicaca, Bolivia/Peru. *Quaternary Research* 47:169–180.

Albarracin-Jordan, Juan

1996 *Tiwanaku. Arqueología regional y dinamica segmentaria.* La Paz: Editores Plural.

Alconini Mujica, Sonia

- 1993 La cerámica de la pirámide akapana y su contexto social en el estado de Tiwanaku. Tesis de licenciatura, Universidad Mayor de San Andrés, La Paz.
- 1995 Rito, símbolo e historia en la pirámide de Akapana, Tiwanaku: Un análisis de cerámica ceremonial prehispánica. Editorial Acción, La Paz, Bolivia.

Arkush, Elizabeth

1999 Pilgrims and emperors: Inca ceremonial sites in the southwestern Lake Titicaca Basin, Peru. Paper presented at the 64th annual meeting of the Society for American Archaeology, Chicago.

Bandelier, Adolph

- 1910 *The Islands of Titicaca and Koati*. New York: The Hispanic Society of America.
- 1911 *The Ruins at Tiahuanaco*. American Antiquarian Society Proceedings, No. 21. Worcester, Massachusetts.

Bauer, Brian

- 1992a *The Development of the Inca State*. Austin: University of Texas Press.
- 1992b Ritual pathways of the Inca: An analysis of the Collasuyu ceques in Cuzco, Peru. *Latin American Antiquity* 3:183–205.
- 1996 Legitimization of the state in Inca myth and ritual. *American Anthropologist* 98 (2):327–337.

- 1998 The Sacred Landscape of the Inca: The Cusco Ceque System. Austin: University of Texas.
- 1999 Early Ceramics of the Inca Heartland. Fieldiana Anthropology, New Series No. 31. Chicago: Field Museum of Natural History.
- 2002 Las antiguas tradiciones alfareras de la región del Cuzco. Centro de estudios regionales andinos. Cuzco: Bartolomé de Las Casas.
- Bauer, Brian S., and R. Alan Covey
- 2002 State development in the Inca heartland (Cuzco, Peru). *American Anthropologist* 10(3):846–864.
- Bauer, Brian S., and David S. P. Dearborn
 1995 *Astronomy and Empire in the Ancient Andes*. Austin: University of Texas Press.
- Bauer, Brian S., and Bradford M. Jones
- 2003 Early Intermediate and Middle Horizon Ceramic Styles of the Cuzco Valley. Fieldiana Anthropology N.S. No. 34. Chicago: Field Musum of Natural History.
- Bauer, Brian S., and Charles Stanish
- 2001 Ritual and Pilgrimage in the Ancient Andes. Austin: University of Texas Press.

Bennett, Wendell C.

- 1933 Archaeological hikes in the Andes. *Natural History* 33(2):163–174.
- 1934 Excavations at Tiahuanaco. *Anthropological Papers of the American Museum of Natural History* 34(3):359–494. New York: The American Museum of Natural History.

Bermann, Marc

1994 Lukurmata: Household Archaeology in Prehispanic Bolivia. Princeton: Princeton University Press. 1997 Domestic life and vertical integration in the Tiwanaku heartland. *Latin American Antiquity* 8:93–112

Bertonio, Ludovico

1984 *Vocabulario de la lengua Aymara* [1612]. CERES/IFEA/MUSEF, Cochabamba, Bolivia.

Binford, Michael, Mark Brenner, and D. Engstrom

1992 Patrones de sedimentación temporal en la zona litoral del Huiñaimarca. In *El Lago Titicaca: Sintesis del conocimiento*, edited by C. DeJoux and A. Iltis, pp. 47–58. La Paz: ORSTROM/HISBOL.

Bingham, Hiram

1922 *Inca Land: Explorations in the Highlands of Peru*. Boston: Houghton and Mifflin.

Browman, David

1978 Toward the development of the Tiahuanaco (Tiwanaku) state. In *Advances in Andean Archaeology,* edited by D. L. Browman, pp. 327–349. The Hague-Paris: Mouton Publishers.

Calancha, Antonio de la

1981 Corónica moralizada del Orden de San Agustín en el Perú [1638]. Edited by Ignacio Prado Pastor. Lima: Universidad Nacional Mayor de San Marcos, Editorial de la Universidad.

Carpio, Wenceslao del

1918 Breves aclaraciones etimonológicas a la obra las islas de Titicaca y Coiti del señor Adolfo F. Bandelier. *Boletín de la Sociedad Geográfica de La Paz* 47: 1–51. La Paz.

Casanova, Eduardo

1941 Dos yacimientos arqueológicos en la península de Copacabana (Bolivia). *Anales del Museo argentino de ciencias natural Bernardino Riveadavia*, Tomo XL, pp. 333–399. Buenos Aires.

Chávez, Karen L. Mohr

1985 Early Tiahuanaco-related ceremonial burners from Cuzco, Peru. *Dialogo andino* 4:137–178.

1988 The significance of Chiripa in Lake Titicaca Basin developments. *Expedition* 30 (3):17–26.

Chávez, Sergio J., and Karen L. Mohr Chávez

1970 Newly discovered monoliths from the highlands of Puno, Peru. *Expedition* 12(4):25–39.

1975 A carved stela from Taraco, Puno, Peru, and the definition of an early style of stone sculpture from the altiplano of Peru and Bolivia. *Ñawpa Pacha* 13:45–83.

Cieza de León, Pedro de

1976 The Incas of Pedro Cieza de León. Translated by Harriet de Onís and edited by Victor W. von Hagen. Norman: University of Oklahoma Press.

1984 *Crónica del Perú: Primera parte* [1553]. Introduction by Franklin Pease G. Y. and notes by Miguel Maticorena E. Pontifica Universidad Católica del Perú. Lima: Academia Nacional de la Historia.

1985 *Crónica del Perú: Segunda parte* [1554]. Introduction by Franklin Pease G. Y. and notes by Miguel Maticorena E. Pontifica Universidad Católica del Perú. Lima: Academia Nacional de la Historia.

Cobo, Bernabé

1956 Historia del Nuevo Mundo [1653]. Obras del P. Bernabé Cobo de la Compañía de Jesús. Edited by P. Francisco Mateos. Biblioteca de Autores Españoles (continuación), Vols. 91 and 92. Madrid: Ediciones Atlas.

1979 History of the Inca Empire: An Account of the Indians' Customs and Their Origin Together with a Treatise on Inca Legends, History, and Social Institutions [1653].

Translated and edited by Roland Hamilton. Austin: University of Texas Press.

1990 *Inca Religion and Customs* [1653]. Translated and edited by Roland Hamilton. Austin: University of Texas Press.

Dearborn, David, Matthew T. Seddon, and Brian S. Bauer

1998 The sanctuary of Titicaca: Where the sun returns to earth. *Latin American Antiquity* 9:240–258.

de la Vega M., Abel Edmundo

1990 Estudio arqueológico de Pucaras o poblados amurallados de cumbre en territorio Lupaqa: El caso de Pucara-Juli. Tesis bachiller, Universidad Católica "Santa María," Arequipa.

1997 Caracteristica de la re-ocupación Tiwanaku en el sitio de Sillumocco-Huaquina, Juli (Puno). Tesis licenciatura, Universidad Católica "Santa Maria," Arequipa.

d'Orbigny, Alcides Desslines

1835 *Voyage dans l'Amérique méridionale.* Paris: Pitois Levrault.

Diez de San Miguel, Garci

1964 *Visita hecha a la provincia de Chucuito* [1567]. Documentos regionales para la etnohistoria andina, 1. Lima: Ediciones de la Casa de la Cultura del Perú.

Eisleb, Dieter, and Renate Strelow

1980 *Altperuanische kulturen Tiahuanaco III.* Berlin: Museum für Volkerkunde.

Erickson, Clark

1988 An Archaeological Investigation of Raised Field Agriculture in the Lake Titicaca Basin of Peru. Ph.D. dissertation, Department of Anthropology, University of Illinois at Champaign-Urbana. University Microfilms.

Escalante Moscoso, Javier F.

1994 Arquitectura prehispánica en los Andes Bolivianos. La Paz: Producción CIMA.

Espinal, Manuel de

1959 Relación hecha por el tesorero Manuel de Espinal al Emperador [1539]. In Cartas del Perú (1524–1543), edited by Raúl Porras Barrenechea, pp. 344–367. Colección de documentos inéditos para la historia del Perú, Vol. 3. Edición de la Sociedad de Bibliófilos Peruanos, Lima.

Espinoza Soriano, Waldemar

1972a Copacabana del Collao: Un documento de 1548 para la etnohistoria Andina.

Boletín del Instituto francés de estudios andinos 1:1–16.

1972b Alonso Ramos Gavilán: Vida y obra del cronista de Copacabana. *Historia y Cultura* (Lima) 6:121–194.

Garcilaso de la Vega

1966 Royal Commentaries of the Incas and General History of Peru, Parts 1 and 2 [1609].
Translated by H. V. Livermore. Austin:
University of Texas Press.

Gasparini, Graziano, and Luise Margolies

1980 *Inca Architecture*. Translated by Patricia J. Lyon. Bloomington: Indiana University Press.

Goldstein, Paul

1989 *Omo, A Tiwanaku Provincial Center in Moquegua, Peru*. Ph.D. dissertation, Department of Anthropology, University of Chicago.

1993 Tiwanaku temples and state expansion: A Tiwanaku sunken-court temple in Moquegua, Peru. *Latin American Antiquity* 4:22–47.

González Holguín, Diego

1989 Vocabulario de la lengua general de todo el Perú llamada lengua Quichua o del Inca [1608]. Presentación de Ramiro Matos Mendieta. Prólogo de Raúl Porras Barrenechea. Lima: Universidad Nacional Mayor de San Marcos, Editorial de la Universidad.

Graffam, Gray Clayton

1992 Beyond state collapse: Rural history, raised fields, and pastoralism in the South Andes. *American Anthropologist* 94(4):882–904.

Gregory, Herbert E.

1913 A geographical sketch of Titicaca, the Island of the Sun. *Bulletin of the American Geographical Society* 45(8):561–575.

Hastorf, Christine

1999 Early Settlement at Chiripa, Bolivia. Contributions of the University of California Archaeological Research Facility.
Berkeley, California.

Hyslop, John Jr.

1976 An Archaeological Investigation of the Lupaqa Kingdom and Its Origins. Ph.D. dissertation, Department of Anthropology, Columbia University.

1990 *Inca Settlement Planning*. Austin: University of Texas Press.

Ibarra Grasso, Dick

1956 *Tiahuanaco*. Cochabamba: Editorial Atlantica.

Janusek, John Wayne

1994 State and Local Power in a Prehispanic Andean Polity: Changing Patterns of Urban Residence in Tiwanaku and Lukurmata, Bolivia. Ph.D. dissertation, Department of Anthropology, University of Chicago.

1999 Craft and local power: Embedded specialization in Tiwanaku cities. *Latin American Antiquity* 10(2):107–131.

Janusek, John W., and Alan L. Kolata

2000 Prehispanic settlement dynamics in the Río Katari basin. In *Tiwanaku and Its Hinterland: Archaeological and Paleoecological Investigations of an Andean Civilization*, Vol. 2, edited by Alan L. Kolata. Washington, DC: Smithsonian Institution Press.

Julien, Catherine

1983 Hatunqolla: A View of Inca Rule from the Lake Titicaca Region. Series Publications in Anthropology, Vol. 15. Berkeley: University of California Press.

1993 Finding a fit: Archaeology and ethnohistory of the Incas. In *Provincial Inca*, edited by Michael Malpass, pp. 177–233. Iowa City: University of Iowa Press.

Kidder, Alfred II

1943 Some Early Sites in the Northern Lake Titicaca Basin. Papers of the Peabody Museum, Harvard University, Vol. XXVII, No. 1. Cambridge, Massachusetts.

Kolata, Alan

1993 *The Tiwanaku*. London: Basil Blackwell. Lee, Vincent R.

1998 Reconstructing the great hall at Inkalacta. *Andean Past* 5:35–51.

Lumbreras, Luis Guillermo

1974 The Peoples and Cultures of Ancient Peru. Washington, DC: Smithsonian Institution Press.

McArthur, Mary Anne

1980 The Architecture of Pilco-Kayma and Iñak-Uyu in Lake Titicaca. Master's the-

sis. Department of Art, Tulane University.

MacCormack, Sabine

1990 Children of the sun and reason of state myths, ceremonies and conflicts in Inca Peru. Working Papers, Department of Spanish and Portuguese, University of Maryland at College Park.

1991 Religion in the Andes: Vision and Imagination in Early Colonial Peru. Princeton: Princeton University Press.

Mathews, James Edward

1992 Prehispanic Settlement and Agriculture in the Middle Tiwanaku Valley, Bolivia. Ph.D. dissertation, Department of Anthropology, University of Chicago.

Meiklejohn, Norman

1988 *La iglesia y los Lupaqas durante la Colonia.* Cuzco: Bartolomé de las Casas.

Mesa, José de, and Teresa Gisbert

1966 Arte precolombino en Bolivia. *Anales del Instituto de arte americano e investigaciones estéticas* (Buenos Aires) 19:45–71.

1972 La arquitectura incaica en Bolivia.

Boletín del Centro de investigaciones
históricos y estéticas (Caracas) 12:129–
168.

1973 Los Incas en Bolivia. *Historia y cultura* (La Paz) 1:15–50.

Middendorf, Ernst F.

1973 *Perú: Observaciones y estudios del país y sus habitantes durante una permanencia de 25 años* [1893]. 3 vols. Lima: Universidad Nacional Mayor de San Marcos.

Miranda, Cristóbal de

1925 Relación hecha por el Virrey D. Martín de Enríquez de los oficios que se proveen en la gobernación de los reinos y provincias del Perú [1583]. In *Gobernantes del Perú: Cartas y papeles del siglo XVI*, Vol. 9, edited by Roberto Leviller, pp. 114–230. Madrid: Juan Pueyo.

Morris Craig, and Adriana von Hagen

1993 *The Inka Empire and Its Andean Origins*. American Museum of Natural History. New York: Abbeville Press. Moseley, Michael

1992 *The Incas and Their Ancestors*. London: Thames and Hudson.

Muelle, Jorge C.

1945 Pacarectambo: Apuntes de viaje. *Revista del Museo Nacional* (Lima) 14:153–160.

Pardo, Luis A.

1946 La metropóli de Paccarictambu: El adoratorio de tamputtocco y el itinerario del camino seguido por los hermanos Ayar. *Revista del Instituto arqueológico del Cuzco* 2:2–46.

1957 Historia y arqueología del Cuzco. 2 vols. Callao: Imprenta del Colegio Militar Leonico Pardo.

Pentland, Joseph Barclay

1827 Report on the Bolivian Republic. Microfilm 2045. Public Record Office, Foreign Office, file 61/12. Lima: Great Britain Consulate General.

Perrin Pando, Alberto

1957 Las tumbas subterraneas de Wakuyo. In Arqueología boliviana, edited by Carlos Ponce Sanginés, pp. 173–205. La Paz: Alcaldía Municipal.

Pizarro, Pedro

1986 Relación del descubrimiento y conquista de los reinos del Perú [1571]. Lima: Pontifica Universidad Católica del Perú.

Ponce Sanginés, Carlos

1981 *Tiwanaku: Espacio, tiempo y cultura*. 4th edition. Lima: Editorial Los Amigo de Libro.

1992 Arqueología subacuática en el lago Titikaka. In *Exploraciones arqueológicas subacuáticas en el Lago Titikaka*, edited by Carlos Ponce Sanginés, Johan Reinhard, Max Portugal, Eduardo Pareja, and Leocadio Ticlla, pp. 11–328. Lima: La Palabra Producciones.

Ponce Sanginés, Carlos, Johan Reinhard, Max Portugal, Eduardo Pareja, and Leocadio Ticlla (editors)

1992 Exploraciones arqueológicas subacuáticas en el Lago Titikaka. La Paz: La Palabra Producciones.

Portugal, Maks, and Dick Edgar Ibarra Grasso 1957 Copacabana: El santuario y la arqueología de la peninsula e islas del Sol y de la Luna.

Cochabamba: Editorial "Atlantic."

Posnansky, Arthur

1910 Guía para el visitante de los monumentos prehistóricos de Tihuanacu e isles del Sol y la Luna (Titicaca y Koaty). La Paz: Hugo Heitmann.

1912 Guía general ilustrada para la investigación de los monumentos prehistóricos de Tihuanacu é islas del Sol y la Luna (Titicaca y Koaty). La Paz: Hugo Heitmann.

1920 Templos y viviendas prehispánicas. *Anales del Museo Nacional de Bolivia* 1(1).

La Paz.

1933 Precursores de Colón: Las perlas aggri y las representaciones sobre tejidos arcaicos como prueba del descubrimiento de América antes de Colón. In *Revista de la Sociedad de Historia Argentina*, No. 1. Buenos Aires.

1957 *Tihuanacu: The Cradle of American Man.* 4 vols. La Paz: Ministerio de Educación.

Ramos Gavilán, Alonso

1988 Historia del Santuario de Nuestra Señora de Copacabana [1621], edited by I. Prado Pastor. Lima: Gráfico P. L. Villanueva S.A.

Reinhard, Johan

1983 High altitude archaeology and mountain worship in the Andes. *American Alpine Journal* 25:54–67.

1992a Underwater archaeological research in Lake Titicaca, Bolivia. In *Ancient America: Contributions to New World Archaeology*, edited by Nicholas Saunders, pp. 117–143. Oxford: Oxbow Books.

1992b Investigaciones arqueológicas subacuáticas en el lago Titikaka. In *Exploraciones arqueológicas subacuáticas en el Lago Titikaka*, edited by Carlos Ponce Sanginés, Johan Reinhard, Max Portugal, Eduardo Pareja, and Leocadio Ticlla, pp. 421–530. La Paz: La Palabra Producciones.

Rivera Sundt, Oswaldo

1984 Pilkokaina e Inakuyu: Hacía la supervivencia de dos monumentos arqueológicos nacionales. *Arqueología Boliviana* 1:111–114.

Rivero y Ustariz, Mariano Eduardo de, and Johan Jakob von Tschudi

1851 *Antigüedades peruanas*. Vienna: Imprenta Imperial de la Corte y del Estado.

1853 *Peruvian Antiquities*. Translated by F. L. Hawks. New York: G. P. Putnam and Co.

Rodríguez Barragán, Juan

Barragán para su sescargo. In Colección de documentos inéditos relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas de América y Oceanía sacados de los archivos del reino, Vol. 20, edited by D. Joaquín, F. Pacheco, Francisco de Cárdenas, and Luis Torres de Mendoza, pp. 380–485. Colección de documentos inéditos de Indias. Madrid: Imprenta del Hospicio.

Rowe, John H.

1944 An Introduction to the Archaeology of Cuzco. Papers of the Peabody Museum of American Archaeology and Ethnology, Vol. 27, No. 2. Cambridge, Massachusetts: Harvard University.

1954 *Max Uhle, 1856–1944, A Memoir of the Father of Peruvian Archaeology.* University of California Publications in American Archaeology and Ethnology Vol. XLVI, pp. 1–134. Berkeley: University of California Press.

Salas, Baltasar de

"Isla de la Luna, Coya-ahti (Coatí) con sus misteriosos monumentos explorados en 1618" and "Hallazgo de los restos de la Mama-Huacu-Ojjllo, y de unas láminas hieráticas y apocalípticas en el mismo templo de la Luna año 1618."
[1618]. In Copacabana de los Incas: Documentos autolingüísticos e isografiados del Ayamaru-Ayamara, edited by J. Viscarra F., pp. 30–55. La Paz: Plaza Hermanos.

Sancho de la Hoz, Pedro

1917 An Account of the Conquest of Peru [1534].
Translated and annotated by Philip
Ainsworth Means. New York: The
Cortés Society.

1898 Relación de la conquista del Perú [1534]. Edited by Joaquín Garcia Icazbaslceta. In *Biblioteca de autores Mexicanos*, Vol. 8, pp. 309–423. Mexico: Imprinta de V. Agúeros.

Sans, Rafael

1913 Excursión a las islas de Titicaca y Coati en Bolivia. *Boletín de la Sociedad Geográfica de La Paz* 39:59–122.

Seddon, Mathew Thomas

1998 Ritual, Power, and the Development of a Complex Society: The Island of the Sun and the Tiwanaku State. Ph.D. dissertation, Department of Anthropology, University of Chicago.

Squier, Ephraim

1877 Peru. Incidents of Travel and Exploration in the Land of the Incas. New York: Harper and Brothers.

Stanish, Charles

1994 The hydraulic hypothesis revisited: A theoretical perspective on Lake Titicaca Basin raised field agriculture. *Latin American Antiquity* 5:312–332.

1997 Nonmarket imperialism in a prehispanic context: The Inca occupation of the Titicaca Basin. *Latin American Antiquity* 8:1–18.

1999 Settlement pattern shifts and political ranking. In *Fifty Years after Viru*, edited by Brian R. Billman and Gary M. Feinman, pp. 116–128. Washington, DC: Smithsonian Institution Press.

2000 Negotiating rank in an imperial state:
Lake Titicaca Basin elite under Inca and
Spanish control. In *Hierarchies in Action: Cui Bono?* edited by M. Diehl, pp. 317–
339. Occasional Paper 27. Carbondale:
Southern Illinois University Center for
Archaeological Investigations.

2001a The origins of the state in South America. *Annual Reviews in Anthropology* 30:41–64.

2001b Regional research on the Inca. *Journal of Anthropological Archaeology* 9(3):213–241.

2002 Tiwanaku political economy. In *Andean Archaeology I, Variations in Socio-political Organization*, edited by William H. Isbell and Helaine Silverman, pp. 169–198. New York: Kluwer Academic.

2003 Ancient Titicaca. The Evolution of Complex Society in Southern Peru and Northern Bolivia. Berkeley: University of California Press.

Stanish, Charles, Edmundo de la Vega M., and Kirk Lawrence Frye

1993 Domestic architecture of Lupaqa area sites. In *Domestic Architecture in South Central Andean Prehistory*, edited by M. Aldenderfer, pp. 83–93. Iowa City: University of Iowa Press.

Stanish, Charles, and Lee Steadman

1994 Archaeological Research at the Site of Tumatumani, Juli, Peru. Fieldiana Anthropology, New Series No. 23. Chicago: Field Museum of Natural History Press.

Stanish, Charles, Edmundo de la Vega, Lee Hyde Steadman, Kirk Lawrence Frye, Cecília Chávez J., Luperio Onofre, and Matthew Seddon

1997 Archaeological Survey in the Juli-Desaguadero Area, Lake Titicaca Basin, Peru. Fieldiana Anthropology, Chicago: Field Museum of Natural History Press.

Stanish, Charles, Richard Burger, Lisa Cipolla, Michael Glascock, and Esteban Quelima

2002 Evidence for early long-distance obsidian exchange and watercraft use from the southern Lake Titicaca Basin of Bolivia and Peru. *Latin American Antiquity* 13:444-454.

Steadman, Lee Hyde

1994 Pottery Analysis. In *Archaeological Research at the Site of Tumatumani, Juli, Peru*. Fieldiana Anthropology, New
Series No. 23, by Charles Stanish and

Lee Hyde Steadman. Chicago: Field Museum of Natural History Press.

1995 Excavations at Camata: An Early Ceramic Chronology for the Western Titicaca Basin, Peru. Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.

In press The ceramics from Quelcatani. In *Quelcatani and Evolution of a Pastoral Lifeway*, edited by Mark Aldenderfer. Washington, DC: Smithsonian Institution Press.

Terry, Joshua, and Brian S. Bauer

n.d. Pentland's 1827 description of the Islands of the Sun and Moon and the ruins of Tiwanaku. Manuscript in possession of authors.

Trimborn, Hermann von

1967 *Archäologishe studien in den kordilleren Boliviens.* Berlin: Dietrich Reimer.

Tschopik, Marion

1946 Some notes of the archaeology of the Department of Puno. Papers of the Peabody Museum of American Archaeology and Ethnology Vol. 27, No. 3. Cambridge, Massachusetts: Harvard University Press.

Uhle, Max, and Alphons Stübel

1891 *Die ruinenstaette von Tiahuanaco im hochlande des alten Peru*. Leipzig: Verlag von Karl W. Hiersemann.

Vizcarra, F. J.

1901 Copacabana de los Incas: Documentos autolingüísticos e isografiados del Ayamaru-Ayamara. La Paz: Plaza Hermanos.

Wallace, Dwight

1957 The Tiahuanaco Horizon Styles in the Peruvian and Bolivian Highlands. Ph.D. dissertation, Department of Anthropology, University of California, Berkeley.

Wiener, Charles

1880 Perou et Bolivie. Recit de voyage suivi d'études archéologiques et ethnographiques et de notes sur l'écriture et les langues des populations indiennes. Paris: Hachette & Cie. Wirrmann, Denis, Jean-Pierre Ybert, and Philippe Mourguiart

1991 Una evaluación paleohidrológica de 20.000 años. In *El Lago Titicaca*. La Paz: HISBOL.

Wurster, Wolfgang W.

1999 *Pläne archäologischer stätten im andenge-biet /* Max Uhle (1856-1944), with contributions by Verena Liebscher. Mainz: P. von Zabern.

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