

# South American archaeology at the University of Helsinki in 1984–2023

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## Abstract

South American archaeology became one of the focus areas of the Department of Archaeology of the University of Helsinki in the 1980s. Martti Pärssinen, then of the University of Turku, first contacted professor Ari Siiriäinen during that time, and these two developed a close partnership that resulted in four major archaeological-historical research projects in the Bolivian Andes and one in the Bolivian Amazon. Several students of archaeology took part in these projects, some of them (Antti Korpisaari, Sanna Saunaluoma, and Risto Kesseli) gradually developing into specialists in South American archaeology. From 1999, when Pärssinen became the first professor of Latin American Studies at the University of Helsinki, until the retirement of Siiriäinen in 2003 (and his premature death in 2004), South American archaeology was arguably at its strongest at the University of Helsinki. Since those years, the institutional home of this research in Helsinki has shifted to Latin American Studies, under the auspices of which archaeological research in Bolivia, Brazil, and Chile has continued to prosper. Considering the small number of researchers and the relatively meagre funding, Finnish archaeological research in South America has produced remarkable results. Two of its most important achievements are the discovery of the ceremonial ceramic destruction deposits of Pariti Island, Lake Titicaca, Bolivia, which contained some of the finest pre-Columbian pottery ever found in the Andean highlands, and the scientific discovery and long-term, multidisciplinary study of the ancient glyph-building society of western Amazonia in the state of Acre, Brazil.

**Keywords:** Bolivia, Brazil, Chile, Peru, Tiwanaku, Inkas, geoglyphs, Pariti

## Introduction

In this article, we present a summary of the archaeological research on South America carried out at the University of Helsinki since the 1980s. In addition to highlighting some of this research tradition's major achievements, we want to pay particular attention to the important role of Professor of Archaeology Ari Siiriäinen (1939–2004) in facilitating the consolidation of that research tradition in Helsinki. Already a renowned scholar of Finnish and African prehistory with wide-ranging research interests, he was willing to embrace South American archaeology at a somewhat later stage in his career, for which we are ever grateful.

In the beginning of the 1980s, Dr Siiriäinen gave methodologically oriented lectures on the discipline of Finnish and comparative archaeology at the University of Turku. There he met a young student of archaeology and history who had been given permission to write his MA thesis in general history on the political and economic structure of the Inka State (located in the Central Andean region of South America and dating to c. 1400–1532/1533 AD). This student also wanted to write a subsidiary archaeology thesis on Andean cultures, but the research thesis had to fit within the framework of comparative archaeology, and a suitable thesis supervisor had to be found. Siiriäinen suggested that the student in question contact the University of California, Berkeley,

where Siiriäinen had some contacts. The student referred to above was Martti Pärssinen.

Unfortunately, Pärssinen's first attempts to contact American archaeologists were rather unsuccessful. However, when Siiriäinen was appointed Professor of Archaeology at the University of Helsinki, and as the name and focus of the discipline were changed from Finnish and Scandinavian archaeology to (general) archaeology, in the autumn of 1984 Siiriäinen invited Pärssinen to Helsinki to take advanced studies in archaeology and write his subsidiary archaeology thesis. This thesis, *Tahuantinsuyo ja Huari: Inkavaltakunnan asuinpaikoilta muodostettu arkeologinen valtion malli sekä Huarin asuinpaikat erityisesti Perun Ayacucho- ja Virú laaksoissa*, was completed in 1985. In this work, Pärssinen created a model of an archaeological state based on historically known Inka settlement sites, and then applied this model to known Huari (Wari) culture settlement sites in Peru. The results supported the hypothesis

that Huari also was a state-level political entity c. 600–1000 AD.

From 1985 to 1988, Pärssinen carried out research at the General Archive of the Indies in Seville, completed an MA in anthropology at the University of Rochester, New York, and utilised archival sources he had found in Seville to locate archaeological sites in the field in Peru and Bolivia (see Pärssinen 1992, 310–320; 1997). Of these sites, the most promising seemed to be Caquiaviri, the former capital of the Pacasa Province of the Inka State (Figure 1). This site is in the Bolivian high plateau or *altiplano* (c. 3700–4000 m above sea level), more specifically in the Lake Titicaca region close to the capital and type-site of the earlier Tiwanaku culture (c. 500–1000/1100 AD). Despite its Inka-era importance, no scientific archaeology had been carried out at Caquiaviri. Due to this, and partly due to a weakened security situation in rural Peru because of conflicts between the Sendero Luminoso guerrilla

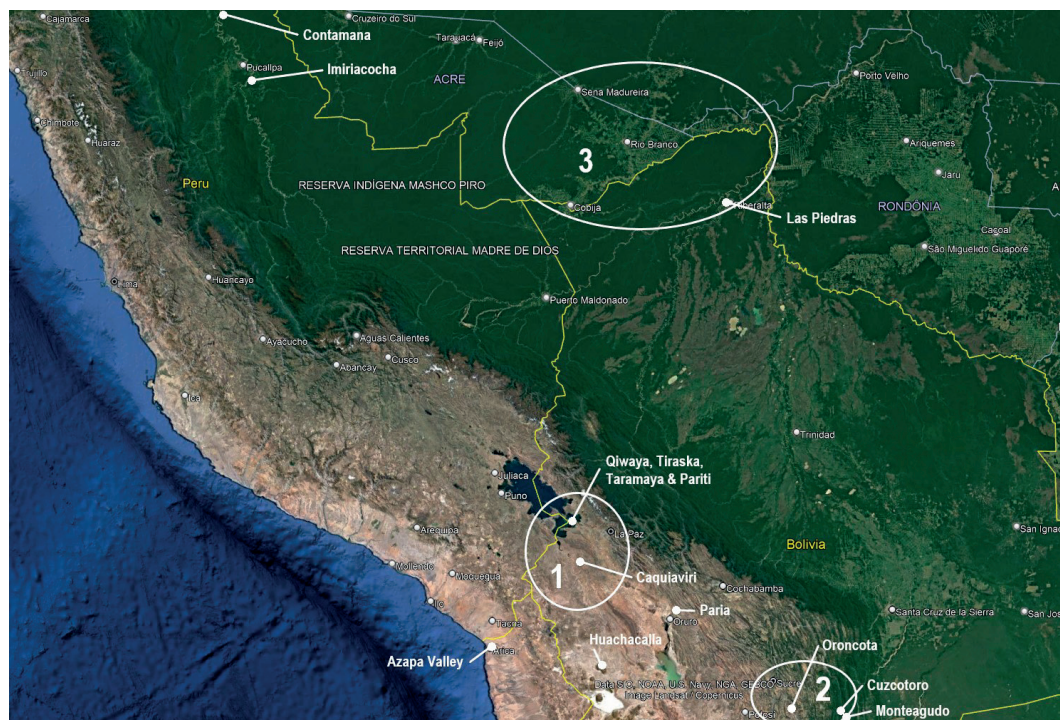


Figure 1. Screen capture from Google Earth, showing parts of Bolivia, Peru, Brazil, and Chile. The principal sites and research areas mentioned in the article are indicated. The ellipses denote: 1) the approximate area of the Pacasa Province of the Inka State, 2) the research area of the *Yampara* project (1993–1994), and 3) the approximate areal extent of the glyph-building Aquiri civilization (2500–1000 BP).

organisation and Peruvian authorities, Pärssinen made preliminary agreements with Bolivian anti-archaeological authorities and local villagers to begin a research project in Caquiaviri. In Finland, Pärssinen suggested such a joint research project to the associate professor of general history at the University of Turku, Reino Kero, and professor Siiriäinen. Both men were interested in this project, and the team succeeded in securing funding from the Academy of Finland. The Bolivian National Institute of Archaeology (INAR) and the Bolivian Cultural Institute (IBC) authorized the research, and the first excavations in Caquiaviri began in June 1989.

### Siiriäinen in Peruvian Amazonia

While preparations for the *Caquiaviri* project were underway, Siiriäinen also became interested in the research led by Dr Jukka Salo in Peruvian Amazonia. In particular, Siiriäinen was fascinated by the major geological relocation of the Ucayali River identified by Salo's research team, and already at that time (1989) dated by Pärssinen to the 17th and 18th centuries AD based on historical sources (Salo *et al.* 1986; Siiriäinen & Vuorinen 1989; Pärssinen *et al.* 1996). Geologically explainable shore displacements had already been the topic of Siiriäinen's (1974) PhD dissertation on the chronology of the Finnish Stone Age. Together with his student Tommi Vuorinen, Siiriäinen began planning an archaeological project in the Ucayali River area and managed to secure funding for this from the Academy of Finland. While Pärssinen was in Caquiaviri together with his wife Heli, son Viljami, the Bolivian archaeologist Juan Faldín, and Siiriäinen's student Risto Kesseli, Siiriäinen headed to the Ucayali River with Vuorinen. They originally aimed to carry out research in the regions of Imiriacochoa and Contamana (Figure 1), but due to gun fighting related to drug trafficking and guerrilla movements they had to abandon this plan, and only succeeded in visiting the known sites of San Salvador and Aguas Calientes. Subsequently, they relocated to the Requena region, exploring the shores of the Ucayali and Tapiche rivers there. They found some twenty settlement and funerary sites, most of which were in interfluvial *terra firme*, just on the edge of the

*varzea* floodplain (Siiriäinen & Vuorinen 1989; see also Coomes *et al.* 2020), or in the so-called bluff zone (Denevan 1996). Siiriäinen and Vuorinen planned to return to the Ucayali area, but first the latter and then the former abandoned the project. Nevertheless, in 1989 Siiriäinen took a flight from Ucayali to Bolivia and visited Caquiaviri when the excavations of an Inka house foundation were in progress at the Tiquischullpa site.

### The *Caquiaviri* project in the southern Lake Titicaca area

The *Caquiaviri* project that started in 1989 continued at Tiquischullpa in June 1990. In addition to Pärssinen, Faldín, and Kesseli, the research team included student Kreetta Lesell of the University of Helsinki and the late Ilse-Mari Söderholm. The Tiquischullpa excavations provided a great opportunity to date the expansion of the Inka State south from its capital Cusco, and to compare results separately gleaned from historical and archaeological sources. Pärssinen's archival research had already proven that the Inkas arrived in highland Bolivia a little earlier than assumed in John H. Rowe's (1944; 1945) influential chronology of Inka conquests, created in the 1940s and still widely used today. According to the sources used by Rowe, the conquest of the Bolivian highlands would have taken place during the reign of the Inka ruler Topa Inka, around or soon after 1471. Furthermore, applying a direct analogy, Rowe assumed that Inka ceramics and architecture found in Bolivia would postdate 1471. Local archival sources from this area, however, indisputably show that many so-called Aymara kingdoms, which were formed in the aftermath of Tiwanaku's collapse, had already pledged allegiance to Topa Inka's predecessor Pachakuti Inka around 1450. In this light, what dates would the Tiquischullpa excavations provide for the appearance of Inka style pottery in Caquiaviri?

In 1990, the Finnish-Bolivian team collected carbon samples from different layers. The excavations revealed that the Tiquischullpa house had been burnt twice, first around 1200 – that is, soon after it had been built – and for a second time around 1450. Inka pottery appeared between

these two burning episodes in the 14th century, and continued to occur after the second burning episode of c. 1450 and all the way until the second half of the 16th century. These results were quite surprising. The second burn layer could correspond to the Inka conquest of the Lake Titicaca area, but how could Inka pottery have been in use in Caquiaviri already a century earlier? To corroborate the Tiquischullpa dating results, Pärssinen, Siiriäinen, and Kesseli collected additional radiocarbon dating samples from Atacama and Azapa (Chile), the islands of Lake Titicaca, Pirapi of Pacasa, Inkallacta of Pocona, Inka Raqay of Cochabamba, and some sites in the Sucre (Chusquisaca) region. The dates produced from these additional samples showed that Inka style ceramics and some Inka style buildings indeed predated the Inka conquest.

Pärssinen and Siiriäinen proceeded to write an article centred on the pottery of Tiquischullpa and submitted this to *American Antiquity*, from where it was redirected to the Society for American Archaeology's new journal, *Latin American Antiquity*. Sadly, one of the peer reviewers assigned to evaluate the manuscript unduly prolonged the evaluation and publication process in order to write and publish a similar kind of article. This became clear when Pärssinen was asked to review this manuscript, which, although discussing a different case study, featured conclusions very similar to those presented in the unpublished manuscript of Pärssinen and Siiriäinen. The editorial team of *Latin American Antiquity* regretted this unfortunate incident and hastened the publication of the original study, which finally came out in 1997. In that article (Pärssinen & Siiriäinen 1997), it was postulated that ceramics and Inka-style building techniques might have arrived in the Lake Titicaca area through intercultural exchange processes long before the actual Inka conquest took place. However, as the radiocarbon dates for Caquiaviri's Inka style pottery were even older than those for such ceramics in Cusco, the authors alternatively posited that the Inkas might have adopted this style from the residents of the Titicaca area in the 15th century and later spread it as their own when they continued their conquests throughout the Andes. In any case, the results made it clear that the chronol-

ogy of Inka conquests based on historical sources did not correlate with the archaeological evidence regarding the appearance of Inka style ceramics and architecture in the Inka provincial capital of Caquiaviri, south of Lake Titicaca (see also Pärssinen 2015a).

### The Caquiaviri research results' impact on Inka studies

Some doubts regarding the incompatibility of the historical evidence and archaeological material had been voiced before, but Pärssinen and Siiriäinen could show this for the first time based on radiocarbon dates from a systematically excavated, secure context. The point was not, however, that the historical interpretation would have been erroneous (as sometimes had been posited), but that the archaeological material was not tied to the historical chronology of the Inka conquests, as Rowe had supposed. Due to this erroneous interpretation, most Inka settlements had been automatically dated to the second half of the 15th century or to the 16th century. The authors now urged researchers to re-evaluate the archaeological settlement data in light of radiocarbon dates or other methods independent of the historical sources. More generally, the message was that in multidisciplinary research, the methods of different disciplines should not be mixed during the research process. Only when the different methods have produced their independent results should these be compared to find parallels and correlations and to form new hypotheses. Of course, the applicability of this claim also depends on whether the methods used are close to one another or very dissimilar.

Pärssinen and Siiriäinen never really assumed that their article would lead to a rapid and comprehensive re-evaluation of Inka studies. Rowe's chronology remains widely used, but now, twenty-five years since the publication of the article, more and more publications choose, instead, to use the map of Inka conquests based on local historical sources written outside Cusco that Pärssinen (1992) published in his PhD dissertation *Tawantinsuyu: The Inka State and Its Political Organization* (see, e.g., D'Altroy 2002;

Shimada 2015). In addition, on the side of archaeological research, the first broad tests of the chronology proposed by the Finnish authors have also recently appeared (see, e.g., Meyers 2016; Marsh *et al.* 2017; Burger *et al.* 2021). Even though the Caquiaviri research results are therefore now generally confirmed, many scholars still find it surprisingly hard to acknowledge that the disagreement of a about a century in the chronology of the Inka conquests could indeed be due to the different conjectures of material and political culture. Many researchers are unwilling to admit that ‘Inka style’ material could have spread in the Andes prior to the Inka conquests recorded in historical sources. Therefore, the views of many archaeologists and historians continue to differ drastically. Still, we continue to argue that the presupposition of Inka material culture spreading only through conquests is a delusion. It is not based on the reality described by the sources but, rather, represents something ingrained in the thinking of many scholars.

The *Caquiaviri* project also produced information on a Late Formative archaeological complex named Pajcha Pata that flourished in the region c. 1–400/700 AD. It shared characteristics with the contemporaneous Chiripa, Qeya, and Wankarani cultures but, in general, appeared to be a rather independent entity that also practiced bronze metallurgy (Pärssinen 1999). Furthermore, some Tiwanaku sites were studied and test excavated near Nazacara. One of these sites showed an accumulation of volcanic ash c. 550 AD, after which the Tiwanaku style replaced the earlier ceramic assemblage almost entirely. Based on this, and similar evidence from the shores of Lake Titicaca in Iwawi (Burkholder 1997; Isbell 2001; Isbell & Burkholder 2002), Pärssinen (2015b) proposed a hypothesis that strong volcanic activity also observed in Europe may have launched the expansion of the Tiwanaku and Wari States as well as the sudden appearance of the cult of the volcanoes c. 541 AD (see also Korpisaari 2016).

## The Yampara project in Sucre and Cuzcotoro

The *Yampara* project moved our research focus to Chuquisaca, the region of Bolivia’s judiciary capital, Sucre (Figure 1). The goals of this project, which made use of both historical sources and archaeological fieldwork, included the more exact geographical localisation and definition of the Inka era Yampara Province and the chiefdom that preceded it during the so-called Late Intermediate Period of c. 1000/1100–1450 AD. Further aims were to locate economic enclaves once planted in the area by the Aymara kingdoms of the Bolivian high plateau and the Inkas, and to study the chain of Inka fortresses in the eastern parts of Chuquisaca. One particular research problem was to what extent ceramic and architectural styles and settlement patterns could be seen to have followed the ethnic (and linguistic) borders known from historical sources. As with the earlier *Caquiaviri* project, the *Yampara* project was also funded by the Academy of Finland (1993–1994) and was realised in cooperation between the Department of History of the University of Turku, the Department of Archaeology of the University of Helsinki, and Bolivian antiquarian authorities (INAR). Martti and Heli Pärssinen were responsible for the archival research, and M. Pärssinen and Faldín carried out most of the archaeological fieldwork. Siiriäinen also took part in this fieldwork, excavating and mapping in Pampa Yamparaes and the fortress of Cuzcotoro. Furthermore, the local archaeologist Edmundo Salinas and the future professor at Harvard University, Gary Urton, voluntarily helped in some phases of field and post-field work.

The most important historical documents guiding our study of the principal centres and the borders of the Yampara chiefdom included an archival source from 1562 in which several individuals discuss the placement of Yampara villages (Probanza 1562). Additionally, some *cédula* certificates by Francisco Pizarro and several documents kept in the National Archive of Bolivia in Sucre provided useful information. After consulting this historical material, the team surveyed the area between Piocera (close to Ravelo) and Monteagudo, locating the Yampara villages valley by

valley. We also located many villages and fortresses that once belonged to the Aymara kingdoms or, sometimes, Inka *mitimaes*, colonists transplanted to new locations by the Inka State.

The team managed to locate the majority of the principal villages (*cabeceras*) mentioned in the aforementioned source from 1562. We were surprised, however, by the fact that in the excavations and surface collections carried out at these sites, almost no Yampara ceramics were found – with the exception of some exotic shards (according to Ibarra Grasso and Querejazu Lewis 1986, *passim*). The team also did not find ‘Yampara’ ceramics in its deeper, better-stratified excavations. On the other hand, Late Intermediate Period and Inka cultural layers often included thick shards with incisions and dots, as well as so-called Uruquilla and Yura pottery. Furthermore, the pottery of Quilaquila featured more *altiplano* characteristics than that of Hatun Yampara and Yotala. However, we did find many ‘Yampara style’ (according to Ibarra Grasso) shards outside of the historic limits of the Yampara chiefdom, for example, in Sacramento and Chaco, towards Mizque from Sucre. Therefore, we could verify that the use of the so-called ‘Yampara’ ceramics in no way corresponds with the historic limits of the Yampara people; it was rather the sub-style that we call Hatun Yampara that corresponds more with the Yampara chiefdom. This Hatun Yampara sub-style had not been described in previous publications (Pärssinen 1997; Pärssinen & Siiriäinen 2003).

In Arabate, close to Sucre, the team located a well-preserved settlement that, according to our sources, belonged to *mitimaes* from the high plateau sent by the Inkas (Del Río & Presta 1984, 236–238; Barragán 1994, 107). The settlement pattern reflected Inka planning, and the great walls showed building techniques reminiscent of the *altiplano*. Such Inka and high plateau influences were absent in the ceramic assemblage, however. Rather, the pottery that we collected is very similar to that excavated at Hatun Yampara, the possible capital of the Yampara chiefdom, situated some 10 km south of Arabate. This seems to indicate that the *mitimaes* of Arabate mostly used local pottery.

In the fortress of Oroncota, situated close to the confluence of the Icla and Pilcomayo rivers, the Inkas also constructed various defensive settlements, some of these using stones carved in the Cusco style. Our excavations and surface collections proved the use of Inka and Inka-Pacajes ceramics in Oroncota. Still, the great majority of the pottery was local in character (Pärssinen & Siiriäinen 2003; Pärssinen *et al.* 2003a).

The ruins of Cuzcotoro were identified in the mountain pass called Abra de Manchachi, in the Cuzcotoro mountain range between Padilla and Monteagudo (Figure 1). In his book *Los Andes orientales*, Thierry Saignes (1985, 26) used Erland Nordenskiöld’s suggestion that Cuzcotoro (Cuzcotuero) and Inkahuasi (close to Vaca Guzmán) referred to the same fortress. In the map on page 30 of Saignes’ book, however, Cuzcotoro is located between Monteagudo and Padilla, just where we found it (Pärssinen & Siiriäinen 1998). Prior to the Finnish-Bolivian investigations, two North American travellers (Paddock 1984; Lee 1992) had published photos and drawings of the walls of these ruins, but they had failed to identify the site as Cuzcotoro, alias Cuzcotuero or Cuzcotuyo (see Sarmiento [1572], chapter 61; 1943, 248–249).

After our identification of Cuzcotoro, Sonia Alconini carried out further excavations in this fortress as well as in Oroncota, adding important details to the preliminary results obtained by the Finnish-Bolivian team (Alconini 2002). Additionally, Alconini (2008) edited a book titled *El Inkario en los valles del Sur Andino Boliviano: Los Yamparaes entre la arqueología y etnohistoria*. In said volume, the sub-style Hatun Yampara, as defined by Pärssinen and Siiriäinen (2003), is further analysed and debated, as the Finnish authors recommended in 2003.

Finally, the Finnish-Bolivian field research conducted near Cuzcotoro, in the San Pedro and Monteagudo regions, produced a large amount of corrugated and fingernail-decorated ceramics typically associated with Tupi-Guaraní language groups. According to the general view, the first Guaraní groups entered these regions only some years prior to the European conquest, that is, around 1522–1525 AD (e.g., Nordenskiöld 1917). Nevertheless, when we dated charcoal

samples associated with these kinds of ceramics, it became clear that the style had appeared in the region around 400 cal AD – a thousand years before what was expected. When the results were published (Pärssinen 2003; Pärssinen & Siiriäinen 2003), this caused much discussion in Tupi-Guaraní studies and obligated specialists to re-evaluate the chronology of the Guaraní migrations. Today, there is some justified debate about how tightly languages and material culture are related, but, in general, the re-evaluation of the chronology and spatial distribution of the Guaraní style ceramics has also confirmed the early presence of the style in the Brazilian and Argentinian coastal regions (Bonomo *et al.* 2014; Iriarte *et al.* 2017).

### The *Chullpa pacha* project

The *Chullpa pacha* project, funded by the Academy of Finland, took Finnish researchers to the shores of Lake Titicaca, with most of the fieldwork (1998–1999) carried out at the Late Intermediate Period and Inka era village site of Qiwaya (Los Andes Province) (Figure 1). The main aim of the project was to provide primary research data for Kesseli's PhD dissertation on the burial towers, or *chullpas*, found over large parts of the Bolivian high plateau. These 1.5–8 m tall structures, built and used between the 13th and 16th centuries AD, functioned as aboveground mausoleums for important ancestors, families, and/or lineages (Figure 2). Most are built of sun-dried clay (adobe) bricks. On the shores and islands of Lake Titicaca, however, stone-built *chullpas* are common (Kesseli 1995; Kesseli *et al.* 1999; Kesseli & Pärssinen 2005; Pärssinen 2005, 121–166). Siiriäinen was the general director of the *Chullpa pacha* project, whereas Kesseli and the Bolivian archaeologist Jédu Sagárnaga directed the archaeological fieldwork. Geographer Petri Liuha studied the spatiality of the burial towers, and Dr Matti Rossi performed volcanological tephra studies. Antti Korpisaari, then a student of archaeology, worked as a research assistant in June–August 1998, collecting material for his MA thesis, completed in 2000 (Korpisaari 2000a).



Figure 2. An 8-metre-tall stone-built *chullpa* burial tower in Markiviri de Catacora, Bolivia. Photo: Martti Pärssinen.

The *Chullpa pacha* project produced important new information on late pre-Columbian period village life and burial practices in the Bolivian Andes. At Qiwaya, 283 (small) stone houses and 20 stone *chullpas* – situated in close vicinity to the dwellings of the living – were mapped and documented. Excavations were carried out in two burial towers: *Chullpa* C-17, radiocarbon dated to the 14th or early 15th century cal AD, yielded 176 pottery shards and human remains belonging to a minimum of five deceased. The excavations of burial tower A-52, on the other hand, produced 314 shards and human remains belonging to 6–10 adults and 1–3 small children (Kesseli *et al.* 1999; Korpisaari 2000a, 67–72; Kesseli & Pärssinen 2005, 388–391). Several subterranean tombs were also investigated, both at Qiwaya and at the neighbouring site of Tiraska (Korpisaari 2000b). The late Tiwanaku Period / early Late Intermediate Period cemetery site of Tiraska – discovered and preliminarily excavated in 1998 – would later become the focus area of a project of its own (see below). Outside of the Qiwaya / Cohani Island core research area, Rossi *et al.* (2002) recorded

228 burial towers at 84 sites in the Huachacalla region of the Department of Oruro, west-central Bolivia (Figure 1). The Chullpa pacha project also facilitated the founding of a small archaeological museum in the present-day village of Qiwaya, situated some 500 m from the pre-Columbian settlement site. Sadly, Kesseli never completed his dissertation, but his last co-publication (Kesseli & Pärssinen 2005) remains among the most cited articles on the Andean burial towers (e.g., Morales *et al.* 2013; McCool & Yaworsky 2019; Bongers *et al.* 2023).

### **The Amazonian interests of the Inkas project**

The period from autumn 1999, when Pärssinen assumed the professorship of Latin American Studies at the University of Helsinki, until Siiriäinen's retirement in 2003 and untimely death in 2004, could perhaps be characterised as the 'golden age' of South American archaeology in Helsinki. The professors of two disciplines and several of their students were heavily involved in this research, and in 2000–2002 the University of Helsinki awarded funding for two 3–4-year research projects on Bolivian archaeology. The first

of these was *The Amazonian Interests of the Inkas* (2001–2003). Furthermore, the first years of the 2000s saw the discovery of the rich Tiwanaku Period ritual ceramic destruction deposits of Pariti Island and the beginning of Finnish involvement in the highly impactful study of the so-called geoglyph sites of the state of Acre, Brazil (see below).

Several independent historical sources confirm ancient Inka presence at the confluence of the Madre de Dios and Beni rivers in Bolivian Amazonia (Pärssinen 1992, 107–119). Because of this, in 1997 and 1998, Siiriäinen made two reconnaissance trips to that area and was able to confirm the presence of the ruins of an Inka fortress there (Faldín 1999; Siiriäinen *et al.* 2002; Pärssinen *et al.* 2003a; Pärssinen 2018a). This fortress is located at a site called Las Piedras, close to the present-day city of Riberalta (Figure 1). As it turns out, the fortress was known beforehand, but its connection to Inka history remained unclear (Del Castillo 1929; Denevan 1966). Subsequently, Siiriäinen and Pärssinen succeeded in securing funding from the University of Helsinki for a three-year project. The Inka fortress of Las Piedras was the main target of this research (Figure 3), but additional investigations were carried out at nearby sites pertaining to prehistoric Amazonian groups (see Saunaluoma *et al.* 2002; Sau-



Figure 3. Members of the 2001 field research team of *The Amazonian interests of the Inkas* project. From left to right: the project's Bolivian co-director Juan Faldín, the local assistant Juan Navi, Ari Siiriäinen, Sanna Saunaluoma, and Marjut Jalkanen-Mäkelä. Photo: Antti Korpisaari.



naluuoma & Korhonen 2003; Saunaluuoma 2010). This last-mentioned research was later to form part of Sanna Saunaluuoma's article-based PhD dissertation in archaeology, completed in 2013.

The defensive works at Las Piedras include a (partly disappeared) stone wall on the fortress' northern and eastern sides and a wide, deep ditch on its southern and western sides. Together, these features enclose an area of 9.7 hectares. In addition to the perimeter wall, the few standing remains of (stone) architecture are situated in the north-eastern sector of the site; however, small concentrations of collapsed stones allude to the ancient presence of (stone) architecture in other parts of the site as well. During the three fieldwork campaigns at the site, 47 1x1 m test pits and a 1x9 m trench were excavated. Additionally, postgraduate student of archaeology Marjut Jalkanen-Mäkelä excavated in the (now dried-up) ditch and the so-called 'tower' structure (probably the remains of a ceremonial *ushnu* platform) (see Jalkanen-Mäkelä 2003; 2013; Pärssinen 2018a).

The cultural layer at Las Piedras varies from c. 20 to c. 70 cm in depth (Korpisaari *et al.* 2003a). The great majority of archaeological material – mainly ceramics, but also grinding stones and flakes and other lithic material – is concentrated inside the area enclosed by the defensive wall and the ditch; the test pits we excavated outside of this area were almost devoid of cultural material. Similarly, few finds were made inside the (habitational and/or ceremonial?) stone structures or enclosures of the north-eastern part of the site. Apparently, these well-built rooms or areas had been sparsely used and kept clean, a finding which is in accordance with the results of excavations undertaken in the principal structures of Huánuco Pampa, the Island of the Sun, and the fortress of Oroncota (Morris 1982, 162–163; Pärssinen & Siiriäinen 2003, 180–182; Pärssinen 2005, 209).

The great majority of the plentiful ceramic material recovered at the Las Piedras site was of local types. However, we found at least three shards of 'pure' Cusco style and some dozens of shards featuring Inka characteristics; that is, of local Inka style (see Siiriäinen & Pärssinen 2001). As should be clear from the previous sections of this article, such scarcity of Inka style ceramics at Bolivian Inka sites is more the rule than an exception.

Importantly, the excavations carried out at Las Piedras revealed a single cultural layer, not several, which strongly suggests that the fortress was constructed and used during a single, rather lengthy period. Three of the four published radiocarbon dates (Pärssinen *et al.* 2003a, 71; Siiriäinen 2003) and a few others yet unpublished due to Siiriäinen's passing indicate that this occupation lasted from the 15th century into the 16th century, and perhaps even until the beginning of the 17th century. The fourth published date, Hela-566, is some two centuries earlier, possibly pointing to some sporadic activities at the site prior to the building of the Inka fortress. Still, the radiocarbon evidence strongly supports our interpretation of a notable Inka presence at the confluence of the Madre de Dios and Beni rivers.

### ***The Formations and Transformations of Ethnic Identities in the South Central Andes, 700–1825 AD project***

Two years after Siiriäinen and Pärssinen were awarded a University of Helsinki three-year research grant for *The Amazonian Interests of the Inkas* project, they succeeded in securing another such grant for archaeological research in the Lake Titicaca area. Eventually, the University of Helsinki decided to continue financing this *Formations and Transformations* project for a fourth year, and the Finnish Cultural Foundation and the Emil Aaltonen Foundation provided additional funding. Fieldwork in Bolivia was carried out by Korpisaari, Kesseli, Pärssinen and students of archaeology Riikka Väisänen and Helena Anttila, in cooperation with the Bolivian co-directors Jédu Sagárnaga and Juan Faldín and several Bolivian students of archaeology. In addition, as a part of the project, Frédéric Duchesne, then a French post-graduate student, carried out some archival studies and field research in southern Peru based on an agreement between the University of Helsinki and the Université de la Sorbonne Nouvelle (Paris III). Duchesne defended his PhD dissertation in Paris in 2008.

Prior to the commencement of the *Formations and Transformations* project, in 2002 Korpisaari and Kesseli excavated for two weeks at

the cemetery site of Tiraska – discovered during the *Chullpa pacha* project – and the burial tower and village site of Taramaya (see Kesseli *et al.* 2003; Korpisaari *et al.* 2003b; Figure 1). The focus of the 2003 field season was larger-scale excavations at Tiraska. Despite social unrest in Bolivia, Korpisaari's severe illness, and the tragic death of Anttila in October, the team was able to excavate nearly 58 m<sup>2</sup> and investigate 17 new burial contexts, which brought the total for Tiraska up to 32 archaeologically investigated tombs. Almost without exception, these were smallish individual burials in pits or cists, accompanied by 0–2 ceramic vessels (Figure 4). This Tiraska burial material was centrally featured in Korpisaari's (2006) PhD dissertation, for which he additionally collected and summarised the published mortuary data from another 18 Tiwanaku heartland sites. Korpisaari's reconstruction of the mortuary patterns of the Tiwanaku Period Bolivian high plateau found that, generally speaking, the Tiwanaku people did not invest as much labour in burial facilities and grave goods as did pre-Columbian groups in many areas of present-day Peru, for instance. Furthermore, he argued that as all documented Tiwanaku burials were subterranean pits, cists, or chambers, the Tiwanaku people apparently did not emphasise the physical

preservation/mummification of their deceased. Rather, this practice/belief seems to have arrived later with the introduction of the aboveground *chullpas*. Subsequently, two other dissertations have been completed on the subject of Tiwanaku burial practices (Sharratt 2011; Baitzel 2016), but Korpisaari's interpretations have remained valid.

The 2004–2006 field seasons of the *Formations and Transformations* project focused on the small island of Pariti, situated some kilometres southwest of Tiraska (Figure 1). The American archaeologist Wendell C. Bennett excavated on Pariti in 1934, finding important Pre-Columbian material (Bennett 1936), but no follow-up investigations were made for nearly 70 years. In 2003, while our team excavated at Tiraska, a young resident of the present-day community of Pariti sailed to Tiraska to show us some very interesting Tiwanaku pottery. This motivated us to excavate three 1x1 m test pits on Pariti in October 2003. Although these were poor in archaeological material, the team returned to the island in August 2004, and our second 2x1 m test pit produced one of the most impressive discoveries of Finnish archaeology abroad. We located a cylindrical pit c. 70–80 cm in diameter and c. 170–180 cm deep, full of thousands of high-quality Tiwanaku ceramic shards (and a few complete vessels). Around 1000



Figure 4. A view into Tiraska's burial cist 13, excavated in 2002. Note the rather well-preserved cranium and long bones of the approximately 30–45-year-old deceased, a probable female, and, in the lower centre of the image, the rim of a broken ceramic bowl. Photo: Antti Korpisaari.



Figure 5. Risto Kesseli doing post-fieldwork in La Paz, Bolivia, in 2005. Photo: Antti Korpisaari.

cal AD, hundreds of beautiful vessels had been manufactured for what we interpret to have been a single, lavish ritual, during or after which they were smashed. Subsequently, the majority of the resulting shards had been collected and buried in the feature we excavated in 2004 (Feature 1) – and in another, slightly smaller cylindrical pit, which we excavated in 2005 (Feature 2).

Together, Pariti's Features 1 and 2 produced a tremendous wealth of ceramic material. During the long post-fieldwork phase (Figure 5), our team managed to reconstruct 435 vessels more-or-less completely. As we have shown in a monograph published by the Academia Scientiarum Fennica (Korpisaari and Pärssinen 2011) and several articles (e.g., Korpisaari *et al.* 2012; Korpisaari 2018; Pärssinen 2018b), dozens of these artefacts feature forms, decorative motifs, and/or colours previously unknown to Tiwanaku scholarship. For instance, Pariti's 45 animal and human effigies and portrait vessels proved that the best Tiwanaku potters were on par with the celebrated Moche (c. 200–850 AD) artisans of the north coast of Peru when it came to sculpting clay in a naturalistic manner (Figure 6). The strong presence of lowland fauna, particularly motifs referring to the rattlesnake, also surprised us.

The Pariti discoveries were big news in Bolivia, where the Tiwanaku culture is one of the major building blocks of national identity. A



Figure 6. A small sample of the ceramics recovered in Pariti's Features 1 and 2. Top left: effigy vessel depicting an old, wrinkle-faced man holding a waterfowl on his left arm. Top right: the beautifully modelled face of a female effigy vessel. Bottom: two vessels of the so-called *ch'allador* type, displaying complex painted iconography in their interior. Photos: Antti Korpisaari.

selection of the ceramic artefacts was exhibited in La Paz and other major cities, and a smaller sample even travelled to Japan. With important financial assistance from the Swisscontact organisation, Sagárnaga managed to have an impressive regional museum built on Pariti, which opened its doors in 2005. We continued our excavations on Pariti until 2006 (Figure 7), investigating a total of 32 m<sup>2</sup> around Features 1 and 2. This work revealed one corner of the stone foundations of an ancient building, a probable Tiwanaku temple. Still, much remains to be done on Pariti, and we hope to be able to continue our excavations there one day.

Under the auspices of the *Formations and Transformations* project, Pärssinen, Kesseli, and Faldín also carried out survey work in the central Bolivian high plateau in 2004. One of the most important aims of this research was to confirm the location of Paria la Vieja, the Inka-era capital of Charcas, which the Spanish re-founded in a slightly different location in 1535. Previously, archaeologists had presented two competing theories regarding the original location of Paria. Using historical information regarding distances from Paria la Vieja to known nearby sites, Pärssinen was able to trace Paria la Vieja's location to an area 12 km in diameter. The 2004 survey proved that one of the two sites earlier claimed to be Paria la Vieja was situated within this search area (Figure 1). Furthermore, Pärssinen and colleagues managed to locate the heretofore-undocumented ruins of about a thousand small warehouses or

*qollkas* to the northwest of the main architectural complex and ceramic scatter. This great storage capacity was an important piece of evidence, as historical sources tell us that maize cultivated in Cochabamba was transported to Inka Cusco via Paria la Vieja. Taken together with the 100 ha total size of the site and the presence of plentiful Inka pottery, Pärssinen *et al.* (2010) could conclude that the debate concerning the location of Inka era Paria is now settled.

### The geoglyphs of Acre and the Aquiry civilization

In 2001, when *The Amazonian Interests of the Inkas* project carried out research at the Las Piedras site in Bolivia – situated only some 250 kilometres south of Rio Branco, the capital of the Brazilian state of Acre – professor Alceu Ranzi (Universidade Federal do Acre) contacted Pärssinen and described his new aerial discoveries of geometrical archaeological sites in Acre. Understanding the importance of Ranzi's discoveries, Pärssinen agreed to visit Rio Branco during the 2002 field season. Sanna Saunaluoma and Jussi Korhonen, doctoral and MA students of archaeology at the University of Helsinki, respectively, accompanied him.

The first geometrically patterned archaeological site in Acre was discovered in 1977 during the Programa Nacional de Pesquisas Arqueológicas na Bacia Amazônica (PRONAPABA) carried out by Ondemar F. Dias and his research team, which also included Alceu Ranzi. The site was a circular ditched enclosure of c. 100 metres in diameter, situated near the Acre River at Fazenda Palmares (Dias Júnior & Carvalho 1977; Prous 1992, 464; cited also by Ranzi 2003, 137). This individual discovery did not receive much publicity, but eight years later, in 1985, Alceu Ranzi took a flight from Rio Branco to Porto Velho and casually observed from the air another structure in Seu Chiquinho. It appeared to be a concentric formation: a quadrangular ditched enclosure with rounded corners, situated inside a circular ring ditch of c. 180 metres in diameter. Dias Júnior and Carvalho (1988) also found some new earthworks more-or-less at the same time.



Figure 7. Antti Korpisaari (left) and Martti Pärssinen on Pariti Island in 2006. Photo: Heli Pärssinen.

In 2002, when Pärssinen, Saunaluoma, and Korhonen visited Acre, some sixty geometrically patterned pre-Columbian structures, called geoglyphs by Ranzi, had been registered in the Rio Branco area, concentrated in the interfluvial *terra firme* between the Acre and Iquiri rivers in the north and the Acre and Chipamanu rivers in the south (Pärssinen *et al.* 2003b, 114–115; see also Ranzi & Simas de Aguiar 2001; Ranzi 2003; Figures 1 and 8). Furthermore, during reconnaissance flights sponsored by Globo TV, Pärssinen and Saunaluoma were able to see various ancient roads entering these ditched enclosures. This was totally unexpected, and pointed to something that could be called an ancient civilization – in stark opposition to the dominant academic view of Amazonian cultural development in the *terra firme* forests, which were considered to be almost pristine, untouched by humans. As a result, Ranzi and Pärssinen agreed to collaborate and to search for financial support for future research. Soon, Siiriäinen also expressed interest in participating in this project, and Pärssinen and Siiriäinen then agreed that the latter would direct the actual fieldwork in Acre.

The first English-language article on the preliminary results of aerial and field observations related to the Acrean earthworks (Pärssinen *et al.* 2003b) caused great excitement among Amazonian specialists (e.g., Mann 2005; Erickson 2006). In 2004, Pärssinen and Siiriäinen secured financial support from the Academy of Finland for the *Man and Nature in the History of Western Amazon, Bolivia – Brazil* project. Unfortunately, the sudden death of Siiriäinen changed the plans of the Finnish-Brazilian team. Thus, it was decided that both Pärssinen and Saunaluoma would direct fieldwork in Acre together with Dr Denise Schaan (Universidade Federal do Pará), who was incorporated into the team in 2005. Furthermore, doctoral student of Latin American Studies Pirjo K. Virtanen joined the team as ethnographer and anthropologist. While collecting material for her dissertation on the Arawakan speaking Manchinieri youth, she also collected information on the oral history of the Manchinieri. After finishing her dissertation (Virtanen 2007), she continued her research on the Apurinã that nowadays live near the ancient earthworks.



Figure 8. Aerial view of the Tequinho geoglyph site, state of Acre, Brazil. Photo: Martti Pärssinen.

In order to do research in a frontier area of Brazil, the permission of various ministries and army officials was needed, but finally, in 2007, all of the paperwork was completed, and the actual excavations were started by Saunaluoma, Pärssinen, Schaan, and Ranzi at the Fazenda Atlântica, Severino Calazans, Fazenda Colorada, Jacó Sá, and Quinauá sites. Wesa Perttola of the University of Helsinki also participated in the mapping of these sites. At the same time, Pärssinen moved from Helsinki to Madrid to direct the Ibero-American Institute of Finland. Thus, the Academy of Finland decided to move the administration of the *Man and Nature* project to Madrid.

Immediately after the 2008 field season was concluded, Charles Mann interviewed Pärssinen, Schaan, and Ranzi for *Science*, and considered the emerging results on the Acrean geoglyphs as “the most recent and dramatic discovery” (Mann 2008, 1148). The first results of our excavations and other studies soon appeared in various publications (e.g., Virtanen 2008; 2011; Pärssinen *et al.* 2009; Saunaluoma 2012; Saunaluoma & Schaan 2012; Schaan 2012; Schaan *et al.* 2012) – including Saunaluoma’s PhD dissertation (2013).

Due to the Finnish-Brazilian team’s ground-breaking results, the Academy of Finland decided to continue its support for our research. With new research problems, the project continued in 2011–2015 under the title *United in Diversity: Monumental Landscapes, Regionality and Cultural Dynamism in Pre-Columbian Western Amazonia*, managed by the Ibero-American Institute of Finland in Madrid in collaboration with Latin American Studies and Archaeology at the University of Helsinki. In Brazil, Ranzi and Schaan continued to be the main collaborators, and were joined by local doctoral students such as Ivandra Rampanelli and Antonia Barbosa. Professor William Woods (University of Kansas) and Professor William Balée (Tulane University) also participated in the project, but unfortunately Woods suddenly passed away during the time when he was writing an article with the core team. Furthermore, a team from the University of Exeter (José Iriarte, Jennifer Watling, and others) worked in Acre under the permission of the Finnish-Brazilian project.

The new Brazilian permission for the project was granted in 2012. In that year, Saunaluoma, Otto Manninen, and Rubens Barros mapped some new sites, and Schaan and Saunaluoma carried out preliminary excavations at the Sol de Maio and Tequinho sites (Figure 8). In 2013–2014, Saunaluoma excavated Coqueiral and other mound settlement sites, while Pärssinen organised major excavations at Tequinho and Severino Calazans (see also Saunaluoma 2016).

On the one hand, the excavations directed by Saunaluoma in 2012–2014 demonstrated that mound settlements and circular walled enclosures are later than ditched geoglyphs (Saunaluoma *et al.* 2018; 2021). This conclusion is currently confirmed (Iriarte *et al.* 2020). On the other hand, the excavations directed by Pärssinen in 2013–2014 created an important collection of polychrome ceramics (Pärssinen 2021a) and macrofossils (Pärssinen *et al.* 2021). The last-mentioned article, published in *Environmental Archaeology*, shows that, in addition to the cultivation of manioc, maize, and squash, documented earlier by Watling *et al.* (2015), the protection, care, and planting of several kinds of trees were important for the food supply of the region’s Indigenous peoples. In particular, Brazilian nut and palm trees with protein-rich fruits are common in samples from geoglyph sites such as Tequinho (Pärssinen *et al.* 2021). The Finnish-Brazilian team (together with professor Balée from Tulane University) also published an article in *Antiquity*, demonstrating that the Acrean earthwork-building civilization had a much longer history behind it than was expected (Pärssinen *et al.* 2020); it appears that humans have regularly used fire to clear small open patches in the rainforest. These activities started quite soon after the last Ice Age ended, that is, thousands of years before the first geoglyphs were constructed.

In sum, we may say that some decades ago only a few scholars doubted the generalised theory of the pristine Amazonian forest (Balée 1989; Denevan 1992). However, due to the advance of contemporary deforestation and archaeological research conducted in the Lower and Central Amazon River area, in the Xingú as well as in the Bolivian Mojos and Baures regions (Roosevelt *et al.* 1991; Erickson 2000; 2006;

Heckenberger *et al.* 2003; Neves & Petersen 2006; Roosevelt 2013), our understanding of past human impact on Amazonia has started to change. Most notably, the discovery of ancient roads and hundreds of geoglyph-type earthwork sites in southwestern Amazonia by the Finnish-Brazilian team, especially in the Brazilian state of Acre, covering about 60 000 km<sup>2</sup> of currently deforested area (Figure 1), has revolutionised academic thinking about human occupation and anthropogenic forests in South America. Not only floodplains, but also interfluvial *terra firme* environments have supported dense human populations. The first geoglyphs were built more than 2500 years ago and, in general, most ditched geometric earthworks in the Purus River Basin seem to have been built between c. 250 BC and 950 AD (Pärssinen 2021b). There is evidence that they were ceremonial sites (Schaan *et al.* 2012; Saunaluoma 2013; Virtanen & Saunaluoma 2017; Saunaluoma *et al.* 2018). These earthwork-building societies have also challenged the existing theories of human-environment interactions and pre-Colonial crop domestication (Clement *et al.* 2010; Watling *et al.* 2015; 2017; Levis *et al.* 2017; Virtanen & Saunaluoma 2017; Pärssinen *et al.* 2021). Furthermore, because of the general importance of the cultural remains found in the Acrean tropical forest, since 2017 the geoglyphs of Acre have been included on the Tentative List for UNESCO World Heritage Sites. In 2021, Pärssinen and Ranzi suggested the name Aquiry for the civilization that built these geometrically patterned ceremonial centres in Acre and nearby regions (Pärssinen 2021b; Ranzi & Pärssinen 2021).

Finally, after the *Unity in Diversity* project ended, Pärssinen agreed with professor Risto Kalliola, a geographer and botanist specialized on Amazonia at the University of Turku, to form a consortium to study western Amazonian environmental and cultural history. In 2016, the Academy of Finland decided to give a new grant to this consortium. This project, titled *Large-scale Subclimax in the Amazonian Lowland Forests Due to Pre-Colombian Deforestation*, ended in December 2021. Some of its results are included in the latest publications mentioned above, while the main results of this project will be published during the coming years.

## Concluding remarks

For over 30 years, Finnish scholars have produced important scholarship on the archaeology and early colonial history of the Central Andes and Amazonia, and some of the achievements of this research can rightfully be considered groundbreaking. Furthermore, outside of South America, Dr Harri Kettunen has carried out very important and active research related to the Maya (and the Mesoamerican cultural area more generally), becoming one of the foremost Maya scholars in Europe. Still, the future is rather uncertain. Pärssinen retired in 2020, and although he continues to publish at a high pace, it is unclear whether his successor as the Professor of Latin American Studies, Florencia Quesada, will continue to see pre-Columbian Studies as an integral part of this discipline. Korpisaari's latest research project in the Andes, *Tiwanaku Influence in North Chile* (funded by the Alfred Kordelin Foundation), took place in 2011–2013 and led to an important revision of the late prehistoric cultural chronology of the Azapa Valley (Korpisaari *et al.* 2014; see also Marsh *et al.* 2021; Figure 1). In his current post as university lecturer in Latin American Studies, Korpisaari continues to publish in Andean archaeology, but time for (original) research is scarce. Still, we remain hopeful that the University of Helsinki could manage to remain in the forefront of South American archaeology and that closer collaborative ties with the discipline of archaeology – rather weak in the past 5–10 years – could be forged again soon.

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