



The landscape around Kanamarka, Peru, has a high concentration of *piedras cansadas*.

The “Tired Stones” of Lake Titicaca

DOING
FIELDWORK
IN PERU

BY CHRIS KNUTSON

ON THE MORNING of August 7, 2002, my colleagues and I crossed the border from Bolivia into Peru. Just past Customs we met up with Edgar Ancalla, our guide in our search for *piedras cansadas* (literally, “tired stones”)—conspicuous large, modified stones strewn across the landscape of the Lake

Titicaca basin. Our objective was to record the high concentration of stones that Edgar and another source had identified around the village of Kanamarka.

After sharing coca leaves with some curious local farmers, we set about measuring and photographing a group of *piedras cansadas*. We had already documented eight stones when a solemn-looking man arrived flanked by several farmers. In rapid Spanish he demanded that I hand over my camera and notebook. After what seemed like a very long time, things calmed down, helped in part by Edgar having been a former student of the man, who was now the superintendent for local cultural monuments. We agreed that I could keep my camera and notebook, so long as I provided a thorough explanation of our activities the following day.

Although this reception was far from cordial, we understood that it had nothing to do with us as individuals. For nearly five centuries, Europeans had been arriving in Andean communities unannounced and, more often than not, these visits had resulted in some form of oppression of the local population.

Though we were simply pursuing empirical research, to the Aymara people of Kanamarka we were the latest in a long line of foreign intruders. To them, our interest in the community’s ancient monuments was a cause for alarm. Had we been more experienced in Andean traditions, we would have presented ourselves better from the beginning.

WHY STUDY PIEDRAS CANSADAS?

Our visit to Kanamarka was part of a larger effort to demonstrate how massive stones could have been brought to the famous Andean center of Tiwanaku during the 1st millennium AD. While the red sandstone used for building at Tiwanaku was dragged overland from nearby sources, the denser green



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andesite—favored for some of the more intricate work—came from Lake Titicaca’s opposite shore.

In 2002 we formed part of the team that showed it was feasible to transport andesite monoliths across Lake Titicaca using traditional Andean reed boat technology (*Expedition* 47(2):20-27). We did this by identifying a 9-ton unmodified stone near the Bolivian town of Copacabana and then transporting it by reed boat to Santa Rosa on the Taraco Peninsula. During our research we had observed abandoned *pedras cansadas* along the peninsula’s lakeshore, indicating that stones had been unloaded there from watercraft that had brought them across the lake. If we could identify where these stones originated, we would better understand how Tiwanaku interacted with smaller settlements. Did these villages simply supply raw material, or did they play a larger role in procurement and manufacture for Tiwanaku?

One night at a party I heard about identical stones on the lake’s Peruvian shore, opposite Santa Rosa. Archaeologist Matt Bandy described a volcano overlooking the village of Kanamarka with large, unmodified boulders littering its slopes. Long ago these had been expelled from the volcano’s depths. In the mid-1990s a team from Chicago’s Field Museum had visited Kanamarka as part of the Juli-Desaguadero regional archaeological survey. Although most of their time was devoted to examining small surface finds—the local community had asked them to limit their investigation to 30 minutes—they also noted particularly large examples of cut andesite blocks in the village. We decided to see some of these Peruvian *pedras cansadas* for ourselves.

PERU’S PIEDRAS CANSADAS

On our first trip across the border we met Edgar and investigated some of the stones in the shadow of the Kasani volcano. Edgar drove us to the hills above the community of Villa Poccona, where we documented two massive monoliths (one over 2.5 m long) that had been bounce-worked. Local farmers then told us about *pedras cansadas* along the lakeshore at Kalapuni, where we recorded seven more monoliths. Before our next visit, Edgar promised to find more *pedras cansadas*.

On our arrival at Kanamarka the following month we were impressed by the many large *pedras cansadas*. But our encounter with Edgar’s former teacher ended our work there that day. Instead, Edgar took us to the village of Copani, where we documented nine *pedras cansadas* (one of which was more than 4 m long). We then returned to the border town of Yunguyo to prepare a written statement for the next day’s meeting.



A *piedra cansada* near the village of Copani exhibits the distinctive pockmarks of bounce working. We also identified sherds of Tiwanaku-style pottery in a nearby field.

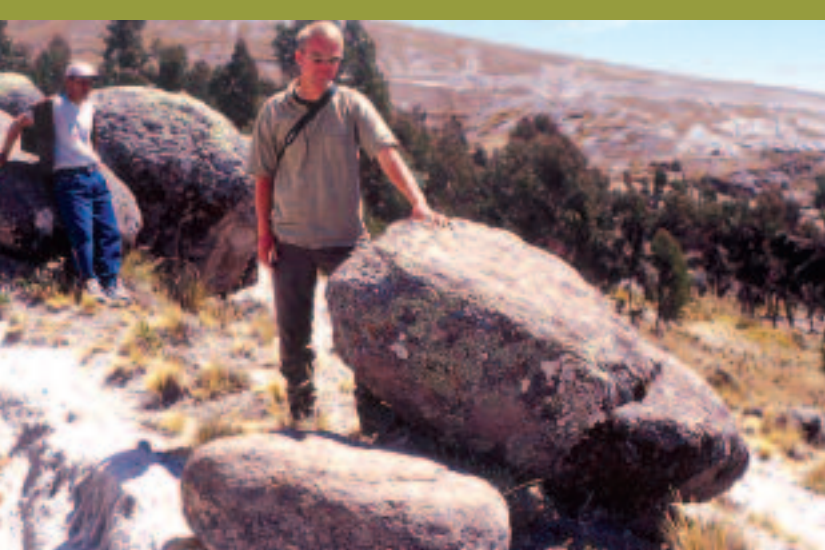


Piedras cansadas are found along the Bolivian shore of Lake Titicaca at Iwawi. Like many at Tiwanaku, they have regular circular pockmarks across their surface where hammerstones were repeatedly bounced to shape them.

A NEW BEGINNING

The next morning we met Edgar, his former teacher, and Kanamarka’s president in a Yunguyo restaurant. Over coffee I read our prepared statement, in which I apologized profusely for barging into the community without first seeking permission. I then described the scientific and culturally sensitive nature of our work, explaining that our only agenda was to give long overdue credit to the ancestors of the Aymara for their technological achievements in transporting stone. The two officials accepted our explanation, nodding in agreement at various points, and after inviting them to breakfast we received formal permission to document Kanamarka’s *pedras cansadas*.

Picking up where we had left off, we measured 24 *pedras cansadas* in Kanamarka. While most were 1.2 to 2.2 m in length, the largest measured



Niels Johannsen (foreground) and Edgar Ancalla stand among unmodified andesite boulders at the base of the Ccapia volcano.

a whopping 3.4 by 1.45 by 0.9 m and probably weighed about 12 tons.

During the day more farmers inquired about our activities. Most were amicably appeased when we showed our permission slip and offered them coca leaves. One woman, however, protested at length in Aymara long after her husband had warmed to our presence. Edgar stood behind her, grinning and mimicking her chatter with his hand. Eventually she stuffed several handfuls of coca leaves into her skirt and stormed off with her husband in tow.

Further down the hill a boy alerted his father to our activities. The father charged at us with a rake, though he did return Edgar's greeting before resuming his furious diatribe. We tried to explain that we had permission, but he evidently spoke no Spanish. As we retreated to Edgar's car the farmer threatened to hurl a rock at us until we drove away. Fortunately, we had finished documenting Kanamarka's *pedras cansadas*.

We then drove to the base of the Ccapia volcano looming above Kanamarka. As we climbed onto a ridge we saw hundreds of monoliths scattered along it, as if they had been blasted straight out of the volcano. Unlike Kanamarka's stones, these appeared natural, lacking the pockmarks of the bounce-worked stones.

From the ridge top we looked down on Kanamarka and saw that the *pedras cansadas* formed a trajectory leading from the volcano to the lakeshore. Although further evidence is needed to determine the precise relationship between these 'tired stones' and the green andesite monoliths of Tiwanaku, we easily imag-

Large andesite boulders are scattered along a ridge leading toward the summit of the Ccapia volcano.

ined past people coming up here to select natural stones, then bringing them down to Kanamarka to be bounce-worked into shape, before loading them onto reed boats bound for Tiwanaku.

As we drove back to Yunguyo we all felt sheepish about stumbling into Kanamarka the day before. But in 24 hours we had come to appreciate much about Andean society past and present—maybe even why the stones are so tired. The *pedras cansadas* of Kanamarka and nearby communities are a fitting testimony to the resilience of Andean culture and the technological achievements it produced. 🏠

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For Further Reading

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