Early Intermediate and Middle Horizon Ceramic Styles of the Cuzco Valley

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Early Intermediate and Middle Horizon Ceramic Styles of the Cuzco Valley

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Above and back cover: Incised puma heads from Peqokaypata.
Early Intermediate and Middle Horizon Ceramic Styles of the Cuzco Valley

Brian S. Bauer\(^1\) and Bradford M. Jones\(^2\)

**Abstract**

This study presents new information on the ceramic styles of the Cuzco region during the Early Intermediate period and the Middle Horizon. The results of excavations in 1999 and 2000 at three sites in the Cuzco Valley afford better definition of the ceramic styles and dating of these two time periods. New information is presented on the Wari occupation of the Cuzco region and the influence that Altiplano (i.e., Lake Titicaca) cultures had on the Cuzco region during these time periods.

**Introduction**

The Middle Horizon encompassed a broad span of time during which much of the central and south-central Andean highlands came under the influence of two great states, Wari and Tiwanaku. Current research suggests that the Wari began to expand from their traditional power base in the Ayacucho region of Peru sometime after A.D. 550 and that state expansion continued through at least A.D. 900, after which the state appears to have suddenly collapsed (Williams 2001). Though less is known concerning the development of Tiwanaku, it seems that by A.D. 300 the city of Tiwanaku, near the southwestern shore of Lake Titicaca in Bolivia, was of considerable importance. Expansion of Tiwanaku may have begun around A.D. 500 and waned, like Wari, near the end of the first millennium (Kolata 1993).

During the Middle Horizon the Cuzco region, which lies between the highland centers of Wari and Tiwanaku, came under the sway of the Wari empire. Archaeologically this situation is reflected in changes in the use and production of local ceramic styles as well as in the importation of various foreign styles into the region. One of the major goals of our 1999 field season was to improve our understanding of the ceramic sequence for the Early Intermediate period and the Middle Horizon in the Cuzco Valley. By investigating the ceramic styles of these periods in light of a series of new radiocarbon dates on materials recovered during our excavations (Appendix 1), we are better able to date the period of Wari occupation in the region and to evaluate its impact on the material practices of the inhabitants of the Cuzco Valley.

**Early Intermediate and Middle Horizon Ceramic Styles of the Cuzco Region**

The development of a ceramic sequence for the Cuzco region was begun by John H. Rowe (1943, 1944, 1956) during his early, groundbreaking research in the Cuzco region. Since that time, numerous other researchers have helped to define the general ceramic chronology for the area.

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(Bauer 1999, 2001). The ceramic styles of the Early Intermediate period and the Middle Horizon in the Cuzco area have proved to be some of the most challenging to date and to understand. It is clear that several different styles of ceramics were being produced in the Cuzco region during these periods and that others were being imported from areas to the west and southeast of Cuzco.

This work discusses a number of different ceramic styles of the Early Intermediate period and the Middle Horizon found in the Cuzco region. Many of these styles have been poorly described and little illustrated. Furthermore, most of the styles have been dated through relative dating techniques rather than with the aid of radiocarbon samples found in direct association with the pottery styles. It is our hope that through a chronological refinement of the ceramic styles associated with the Early Intermediate period and the Middle Horizon in the Cuzco region, researchers will be able to make more grounded interpretations about these important periods of Andean prehistory. Among the various styles discussed in this report are (1) styles that were produced in the Cuzco region but imitate or were greatly influenced by Wari pottery traditions of the Ayacucho region, (2) styles that were produced in other regions but were imported to Cuzco, and (3) styles that were indigenous to the Cuzco region. We present brief discussions of these styles below and provide more detailed descriptions and illustrations in the appendices.

Among the various important styles are a series of styles that were actually produced in the Ayacucho area and later imported into the Cuzco region. These include the Ayacucho styles of Chakipampa, Okros, Viñaque, Huanma, and Robles Moco (Knobloch 1991; Glowacki 1996, 2002). Various examples of possible imported Wari ceramics have been found in excavations at Pikillacta and other sites in the Cuzco region. Neutron activation analysis by Glowacki and her associates of selected pieces indicate that they were in fact produced in the Wari heartland and then imported into the Cuzco region (Montoya et al. 2000).

There are, however, a number of other ceramic styles in the Cuzco region that appear to be locally produced but that closely imitate ceramics of the Wari homeland. For example, the finer wares recovered at Pikillacta resemble the Okros ceramics of the Wari homeland but were produced in the Cuzco region (Knobloch 1991:253–254; Glowacki 1996; Montoya et al. 2000). Another example is the recently defined style of Arahauy (Torres Poblete 1989; Glowacki 1996; Bauer 1999, 2001). Arahauy ceramics are characterized by the use of broad red bands, outlined with narrow black lines, over a buff slip (Fig. 1) (photographs of the artifacts discussed in this report appear on pp. 19–34). Glowacki (1996) has demonstrated that Arahauy pottery closely imitates the Huamanga ceramics of the Ayacucho region. Through neutron activation, she and her colleagues have also shown that Arahauy ceramics were made from local clays (Montoya et al. 2000). Surveys have found that Arahauy ceramics are widespread in the Cuzco region, and we currently use them as a marker for Wari influence in the area. It has also been suggested that Arahauy ceramics influenced or were the direct antecedents of Killke pottery, a major ceramic style of the Cuzco Valley during the Late Intermediate period (Bauer 1999, 2001). Although Arahauy ceramics represented one of the dominant ceramic styles of the Cuzco region during the Middle Horizon, its period of production was little understood before our 1999 excavation season (Appendix 2).

Qotakalli is a distinct style of ceramics with a cream slip and elaborate geometric designs (Fig. 2). Major subtypes of this pottery include bi-chromes (black-on-cream, or more rarely red-on-cream) and polychromes (black-and-red-on-cream) (Appendix 3). First identified in the Cuzco Valley in the 1970s (Barreda Murillo 1982), Qotakalli pottery is now known to be relatively widespread (Espinoza Martínez 1983; Valencia Zegarra 1984; McEwan 1984; Torres Poblete 1989; Glowacki 1996; Zapata 1998). Before our 1999 field season there was just one radiocarbon date for Qotakalli materials. Excavations by Ann Kendall (1996:153) at the site of Huillica Raccay in the Cusichacaa Valley recovered Qotakalli pottery in a midden that yielded a radiocarbon date of 1580 ± 60 b.p. (calibrated 95.4% probability: A.D. 340–A.D. 620; sample Q3091; see Appendix 1). These data suggested that the production of Qotakalli ceramics began in the Early Intermediate period. However, the results of investigations conducted by other researchers elsewhere in the Cuzco region have indicated that certain kinds of Qotakalli vessels continued to be produced during

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1 The terminology used in this paper differs slightly from that used in earlier works discussing the ceramic styles of the Cuzco region (Bauer 1999, 2001). The refinement is based on our increased understanding of the local and imported ceramics of the Cuzco region over several additional years of research.
the Middle Horizon. For example, excavations at Pikillacta and Batán Orco have generated bi-
chrome Qotakalli (black-on-cream) pottery in asso-
ciation with Middle Horizon ceramic styles, in-
dicating that this ceramic style was used during
the time of Wari influence (Barreda 1982; Mc-

While Qotakalli and Arahuay represent the two
dominant ceramic styles of the Cuzco Valley for
the Early Intermediate period and the Middle Ho-
rizon, respectively, they were not the only cerami-
cs being used. Surface collections conducted by
Karen Chávez (1985) have documented the dis-
tribution of incised incensarios between Cuzco
and Lake Titicaca. Survey work by Bauer (1999,
2001) has also shown that these vessels can be
found directly south of Cuzco. Although neutron
activation work by Montoya et al. (2000) suggests
that incised incensarios were produced with local
clays, their distribution south and southeast of
Cuzco and their similarity to incised early Tiwa-
naku vessels suggest an Altiplano influence (K.
Chávez 1985). Because all of the examples of in-
cised incensarios in the Cuzco region had been
recovered in surface collections, the timing of this
influence was not well known, and the range of
its vessel forms was little understood. Our exca-
vations, however, have provided additional ex-
amples of this intriguing ceramic style (Fig. 3)
and new information on its production dates (Ap-
pendix 4).

Another ceramic style, called Muyu Orco, may
also reflect Altiplano influence in the Cuzco re-
region. First identified in the province of Paruro
(Bauer 1989, 1999, 2001), it has now been found
at various sites in the Cuzco Valley and surround-
ing areas (Espinoza Martínez 1983; Torres Poblete
1989; Zapata 1997). The proposed Altiplano con-
nection is based on two observations. First, Muyu
Orco ceramics are decorated with bright white,
black, and orange colors painted over a polished,
dark red background (Fig. 4). These colors are
also used in the Altiplano ceramic traditions of
Pucara and Tiwanaku. Second, various vessel
forms (i.e., annulated bowls) and vessel attributes
(i.e., rim scallops and pedestal bases) found in the
Muyu Orco collections are frequently seen in Al-
tiplano collections of this time period (Appendix
5). The timing of this influence, however, was not
well understood before we began our excavation
project.3

The 1999 Excavation Program

In 1994, Brian Bauer began the first systematic
regional survey of the Cuzco Valley to examine
the long-term developmental processes that oc-
curred in the valley from the time of the first hunt-
ing and gathering groups, ca. 7000 B.C., until the
arrival of European forces in A.D. 1532 (Bauer in
press; Bauer and Covey 2002). The study, which
covered some 350 square kilometers, was completed
by Bauer and R. Alan Covey between 1997
and 1999. In the course of the survey, surface
collections were made at more than 1,200 archae-
ological sites. In 1998 and 1999, many of these
sites were revisited for second collections.

In 1999, building on the results of our system-
atic survey of the Cuzco Valley, we selected for
test excavations three small to medium-sized sites
that contained different combinations of Early In-
termediate and Middle Horizon ceramic styles
(Map 1).4 In other words, rather than excavating
a single, large, multicomponent site, we used our
survey results to select sites that had the specific
combinations of pottery styles that we wanted to
study. By conducting test excavations at multiple
small sites, we were able to isolate and date the
various ceramic styles used in the Cuzco Valley
during the Early Intermediate period and Middle
Horizon. We were also able to address a series of
interrelated questions concerning the pre-Inca cul-
tures of the Cuzco Valley. Most important, we
wanted an answer to the question, When did the
Altiplano and Wari influences on ceramic produc-
tion in the Cuzco Valley begin and end? The sites
chosen for test excavations included the follow-
ing:

2Because of this, Qotakalli has been classified as a
Middle Horizon style (Bauer 1999). The research pre-
sented in this report, however, indicates that most Qo-
takalli production took place during the Early Inter-
mediate period.

3In an earlier, report Bauer (1999) proposed that
Muyu Orco ceramics post-dated incised incensarios.
Based on the excavation data from Peqokaypata, we
now believe that they were both produced during the
Early Intermediate period.

4In 1999, test excavations were also dug at the small
site of Cruz Pata, above the village of Huilcarpay,
to gain information on the Late Intermediate period ceram-
ic style of Killke. Unfortunately, the site proved to be
poorly preserved. In 2000, excavations were also con-
ducted at the site of Kasapata, the first preceramic site
to be found in the region. The results of these excava-
tions are currently being analyzed.

BAUER & JONES: CERAMIC STYLES OF THE CUZCO VALLEY 3
MAP 1. Location of sites selected for test excavations in 1999.
Pukacancha (Co. 141): A medium-sized site on the western slope of Taucaray Hill, with a small cluster of Inca buildings. Numerous Inca and Araway ceramic fragments as well as a few Qotakalli sherds were recovered from the surface of the site. The large number of Araway sherds at Pukacancha suggested that its major pre-Inca occupation dated to the Middle Horizon. By excavating this site we hoped to better understand the timing of Wari influence in the Cuzco region.

Tankarpata (Co. 195): A medium-sized site beside the village of Tankarpata with no visible architectural remains. It is located one ridge to the west of the original type site of Qotakalli. Surface collections from the site of Tankarpata yielded numerous fragments of Qotakalli and Araway ceramics and minor amounts of many other styles. From the surface collection we believed that the site was continually occupied during the Early Intermediate period and Middle Horizon.

Peqokaypata (Co. 31): A small site with no visible architectural remains. The dominant ceramic styles within the surface collections were Qotakalli and Chanapata-derived (also known as Late Formative) pottery. Some Muuyu Orco and incised incensario sherds were recovered, along with a few later (Killke and Inca) styles. The complete absence of known Middle Horizon ceramics, including imported Wari styles and Araway vessels, at Peqokaypata suggested that this site would yield important information on the immediately pre-Wari occupation of the Cuzco Valley.

In sum, in order to investigate the Early Intermediate and Middle Horizon cultures and associated ceramic styles of the Cuzco Valley, we selected Peqokaypata, an immediately pre-Wari site; Tankarpata, a site that had been occupied during both the Early Intermediate period and Middle Horizon; and Pukacancha, a site that manifested a clear Wari occupation with little evidence of earlier remains.

The excavations began in June 1999 and continued for two months. We spent approximately two weeks at each of the selected sites. We returned to Peqokaypata in June of 2000 to spend an additional two weeks of fieldwork at the site. The excavations were conducted with picks, shovels, and trowels and followed both arbitrary (10 cm) and natural (stratigraphic) levels. All the excavated soil was screened through 1/4-inch wire mesh. Attempts were made in all units to reach sterile sediments before terminating excavation. Standardized excavation forms were completed for each level and photographs taken. Ceramic, bone, metal, and stone artifacts were bagged separately in the field. Carbon samples were collected separately and recorded on special inventory forms. All artifacts recovered in the course of this fieldwork were transported to Cuzco for analysis. Laboratory work on the artifacts recovered at the sites was conducted throughout the 1999 field season and was continued in June and July of 2000 and 2001.

Pukacancha

The archaeological site of Pukacancha is located at the end of a steep-sided ridge that juts out from Taucaray Hill between Cuzco and the community of Huilcarpay (Fig. 5). The site covers an area approximately 100 by 100 meters and contains significant Late Horizon as well as Middle Horizon occupations. Densely scattered pottery and the crumbling foundations of a small Inca architectural complex, composed of three rectangular structures around a nearly square plaza, testify to the pre-Hispanic use of the site (Map 2).

Pukacancha is currently used for cultivating wheat, corn, and potatoes and is owned by a single family living in Tankarpata and San Sebastian. Some of the Inca walls have been dismantled to enlarge the size of the fields. Short-term corrals and temporary shelters have also been constructed at the site using material from the Inca structures. Several months before our excavations at the site, a tractor plowed an area to the northeast of the Inca structures near the hill slope and damaged the corner of the eastern structure. The other parts of the site continue to be worked with traditional scratch plows.

Two surface collections at the site recovered fragments of Inca, Killke, Araway, and Qotakalli pottery. (Fewer than five Killke fragments were recovered at the site, suggesting that Pukacancha was uninhabited during the Late Intermediate period.) Excavations at Pukacancha involved six test units, three of which were subsequently expanded to better clarify features that were encountered. Unit 1 was dug outside and slightly upslope from the Inca buildings to examine a dense sheet midden with a high concentration of Araway pottery. Units 2, 4, and 6 were placed within the buildings
to examine their construction techniques, evaluate the Inca occupation at the site, and test for Middle Horizon materials beneath the structures. Unit 3 was located in the plaza, and Unit 5 was positioned on a southern terrace of the site to test for additional structures and middens.

**Inca Component at Pukacancha**

The name of the site (Pukacancha = Red Enclosure) comes from the three rectangular buildings, clustered around an open courtyard, that once stood on this ridge. The *cancha* or courtyard layout of the buildings is a typical feature of Inca architecture found in the Cuzco region and throughout the empire. The excavations revealed that Building 2 rested above a Middle Horizon occupation, whereas Building 1 had been constructed through excavations into sterile subsoil. Inca artifacts recovered in the course of the excavation included fine and domestic vessel fragments (Fig. 6), animal bones, and a bronze "celt" (Fig. 7).

The excavations within the buildings produced a relatively low quantity of Inca artifacts when compared with deposits outside, and downslope, from them, although some Inca sherds and a few bone fragments were found in association with a prepared red clay floor. In Building 2 (Units 2 and 6) and on the natural clay floor of Building 1 (Unit 4), the Inca structures appear to have been kept relatively clean. During the excavations, no clear activity areas were defined, and the manner in which the structures were used remains unknown. Carbon recovered from the Inca floor in Unit 4 generated a date of 440 ± 45 B.P. (calibrated 95.4% probability: A.D. 1400 [85.3%] A.D. 1530, A.D. 1570 [10.1%] A.D. 1630; sample number AA 34936 [wood carbon]).

The most detailed information on how the Inca constructed the buildings at Pukacancha came from Units 2, 4 and 6. The excavation of Units 2 and 6 indicated that Building 2 was constructed by first digging a wall trench over half a meter in depth and several centimeters wider than the base of the wall. Into this trench the outer structure wall, approximately 80 centimeters wide and composed of large stones with mortar, was set. The trench was then filled with alternating layers of different-colored clays from the hillsides surrounding the site. A small clay mound, apparently used to provide extra support, was constructed abutting the wall. A fill of *contay*, a soft chalky white stone that is the underlying bedrock of the ridge, was then used to raise and level the interior.
Map 2. The site of Pukacancha.
of the building. In the case of Building 2, this *contay* fill capped and protected an underlying Middle Horizon occupation. The excavation of Unit 4 in Building 1 revealed that unlike Buildings 2 and 3, this structure was built in part by excavating and leveling the hill slope and using the underlying clay as a floor surface. Finally, a thin coating of sterile red clay, roughly 5 centimeters thick, was laid down over the *contay* fill to create a floor, and the walls were plastered. The interiors of Buildings 1 and 2 were both subdivided down the long axis by low courses of small and medium-sized unmodified stones placed directly on the floor. The function of these stones is not known.

**Middle Horizon Component at Pukacancha**

The Middle Horizon component of Pukacancha is defined by the recovery of Arahamuy ceramics from both the site surface and in all the excavation units. The excavation of Units 2 and 6 revealed that intact Middle Horizon components were preserved under the floor of Building 2, and excavation of Unit 1 uncovered a stratified Middle Horizon midden deposit in a natural depression. The excavations also revealed, however, that the Middle Horizon artifacts recovered in Units 3, 4, and 5 were in secondary contexts as a result of redeposition related to the Inca construction and natural erosional processes. The intact Middle Horizon deposits at Pukacancha held a wide variety of artifacts, including decorated and undecorated ceramics, metal pins, animal bones, ground stone knives (Fig. 8), obsidian flakes, and other lithic debitage of andesite.

The majority of the decorated pottery sherds recovered from the pre-Inca deposits at Pukacancha fall comfortably within the definition of the Arahamuy style (Fig. 9). Nevertheless, some bichrome examples of Qotakalli, the variant of the Early Intermediate period ceramic style of the Cuzco region that continued to be produced after the arrival of the Wari in the valley, were also recovered. For example, Unit 1, which sampled a midden resulting from the gradual accumulation of refuse within a small natural depression, yielded various strata with Arahamuy pottery mixed with a small number of bichrome Qotakalli sherds (Fig. 10). In one level, a few bichrome Qotakalli sherds were found with Arahamuy fragments as well as a single piece of Incised Black Ware.\(^5\) This level provided a date of 1167 ± 39 B.P. (calibrated 95.4% probability: A.D. 770–A.D. 980; sample AA 39793 [wood carbon]). In another deposit, Arahamuy and bichrome Qotakalli fragments were found and dated to 1322 ± 40 B.P. (calibrated 95.4% probability: A.D. 650–A.D. 780; sample AA 39791 [wood carbon]). The lowest level of a trash pit in Unit 1 contained bichrome Qotakalli pottery and yielded a date of 1435 ± 65 B.P. (calibrated 95.4% probability: A.D. 430–A.D. 720; sample AA 34934 [wood carbon]). This date may mark the founding date for the site by people who were using both bichrome Qotakalli and Arahamuy pottery. In this regard, it is important to note that all examples of Qotakalli pottery recovered at the site, from the two surface collections as well as from the excavation units, were bichromes (black-on-cream).

More rarely still, samples of what appear to be imported Wari fine wares were found in the same contexts as Arahamuy pottery. For example, in Unit 2, well beneath the Inca floor, we recovered a fragment of Huamanga-style (Fig. 11) pottery along with Arahamuy ceramics in a deposit that was dated to 1210 ± 45 B.P. (calibrated 95.4% probability: A.D. 680 [89.7%] A.D. 900, A.D. 920 [5.7%] A.D. 960; sample AA 34935 [wood carbon]). Together, this information suggests that Arahamuy, Qotakalli (black-on-cream), Incised Black Ware, and Huamanga ceramics were in use concurrently during the Middle Horizon. The use of several different ceramic styles during the Middle Horizon is also supported by our excavations at Tankarpata as well as by earlier work in the province of Paruro immediately south of Cuzco (Bauer 1999, 2001).

It should also be noted that below the red clay floor and *contay* fill of the Inca building in Unit 6, a thick lens of burned material was found overlying an occupation surface on which numerous large sherds of Arahamuy pottery and domestic wares, along with a few Qotakalli sherds, were recovered. The nature of the ash and carbon lens is uncertain, although it appears to represent a single burning episode that covered the ground surface in this area, perhaps the result of the burning and subse-

\(^5\) Numerous Incised Black Ware vessels have been found at a Wari offering at the site of Muyu Roqo in the Province of Paruro. A carbon sample (sample AA 35003 [bone]) from that site dated to 1135 ± 50 B.P. (calibrated 95.4% probability: A.D. 770–A.D. 1000). For additional information and for illustrations of Incised Black Ware, see Bauer (1999, 2001).
quent collapse of a roof. Carbon collected from this context provided a date of 1100 ± 45 B.P. (calibrated 95.4% probability: A.D. 780 [1.3%] A.D. 800, A.D. 820 [94.1%] A.D. 1030; sample AA 34937 [wood carbon]). It is possible that this date marks the abandonment date for Pukacancha.

Tankarpata

The archaeological site of Tankarpata (Co. 195) is located in agricultural fields along the northern edge of the modern village of Tankarpata. Situated on a broad ridge abruptly terminating in a steep-sided bluff, the site overlooks the modern airport. The site was identified in 1997 as a high-density sherd scatter covering an area approximately 300 by 100 meters. An analysis of the artifacts collected during two surface collections indicated that the majority of the diagnostic sherds belonged to the Qotakalli and Arahuay styles. Other minor styles recovered at the site included Inca, Killke, and Muyu Orco.

The site of Tankarpata was selected for excavation with the hope that it would contain intact Early Intermediate period and Middle Horizon remains. Seven test units of varying sizes were dug on the southern half of the site. This area of Tankarpata is divided into three large parcels by irrigation canals (Map 3). At the time of our work, the site was under both ox-plow and tractor-based cultivation. All landowners are members of the adjacent Tankarpata community.

Early Intermediate Period Component at Tankarpata

The Early Intermediate period component of Tankarpata was defined by the presence of cultural strata or features that contained only Qotakalli or Muyu Orco ceramics (or both). Such deposits were identified in Units 4 and 7. Both of these units are worth describing in some detail.

Unit 4 was located near the center of the site. The unit proved to be the deepest of the site, reaching sterile red clay at a depth of 1.5 meters. The excavation yielded a large number of Qotakalli and Arahuay fragments, several Muyu Orco sherds, and two possible imported Wari (Okros) sherds. Although several burial features made the integrity of the components suspect, because of the depth of the deposit and the range of ceramics found within this unit, we submitted five carbon samples to help date its deposits. The re-
sults of the carbon dating confirmed that a Late Intermediate period burial (dated to 640 ± 50 B.P.; 95.4% probability: A.D. 1280–A.D. 1410; sample AA 34940 [wood carbon]) had been dug through part of the unit, disturbing its deposits. This burial compromised the stratigraphy of deposits in the southeastern quadrant of the unit, where two of our carbon samples, which provided dates of 1250 ± 45 B.P. (calibrated 95.4% probability: A.D. 670–A.D. 890; sample AA 34941 [wood carbon]) and 1275 ± 50 B.P. (calibrated 95.4% probability: A.D. 660–A.D. 890; sample AA 34939 [wood carbon]) had been collected. Other areas of the unit, however, were unaffected. One level, approximately halfway down, which contained pure Qotakalli (bichrome and polychrome) materials, yielded a date of 1148 ± 39 B.P. (calibrated 95.4% probability: A.D. 770–A.D. 990; sample AA 39785 [wood carbon]). A level near the bottom of the unit, again with only Qotakalli (bichrome and polychrome) ceramics, provided a date of 1404 ± 47 B.P. (calibrated 95.4% probability: A.D. 540–A.D. 710; sample AA 39787 [wood carbon]).

Unit 7 was located parallel to Unit 4 but 12 meters further west. The upper deposits in the unit provided numerous examples of Arahuy ceramic sherds and a few Qotakalli sherds. Excavations revealed a large trash pit cut into the sterile clay that contained only bichrome Qotakalli fragments. Two bones from this bichrome Qotakalli-bearing feature were submitted for dating. The higher bone yielded an age of 1189 ± 40 B.P. (calibrated 95.4% probability: A.D. 710 [5.2%] A.D. 750; A.D. 760 [90.2%] A.D. 980; sample AA 39790), while the lower was dated to 1345 ± 49 B.P. (calibrated 95.4% probability: A.D. 600–A.D. 780; sample AA 39789).

In sum, it appears that the site of Tankarpata was founded late in the Early Intermediate period and that Qotakalli pottery continued to be used at the site for a considerable period of time. The Early Intermediate period occupation was not nearly as large as the Middle Horizon settlement and was found undisturbed in only two units. Future excavations in the area of Unit 4, where deep strata were found, should provide additional information on the occupation of the site during this time period.

**Middle Horizon Component at Tankarpata**

The Middle Horizon occupation at Tankarpata is defined by the predominance of Arahuy ceramics as well as the recovery of likely imported Wari sherds. Common artifact types recovered from Middle Horizon contexts included bones, ground stone knives (Fig. 12), lithicdebitage, undecorated pottery, decorated Arahuy pottery, burned and unburned stones, and a surprisingly high number of metal artifacts. Two of the test excavations, in Units 2 and 3, encountered Middle Horizon structures. Unit 2, which was positioned near the southern end of the fields, exposed a north/south-running wall. On the western side of the wall was a dense gravelly matrix that contained many broken *tupu* pin shafts. The east side contained a floor level of red clay and various large Arahuy pottery fragments. Carbon from the floor level yielded a date of 1192 ± 40 B.P. (calibrated 95.4% probability: A.D. 710 [6.0%] A.D. 750; A.D. 760 [89.4%] A.D. 980; sample AA 39788 [wood carbon]).

On the east side of the fields, Unit 3 revealed several additional walls and a paved area. Two shallow pits were also found cut into the basal sediments, both of which contained an ashy matrix that yielded bones, lithics, and large ceramic fragments. One of the pits contained Arahuy (Fig. 13) and bichrome Qotakalli ceramics (Fig. 14). Carbon from this feature provided a date of 1127 ± 40 B.P. (calibrated 95.4% probability: A.D. 780–A.D. 1000; sample AA 39786 [wood carbon]). The other pit held several Arahuy pieces as well as single fragments of bichrome Qotakalli and likely imported Wari (*Viñaque*) pottery (Fig. 15). Carbon from this feature yielded a date of 1290 ± 50 B.P. (calibrated 95.4% probability A.D. 650–A.D. 880; sample AA 34938 [wood carbon]).

Since Arahuy pottery was recovered in large numbers from all of the excavation units at Tankarpata, it is clear that the site reached its maximum size during the Middle Horizon. As was the case with Pukacancha, excavations indicate that during the Middle Horizon, bichrome Qotakalli ceramics continued to be produced and used alongside the more abundant polychrome Arahuy ceramics as well as rare imported Wari pieces. Ultimately, sometime during the Wari occupation of the Cuzco region, the site of Tankarpata was abandoned and was not reoccupied, although burials were later placed there. (The few Killke and Inca fragments found on the surface most likely represent scatter from the many nearby Late Intermediate period and Late Horizon occupations.)
Peqokaypata

The archaeological site of Peqokaypata is located on a ridge immediately west of the hill called Tuino Orco (District of San Jerónimo), on the south slope of the Cuzco Valley. Looking north from the site, the communities of Chimpaylla and San Jerónimo can be seen in the valley below, and to the east is the village of Kayra. The Peqokaypata site is defined by a dense scatter of ceramics, approximately 60 by 100 meters in size, in an agricultural field that belongs to a family in Chimpaylla.

The site was first found in 1994 during the pilot project for the valley-wide survey. Subsequent surface collections at Peqokaypata in 1997 and 1998 yielded ceramics and modified stones. Identified within the surface collections were numerous examples of Chanapata-derived and Qotakalli ceramics as well as a few Muyu Orco and incised
incensario sherds. (There were also a few Inca sherds. These, however, most likely came from the large nearby Inca site on Tuino Orco.) The site was excavated to gain information on the transition from the Early Horizon to Early Intermediate period ceramics as well as information on the production of the apparently Altiplano-influenced styles of Muyu Orco and incised incensarios. The complete absence of any imported Wari ceramics or locally produced Middle Horizon styles such as Arahuy on the surface indicated that Peqokaypata represented a rare Early Intermediate period site that was abandoned before the arrival of the Wari in the Cuzco Valley. Excavations at the site took place over two field seasons in 1999 and 2000, during which 16 units of varying sizes and depths were studied. Results of the excavations indicate a substantial Early Intermediate period occupation and a smaller Early Horizon component. The surface collections and excavations provided no evidence of site occupation after the Early Intermediate period, although an isolated Late Intermediate period, Killke offering was found at the site.

Early Horizon Component at Peqokaypata

A significant percentage (30%) of the diagnostic sherds recovered from the surface of the site can be classified as Chanapata-derived pottery (Rowe 1956), a finely made red earthenware dating the late Early Horizon and early Early Intermediate period in the Cuzco Valley. Numerous examples of Chanapata-derived pottery were recovered from almost all levels of the excavation. Several units, however, contained a dark brown to black sediment, which overlies the basal sediment of the site. The lowest levels of this deposit, rich in organic materials, contain pure Chanapata-derived materials. Two carbon samples from these deposits provided dates of 1881 ± 42 B.P. (calibrated 95.4% probability: A.D. 20 [2.1%] A.D. 40; A.D. 50 [93.3%] A.D. 240; sample AA 39792 [wood carbon]) and 1985 ± 43 B.P. (calibrated 95.4% probability: 100 b.c.–A.D. 130; sample AA 39782 [wood carbon]). With the exception of segments of single-course stone “foundations” found in Units 7, 9 and 10, no clear features of the Chanapata-derived occupation were identified other than this darker sediment. (A much older date, 3395 ± 55 B.P. [sample AA 34932, wood carbon], was provided by an additional carbon sample from the site. However, laboratory work indicated that the sample came from a disturbed context.) It appears that the substantial construction activities carried on at the site by its inhabitants during the Early Intermediate period destroyed or irreversibly altered much of the earlier occupation.

Early Intermediate Period Component at Peqokaypata

The Early Intermediate period component of the site is defined by the presence of Qotakalli (Figs. 16 and 17) and Muyu Orco ceramics, as well as by incised incensarios (Fig. 18). Muyu Orco ceramics and incised incensarios were recovered in highest percentages in the upper levels of the units across Peqokaypata, although always in close association with the vastly more numerous Qotakalli sherds. Qotakalli pottery, however, continued to be found in abundance in deposits below those in which the Muyu Orco ceramics and incised incensarios were present and above the darker stratum with high percentages of Chanapata-derived materials (Figs. 19–21). These findings suggest that the Qotakalli style predates any Lake Titicaca influence in the Cuzco region and may have been produced during much of the Early Intermediate period.

The excavations indicated two distinct phases of occupation for the site of Peqokaypata during the Early Intermediate period. The first occupational episode relates to an intensive domestic occupation of the site, and artifacts recovered during the excavation include large samples of both decorated and undecorated pottery, animal bone and bone tools, lithic tools and manufacturing debris, and modified and unmodified stone. However, with the exception of a pit feature excavated in Unit 7, no clear architectural features or activity areas could be associated within this initial Early Intermediate period occupation. A carbon sample retrieved from the Unit 7 pit feature dug into the Chanapata-derived-bearing deposit generated a date of 1615 ± 50 B.P. (calibrated 95.4% probability: A.D. 260 [2.0%] A.D. 280; A.D. 320 [93.4%] A.D. 570; sample AA 34931 [wood carbon]), which may mark the beginning of the Early Intermediate period occupation. It is interesting to note that this date was recovered in association with several large fragments of an unknown ceramic style with wide but opaque orange lines over a dull buff surface. We felt that this new style
might be a transitional style between the Chanapata-derived and Qotakalli ceramics of the region.

The site takes on a distinct character in the latter Early Intermediate period occupation with the apparent termination of the domestic use of the site, and the construction around a small plaza of at least two low mounds in Units 3 and 9/12 and a large retaining wall (Units 2/4/6/13/15/16), with a circular structure built at the southwest corner (Units 2/15). While the particularities of construction varied among the structures, all cases adhered to a similar tradition of construction that entailed placing fill behind retaining walls of fieldstone in order to create an elevated occupation surface.

Artifacts associated with this latter occupation include large quantities of both decorated and undecorated ceramics, animal bone, and lithic materials. A small piece of gold foil recovered in a midden context on the backside of the platform mound in Unit 12 was the only piece of metal recovered during the excavations. Three radiocarbon dates submitted from Qotakalli-bearing strata associated with this second phase of occupation greatly aid in dating this latter component of the Early Intermediate occupation. Two samples were from deposits that yielded only Qotakalli ceramics. These provide dates of 1439 ± 39 B.P. (calibrated 95.4% probability: A.D. 540–A.D. 670; sample AA 39781 [wood carbon]); and 1527 ± 40 B.P. (calibrated 95.4% probability: A.D. 430–A.D. 620; sample AA 39783 [wood carbon]). A third sample, taken from the surface of one of the platforms that yielded a shattered incenseario as well as various fragments of Qotakalli and Muyu Orco ceramics, resulted in a date of 1422 ± 51 B.P. (calibrated 95.4% probability: A.D. 530–A.D. 700; sample AA 39783 [wood carbon]). Given the location of this sample, we believe that it dates the last occupation period for Peqokaypata. These radiocarbon dates suggest that between the fourth and fifth centuries A.D., the function and layout of the site were transformed before the site was abandoned in the seventh century A.D. Furthermore, they suggest that Altiplano influence in the Cuzco region was strongest during the later part of the Early Intermediate period.

Killke and Inca Components at Peqokaypata

The Killke and Inca components of the site consist of two burials to the south of the main structures and a small offering placed on the surface of the Early Intermediate platform in Unit 12. The offering comprised a small llama figurine of *Spondylus* shell, a miniature Killke jar, and a carved stone (Figs. 22–24). Nearby we also recovered a small fragment of unworked *Spondylus* shell in association with a small crystal. Recent excavations at the site of Choquepukio in the Lure Basin have shown that these items are common features of Late Intermediate period offerings in the Cuzco region (McEwan et al. 2002).

An intact burial of an individual placed in a small pit in a tightly flexed position with a *tupu* pin as the only grave good was found in Unit 8. The *tupu* pin and the excellent preservation of the burial suggest that it dates to Killke or Inca times. A second, larger, more elaborate burial was found looted in Unit 10. This burial feature was associated with both Killke and Inca ceramics. Although these data indicate that the site was known and visited during Killke and Inca times, there is no evidence of significant Killke or Inca period occupation at it.

**Summary and Conclusions**

We began the 1999 field season with the goal of better understanding the complex ceramic sequence of the Cuzco Valley during the Early Intermediate period and the Middle Horizon, as well as wishing to gain additional information on the cultures that occupied the valley during these periods. It was of critical importance to better document the influence that the Ayacucho region, and perhaps the Altiplano, had on the indigenous cultures of the Cuzco Valley. The information gained from our excavations at Pukacancha, Tankarpata, and Peqokaypata allows us to draw some firm conclusions about some of these issues and to speculate about others.

**Early Intermediate Period in the Cuzco Valley**

The Early Intermediate period is one of the least understood eras of the Cuzco region. There have been no major projects dedicated to understanding this period, and even its basic ceramic styles are still being defined and debated. For about half a century the name “Huoaro” has appeared on ceramic sequences in association with the Early Intermediate period (Rowe 1956). However, the Huaro ceramic style remains virtually
unknown, because few illustrations or descriptions of it have been published.

Although the specific characteristics of Huaro ceramics continue to be debated, there has been significant progress in recent years in identifying and describing several other ceramic styles of the Early Intermediate period. It is currently recognized that when the Wari began the eastward expansion of their state from the Ayacucho area, the dominant local ceramic style of the Cuzco Valley was a cream-slip ware called Qotakalli (Bauer 2001). The origins of this local style are unclear; however, excavations suggest that there was a rapid transformation in local ceramic production from the burnished earthen Chanapata and Chanapata-derived styles to the distinctly different, painted Qotakalli style some time after the beginning of the modern era. More specifically, excavations at Peqokaypata have yielded Chanapata-derived ceramics that date to around A.D. 100, and our earliest Qotakalli ceramics came from a secure context that dated to about A.D. 500. (We also identified a possible transitional style between Chanapata-derived and Qotakalli that dated to around A.D. 450 [sample AA 3493]). Thus the transition appears to have occurred between the second and fourth century A.D. (This date is also supported by a date recovered at the site of Huillca Raccay [sample Q 3091].)

Researchers have noted that there are several variations of Qotakalli ceramics (Barreda Murillo 1982; Glowacki 1996; Zapata 1997; Bauer 1999, 2001). By far the most common substyles are black-on-cream and black-and-red-on-cream. In general, the polychromes tend to be of a higher quality than the bichromes. Our research has shown that there is a temporal element to the Qotakalli subtypes of black-on-cream and red-and-black-on-cream. This is best illustrated by comparing the Qotakalli sherds found in surface collections and excavations at Peqokaypata with those recovered at Pukacancha. Peqokaypata is primarily an Early Intermediate period site, abandoned just before the Wari entered the Cuzco Valley. At this site, approximately 33% of all Qotakalli sherds found were classified as red-and-black-on-cream. Pukacancha, on the other hand, is a Middle Horizon site established about the time that the Wari entered the Cuzco Valley and was occupied for some three hundred years afterward. A small percentage of this site’s total ceramic collection was classified as Qotakalli, all of which fell into the black-on-cream category. This is to say, not a single example of Qotakalli red-and-black-on-cream ceramics was recovered during the two surface collections made at Pukacancha or during our excavations there. It appears that the production of the slightly less fine, Qotakalli black-on-cream pottery began early and continued throughout much of the Early Intermediate period and the Middle Horizon, although the quantity of its production diminished greatly after the Wari arrived. Qotakalli red-and-black-on-cream wares were also produced during the Early Intermediate period, but this finer version of pottery was shorter-lived, and its production ended around the time of the Wari occupation in the valley. These findings are consistent with the fact that only Qotakalli black-on-cream vessels have been found in Pikillacta (Barreda 1982; McEwan 1984, 1991; Glowacki 1996) as well as in Wari period tombs at Baton Orco (Zapata 1997).

Our research has also provided information on two other ceramic styles, Muyu Orco (Bauer 1989, 1999, 2001) and incised incensarios (K. Chavez 1985), which were in use in the Cuzco Valley during the Early Intermediate period and are currently believed to reflect a southerly, Altiplano influence. The most important information on these two styles comes from the site of Peqokaypata, which contained numerous Chanapata-derived, Muyu Orco, Qotakalli, and incised incensario fragments, but no imported Wari or Arahamay ceramics. Extensive excavations at the site revealed several structures as well as stratified middens. Carbon extracted from the top of a small platform in direct contact with a shattered incised incensario provided a date of 1422 ± 51 B.P. (calibrated 95.4% probability: A.D. 530–A.D. 700; sample AA 39783). Soon after this date the site was abandoned. Furthermore, it should be noted that no examples of these two ceramics styles have been recovered in secure cultural contexts that yielded imported Wari or Arahamay ceramics. In other words, current data suggest that Muyu Orco ceramics and incised incensarios reflect an Altiplano influence on the Cuzco region that dates to the late Early Intermediate period and that ended as a result of the Wari occupation of the Cuzco Valley.

Middle Horizon in the Cuzco Valley

Researchers have long noted the presence of Wari influence in the Cuzco region, and it is recognized that the Ayacucho empire held sway over the thriving polities of the region for several cen-
turies. Thus the Middle Horizon is a fascinating period for the Cuzco region. It is a time of both foreign occupation and indigenous development. Fortunately, it is also one of the better studied periods of the region’s history.

Changes in Material Cultural as a Result of the Wari Occupation in the Cuzco Region. During the Middle Horizon, a relatively small number of vessels were imported from the Wari heartland to the Cuzco region. For example, various pieces of imported Wari vessels have been recovered in excavations at Pikillacta (Glowacki 1996, 2002; Montoya et al. 2000). A few other exotic vessels appear to have been imported from Nazca and Cajamarca (Knobloch 1991:253; Glowacki 1996). During our excavations in the Cuzco Valley, we found various pieces of likely imported Wari ceramics as well. Carbon from a trash pit at the site of Tankarpata that contained a fragment of Viña-style pottery provided a date of 1290 B.P. (calibrated 95.4% probability: A.D. 650 [95.4%] A.D. 880; sample AA 34938). In addition, a midden at the site of Pukacancha with a piece of Huamanga-style pottery dated to 1210 ± 45 B.P. calibrated 95.4% probability: A.D. 680–A.D. 960; sample AA 34935). These dates fall within the time traditionally believed to frame the Wari expansion outside its Ayacucho heartland.

More significant changes were occurring, however, at the level of local ceramic production. During the Middle Horizon the ceramic style now called Arahuy, which imitates Huamanga pottery of the Wari heartland, began to be produced in the Cuzco Valley. At the same time Qotakalli black-and-red-on-cream pottery disappears from the archaeological record and the quantity of Qotakalli black-on-cream vessels greatly diminishes. Because the clay used in the production of Arahuy pottery is very similar to that used in the manufacture of Qotakalli vessels (Montoya et al. 2000), we believe that many of the local potters who produced Qotakalli wares before the arrival of the Wari gradually accepted and began production of Arahuy vessels as the Cuzco region was drawn into the cultural orbit of the Ayacucho state. It is interesting to note that in this process, it appeared to be the local, finer polychrome Qotakalli black-and-red-on-cream ceramics that were first replaced by the even better manufactured polychrome Arahuy vessels.

These changes in ceramic styles and manufacture correlate with other changes in the material culture of the region as well. Burger et al. (2000) have documented an important shift in obsidian procurement patterns. For more than a thousand years, the peoples of the Cuzco region obtained their obsidian from sources located in the southern region of Alca. However, during the Middle Horizon, when Wari occupied the Cuzco region, the obsidian flow from this source stopped. For this relatively brief period of time, obsidian was imported into the region from the Quispisapa area, which, like the Cuzco Valley, was under Wari control (Burger et al. 2000).

We also noted a possible change in the availability of metal. In our excavations of the Early Intermediate period site of Peqokaypata and in Early Intermediate period contexts at Tankarpata, we recovered no copper or bronze artifacts; the only metal recovered was a piece of gold laminate. This contrasts greatly with the results of our excavations of Middle Horizon contexts at Tankarpata and Pukacancha, where fragmented and discarded copper or bronze objects were relatively common. Although speculative, this trend suggests that with the Wari occupation of the Cuzco region came trade links (or possibly technology) that brought a far greater number of metal objects into the Cuzco area than had been available during the Early Intermediate period.

Dating the Wari Occupation of the Cuzco Region. The timing of the Wari impact on the Cuzco region has long been debated. With the completion of our excavations, we currently have two independent data sets to date the arrival and withdrawal of the Wari from the Cuzco region (Fig. 25). (See Williams (2001) for a discussion of Wari dates from across the Andes.) The first set consists of nine dates extracted from Pikillacta (McEwan 1948, 1996) (samples Beta 43230, Beta 43231, Beta 43232, Beta 43233, Beta 43234, TX 3996, TX 4247, TX 4750, and TX 4751; see Appendix 1. Sample TX 4747 was not used in this study because of its large (± 370) sigma range). The earliest dates are derived from excavated floor levels in the complex that suggest a foundation date after A.D. 530 (samples TX 4750 and TX 4751. See also Appendix 1). The concentration of dates between A.D. 640 and A.D. 700 indicates that the Wari were active in the region during this period. The latest samples from Pikillacta come from the wooden beams charred in the fire that destroyed the central sector of the site and provide a broad spread of dates that overlap in the range of A.D. 780 and A.D. 980 (samples Beta 43230, Beta 43232 and Beta 43233; see also Appendix 1). It should be noted that because these later samples come from construction materials.
within Pikillacta, they do not date the destruction of the site by fire but instead date what appears to have been the last building phase (see Appendix 1).

The second, independent data set for dating the Wari impact on the Cuzco Valley comes from our excavation program in the Cuzco region that focused on Pukacancha, Tankarpata, and Peqokaypata. In all, eight carbon samples have been dated from clearly defined Middle Horizon contexts (i.e., strata or features that contain imported Wari—Viñaque and Huamanga—or Arahuay ceramics) (samples AA 34935, AA 34938, AA 39786, AA 34937, AA 39788, AA 39791, AA 34937, and AA 34938).
39793. See also Appendix 1. For this study we have also added sample AA 35003, which comes from Muyu Rojo, a Middle Horizon site in the Province of Paruro (Bauer 2001). The earliest of these eight samples, sample AA 39791, dates to between A.D. 650 and A.D. 780, while the latest, sample AA 34937, falls between A.D. 780 and A.D. 1030. This suite of dates, taken from a series of small Middle Horizon sites in the Cuzco region, is very similar to that from the Wari center of Pikillacta.

The combined data sets from Pikillacta and our excavations at smaller sites in the Cuzco region support the traditional dates of Wari expansion, with some modifications. Our research suggests that the Wari were certainly active in the Cuzco region after A.D. 640 and remained in the region until at least A.D. 900, and perhaps even into the new millennium. Finally, it is worth noting that the beginning date of Wari influence in the region also meshes well with the final appearance of Altiplano-influenced materials (Muyu Orco and incised incensarios) recovered at the site of Peqaypata. This suggests that ties within the Lake Titicaca region that had been established centuries earlier were dramatically transformed with the arrival of the Wari in the Cuzco region.

Acknowledgments

Excavation project members included R. Alan Covey, Miriam Araoz, Rene Pilco, Silvia Flores, Richardo Huauillani, Reynaldo Bustinza, and Carlos Arriola. We thank Silvia Flores for creating the ceramic drawings, as well as Mary Glowacki for her help in identifying the Wari (Huamanga, Okros, and Viñaque) ceramics. All radiocarbon samples dated during the course of this project were processed at the AMS facility at the University of Arizona, which is supported by the National Science Foundation.

Literature Cited


McEWAN, G. F., M. CHATFIELD, AND A. GIBAJA. 2002. The archaeology of Inca origins: Excavations at Cho-


Arahuay ceramics are characterized by the use of broad red bands, outlined with narrow black lines, over a buff slip. This example is from Tankarpata.

Qotakalli polychrome (black-and-red-on-cream) from Peqokaypata.
Fig. 3. Incised incensarios from Peqokaypata.

Fig. 4. Muyu Oreo ceramics are decorated with bright white, black, and orange colors painted over a polished, dark red background. These examples are from Peqokaypata.
Fig. 6. Inca pottery recovered in Building 1 at Pukacancha.

Fig. 7. Bronze "celt" from Pukacancha.
Fig. 8. Ground stone knives from Pukacancha.
Fig. 9. Arahuay ceramics from Pukacancha.

Fig. 10. Bichrome Qotakalli (black-on-cream) from Pukacancha.
Fig. 11. A fragment of Huamanga ceramics from Pukacancha.

Fig. 12. Ground stone knives from Tankarpata.
Fig. 13. Arahuay bowl with wing design from Tankarpata.

Fig. 14. Bichrome (black-on-cream) Qotakalli ceramics from Tankarpata.
Fig. 15. Viñaque rim fragments from Tankarpata.

Fig. 16. Bichrome (black-on-cream) Qotakalli ceramics from Peqokaypata.
Fig. 17. Qotakalli polychrome (black-and-red-on-cream) ceramics from Peqokaypata. These examples are the bases of drinking vessels.
Fig. 18. Puma head, incised *incensario* fragments from Peqokaypata.
Fig. 19. Qotakalli polychrome (black-and-red-on-cream) ceramics from Peqokaypata. These are tripodal bowl fragments.
Fig. 20. Qotakalli vessel with modeled face from Peqokaypata.
Fig. 21. Qotakalli vessels with modeled faces from Peqokaypata.
Fig. 22. Small llama figurine of *Spondylus* shell found in an offering at Peqokaypata.
Fig. 23. Miniature Killke jar found in an offering at Peqokaypata.
Fig. 24. Carved stone found in an offering at Peqokaypata.
## APPENDIX 1. Radiocarbon Dates

<table>
<thead>
<tr>
<th>Site</th>
<th>Lab No.</th>
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<td>Bauer &amp; Jones</td>
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<td>A.D. 1140 (1.5%) A.D. 1160</td>
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<td>Wari†</td>
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<td>A.D. 820 (94.1%) A.D. 1030</td>
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<td>95.4% A.D. 770 (95.4%) A.D. 1030</td>
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<td>A.D. 770 (94.3%) A.D. 1020</td>
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<td>Muyu Roco</td>
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<td>Arahuy* Qotakalli (b/c)‡</td>
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<td>McEwan 1984, 1987</td>
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<td>68.2% A.D. 780 (68.2%) A.D. 980</td>
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<td>68.2% A.D. 770 (55.6%) A.D. 900</td>
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<td>A.D. 920 (12.6%) A.D. 9960</td>
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<td>95.4% A.D. 680 (95.4%) A.D. 990</td>
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<td>Site</td>
<td>Lab No.</td>
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<td>Radiocarbon Age</td>
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<td>Qotakalli§ (b/c)‡</td>
<td>1189 ± 40 B.P.</td>
<td>A.D. 761 ± 40</td>
<td>Bauer &amp; Jones</td>
<td>68.2% A.D. 770 (68.2%) A.D. 890</td>
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<td>95.4% A.D. 710 (5.2%) A.D. 750</td>
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<td>Arahuyay*</td>
<td>1192 ± 40 B.P.</td>
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<td>95.4% A.D. 710 (6.0%) A.D. 750</td>
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<td>A.D. 740 ± 45</td>
<td>Bauer &amp; Jones</td>
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<td>A.D. 700 ± 45</td>
<td>Bauer &amp; Jones</td>
<td>68.2% A.D. 680 (62.9%) A.D. 820</td>
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<td>A.D. 840 (5.3%) A.D. 860</td>
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<td>1275 ± 50 B.P.</td>
<td>A.D. 675 ± 50</td>
<td>Bauer &amp; Jones</td>
<td>95.4% A.D. 670 (95.4%) A.D. 890</td>
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<td>Arahuyay Wari (Viñaque) Qotakalli (b/c) Wari†</td>
<td>1290 ± 50 B.P.</td>
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<td>Bauer &amp; Jones</td>
<td>68.2% A.D. 670 (68.2%) A.D. 780</td>
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<td>95.4% A.D. 660 (95.4%) A.D. 890</td>
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<td>Wari†</td>
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<td>A.D. 620 ± 60</td>
<td>McEwan 1996</td>
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<td>A.D. 605 ± 49</td>
<td>Bauer &amp; Jones</td>
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<td>Wari*</td>
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<td>McEwan 1984, 1987</td>
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<td>1404 ± 47 B.P.</td>
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<td>Bauer &amp; Jones</td>
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<td>95.4% A.D. 540 (95.4%) A.D. 710</td>
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## Appendix 1. Continued

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<td>95.4% A.D. 430 (95.4%) A.D. 720</td>
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<td>68.2% A.D. 595 (68.2%) A.D. 660</td>
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<td>95.4% A.D. 540 (95.4%) A.D. 670</td>
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<td>Peqokaypata</td>
<td>AA 39781</td>
<td>Qotakalli*</td>
<td>1439 ± 39 B.P.</td>
<td>A.D. 511 ± 39</td>
<td>Bauer &amp; Jones</td>
<td>68.2% A.D. 565 (2.3%) A.D. 570</td>
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<td>A.D. 580 (2.7%) A.D. 590</td>
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<td>A.D. 595 (63.2%) A.D. 665</td>
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<td>A.D. 530 (95.2%) A.D. 700</td>
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<td>Peqokaypata</td>
<td>AA 39784</td>
<td>Incised <em>incensarios</em>, Qotakalli*</td>
<td>1422 ± 51 B.P.</td>
<td>A.D. 528 ± 51</td>
<td>Bauer &amp; Jones</td>
<td>68.2% A.D. 470 (1.2%) A.D. 480</td>
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<td>A.D. 530 (67.0%) A.D. 690</td>
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<td>A.D. 420 (95.4%) A.D. 780</td>
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<td>A.D. 200 (68.2%) A.D. 1000</td>
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<td>A.D. 400 B.C. (95.4%) A.D. 1300</td>
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<td>68.2% A.D. 430 (22.9%) A.D. 520</td>
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<td>A.D. 530 (43.5%) A.D. 610</td>
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<td>A.D. 430 (95.4%) A.D. 620</td>
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<tr>
<td>Pikillaqta</td>
<td>TX 4751</td>
<td>Wari*</td>
<td>1430 ± 90 B.P.</td>
<td>A.D. 520 ± 90</td>
<td>McEwan 1984, 1987</td>
<td>68.2% A.D. 470 (1.2%) A.D. 480</td>
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<td>A.D. 430 (95.4%) A.D. 620</td>
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<td>Huilca Raccay</td>
<td>Q 3091</td>
<td>Qotakalli§</td>
<td>1580 ± 60 B.P.</td>
<td>A.D. 370 ± 60</td>
<td>Kendall 1996: 153</td>
<td>68.2% A.D. 410 (68.2%) A.D. 560</td>
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<td>A.D. 340 (95.4%) A.D. 620</td>
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<td>A.D. 400 (68.2%) A.D. 540</td>
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<td>68.2% A.D. 260 (2.0%) A.D. 280</td>
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<td>A.D. 320 (93.4%) A.D. 570</td>
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<td>Peqokaypata</td>
<td>AA 34931</td>
<td>Unknown¶¶</td>
<td>1615 ± 50 B.P.</td>
<td>A.D. 335 ± 50</td>
<td>Bauer &amp; Jones</td>
<td>68.2% A.D. 70 (56.7%) A.D. 180</td>
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<td>A.D. 190 (11.5%) A.D. 220</td>
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<td>A.D. 20 (2.1%) A.D. 40</td>
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<td>A.D. 50 (93.3%) A.D. 240</td>
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<td>68.2% 50 B.C. (68.2%) A.D. 70</td>
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<td>95.4% 100 B.C. (95.4%) A.D. 130</td>
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<tr>
<td>Peqokaypata</td>
<td>AA 39792</td>
<td>Derived-Chanapata* (Late Formative)</td>
<td>1881 ± 42 B.P.</td>
<td>A.D. 69</td>
<td>Bauer &amp; Jones</td>
<td>68.2% 1770 B.C. (68.2%) 1600 B.C.</td>
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<td>95.4% 1880 B.C. (6.5%) 1840 B.C.</td>
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<td>1830 B.C. (2.8%) 1790 B.C.</td>
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<td>1780 B.C. (86.1%) 1520 B.C.</td>
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* Excavation: carbon.
† Architectural sample: wooden lintel, wall vine, or ichu grass.
‡ b/c = bichrome ceramics, black-on-cream.
§ Excavation: bone.
¶ Sample collected from a feature with examples of unknown orange-on-buff vessel with a thin rim.
Appendix 2. Arahuay Ceramics

Arahuay ceramics take their name from the site of Arahuay, located approximately 2 kilometers south of Cuzco on the valley slope. The site was excavated by Nilo Torres Poblete in 1989, and the style was defined in his Licenciado thesis. Further examples of Arahuay ceramics have been identified in the ceramic collections from Pikillacta (McEwan 1990; Glowacki 1996), Batán Orco (Zapata 1997), Huaro (Glowacki 2002) as well as the Province of Paruro (Bauer 1999, 2001).

A variety of vessel forms have been identified in Arahuay collections, but the most common fragments are from straight-sided, flaring bowls (Figs. 2.1 and 2.2) and incurving bowls (Figs. 2.3 and 2.4). Some of the bowls are decorated with broad, horizontal red bands, outlined with black lines, running several centimeters below the rim. Areas between the horizontal red band and the rim have been marked off with vertical red bands, outlined with black lines. Others have sets of vertical, rectangular panels that contain curving lines (Fig. 2.5). Others contain a wing motif. Small decorative motifs can also be found on Arahuay ceramics. Checks are common; however, curving lines, X’s and quartered circles have also been noted (Fig. 2.6).

Glowacki (1996) has documented that the design compositions found on Arahuay ceramics as well as their vessel shapes are very similar to those of Huamanga ceramics in the Ayacucho region. (Glowacki 1996) prefers to call this style Arahuay/Wamanga.) She has also demonstrated that while Arahuay ceramics reflect a strong Ayacucho (i.e., Wari) influence in the Cuzco region, they are made from local clays (Montoya et al. 2000). Our recent survey of the Cuzco Valley found numerous sites with Arahuay ceramics and we currently use them to track Wari influence in the Cuzco region. Our excavations at the sites of Pukacancha and Tankarpata yielded seven radiocarbon dates from secure contexts which contained Arahuay ceramics. These samples, each of which falls between 1100 ± 45 B.P. (sample AA34937) and 1322 ± 40 B.P. (sample AA39791), date to the period traditionally associated with Wari control of the Cuzco region.

It is also important to note that there are some similarities between Arahuay and Killke ceramics. One of the most notable characteristics of Killke ceramics is the use of broad red bands outlined with black lines (Bauer 1999, 2001). This same feature is also a distinctive characteristic of Arahuay ceramics. Outlined bands are found on both Arahuay jars and bowls. Like their counterparts in Killke vessels, these bands run horizontally and vertically and are at times used to define panels that are filled with geometric designs. Based on these observations, Bauer has proposed that the production of Arahuay ceramics began after the establishment of Wari presence in the Cuzco region, and that Arahuay ceramics influenced, or may prove to be the direct antecedent of, Killke ceramics. If Killke ceramics did develop from Arahuay traditions, then the transition between Arahuay and Killke ceramics most likely occurred after the abandonment of Pikillacta at the end of the Middle Horizon.
Fig. 2.1. Straight-sided, flaring Arahuy bowls from Tankarpata.
Fig. 2.2. Straight-sided, flaring Arahuay bowls from Pukacancha.
Fig. 2.3. Incurving Arahuy bowels from Tankarpata.
Fig. 2.4. Straight-sided, flaring Arahuyay bowls and incurveing Arahuyay bowls from Pukacancha.
Fig. 2.5. Sets of vertical, rectangular panels are common designs in straight-sided, flaring Arahuay bowls. These examples are from Tankarpata.
Fig. 2.6. Arahuay ceramics from Tinkarapa.
Appendix 3. Qotakalli Ceramics

Luis Barreda Murillo (1982) published the first description of Qotakalli ceramics. Since that time, Qotakalli ceramics have been found at numerous sites in the Cuzco region (see Bauer 1999, 2001). The vessels are generally composed of a fully oxidized, pale pinkish cream fabric. A cream-colored (ranging from yellow-cream to pink) self-slip made from the body clay covers their exteriors. The vessels have a matt, rather sandy surface that is wiped but not normally compacted or polished (pers. commun., Sara Lunt 2001). The walls of the pots are generally very thin (average 4-5 mm). The lip is pinched from the topmost coil to a thin, rounded profile. This is pulled out to form a very characteristic flaring shape, or pushed in for the small, incurring bowls (pers. commun., Sara Lunt 2001).

Qotakalli ceramics exhibit a limited variety of geometric decorations. The most common elements are straight horizontal and vertical lines, zigzagging lines, diamonds, triangles, and dots. Two major substyles, black-on-cream and black-and-red-on-cream, dominate the collections. In general, the polychromes tend to be of higher quality than the bichromes.

Recent studies suggest that Qotakalli was the primary ceramic style in the Cuzco Valley at the time of the Wari arrival. As such it represents the indigenous style that was produced during the Early Intermediate period in the Cuzco region. Excavation data suggest, however, that the production of the finer polychromes ended around the time of the Wari occupation of the Cuzco valley, while the bichromes continued to be made for some time, although in diminishing quantities, into the Middle Horizon.

The major designs are defined in black, while the minor ones are executed in either red or black. The straight and zigzagging lines tend not to appear singularly but in parallel groups of two to five lines. In the polychrome vessels, these lines alternate between black and red. The interior of the diamonds is commonly cross-hatched, or contains nested diamonds. The interior of the triangles is at times painted solid, or filled with nested triangles or dots. In general, the polychrome examples tend to have thinner lines than the bichrome ones and are more extensively burnished.

There is a wide variety of bichrome and polychrome Qotakalli vessels. Bowls are especially common within the bichrome collections. They include incurring, curved-sided and straight-sided bowl forms (Figs. 3.1-3.5). These vessels have small, flat or slightly curved bases. The exterior Qotakalli incurring bowls frequently are decorated on the upper half, while the interiors are not decorated. Bowls are also found within the polychrome collections; however, they tend to be straight-sided (Figs. 3.6 and 3.7).

Perhaps the most distinct, if not unique, polychrome vessel form is a steep-sided, tripod bowl with legs varying in length from 1 to 3 cm (Fig. 3.8). The base of these steep-sided bowls is rounded and the sides are slightly flared. The interior rims are frequently decorated with nested or cross-hatched triangles, which may alternate in color. Rarely, the entire interior surface of the steep-sided bowls is covered with geometric designs. Another common vessel has a flat base and stands on a rim that is approximately 0.5 cm high (Fig. 3.9). These appear to be the bases of keros, tall, flaring, straight-sided drinking vessels. Our excavations have also yielded the remains of jars (Fig. 3.10). Qotakalli ceramic inventories can also include large face-neck vessels with modeled and applied faces, which are painted with straight or curving lines (Fig. 3.11).
Fig. 3.2. Bichrome Qotakalli bowls from Tankarpata.
Fig. 3.3. Bichrome Qotakalli bowls from Tankarpata.
Fig. 3.4. Bichrome Qotakalli bowls from Peqokaypata.
Fig. 3.5. Bichrome Qotakalli bowls from Peqokaypata.
Fig. 3.6. Qotakalli polychrome, straight-sided vessels from Peqokaypata.
Fig. 3.7. Qotakalli polychrome vessels from Peqokaypata.
Fig. 3.8. Tripodal Qotakalli bowls from Peqokaypata.
Fig. 3.9. Qotakalli polychrome vessels with flat bottoms and rim bases from Peqokaypata.
Fig. 3.10. Qotakalli polychrome jar fragments from Peqokaypata.
Fig. 3.11. Qotakalli vessels with modeled faces.
Appendix 4. Incised Incensarios

In 1985 K. Chávez noted the widespread distribution of incised *incensarios* (ceremonial burners) at sites between the Cuzco Valley and Lake Titicaca. Later systematic surface collections and excavations in the Province of Paruro, directly south of the Cuzco Valley, yielded fragments of incised *incensarios* at four additional sites (Bauer 2001). A more recent survey of the Cuzco Valley itself also identified several more sites with incised *incensarios*. Excavations at the site of Peqokaypata provided a carbon sample, recovered in association with a large fragment of an incised *incensario*, which yielded a date of 1422-51 B.P. (95.4% probability: A.D. 530 [95.4%] A.D. 700; sample AA 39784. All fragments shown in this report are from the site of Peqokaypata). It is currently believed that the use of these vessels in the Cuzco region ended with the arrival of Wari influence.

The designs on incised *incensarios* tend to be geometric, although examples that contain stylized puma motifs have also been noted (Fig. 4.1). Our excavations at the site of Peqokaypata also recovered various examples of incised puma heads which were once attached to the vessels (Fig. 4.2). Most incised *incensarios* appear to have stood on pedestal bases (Fig. 4.3) and had rim scallops (Fig. 4.4).

Circles are made with a hollow tool, which leaves a raised, solid area in their centers (K. Chávez 1985: 138). The lines are made by dragging a U-shaped tool across the vessel’s surface (Fig. 4.5). Their exteriors are roughly burnished, while the interiors have simply been smoothed. The faint remains of red and yellow postfiring pigments can still be seen in the grooves of a few examples, suggesting that the vessel were once painted. While recent research by Montoya et al. (2000) suggests that incised *incensarios* were produced with local clays, their distribution south and southeast of Cuzco appears to reflect an Altiplano influence.
Fig. 4.1. Several incised *incensario* fragments recovered at Peqokaypata had stylized puma motifs on their exteriors.
Fig. 4.2. Incised puma heads from Peqokaypata.
Fig. 4.3. Most of the incised *incensarios* recovered at Peqokaypata once stood on pedestal bases.
Fig. 4.4. Rim scallops are distinctive features of incised *incensarios* (from Peqokaypata).
Fig. 4.5. Incised incensario fragments from Peqokaypata.
Appendix 5. Muyu Oreo Ceramics

Muyu Oreo ceramics were first identified in the Province of Paruro, south of Cuzco, in the late 1980s (Bauer 1989, 1999, 2001). Muyu Oreo (Round Hill) is a common Quechua toponym. This ceramic style is named for a site near the town of Yaurique in the Province of Paruro (Bauer 1999, 2001). During our more recent survey work in the Cuzco Valley we found Muyu Oreo pottery at 17 additional sites. It has also been recovered in significant quantities during excavations at Batan Oreo (Zapata 1997, 1998) and Raqchi (Bill Sillar, pers. commun. 1999). For other examples for Muyu Oreo ceramics found in the Cuzco Valley, see Espinoza Martinez (1983) and Torres Poblete (1989).

Muyu Oreo ceramics contain a distinct range of colors, including dark red, black, white, and orange (Fig. 5.1). The dark red is used as a background to which other colors are applied (Fig. 5.2). The black, white, and orange pigments are relatively thick, and occasionally fall off the vessel surface in flexes. The vessels tend to be medium- to thin-walled and are composed of a dark terra cotta fabric that contains abundant small inclusions of varied colors (pers. commun., Sara Lunt 2001).

Few recovered fragments of this style were large enough to suggest specific vessel forms. The vessel forms that have been reconstructed included straight-sided drinking vessels, steep-sided bowls, and annulated bowls. Some vessels have pedestal bases (Fig. 5.3) and rim scallops (Fig. 5.4). Recent excavation data suggest that Muyu Oreo ceramics were used in the Cuzco Valley toward the end of the Early Intermediate period. It is also suggested that Muyu Oreo ceramics reflect an Altiplano influence in the Cuzco region that ended when the Wari established their administrative control of the area.
Fig. 5.1. Muyu Oreo ceramics from Peqokaypata.

Fig. 5.2. Selected Muyu Oreo rim forms from Peqokaypata.
Fig. 5.3. Fragments of Muyu Orco pedestal bases from Peqokaypata.

Fig. 5.4. Rim scallops on Muyu Orco ceramics from Peqokaypata.