

STUDIES IN GLOBAL SOCIAL HISTORY
STUDIES IN THE SOCIAL HISTORY OF THE GLOBAL SOUTH

POTOSÍ IN THE
GLOBAL SILVER AGE
(16th—19th CENTURIES)

EDITED BY
ROSSANA BARRAGÁN R.
& PAULA C. ZAGALSKY



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Potosí Revisited

Toward a Pre-Hispanic Potosí

Thérèse Bouysse-Cassagne

1 Introduction

With its complex and outstanding features, the Cerro of Potosí (also named Cerro Rico) is the biggest silver ore deposit that has ever existed in the world. This is well known and has been stated by geologists.¹ Furthermore, since 2003, the works of limnologists Abbott, Wolfe, Cooke, and Hobbs have suggested that its exploitation began after the Tiwanaku Empire's brutal collapse (in 1000 AD) and that it was developed, with some variations, throughout the pre-Hispanic period until it was handed over to the Spaniard conquerors in 1545.² For this reason, Potosí has recently become one of the historically most significant “places of memory” in long-term Andean history. This geological history necessitates a completely new look at the cultures that benefitted from its minerals and the discovery of the cerro by the Spanish.

The colonial perspective in our studies—considering 1545 to be the date of discovery of Cerro Rico—had prevailed for a long time. Knowledge of the history of Potosí prior to the colonial period has not given rise to many studies,³

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- 1 Charles G. Cunningham, Michael L. Zienteck, Walter J. Bawiec, and Greta J. Orrs, “Geology and Non-Fuel Mineral Deposits of Latin America and Canada.” *US Geological Survey Open File Report, 2005—1294B*: 374–5.
 - 2 B. Abbott Mark and Alexander P. Wolfe, “Intensive Pre-Incan Metallurgy Recorded by Lake Sediments from the Bolivian Andes,” *Science* 301 (2003): 1893–95; Colin A. Cooke, Prentiss H. Balcom, Charles Kerfoot, Mark B. Abbott, and Alexander P. Wolfe, “Pre-Colombian Mercury Pollution Associated with the Smelting of Argentiferous Ores in the Bolivian Andes,” *Ambio* 41, no. 1 (2011): 18–25; Colin A. Cooke, Alexander P. Wolfe, and William O. Hobbs. “Lake-Sediment Geochemistry Reveals 1400 Years of Involving Extractive Metallurgy at Cerro de Pasco, Peruvian Andes,” *Geological Society of America* 37, no. 11 (2009): 1019–22.
 - 3 Thérèse Bouysse-Cassagne, “Las minas del centro-sur andino, los cultos prehispánicos y los cultos cristianos,” *Bulletin de l'Institut Français d'Etudes Andines* 34, no. 3 (2005): 443–62; Thérèse bouysse-Cassagne, “El Sol de adentro: wakas y santos en las minas de Charcas y en el lago Titicaca (siglos XV a XVII),” *Boletín de Arqueología PUCP* 8 (2005): 59–97; Thérèse bouysse-Cassagne, “Minas del sol, del Inka y de la gente, Potosí en el contexto de la minería prehispánica,” in *Mina y metalurgia en los Andes del Sur desde la época prehispánica hasta el siglo XVIII*, ed. Pablo Cruz and Jean Vacher (La Paz: IRD/IFEA, 2008); Thérèse

given the main difficulty of approaching precolonial cultures from colonial sources. In my opinion, this approach requires the establishment of a complex documentary corpus, covering several fields both inside and outside the historical discipline. Therefore, although history is the main point of entry to the past, in this chapter, starting from a trans-conquest reading of the documentation, I shall draw upon geological and historical linguistic archives that allow us to clarify the chronology of pre-Hispanic mining and the history of the settlement of the region.

Obviously, as we look further into the past, our reading requires greater caution and more prudence in handling the data than imagination regarding their interpretation. However, despite these limitations, I continue to defend the importance of the long-term view in this study because I strongly believe that, beyond the many changes that took place under the Spanish, we should not overlook the models provided by early colonial history, especially those that highlight religious practices linked to mineralogical knowledge. In this context, I consider that the documents on the eradication of mining idolatries offer us insight into religious and linguistic persistence, which I will return to later on. The late dates involved tend to demonstrate that the preservation of autochthonous rites was one of the tacit conditions of the successful development of the mines by the Spanish. They also make it easier to understand the role of Cerro Rico in the pre-Hispanic religious and ethnic sphere. These documents, moreover, allow us to compare the situation of Potosí with that of other mines, demonstrating the existence of shared ancient cults that express a complex political history often prior to and reformulated by the Incas.

Andean studies have not been marked by their enthusiasm for an interdisciplinary approach. Notwithstanding this, two disciplines—archaeology and history—offer insight into the pre-Hispanic past with independent, but sometimes complementary, data.⁴ It is worth noting that in studies on the Collasuyu, the southern quarter of the Inca Empire, cooperation across disciplinary boundaries tends to be promoted, as demonstrated by the work of archaeologists such as Browman,⁵

bouyasse-Cassagne, "Apuntes para la historia de los pukina-hablantes," *Boletín de Arqueología PUCP* 14 (2010): 283–307; Thérèse Bouyasse-Cassagne, "Las minas de oro de los incas, el Sol y las culturas del Collasuyu," *Bulletin de l'Institut Français d'Etudes Andines* 46, no. 1 (2017): 9–36; Pablo Cruz and Pascale Absi, "Cerros ardientes y huacas calladas," in *Mina y metalurgia en los Andes del Sur*, 303–34.

4 Pablo Cruz and Patrice Gérard, "Los adoratorios de altura incaicos: Una mirada desde el cerro Cuzco, departamento de Potosí," *Memoria Americana* (January–June 2013): 93–120.

5 David L. Browman, "Titicaca Basin Archaeolinguistics: Uru Pukina and Aymara AD 750–1450," *World Archaeology* 26, no. 2 (1994): 235–51.

Stanish,⁶ and, more recently, Pärssinen,⁷ when the latter interprets the Tiwanaku iconography of the island of Pariti in terms of structural models based on historical documentation. As linguists,⁸ archaeologists have been predicting for some time that linguistic and archaeological patterns must be agreed upon in the right place, at the right time, and for the right reason.

On a methodological level, my aim is therefore to find access routes to lead us to an understanding of pre-Hispanic Potosí, of the peoples who developed its mines, and of how they worshipped them, whenever possible relating them to each other.

2 The Great Silver Mountain

We know that the Cerro Rico has existed for millions of years. The history of this silver supergiant and that of the men who developed it are intertwined, and the mine gave rise to technical knowledges and beliefs that far predate Spanish colonial development. Before Spanish conquest, the early silver miners of Potosí, due to their limited technology in digging (stone tools) and refining techniques, were restricted to the surficial ore deposits of the weathered oxidation zone—mainly the upper part of the cerro. They recovered the richest silver ore: first the native silver worked directly with hammers, then the silver halides that were very easy to refine, and eventually the argentiferous galena and acanthite (Ag_2S), sulfide ores that were easier to process than the deeper Ag sulfides exploited after the conquest. In order to understand how this “metalogenic monster” was formed and to consider which of its minerals were mined prior to 1545, I will offer a short summary of the many works of geology and limnology. The main centers of pre-Hispanic metallurgy are well known in the Andes, but not the modalities of their ore exploitation by different civilizations. A record of trace metals emitted during ore smelting operations makes lakes sediments the best natural archive depositories, and these can be used to document the timing and magnitude of atmospheric lead

6 Charles S. Stanish, “Formación estatal temprana en la cuenca del lago Titicaca, Andes surcentrales,” *Boletín de Arqueología PUCP* 5 (2002): 189–215.

7 Martti Pärssinen, “Snake, Fish and Toad/Frog Iconography in the Ceramic Caches of Pariti, Bolivia,” in *Images in Action, The Southern Andean Iconographic*, ed. William H. Isbell, Mauricio I. Uribe, Anne Tiballi, and Edward P. Zegarra (California: UCLA, 2018), 661–82.

8 Adrian J. Pearce and Paul Heggarty, “History, Linguistics and the Andean Past: A Much-Needed Conversation,” in *History and Languages in the Andes*, ed. P. Heggarty and A. J. Pearce (London: Palgrave Macmillan, 2011), 1–18.

(Pb) pollution—and its volatilization with other metals—insofar as there is evidence of the use of argentiferous galena (*soroche*) during the smelting of silver-rich ores. Smelting with the aid of lead was deemed to have been applied to silver sulfurs—although obviously the lake sediments don't record the earliest evidence of mining activities that didn't leave traces of lead.

The Cerro Rico originated from the general Central Andes magmatism in the late Cenozoic era, triggered by the subduction (sliding) of the oceanic crust of the Nazca plate (one the Pacific oceanic plates) under the thicker continental crust of South America. These geodynamics produced silica-rich magmas. To the east of the volcanic front of the Western Cordillera, the emission of the Cordillera de los Frailes, an ignimbrite field, began 25 million years (Ma)⁹ ago. These deposits consist of thick, hot, gas-rich, welded tuffs that were emitted by several large calderas favored by the extensive tectonics. One of them, the Kari-Kari, located not far from Potosí, was formed ca. 21 Ma ago.¹⁰ The edges of this caldera are structured by a system of circular faults.

At 13.77 Ma, the dome of the Cerro Rico, made of rhyodacitic (silica-rich) lavas intruding on the substrate of Paleozoic shales (485–444 Ma), was emplaced during a protracted period of magma-related hydrothermal activity over at least 200,000 years.¹¹ The dome and the ore fluids were derived from a deeper and larger magmatic/hydrothermal source. During this hydrothermal circulation, water present at the base of the dome, heated by the proximity of the magma chamber, substantially altered the rocks, absorbing certain chemical elements, mainly metallic ones. Rising in the fissures of the dome, the hydrothermal fluids deposited several elements, whose composition was controlled by temperature and pressure conditions. *Primary* (hypogene) ore minerals precipitated in the form of veins, taking advantage of the reductive environment. They were zoned according to the temperature of the mineralizing fluids¹² with:

- 1) in the core: cassiterite (tin oxide), wolframite, bismuthinite, and arsenopyrite

9 Located at the northeast of the present-day Department of Potosí.

10 Peter W. Francis, M. C. W. Backer, and C. Halls, "The Kari Kari Caldera, Bolivia, and the Cerro Rico stock," *Journal of Volcanology and Geothermal Research* 10 (1981): 113–14.

11 C. M. Rice, B. Steele, D. N. Barfod, A. J. Boyce, and M. S. Pringle. "Duration of Magmatic, Hydrothermal, and Supergene Activity at Cerro Rico de Potosí, Bolivia," *Epiportalconomic Geology* 100, no. 8 (2005): 1647–56.

12 C. G. Cunningham et al. "The Age and Thermal History of the Cerro Rico de Potosí, Bolivia," *Mineralium Deposita* 31, no. 5 (1996): 374–85.

- 2) in a peripheral, lower-temperature mineral zone: sulfides of zinc (sphalerite), of lead (galena, often argentiferous), of iron (pyrite), of copper, of silver (including silver antimony sulfides), some native silver, and other minerals with traces of silver

These primary ore minerals fill the cracks of the region's rocks, constituting veins with a thickness of ten to fifty centimeters, sometimes more than one meter. In cerro mining history, these veins have been mined from the summit to 1,500 meters below the surface.

Soon after the dome emplacement and deposition of the primary hydrothermal minerals, an alteration event occurred around 13.5 Ma and progressed semi-continuously over at least 7.5 Ma:¹³ the *supergene* oxidation event, in action near the surface of the cerro and mainly affecting its upper part. Sillitoe's paper is pivotal for understanding the genesis of the oxidized silver ore in Potosí.¹⁴ In the supergene process, the meteoric water (derived from rain and rich in oxygen and CO₂) with concomitant oxidation and chemical weathering, circulated downward and easily dissolved most of the primary sulfides located above the water table, thus leading to transformation into *secondary* (supergene) minerals—oxides, carbonates, dominant silver halides (AgCl, chlorargyrite, and AgI, iodargyrite)—and the precipitation of native silver. All of these supergene non-sulfide Ag minerals would be easy to refine for the first pre-Hispanic miners of Potosí by feeding directly into elementary furnaces. Acanthite (Ag₂S), whether of hypogene or supergene origin, has a high degree of resistance to oxidation.¹⁵ It is the reason why it is reported in the oxidized zone of the cerro. The timing that acanthite and/or argentiferous galena was first used in the metallurgic process by the pre-Hispanic silver miners can be identified by the appearance of fine lead particles in the sediment of Lake Lobato, located five kilometers downwind of Cerro Rico, as we will report, because Ag sulfide minerals need the addition of lead during the refining process.

At the Cerro Rico of Potosí, the reasonably well-developed oxidized zone attains maximum subsurface depths of 300 to 500 meters, with some 95% of the mined and remaining ore being oxidized.¹⁶ A layer of iron was formed by oxidation of the sulfurous minerals on the surface cover of the upper part

13 C. M. Rice et al., "Duration of magmatic."

14 Richard H. Sillitoe, "Supergene Silver Enrichment Reassessed," in *Supergene Environment Processes and Products*, ed. S. R. Tiley (Littleton: Society of Economic Geologists, 2009), 15–32 (give special attention to Table 1 and Figures 1, 5, 7, and 8).

15 Sillitoe, "Supergene Silver Enrichment Reassessed," 23.

16 Sillitoe, "Supergene Silver Enrichment Reassessed," 24 and Figure 5.

of the cerro. This gave the mountain its characteristic reddish color, and erosional debris mixed with gravel are found on the lower parts of the cerro. These deposits, the *pallacos*,¹⁷ which contained silver ore clasts coming from the peak region, were not used by early miners due to unsuitable technology at the time.

In recent work on Lake Titicaca, Guedron et al. proved that the first evidence for metallurgy is found in the Altiplano during the apogee of the Tiwanaku State (AD 800–1150).¹⁸ During the Tiwanaku period, copper and tin-bronze metallurgy flourished and there was a significant rise in the use of copper and silver in this area. During the late intermediate period (1150–1450) a small increase in the use of copper and silver was found, but the next major increase was during the Inca Empire.¹⁹

In their 2003 article, Abbott and Wolfe, who first studied the sediments of the Laguna Lobato, proposed that metallurgy, with the emission of fine lead particles in the air, appeared in the Cerro Potosí at around 1000 AD, at the end of Tiwanaku.²⁰

In their 2008 paper, Cooke, Abbott, and Wolfe completed the previously published Pb records from Laguna Lobato and Laguna Pirhuacocha, situated in the mining region of Junin (Peru Wari State)—an area previously studied by Cooke—with a new geochemical record from Laguna Taypi Chaca, located in the Lake Titicaca hydrological catchment basin (approximately twenty-five kilometers east of Tiwanaku) and they amended their earlier, 2003 conclusions.²¹ As Guedron et al. did, they demonstrated that the earliest development of smelting in the Altiplano began around AD 400, with the rise of the pre-Inca Tiwanaku and Wari empires during the Andean Middle Horizon (400–1000 AD). They proved that, coeval with the collapse of these empires (1000 AD), there was a dramatic decrease in Pb pollution, suggesting that metallurgical activity was connected with the Tiwanaku and Wari states.

Therefore, while Abbott and Wolfe suggested in 2003 that metallurgy was brought from Titicaca to the Cerro Rico during the final expansion of Tiwanaku, they considered in their study of 2008 that there is little evidence

17 Paul J. Bartos, “The Pallacos of Cerro Rico of Potosí, Bolivia: A New Deposit Type,” *Economic Geology* 95 (2000): 645.

18 S. Guedron, J. Tolu, C. Delaere, P. Sabatier, J. Barre, C. Herredia, E. Brisset, S. Campillo, B. Bindler, S. C. Fritz, P. A. Baker, D. Amourous, “Reconstructing Two Millennia of Copper and Silver Metallurgy in the Lake Titicaca Region (Bolivia, Peru) Using Trace Metals and Lead Isotopic Composition,” *Anthropocene* 34 (2021): 100288.

19 Guedron et al., “Reconstructing Two Millennia.”

20 Abbott and Wolfe, “Intensive Pre-Incan.”

21 Colin A. Cooke, Mark B. Abbott, and Alexander P. Wolfe, “Late Holocene Atmospheric Lead Deposition in the Peruvian and Bolivian Andes,” *The Holocene* 18, no. 2 (2008): 353–59.

for such an exodus. On the contrary, many Tiwanaku and Wari colonies were abandoned at that time, implying, according to them, that neither Tiwanaku nor Wari were responsible for the late intermediary expansion of metallurgy. Consequently, they proposed that the expansion of peoples with metallurgical knowledge happened sometime after AD 1000, bringing their technology to new groups and previously undeveloped mineral deposits. This expansion may have been triggered by the very breakup of the Tiwanaku and Wari empires as the result of the diaspora generated by the collapse of Tiwanaku and Wari during the late intermediate period—which separates the Tiwanaku and Wari empires from the Inca—and was a time of decentralized and belligerent chiefdoms. Therefore, the metallurgy at Potosí and in the Junín region would have happened, if their analysis is correct, in the absence of a large imperial state and during the late intermediate period, as shown by increases in Pb concentrations (ca.AD 1300) at Laguna Taypi Chaca and Lobato.

This is an important point of analysis, which could have later consequences for the composition of the population of the whole of the Collasuyu and especially for Potosí, as I explore in the last part of this chapter, trying to eventually find who were the people with metallurgical knowledge who went to Potosí after the collapse of Tiwanaku and brought their technology to the mine.

Signs of the collapse of Tiwanaku began before 1000 AD, and an important factor in this collapse was a climatic change. The driest climate conditions occurred in the Altiplano between 915 and 1250, when Lake Titicaca water levels dropped by several meters.²² The drought engendered a period of crisis, destabilizing agricultural production for the densely populated lake basin.²³ The raised field system, where the majority of the Pukina- and Uruquilla-speaking groups lived, was replaced by other economic strategies such as pastoralism, and for about a century the Tiwanaku capital sites were abandoned and settlement was reorganized.²⁴ Those climate catastrophes provoked a drop in the population and a migration. Pärssinen and Arnold qualify those migrations as a “diaspora,” starting from Titicaca and spreading all over the

22 According to Abbott and Wolfe, this reduction linked to the collapse of the state is observed in the records of the Quelcaya glacier, which demonstrates a persistent interval of dryness between 1250 and 1300 in the Altiplano, during which Lake Titicaca's water level decreased by some six meters. Abbott and Wolfe, “Intensive Pre-Incan Metallurgy.”

23 Alan Kolata, *The Tiwanaku: Portrait of an Andean Civilization* (Cambridge: Blackwell, 1993), 250–56.

24 T. Elliot Arnold et al., “Drought and the Collapse of the Tiwanaku Civilization: New Evidence from Lake Orurillo, Peru,” *Quaternary Science Reviews* 251 (2021): 8.

Altiplano and the Pacific coast, between 1050 and 1150.²⁵ For his part, Owen²⁶ considered the existence of a two-stage diaspora: the first in the context of the functioning Tiwanaku polity, the second after Tiwanaku's collapse. A reorientation of ideology²⁷ may have promoted an ascendant elite, as Kolata wrote,²⁸ around 1150 AD.

Was this ideological change the result of the warlike supremacy of an Aymara migration²⁹ coming from the coast and Sierra region of central Peru upon the Pukina speaking group of Tiwanaku, as linguists proposed? Or were the Aymara people part of the multiethnic society of Tiwanaku, as Albarracín-Jordán and other archaeologists have suggested?³⁰ In the scope of the present study, we will take into account all of these upheavals and the fact that, in our documents, under the Inca, part of the Pukina-speaking group was frequently subordinated to the Aymara as a workforce and compelled to learn their language.³¹ However, as Jesuit friar Barzana wrote in 1594, about forty or fifty villages still spoke Pukina—a language of the Arawak linguistic group of Amazonia—in the Altiplano and on the Pacific coast.³²

Finally, the most important consequence of this diaspora and of Aymara supremacy was the division into new political units (chiefdoms) during the intermediate period and the complex ethnic and idiomatic mapping of the Collasuyu.³³

25 Martti Pärssinen, “Desde la expansión de Tiwanaku hasta la diáspora de postiwanku: reflexiones finales,” in *El Horizonte Medio: nuevos aportes para el sur del Perú, Norte de Chile y Bolivia*, ed. Antti Korpisaari and Juan Chacama (Lima: IFEA, 2015), 297–330.

26 Bruce D. Owen and Paul Goldstein, “Tiahuanaco en Moquegua: interacciones regionales y colapso,” *Boletín de Arqueología. PUCP* 5, (2002): 169–88.

27 Bruce D. Owen, “Distant Colonies and Explosive Collapse: The Two Stages of the Tiwanaku Diaspora in the Osmore Drainage,” *Latin American Antiquity* 16, no.1 (2005): 71.

28 Kolata, *The Tiwanaku*, 150–200.

29 Rodolfo Cerron Palomino, “El puquina como lengua de Tiwanaku,” in *Interpretando Huellas* (Cochabamba: Grupo Editorial Kipus, Instituto de Investigaciones Antropológicas y Museo Arqueológico INIAM-UMSS, 2018), 418; Alfredo Torero, *Idiomas de los Andes: lingüística e historia* (Lima: Instituto Francés de Estudios Andinos, 2002), 131; Willem Adelaar and Simon Van de Kerke, “La lengua puquina,” in *Las lenguas de Bolivia*, T.1, *Ambito andino*, ed. M. Crevelsy and P. C. Muysken (La Paz: Ediciones. Plural, 2009), 135.

30 Albarracín-Jordán has suggested that the Aymara were part of Tiwanaku. Cf. Juan Albarracín-Jordán, *Arqueología de Tiwanaku: Historia de una antigua civilización andina* (La Paz: Sigla Ed., 1999).

31 Thérèse Bouysse-cassagne, *La identidad aymara. Aproximación histórica (siglo XV–siglo XVI)* (La Paz: Hisbol, 1978), 146–47.

32 Bouysse-cassagne, “Apuntes para la historia,” 289.

33 Bouysse-cassagne, “Apuntes para la historia,” 283–307.

On comparing the situation of Potosí with the Cerro de Pasco, the other big pre-Hispanic silver mountains of the Andes, Cooke, Wolfe, and Hobbs observed that the development of silver in the latter began in around 600 AD,³⁴ a date that corresponds to the expansion of the Wari Empire outside the Ayacucho Valley. This development gradually grew over 400 years until the culture's collapse around 1000–1100 AD, although it continued after the fall of the Wari. This point is interesting for our purpose because we know that Potosí and the Cerro de Pasco were of interest to two cultures that demonstrated “common concepts, rules, and models (such as the use of psychotropics drugs) and part of the iconography,”³⁵ in particular the representation of felines as divine figures, which we will study subsequently. In this respect, Korpisari and Pärssinen related the ceramics found on island of Pariti on Lake Titicaca with the Wari, and Nash indicated that, in the region of the Cerro Baúl-Omo, the discovery of Tiwanaku objects in a Wari palace evokes the possibility that the two states shared, in this case, the same territory, rituals, and even marriage links.³⁶ We will bear these data in mind when we endeavor to understand the gods of the Collasuyu mines and the mining rites of the Cerro Rico. Further, the possibility should not be ruled out that, when the religious or economic connections between the Wari and Tiwanaku states ceased to exist, the prestige of certain sanctuaries or *wakas*³⁷ remained or even grew with the kingdoms of the late intermediate period and when the Inca Empire arose.

In Potosí, lead and the other elements that marked smelting activity did indeed tend to diminish notably after the peak of 1300 AD. To give us an idea of the importance of mining in Potosí, we observe that this peak concentration of lead, which exceeds 100 µg/g of dry sediment, is comparable to the concentrations studied in the lakes close to the European mines developed during the Middle Ages.³⁸ This is not insignificant, bearing in mind the techniques in use at the time.³⁹ Notwithstanding this, Platt and Quisbert, who didn't use

34 Cooke, Wolfe, and Hobbs, “Lake-sediment geochemistry.”

35 Antti Korpisaari and Martti Pärssinen, *Pariti. The Ceremonial Tiwanaku Pottery of an Island in Lake Titicaca*, (Helsinki: Finnish Academy of Science and Letters, 2011), 1–208.

36 Paul S. Goldstein and Matthew J. Siteck, “Plazas and Processional Paths in Tiwanaku Temples: Divergence, Convergence and Encounter at Omo M10, Moquegua, Peru,” *Latin American Antiquity* 29, no. 3 (2018): 462; Donna Nash, “Evidencia de uniones matrimoniales entre las élites Wari y Tiwanaku de Cerro Baúl, Moquegua, Perú,” in *El Horizonte Medio: nuevos aportes para el sur del Perú, norte de Chile y Bolivia*, ed. Antti Korpisaari and Juan Chacama (Lima: IFEA, 2015), 180.

37 “Huaca,” “huaka,” “guaca,” and “waka” refer to a sacred entity (sacred stones, shrine).

38 Abbott and Wolfe, “Intensive Pre-Incan Metallurgy,” 1893–95.

39 Bouysse-cassagne, “Las minas de oro,” 10.

limnological studies, considered that the cerro “was not developed on a large scale during the pre-Hispanic period.”⁴⁰

Around 1400–1450 AD, under the Incas, the growth of the lead rate suggests an intensive use of *wayras* (wind furnaces). In Potosí, Cruz found *wayras* on the Cerro Guaynacabra, near the Cerro Rico, while Van Buren and Mills discovered remains of those artifacts in Cerro Porco in areas associated with Inca material and in the ancient shrine at the peak of this cerro.⁴¹

3 The Spanish “Discovery” of 1545

The dreadful mining policy in Porco in early colonial times meant that, by 1541, the mines were already very deep, full of debris and water. The “discovery” of the fabulous Potosí⁴² took place in 1545 in this context. The first sources to describe its discovery by the Spaniards are subsequent to Viceroy Toledo’s visit.⁴³ These sources link the 1545 “discovery” to four Spanish soldiers from Porco who were seeking mines and *soroche*, a lead sulfide ore that frequently contains small quantities of silver (also known as galena).⁴⁴ These Spaniards were the initiators of the first ascent by “the two *yanakuna*⁴⁵ discoverers,” Guallpa and Chalco.⁴⁶ From Porco, they all went to the Gonzalo Pizarro settlement, where the two *yanakunas* were sent to the sanctuary at the peak of the Cerro of Potosí, to seek “the offerings of silver and gold treasures made to the *waka*,” and they remained in this settlement when Chalco returned from his ascent to hand them over.

40 Tristan Platt and Pablo Quisbert, “Tras las huellas del silencio: Potosí, los Incas y el Virrey Toledo,” *Runa* 31, no. 2 (2010): 139.

41 Cruz and Absi, “Cerros ardientes,” 303–34; Mary Van Burren and B. Mills, “Huayrachinnas and Tocoymimbo: Traditional Smelting Technology of the Southern Andes,” *Latin American Antiquity* 16, no. 1 (2005): 3.

42 Bartolomé Miranda Diaz, “Las minas y asiento de Porco: nuevos datos sobre la hacienda rica de Hernando Pizarro en India,” *Temas Americanistas* 33 (2014): 156.

43 Rodrigo de la Fuente Sanct Ángel, “Relación del Cerro de Potosí y de su descubrimiento” [1573], *Relaciones Geográficas de Indias*, T.1 (Madrid: Atlas, 1965), 358.

44 A. Alonso Barba, writes, “they commonly call *soroche* the metals in which the lead is formed” (1640, Ch. I, 58). The Spaniards in question are Marcos Xaramonte, Alvaro de Olmedo, Gaspar Montesinos, and Juan Camargo. See Alvaro Alonso Barba, *El arte de los Metales en que se enseña el verdadero beneficio de los de oro y plata por azogue. El modo de fundirlos todos y como se han de refinar y aparear unos de otros*. Madrid, En la Imprenta del Reyno, 1640, facsimile (Librerías Paris-Valencia, 1993).

45 At the time of colonization, *yanakuna* designated different categories of servant.

46 de la Fuente Sanct Ángel, “Relación del Cerro de Potosí,” 358.

That poor mining settlement, located at the foot of the Cerro Rico on the western side, had been developed by Gonzalo Pizarro before he left for the Tierra de la Canela at the end of 1540, but it was abandoned from then on.⁴⁷ We do not know the fate of Potosí between Gonzalo's departure and 1545.

The people who remained in the settlement logically knew about the existence of the *waka* and it should not be ruled out that the four Spaniards may have questioned them to know whether there was a sanctuary at the sacred peak of the cerro, like in the Cerro of Porco. We only know, though, what the informants said. De la Fuente Sanct Ángel does, indeed, write that they told them, “see that mountain and at the highest point of which you will find much mined silver and gold offered to the *guaca* [*waka*] which is in it.”⁴⁸ The attractive references to the *waka* of such an imposing mountain constituted appealing indications.

What was said at that time could, however, have been decisive in the effort made by Guallpa to find and test the cerro's minerals as he progressed in his search.

I will now relate this discovery to the gitological context of the cerro.

The ancient ceremonial platform was located at the peak region, as in Porco. It was described as a “table of one hundred feet,⁴⁹ more or less, and with an equal contour all around.” There, they found a shrine of the neighboring Indians and some items of little value offered to the *waka* who was there, which Guallpa climbed.⁵⁰ In his confession, heard by De la Fuente Sanct Ángel, Guallpa added two important details to this description, namely that “next to the summit of that mountain there were at that time ten or twelve big quinoa trees,⁵¹ among which were beds of lions from this land” and that he had taken possession of “a big piece of metal,” probably a sacred stone called *mama*—which he sent to the King of Spain. At the sanctuary, Guallpa found objects of little value offered to the *waka*; these were handed over to the four Spaniards by Chalco. The scarcity of offerings was interpreted by Platt, Quisbert, and Cruz⁵² as an absence of paraphernalia following a cessation of rites in the sanctuary. Comparing the situation that they studied in the Cerro Cuzco, where they

47 Tristan Platt, Thérèse Bouysson-Cassagne, and Olivia Harris. *Qaraqara-Charka, Mallku, Inca, Rey en la provincia de Charcas (siglos XV–XVII): Historia antropológica de una confederación aymara* (Lima-La Paz: Institut Français d'Études Andines, Plural Editores, 2006).

48 de la Fuente Sanct Ángel, “Relación del Cerro de Potosí,” 358–59;

49 Around 30 meters.

50 de la Fuente Sanct Ángel, “Relación del Cerro de Potosí,” 359.

51 The *Polylepis tarapacana* is the species recorded to form the highest woodland in the world, reaching 5,200 meters in Sajama National Park.

52 Platt and Quisbert, “Tras las huellas,” 266; Cruz and Gérard, “Los adoratorios,” 106.

found a walled shrine on the mountain, Cruz and others concluded that the shrine of the Cerro Rico had been sealed “before the disclosure of the fabulous silver veins to the Spaniards.” Continuing with their analogical reasoning, they considered that it was in 1538, when the *waka* of Porco had been hidden in Caltama, that Potosí’s was concealed. I do, however, note that in 1583, Potosí still had “a shrine” and “Indians which served it.”⁵³ Furthermore, Capoché’s list of miners still notably contains the discrete presence of one of them, a certain “Diego Illa, Indian, a presbyter.”⁵⁴ Considering that his first name and surname refers to the god of thunder, creator of the minerals and of the initiation of the “sorcerers,” we suspect that this figure must have been an Indigenous “priest” of the Cerro Rico.

In 1599, Arriaga undertook the first eradication in the cerro to prevent the mine workers from climbing up to the shrine. He had “a wall built to make it difficult to climb the main mountain and having worked for a day and a half on it ... it collapsed.”⁵⁵ This is proof that the sanctuary was still active and that the miners climbed up to the sanctuary before and after 1599.

Before demonstrating anything else, it is worth observing that, “having seen another metal like this in Porco,”⁵⁶ Guallpa picked up from the ground a piece of mineral of approximately ten marks. High-grade silver minerals were first ground and then smelted with a mixture of *soroche*. On melting it in Porco, with a little galena, he obtained the same quantity of silver as of “metal.”⁵⁷ It was obvious that the sample was of native silver, which justifies his second ascent. On climbing the Cerro Rico again, Guallpa confirmed its wealth, the facility to ground it and the quality of the silver that the first sample disclosed. Indeed, the mineral was “on top of the ground like bait gifted by the sun”⁵⁸ and he did not have any difficulty in pulling it out of the ground in order to fill his *guayaca* (pouch). Our miner melted this second finding with *soroche* from

53 Diego Rodríguez de Figueroa, “Carta a Martin Enriquez” [1583], *Relaciones Geográficas del Perú* (Madrid: Atlas, 1965), 67.

54 Luis Capoché, *Relación general de la Villa Imperial de Potosí y de las cosas mas importantes a su gobierno, dirigida al Excmo. Sr. Don Hernando de Torres y Porugal, conde de Villar y virrey del Perú*[1585] (Madrid: Atlas, 1959), 98.

55 Pablo de Arriaga, “Carta Annua al P.C. Aquaviva, 29 de abril 1599,” in *Monumenta peruana* T.6, ed. A. de Egaña (Historica Societatis Jesu, Roma, 1974), 688–89.

56 de la Fuente Sanct Ángel, “Relación del Cerro de Potosí,” 359.

57 From antiquity to modern times, the “ore,” particularly if very rich, was frequently referred to as “metal.” See Nicolás del Benino, “Relación muy particular del Cerro y Minas de Potosí y de su calidad y labores, dirigida a don Francisco de Toledo” [1573], in *Relaciones Geográficas de Indias*, T.1 (Madrid: Atlas, 1965), 363.

58 de la Fuente Sanct Ángel, “Relación del Cerro de Potosí,” 358.

Porco and obtained “very fine silver.”⁵⁹ The fabulous wealth of Potosí had been demonstrated. According to del Benino, in the Centeno vein, the metal was found on “the surface of the earth,”⁶⁰ which demonstrated how easy it was to mine it, and this was also the case in the Rich vein, the closest to the extremely rich cerro peak, which Guallpa reached and where the metal on the surface “was found very shallow because they say that all those who were present in many parts found it at the knee and in great quantity and very rich, and in some parts they pulled the straw out by the roots from which hung potatoes as big as a walnut and more of an extremely rich metal which is called *tacana* [...] and it appeared that the metal wanted to spurt out”⁶¹. Those thick concretions of rich silver, situated in the supergene area, according to García de Llanos, could have the size of an orange in Potosí.⁶² These “potatoes,” as they often called them, formed part of metal ores of “breeding grounds on the face of the earth.”⁶³ The *tacana* and *machacado* could very easily be hammered; then came the *pacos* and *colorados*, the silver ores closest to the surface that contain silver chloride and some native silver. And wherever possible, the ores with native silver were smelted with lead.⁶⁴

Guallpa, who knew the minerals of Porco, quickly observed the abundance and the quality found on the Cerro Rico. He was faced with a much greater and consequently more sacred source of wealth than usual, as demonstrated by the experiments that he performed. The Potosí and Porco sites shared the same geological characteristics: large quantities of native mineral and of *tacana* were concentrated in “potatoes or bags.”⁶⁵ However, those of Potosí were greater in quantity than those of Porco.⁶⁶ The *tacana* was frequent in

59 de la Fuente Sanct Ángel, “Relación del Cerro Potosí,” 360.

60 Discovered by Chalco (del Benino, “Relación muy particular,” 364).

61 del Benino, “Relación muy particular,” 364.

62 “Some have been discovered like oranges and very rich, mainly in the tin area, and it is not known if there have been in another settlement” García de Llanos, *Diccionario y maneras de hablar que se usan en las minas y sus labores en los Ingenios y Beneficios de los Metales* [1609] (La Paz: MUSEF, 1983), 84.

63 “The very rich *machacado* dont needed to be melted with mercury, and the *tacana* was a little less rich” (de Llanos, *Diccionario y maneras*, 80).

64 Saúl Guerrero, “Chemistry as a Tool for Historical Research: Identifying Paths of Historical Mercury Pollution in the Hispanic New World,” *Bulletin of the History of Chemistry* 37, no. 2 (2012): 62.

65 In Porco, Capoché indicates that, in 1585, the mine having been developed for a long time, just one bag could bring between 8,000 and 10,000 pesos of silver. Bouysse-Cassagne, “Le palanquin d’argent de l’Inca,” *Techniques et culture* 29 (1997): 97.

66 According to Capoché, after its discovery the mountain was still so rich that the metal came to half of silver from smelting (Capoché, *Relación general*, 125).

Porco and the *mama* of that mine consisted of three stones of *tacana*, which weighed one arroba⁶⁷ and was considered the germinative prototype of that mine.⁶⁸ These sacred *mamas* “were the most beautiful stones of the metals and they have saved and save them and they worship them, calling them mothers of such mines. And first they are going to mine them on the day that they have to work they worship and drink to this stone and calling it *mama* of what they work.”⁶⁹ The miners—who identified the silver based on its color and the shape of the ore⁷⁰.—venerated, as *mama*, those of a larger size, of a unique shape, or of a special color. Part of the *tacana* of Porco was white, of such a precious color due to the light of the lightning that it was thought to contain, and it was used to make one of the litters of the Inca⁷¹ and it was inserted among the wall’s stones of the Coricancha⁷² of Cuzco. In Potosí, the native silver minerals found by Guallpa were abundant and of exceptional quality. Given his experience in Porco, he may have thought that the Cerro Rico belonged to the richest of the sacred entities. It is not unreasonable to think that during his ascents to the summit he would have observed “that it was devoted to the Sun,” as Ocaña stated in the account of the journey that he made in Peru.⁷³ Indeed, the ancient mining culture was based on the recognition of a huge number of mineral deposits; when, in 1609, García de Llanos recorded 258 terms and definitions in his dictionary of Potosí mining, over 160 corresponded to all the phases of the mining process in Quechua, Aymara, and Pukina. This is because behind each term there is “a knowledge or an element of pre-Hispanic technology,” as Gunnar Mendoza rightly remarked.⁷⁴ Both Chalco and Guallpa shared this knowledge with other miners. García de Llanos wrote that when the miners of Potosí saw “a metal stone which can be from different places they make the distinction from its appearance, saying that it will be from such a part of

67 One arroba = 11.3 kg.

68 Platt, Bouyasse-Cassagne, and Harris, *Qaraqara-Charka*, 135–81.

69 Cristobal de Albornoz, *Fabulas y mitos de los Incas* (Madrid: Historia 16, 1989), 165.

70 Cobo summarizes with suggestive words what the talent and the knowledge of the pre-Hispanic silver workers consisted of on writing: “And in the colour and shape that they have the silver workers of this kingdom of Peru know where each sort of gold is and the grade that it has”. Bernabé Cobo, *Historia del Nuevo Mundo* [1553] (Madrid: Biblioteca de Autores Españoles, 1964), 140.

71 We do not know whether they were the litters of Pachacuti or of Huayna Capac.

72 Bouyasse-Cassagne, “Le palanquin d’argent de l’Inca,” 105. The Coricancha was the temple of the Sun.

73 Diego de Ocaña. *Un viaje fascinante por la América hispana del siglo XVI* (Madrid: Studium ed., 1969).

74 de Llanos, *Diccionario y maneras*, Introduction xxv.

the cerro, of such a grade.”⁷⁵ In this case, García de Llanos was referring to colonial mining, but it should be considered that all of the empirical knowledge that he sets out did not arise overnight and that the vast majority came from before the colonial period and, in many cases, prior to the Incas.

To match Cerro Rico's geology with the descriptions of the sources, I accompanied Guallpa in his ascents to Cerro Rico, experiencing the wealth of the mineral deposits, while Platt and Quisbert chose to interrogate what they considered to be “the silences of the documentation.” Considering that Guallpa knew the secret of the wealth of the cerro on having been the guardian of the feathers of Huáscar Inca, Platt and Quisbert maintained that there was a sophisticated strategy designed by Manco Inca from Vilcabamba that brought together a group of Inca and “Incaized” *yanakunas* with the aim of serving the camp of the King of Spain and handing the cerro over to him. With that perspective, they proposed that *yanacona* Baltazar Challco, who discovered the cerro with Guallpa, likewise belonged to the lineage of Inca priests and governors of Copacabana, and for this reason he was involved in this gift to the Spaniards. Mercedes del Río, who studied the genealogies of the Incas of the ceremonial and administrative center of Copacabana, situated in front of the Island of the Sun on Lake Titicaca, is more circumspect. Without denying the importance of Baltazar Challco mentioned by Platt and Quisbert, and his probable knowledge of religion and mining, she considered that the family of the governor Challco Yupanqui appeared, disappeared, and reappeared in the governance of Copacabana and there is a lack of information concerning his progeny.⁷⁶

4 Mines of the Sun and Taboos

The first Spanish troops to cross the Collasuyu, the southern quarter of the Inca Empire (Tawantinsuyu), were those of Diego de Almagro, who made their way to Chile in 1535, where they hoped to find gold and silver. Their advance was accompanied by the high priest of the Tawantinsuyu, the *Willaq Umu*, who, before reaching the land of Chile, returned to Cuzco to join Manco's rebellious forces. Pawllu, the son of Huayna Capac, half-brother of Manco, formed part of the delegation. Pawllu, who had strengthened his ties with the

⁷⁵ de Llanos, *Diccionario y maneras*, 76.

⁷⁶ Mercedes del Río, “De sacerdotes del Tawantinsuyu a cofrades coloniales: Nuevas evidencias sobre los Acustupa y Viracocha Inga de Copacabana,” *Revista Andina* 49, no. 2 (2009): 1–49.

ceremonial center of the Incas through marrying an *aclla*, a sacred virgin of the Sun from Copacabana, knew that Porco had belonged to his father since the Inca conquest of the Aymara chiefdoms of Qaraqara and Charca, where Potosí was located, and he must have known that Potosí belonged to the Sun. This journey, planned by the high priest,⁷⁷ the custodian of the golden statue of the Sun (*Punchao*), had a markedly religious and prohibitive character: its participants had orders not to show the Spaniard the mines.⁷⁸ The *Willaq Umu*, organizer of the journey, “was so highly esteemed that he competed with the Ynga and had power over all the oracles and temples and dismissed and appointed priests.”⁷⁹ These powers included the mines, the mountains, and the sacred *mama* stones. For these reasons, “the Indians who went to the silver mines used to worship the mountains or mines, asking them for metal.”⁸⁰ Potosí was obviously the most important among these sanctuaries.

I will note that during the crossing of the Collasuyu, the entourage was joined by the governor and priest of the temple of the Sun of Copacabana, who controlled the shrines over the whole of the Collasuyu: Apu Challku Yupanqui, brother of Inca Huayna Capac, who was murdered in 1538 in the coca fields of Pocona by Tisoc, an uncle of Manco Inca, due to his proximity with Almagro and because he let the Spaniard go by Charcas territory.⁸¹ It was probably feared that he would disclose the mines to the conqueror, particularly the Cerro Rico, devoted to the Sun. All of the plans devised by the *Willaq Umu* were fulfilled—with the exception of the killing of Almagro—and neither Potosí nor Porco were handed over to the Spaniards during this journey.⁸² Several pockets of Indigenous resistance then arose in Desaguadero, Cochabamba, and Oruro.⁸³

In this context, after the battle of Cochabamba and after November 1538, Moroco, the Aymara leader of the Qaraqara federation, and Qaraqara chief Coisara handed over the Porco mine, property of the Inca Huayna Capac, to

77 Juan de Betanzos, *Suma y narración de los Incas* [1551] (Madrid: Atlas, 1987), 291.

78 Gold statue of *Punchao* was a representation of the Sun.

79 Pedro Cieza de León, *Crónica del Perú, El Señorío de los Incas* (Lima: Pontificia Universidad Católica del Perú, 1987) segunda parte, cap. xxx, 94.

80 Antonio de la Calancha Antonio, *Crónica moralizada del orden de San Agustín* [1638] (Lima: Universidad Nacional Mayor de San Marcos, 1976), 842.

81 Nelson Castro Flores, “Estrategias familiares, práctica jurídica y comunidad de memoria: Los descendientes de Tito Alonso Atauchi y Viracocha Inca en Charcas, siglos XVI–XVIII,” *Estudios Atacamenos* 61 (2019): 192.

82 Ella Dunbar Temple, “La descendencia de Huayna Capac (II),” *Revista Histórica* 12 (1939): 207; Platt, Bouyasse-Cassagne, and Harris, *Qaraqara-Charka*, 105; del Río, “De sacerdotes,” 192.

83 Platt, Bouyasse-Cassagne, and Harris, *Qaraqara-Charka*, 112–16.

Pizarro. However, as Zagalsky and Platt and colleagues have noted, the *Cedula de encomienda* of Hernando Pizarro (April 1539) does not include Porco or Potosí, nor the *Cedula* of his brother, Gonzalo (March 1540).⁸⁴ Zagalsky has also remarked that the *Cedula* of Gonzalo, as the *Cedula* of Pedro de Hinojosa, his successor (1548), rather surprisingly didn't mention the Visisas, in whose territory Porco and Potosí's mines were located, as Barnadas noted.⁸⁵ We know little about the Visisas except that under Toledo (1575), the geographical breakdown of the population changed and they were reduced to the villages of Toropalca, Yura, and Caiza.⁸⁶

Once Challku Yupanqui (1538),⁸⁷ the *Willac Umu* (1539), and Manco (1545) had been murdered, pressure increased on the Andeans and their chiefs,⁸⁸ who destroyed paths, bridges, and covered mine entrances where many *mama* stones were hidden.⁸⁹

After the murder of the *Willac Umu*, there were sixteen years of silence regarding who succeeded him as high priest of the Sun. We know that in 1556, Sayri Tupac held this position, and after the baptism of Titu Cusi in August 1569, this office was held by Thupa Amaru and then captain Wallpa Yupanqui. The Spanish captain, Francisco Camargo y Aguilar, seized from the latter the statue of the *Punchao* that had been in his custody, in his withdrawal to the land of the *Pilcosones*, an Amazonian group who lived near the Vilcabamba Sierra.⁹⁰

Between 1538 and 1552, the main religious authorities and many chiefs of important lineages changed, and there is consequently a considerable

84 Platt, Bouysson-Cassagne, and Harris, *Qaraqara-Charka*, 264; Paula C. Zagalsky, "Nuevas preguntas sobre una antigua federación aymara. Algunos aportes en torno a la Federación Qharaqhara Charcas, siglo XVI," *Surandino Monográfico* 1 (2012): 1–36.

85 Josep Barnadas, *Charcas orígenes históricos de una sociedad colonial 1535–1565* (La Paz: IPCA, 1973), 591.

86 Platt, Bouysson-Cassagne, and Harris, *Qaraqara-Charka*, 201.

87 "To this Apuchalco Yupanqui he sent Manco Inca son of Guaynacapac ... to secretly kill because he had given favours to the Spanish, who were with Diego de Almagro". Alonso Ramos Gavilán, *Historia del célebre Santuario de Nuestra Señora de Copacabana* [1621] (La Paz: Academia Boliviana de la Historia, 1976), 44.

88 It is not known who succeeded the *Willac Umu* after his murder. Indeed, sixteen years is sufficient time for it to be clear that it is impossible for them to have participated in the handover of the great mine of the Sun in Potosí or of the other mines of which the Spanish took possession.

89 Bartolomé Álvarez, *De las costumbres y conversión de los indios del Perú. Memorial a Felipe II* [1588] (Madrid: Polifemo, 1998), 74.

90 Edmundo Guillén-Guillén, "Wila Oma: el último gran Intip Apun del Tawantinsuyu," in *El culto estatal del Imperio Inca*, ed. Mariuz Ziolkowski (Amsterdam: CESLA, 1988), 79.

documentary vacuum around 1545. We should thus note that the authorities changed in Copacabana, the important religious center of the Titicaca. After the 1552 murder of Challku Yupanqui, the Guanche chief, possibly from the Chinchaysuyu nation, held the position of principal chief of Copacabana. Moreover, at that time, two of his main chiefs were extracting silver, with miners proceeding from the Titicaca region for their Spanish encomendero, Licenciado León, in Potosí.⁹¹

After the murder of Atawallpa on August 29, 1533, new myths were created, such as that of the *Inkarrí*, to express the messianic aspirations of Andeans, and until the eighteenth century there was a commonly held idea “that they superstitiously believed that their Inca must rise again,” as said the *Inkarrí* myth, and that for him “they kept all of the rich mines of which they were aware without there being one which by means of requests, threats or punishments they wished to show to the Spaniard, thus imitating bad geniuses.”⁹² Potosí belonged to the Sun and was the richest.

The death of the Inca, the profanation of the tombs, and the destruction of the *wakas* by the eradicators of idolatries had catastrophic consequences.⁹³ Disease, drought, and death were the signs of a world whose seriously damaged balance evoked the imminence of a *pachacuti* (a moment when the Earth turns upside down). It is worth situating these events in the sphere of the Taqui Oncoy, when numerous Indigenous priests and ordinary people committed suicide to escape the colonial order.⁹⁴ Indeed, the insistence⁹⁵ of the Spaniards was such that there were individuals in Chaquí, a village near Potosí, who preferred to commit suicide rather than to hand over their mine.⁹⁶ Capoche, reporting a legend from the time of the Inca, disclosed that the threat against those from Chaquí had been issued: “the Indians from Chaquí, which is a village five leagues from this town [from Potosí] wanting to work it, at that time

91 del Río, “De sacerdotes,” 1–25.

92 Juan de Solórzano y Pereira, *Política Indiana* [1736–1739] (Madrid: Lope de Vega, 1972), T.1, Book II, Ch. 17.

93 Thus, in 1613, in the midst of the eradication campaign in Yauyos (Peru), one witness equated the Andean and Christian terms: “For me has now arrived the *cutipacha* which is the judgement, because these clerics and fathers who are coming destroy my *huacas* and shrines, woe betide you for ill is going to befall you and you have to suffer hunger, pestilence and death” (ARSI Peru: 14, on eradication of Yauyos).

94 Peter Gose, *Invaders as Ancestors* (Toronto: University of Toronto Press, 2008), 116.

95 “[S]ince this province at that time had the reputation of having rich silver mines thanks to those of Porco, Gonzalo Pizarro, who procured them with great insistence both through the Indians and through the Spaniards and their servants who sought them ...” (Nicolás del Benino, 1573, B.N.M. ms. J.58).

96 Barba, *El Arte de los Metales*, 53.

there was a very great mortality which, being attributed to this, they left it, and that it being known that the Inca was fearful of these abuses, he ordered that it should not be worked and that the Indians heard voices in the air that for other better people it was kept.”⁹⁷

Regarding Potosí, I do, however, suspect that the taboo concerning the mining of the cerro existed long before the colony. Árzans de Orsúa y Vela evoked a similar tradition as in Chaquí, repeated a thousand times, without the taboo being fully interpreted. According to this tradition, when Huayna Capac ordered the miners to open the veins of the Cerro Rico, “a dreadful rumbling was heard which shook the whole cerro, and after this a voice was heard which said: do not take silver from this mountain because it is for other owners ... Astonished, the Indians ... told the Inca what had occurred, and on reaching the word of the rumbling they said Potocsi.” The “rumbling” was so strong that it shook the ground as if it were a tremor or an eruption, as if the Earth wanted to turn upside down.⁹⁸

The role that Incas, and before them, Tiwanakotas, played in their empires was similar to the Sun’s role on the cosmic plane. The Sun, the ancestors, and the stars were liable to communicate their strength (*camay* in Quechua) to humans, plants, animals, and mountains, revealing their true essence.⁹⁹ As the great mine of the Sun, Potosí concentrated more energy or solar strength than all the others, which made it more sacred and richer. In this respect, I shall cite another illustrative example. When encomendero Lucas Martínez Vegaso encouraged the miners of Tarapacá to give him their mine, there was an eclipse of the Sun, thus demonstrating a loss of energy as if “it wanted to die,”¹⁰⁰ the ground began to shake, and they thought that they would all perish.¹⁰¹ Indeed, those miners guarded a mine that had a vein of “pure white silver and where there were so many seams ... as there are veins on a cabbage leaf and there is news of a vein that the Indians have covered, which they say was of the Sun with a width of two feet, all of white silver.” When they were about to show it to their encomendero, their ministers told them that they would all die and their own land would dry if they revealed it, then the land tremored. When the

97 Capoche, *Relación general*, 77.

98 Bouysse-Cassagne, “El Sol de adentro,” 67.

99 Gérald Taylor, *Camac, camay camasca y otros ensayos sobre Huarochiri y Yauyos* (Lima: IFEA, 2000), 235.

100 The eclipse demonstrated a loss of force of the Sun; it was said that it died or fainted. See César Itier, *Viracocha o el Océano, naturaleza y funciones de una divinidad inca* (Lima: IEP-IFEA, 2013), 77.

101 Bouysse-Cassagne, “El Sol de adentro,” 67.

Indigenous people saw the eclipse of the Sun and the shake of the land, they said that even if they were killed, they would not reveal the mine—and this is what they did, never wanting to show it.¹⁰² One more example appears in the *Carta annua* of the Jesuits in 1599. In it can be seen, in Chuquisaca, the manifestation of a *supay* (soul of the ancestor) in the form of a storm—thunder and air that became an earth tremor.¹⁰³ The mestizo who witnessed the scene, following the advice of his sorcerer, had visions of collapsed buildings, and the Earth shook until the voice of “a tiger” was heard. While our man evoked Santiago-Illapa, the syncretic god of lightning in the sixteenth century, “the tiger replied that he was called *Tunari*, the name of a Chuquisaca Mountain range.”¹⁰⁴

In these cases, the celestial forces and those of the underground world gathered together to prevent access to the subsoil and, under these conditions, it was understood that there were few candidates to hand over Potosí—except, perhaps, if it was thought that some reward would be obtained from the king of Spain; this may be why Gualpa seized a magnificent stone, which he succeeded in sending to the Spanish ruler.

Times had changed by 1545, but the rich Potosí, the great mine of the Sun, was still an unmatched reservoir of solar energy and wealth. In what follows, I shall focus on the disquieting character of the feline, so frequent in the iconography of the Tiwanaku and Wari. Its character was connected to the telluric forces of the underworld and to the Sun itself, and it prevented access to the mines with roaring and proclaims the names of the mountains, like an oracle, which clearly evokes the “lions” of the sanctuary of Cerro Rico.

4.1 *Wari Viracocha*

The mountains were places of memory linked to remote ancestors, prior to the Incas. These beings were generically named the Wari (or Huaris), providers of wealth and well-being, and “the Indians who go to the silver, gold or quicksilver mines knew how to worship the mountains or mines, asking them for rich metal ... they worshipped high mountains, raised hills and the houses of the Huaris, who are the first settlers, the natives of each land, who were giants.... The Indians believed that many became mountains, and they therefore worshipped them in stones.”¹⁰⁵ These cults to the lithomorphose of the ancestors,

102 Pedro Pizarro, *Relación del descubrimiento y conquista de los reinos del Perú* (Madrid: Atlas, 1965), 221.

103 Bouyasse-Cassagne, “El Sol de adentro,” 78.

104 Bouyasse-Cassagne, “El Sol de adentro,” 67.

105 de la Calancha, *Crónica Moralizadora*, 842.

creators of lineages, were also followed in the cultivated lands,¹⁰⁶ where they took the form of *huanca*s, raised stones that transmitted their animating force (*camay*) when the soul of the ancestor (*supay*) visited them. For these reasons, the miners of Chuquiabo worshipped *choquehuanca*, a golden *huanca*, which they considered “the lord of the gold who does not diminish.”¹⁰⁷ I will note that the word *choque*, which designates gold and which we will again find later on, was exclusively reserved for religious contexts.

Marie Helmer wrote in 1978 that in several mines, miners continued to venerate some ancestor in the form of a stone that they called *mallku*, *wallchi*, or *supay* and which represented “the soul” of the ancestor;¹⁰⁸ June Nash observed in 1979 that under the figure of the current *tío* in Oruro, they worshipped the old god and ancestor *Wari*.¹⁰⁹ The eradicator of idolatries, Arriaga, wrote that “they invoke Huari, who they say is the God of strength, when they have to work on their fields or houses so that he will provided it¹¹⁰ and the men of Huarochirí, before any tough task, asked *WariViracocha* for his help throwing coca on the ground,¹¹¹ as *Wari Viracocha* was a man who lived inside the Earth. A Jesuit *Carta annua* of 1613, reported by Itier, portrays him as “a famous man of great strength and skilled at tilling and digging and who one day entered a cave, and they invoke him with great voices and as in the cave there is an echo, they feign that he answered, they hope that in the labours in their fields they have to worship it.”¹¹² The Andean experts in mining knew how to address the *wakas*, who replied to them during their shamanic sessions, when they took hallucinogens and were drinking. Arriaga provided an incomparable description of one of these assemblies, confirming the connection of felines with the inside world and that of the ancestors—*Wari*—with *otorongos* when he wrote: “in these meetings (of native priests) the demon appears to them, sometimes as the figure of a lion, others as the figure of a tiger, and sitting and

106 Pierre Duviols, “Un symbolisme de l’occupation, de l’aménagement et de l’exploitation de l’espace, le monolithe ‘huanca’ et sa fonction dans les Andes préhispaniques,” *l’Homme* 2 (avril–juin 1979): 7–31.

107 Bouysse-Cassagne, “El Sol de adentro,” 75.

108 Bouysse-Cassagne, “El Sol de adentro,” 73.

109 Bouysse-Cassagne, “El Sol de adentro,” 134.

110 Pablo Arriaga, *La extirpacion de la idolatria en el Peru* (Madrid: Crónicas Peruanas de Interés Indígena—Biblioteca de Autores Españoles, Atlas, 1968), 102.

111 Gerald Taylor, *Ritos y tradiciones de Huarochiri* (Lima: IFEA-Banco Central de Reserva del Perú-Universidad Particular Ricardo Palma, 1999), 10–11, cited by Itier, *Viracocha o el Océano*.

112 Itier, *Viracocha o el Océano*, 42.

standing on its arms very furiously, they worship it.”¹¹³ Further important documentation in 1571 lets us understand the place occupied by *Viracocha*, in Incan times, when a mine was opened: “When the Indians discovered a gold or silver mine, they offered it to their god and then to their idols and *waka*, assigning them parts which would belong to them and in second place they gave it to the Incas and no one could have a mine privately. They offered the first mineral to Viracocha and to their *wakas*.”¹¹⁴

The association of the *otorongo* with hallucinogens has been widely studied. For the Andean center-south, Pérez Gollán stressed the importance of consuming psychotropic substances during the first millennium AD.¹¹⁵ In Tiwanaku, monoliths Bennett and Ponce represent characters with snuff tablets and ceremonial bowls (*keros*) in their hands. The inhaling tubes and snuff tablets from the Tiwanaku era in the Kallawayá regions of Nino Korin and of Amayagua (oriental Andes, half-way between Lake Titicaca and Amazonia) have also been studied.¹¹⁶ In relation to funerary items found in the village of Pallca (Larecaja province), Loza noted that a jaguar skin was used as a big leather container and another as a case for the small spoon used for psychotropic powders. Capriles, in turn, observed that the presence of a jaguar skin in the funeral items of Pallca was significant in relation to the exchanges that this region had with the lower Amazonian land whose god was precisely the *Otorongo* (see Figure 1.1, the *Otorongo*, god of the Antisuyu in Guaman Poma de Ayala).

Similarly, during the eradication that he carried out on the Oruro mines in 1632, Franciscan friar Bernardino de Cárdenas disclosed that the rites were addressed to the *Otorongo*, from which “they requested its strength.” Throughout this ritual, in addition to coca, the miners made use of a psychoactive plant. Furthermore, it is worth underlining that we witness, for the first time, a rite to the *Wari-Otorongo* ancestor in a mine related to the use of substances with narcotic effects.¹¹⁷

113 Arriaga, *La extirpación de la idolatría*, 208. *Otorongos* are jaguars (*Panthera onca*). The Spanish did not know the jaguar before the conquest, so they gave them the names of the animals they knew (lions, tigers).

114 Bouysse-Cassagne, “Las minas del centro-sur,” 447.

115 José Antonio Pérez-Gollán and Inés Gordillo, “Alucinógenos y sociedades indígenas del noroeste argentino,” *Anales de Antropología* 30, no. 1 (1993): 299–350.

116 José María Capriles, “Intercambio y uso ritual de fauna por Tiwanaku. Análisis de pelos y fibras de los conjuntos arqueológicos de Amaguaya, Bolivia,” *Estudios Atacameños* 23 (2002): 33–50; Carmen B. Loza, “El atado de remedios de un religioso/médico del período Tiwanaku: miradas cruzadas y conexiones actuales,” *Bulletin de l’Institut français d’Etudes Andines* 36, no. 3 (2007): 317.

117 Bouysse-Cassagne, “Las minas del centro-sur,” 453–54.

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FIGURE 1.1 The Otorongo, God of the Antisuyu in Guaman Poma de Ayala

As we remember, on the Potosí summit stood “the beds of lions from this land”; further on, we will understand the persistence of idolatrous rituals in the Cerro Rico linked to felines.

In 1632, Friar Cárdenas wrote about the Oruro mines:

[T]hey almost all die in a pitiful state of idolatry because in the mine they commit bad idolatries, calling it “lady and queen” and telling it to soften and offering it in sacrifice a wretched herb which they call coca ... the Indians buy it to give them strength and it is just a terrible deceit of the demon, to which the Indians make idolatry, calling it *Otorongo*, which means strong tiger and they offer it roots which they call *curu* which I would also banish if God and your Majesty gave me a hand. I ascertained these two kinds of idolatry in the Oruro mines where I was last year, when in pursuit of my visit and mission I found that it included all the Indians who worked in the mines and no one until I arrived had taught them anything against or reprimanded them for such a great sin or preached against it, such is the neglect that exists here of the teaching and salvation of these poor Indians.¹¹⁸

This document reports on one of the longest-lasting mining rites in favor of the *Otorongo* in Oruro and probably also in Potosí and in other mines, a process that remained unnoticed until the Cárdenas visit. The likelihood that these rites were earlier disseminated seems feasible when the existence of similar cultural practices is considered in the copper mine of Las Turquesas in Salta (Argentina), where a jaguar shinbone was found together with seeds of *villca* (*Anadenanthera colubrina*, an arboreal plant whose seeds contain alkaloids). In the “old Inca cave” related to these copper mines, human occupation was recorded subsequent to 1000 AD, and its ritual character was demonstrated in cave art from the middle period (500–1000 AD). One of the most striking motifs in the cave is a jaguar with mottled skin, an *otorongo*.¹¹⁹ Recently, Horta also related the snuff trays of Atacama with Tiwanaku influence—given their

118 Fray Bernardino de Cárdenas, *Memorial y relacion de cosas muy graves muy importantes al remedio y aumento de el reino del Peru y al consuelo de la conciencia del Rey nuestro señor y descargo de ella y a la multiplicacion de su hacienda real y prosperidad de su corona* (Biblioteca del Palacio Real Madrid, Miscelanea de Ayala, 2845), 28–29.

119 Gabriel Lopez and Federico Coloca, “The cueva Inca Viejo site, Salar de Ratones, Puna de Salta: Archaeological Evidence and Process of Macro-Regional Interaction,” *Relaciones de la Sociedad Argentina de Antropología* 40, no. 1 (2015): 45–71.

iconography of felines—and to the copper mining of that region.¹²⁰ This confirms the presence of a ritual in favor of the *Otorongo* during the Tiwanaku period associated with psychotropic substances in an extremely broad region and in different kinds of mines.

Cárdenas wrote that in Oruro, the shafts were consecrated to the *Coya* (“the queen” in Quechua), and Álvarez (1588) described how the miners used previously chewed coca (*acullico*) to soften the hardest parts of the rock when they were mining. Later, the Church superimposed the figure of the Virgin Mary on that of “the lady and queen,” as is shown in the famous picture of the “Virgen-cerro of Potosí.”¹²¹ In fact, all stages of the mining process were ritualized: entering the mine, the mining, the smelting; “at that time they confess to the *ichuri* (Indigenous confessors and probably experts of smelting) and offer coca to the *wayra*.”¹²² When they left Potosí to bring *soroche*, they worshipped the *soroche* mine and offered coca leaves, and they did the same when they carried coal from the mine.¹²³ During the Incas, the coca leaves were reserved for the cult of the *wakas* and shared between them.¹²⁴

The *curu* (Quechua) (*Nicotiana spp.*), *petén* (field tobacco), or *curupau* (Guaraní)—which included more than forty-five species and was cultivated in the eastern valleys of Bolivia and Peru and in Amazonia—was inhaled, smoked in pipes, drunk mixed with corn beer (*chicha*), or mixed in preparations based on cebil (*villca* in Aymara), and was included in the composition of enemas.¹²⁵ Both tobacco leaf and root were taken.¹²⁶ *Nicotiana glauca* and *nicotiana glutinosa* grew among the Kallawayá of the foothills in the Umasuyo part of Lake Titicaca, and their “doctors” nowadays recognize that *nicotinia glauca* has narcotic effects when the dry powder of its flowers is mixed with *chicha* and that

120 Helena Horta, “El estilo circumpuneño en el arte de la parafernalia alucinógena prehispánica,” *Estudios Atacameños* 43 (2012): 5–34. Helena Horta, “Lo propio y lo ajeno: Definición del estilo San Pedro en la parafernalia alucinógena de los oasis del Salar de Atacama,” *Chungara* 46, no. 4 (2014): 559–83.

121 Bouysson-Cassagne. “El Sol de adentro,” 64.

122 The *ichuri* are the confessors.

123 Álvarez, *De las costumbres y conversión*, 354–61.

124 Álvarez, *De las costumbres y conversión*, 366.

125 Pérez-Gollán and Gordillo, “Alucinógenos y sociedades,” 303.

126 Two classes of tobacco are distinguished in the *Relaciones geográficas de Indias*: “The Indians also have tobacco, which they call *sayre*, which the black people use a lot, and the Indians purged themselves with the root which they call *coro* and they take it in powder” Marcos Jiménez de la Espada, *Relaciones geográficas de Indias* [1586] (Madrid: Atlas, 1965), 349.

the leaves and dry flowers of *nicotinia glutinosa* have hallucinatory effects.¹²⁷ We will examine the situation of the Kallawayá later on.

In the seventeenth century in La Plata province, a great deal of tobacco (*sayre*) was used, “brought from those below and from the people of *Chiriguanaés*, in blocks which is stronger.” Recent ethnobotanical studies by Scarpa and Rosso demonstrate that, in part of the current region, *coro* continues to be used for symptoms of body weakening and to regain strength, and we therefore understand the reason for its use when the miners prayed to the *wari*.¹²⁸

Bearing in mind the importance of “the lions of the earth” worshipped on the peak of Cerro Rico, the rites of the miners, although partially reformulated in the sixteenth century, did not end in “the mouth of Hell.” “Every day of the week, the *curacas* [chiefs] are drinking and with them there is always someone to drink from those who move and complete the task.... In the festivals, they are usually singing and drinking from midday throughout the night and another day afterwards. And the priests cannot stop them.”¹²⁹ In the beginning of colonization, many of the colonial *keros* used during those drink-offerings in the mines were made of wood and decorated with superb feline figures.¹³⁰

5 The Miners of the Collasuyu and Their Divinities

The documentation distinguishes several political units prior to the Incas whose identity and territoriality were reflected in their *wakas*. The expansion of the Tawantinsuyu promoted the incorporation into the Inca state pantheon of several socially and politically important *wakas*, particularly in the Collasuyu, which the Incas conquered for its mines and for the worship center on the Island of the Sun on Lake Titicaca.

In order to conquer this south quarter, the Incas first formed an alliance with the Colla chiefdom, and later they fought and conquered them with the help of the Lupaca,¹³¹ who lived on the opposite shore and had an Aymara-speaking majority. Having rebelled three times and resisted the Incas, the Pukina-speaking Colla were defeated, massacred, and the region was divided by the armies of Tupac Yupanqui.¹³²

127 Louis Girault, *Kallawayá, guérisseurs itinérants des Andes* (Paris: IRD, 1984), 395–96.

128 G. Scarpa and C. Rosso, “Etnobotánica del *coro* (*Nicotinia paa*, *Solnacea*): Un tabaco silvestre poco conocido del extremo sur de Sudamérica,” *Bonplandia* 20, no. 2 (2011): 391–404.

129 Álvarez, *De las costumbres y conversión*, 355.

130 Álvarez, *De las costumbres y conversión*, 81.

131 Cobo, *Historia del Nuevo Mundo*, 19.

132 Bouyasse-cassagne, “Apuntes para la historia de los pukina hablantes,” 292–93.

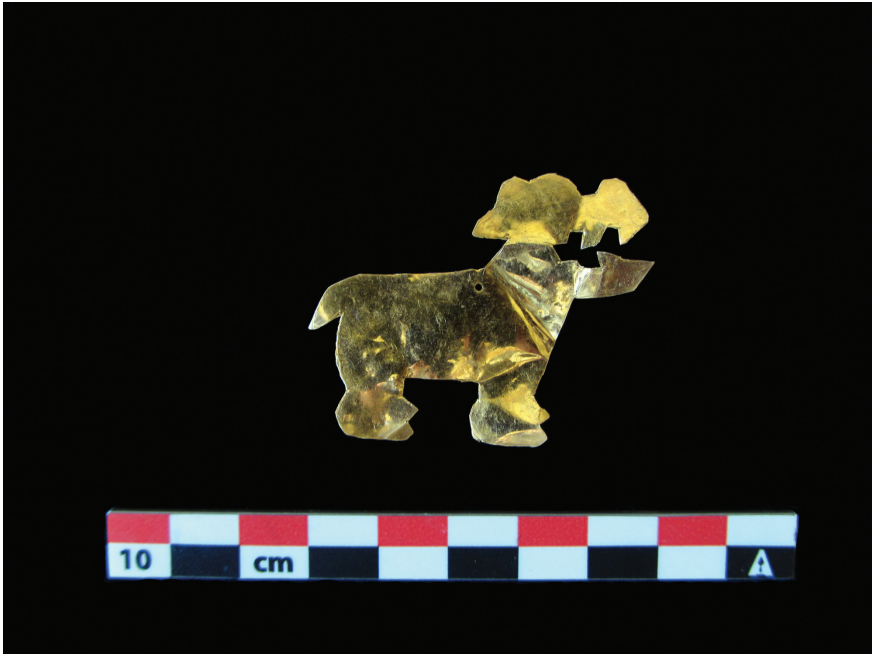


FIGURE 1.2 Gold plaque from Lake Titicaca. Christophe Delaere, *Le Patrimoine Subaquatique Du Lac Titicaca, Bolivie. Utilisation et Perception de l'espace Lacustre Durant La Période Tiwanaku (500–1150 PCN)* (Oxford: BAR Publishing, 2020)

5.1 *The Island of the Sun*

The sanctuary of Titicaca was among the most sacred temples of the Inca Empire, being the place where the Sun was born for the Incas, but its fame began long before. Archaeologists Bauer and Stanish, who discovered twenty-eight Tiwanaku sites on the Island of the Sun and two on the Island of the Moon,¹³³ proposed that, around 650 AD, these islands had become an essential part of the Tiwanaku state, and we know that during the apogee of this culture (800–950 AD), important metallurgical activity developed, as Guedron and Delaere noticed, in this region. Insofar as religion, exploitation, and metallurgy were inextricably linked, it is therefore crucial to establish the identities of the divinities to whom people prayed in the lacustrine area.

Delaere recently found several Tiwanakota objects at the bottom of the lake, on the Khoa reef (north of the Island of the Sun), including several gold plaques representing a small feline (see Figure 1.2).

¹³³ Bouysse-Cassagne, “Las minas de oro,” 9–36.

He notes that this representation also appears on a medallion located on the chest of the “staff god” of the Tiwanaku. And Delaere’s most recent subaquatic discoveries moreover attest to rituals linked to the main divinities of this culture, such as the god of the radiant face, that he identified with *Wiracocha*. This god, also appears on another medallion, along with various jaguar teeth and several censers in the shape of felines.¹³⁴

For linguist Torero, *Huira* (from Huiracocha) is a metathesis of *Huari* (*Wari*, the Sun) and, consequently, *Wiracocha* (or *Viracocha*) should be translated as lake (*cocha*) of the Sun.¹³⁵ *Viracocha* and *Huari* (*Wari*) would be the same solar divinity and we legitimately suspect that the whole lake was divine and that most of the numerous aquatic sacrifices and ritual gifts of the Titicaca were made to this underwater feline god.

According to linguist Itier, the Incas conceived the relationship between *Wiracocha Pachayachachi*¹³⁶ and the Sun (*Inti*), as that of the Inca with his personal golden double (*guaucue*), in such a way that the Sun was the receptacle in which *Wiracocha* projected itself.¹³⁷ Furthermore, and quite rightly, Itier proposed that the nature of *Wiracocha* was first of all aquatic, and that it was a question of the “groundwater which supplied all of the local hydrographic networks.”¹³⁸ *Wiracocha*, who Garcilaso de la Vega compared with a “great nocturnal swimmer,” travels the underworld by night as a nocturnal Sun opposed to the solar light of the day.¹³⁹

On appropriating the traditions, myths, gods, and fame of the Tiwanaku, the Incas made the Island of the Sun their place of origin. Considering that the Sun had emerged from the depths of the lake where it was born,¹⁴⁰ “it was said that when the Ingas [Incas] were in the high lands, they worshipped the Sun, in their sanctuary of Titicaca, saying this is the one who animated us the Incas.”¹⁴¹ The Incas asserted that *Wiracocha* had emerged from the depths of the lake in the form of a man¹⁴² and some versions of this myth state that this god traveled to the islands of the lake, from which the Cuzco elite came.

134 Christophe Delaere, José Antonio Capriles, and Charles Stanish, “Underwater ritual offerings in the Island of the Sun and the formation of the Tiwanaku state,” *Proceedings of the National Academy of Sciences* 116, no. 17 (2019): 8233–38.

135 Alfredo Torero, *Idiomas de los Andes*, 137.

136 *Pachayachachiq* means “the one who takes the surface of the earth to the point of development required.”

137 Itier, *Viracocha o el Océano*, 78–79.

138 Itier, *Viracocha o el Océano*, 46.

139 Itier, *Viracocha o el Océano*, 111.

140 Cobo, *Historia del Nuevo Mundo*, 62–63.

141 Taylor, *Ritos y tradiciones de Huarochiri*, 280–81.

142 Betanzos, *Suma y narración de los Incas*, 11.

But the cult of the underwater *Wiracocha* didn't stop with the Tiwanaku. When Inca Huayna Capac entered the lake during a period of high water, surprised to not find the submerged Apinguela Island, he decided to make sacrifices. He made some stone containers with offerings and he submerged them to the bottom of the lake with ropes. In this process, so many infants and animals were killed that the water of the Titicaca became reddish. From that moment, this part of the lake was called *Vilacota*: "lake of blood" in Aymara.¹⁴³ Delaere found about twenty-eight Inca-period stone containers in the Khoa ridge near the Island of the Sun and another one in the *K'akaya*, the oriental sector of the Titicaca, near Escoma Bay, this last one containing a gold offering and a small carved llama of mullu.¹⁴⁴ In my opinion, those offerings to the *Wiracocha* Sun were probably individual votive gifts of pilgrims who went to the sacred island.

Under the Incas, the cult of the sacred lake took on such political importance that it led to the creation of a great center that governed the Collasuyu and was a cosmopolitan place of worship and sacrifice, with displaced people (*mitimaes*) from more than forty different chiefdoms and noble families of Cuzco established on the peninsula of Copacabana. For these reasons, at the time of Tupac Yupanqui, during the Inca great feast of the Sun (*Capac Raimi*), hundreds of young infants were sacrificed near the sacred rock of the island, and Huayna Capac, before his journey to Ecuador, consulted the Titicaca oracle, made many "luxurious" sacrifices in Lake Titicaca, and left in the island some local priests to pray *Wiracocha*. All these offerings were aquatic *capacochas*, supreme Inca sacrifices to the Titicaca's Sun.¹⁴⁵

In addition, in the context of the mines and because the first gold mineral of a mine was offered to *Wiracocha* during the Inca Empire, it seems necessary to consider a speech that the *Qolla* addressed to the Inca in the book of Pachacuti Yamqui Salcamaygua. We can observe that, when this speech was pronounced, there existed between *Wiracocha* and the Sun not only a dual sacredness, but also mineral and political symbolism. The *Qolla* and the Sun were related to a silver stool and the Inca to *Wiracocha* and a gold one:

143 Thérèse Bouysse Cassagne, "Le lac Titicaca, histoire perdue d'une mer intérieure," *Bulletin de l'Institut Français d'Etudes Andines* 21, no. 1 (1992): 128.

144 The mullu (*spondylus*) is a seashell. Delaere, "El contexto y significado de una ofrenda subacuática intacta del Lago Titicaca," *Chachapuma, Revista de Arqueología Boliviana* 10 (2021): 21–22.

145 Pedro Sarmiento de Gamboa, *Historia de los Incas* [1572] (Buenos Aires: Emecé Editores, 1942), 142–43.

I, king of Qolla,
 we will take, we will eat, we will talk. Let no one talk.
 I sit on the silver,
 you sit on the gold,
 you worship Viracocha the creator of the world
 I worship the Sun.¹⁴⁶

Before the Inca conquest of the Collasuyu, the Pukina-Colla and Uro-Colla chiefs of Capachica and Coata, who had composed the one exclusively monolingual Pukina-speaking encomienda of the Collasuyu in the sixteenth century and had been part of the Colla chiefdom during the late intermediary period, considered themselves to have been the owners of “the Island of the Sun and of other islands, such as Taquile, Amantani and of an important *waka* in Guarina called *inteca* which is like of the Sun.”¹⁴⁷ This may be the reason Murúa portrayed the Pukina-Colla and Uro-Colla worshipping the Titicaca idol on the top of a mountain or on a rock, with a big Sun on the background (Figure 1.3). In clarifying our arguments, it is necessary to remark that the most important religious islands of the Titicaca had belonged to the Pukina and Uro-Colla before the Incas and that our sources didn’t mention, in this case, an Aymara presence.

Once the Pukina-Colla and Uro-Colla had been conquered, Tupac Yupanqui expelled them from the Island of the Sun and transferred them to Yunguyu, in the Lupaca land of their opponents,¹⁴⁸ built new temples on the island¹⁴⁹ banned the Colla groups from some of the important state festivals, appointed Sucusu (father of Chalco Yupanqui), bastard son of *Wiracocha Inca*, as governor and priest of the Sun of the Collasuyu, and implemented an active policy of discovering mines.¹⁵⁰ In Yunguyu, those Pukina and Uro formed a group of *ichuri* who confessed the pilgrims who went to the sanctuary of Copacabana under the Incas.

146 Juan de Santa Cruz Pachacuti Yamqui Salcamaygua, *Relación de antigüedades deste reyno del Piru* (Lima: IFEA, 1993), 146–47.

147 Bouysse-Cassagne, “Apuntes para la historia,” 294, citing Fray Martín de Murúa, *Los orígenes de los incas: crónica sobre el antiguo Perú* (Lima: Ediciones Miranda, 1946).

148 Bouysse-Cassagne, “Le palanquin d’argent,” 65.

149 Brian S. Bauer and Charles Stanish. *Ritual and Pilgrimage in the Ancient Andes: the Islands of the Sun and the Moon* (Austin: University of Texas Press, 2001), 125–32.

150 See Roberto Santos Escobar, “La contribución de Apu Chalco Yupanqui, gobernador del Collasuyu en la expedición de Diego de Almagro a Copiapo, principio de Chile,” *Colección de Folletos Bolivianos de Hoy* 3, no. 24 (1987); Roberto Santos Escobar, “Probanza de los Incas Aucaylli de Copacabana,” *Colección de Folletos Bolivianos de Hoy* 2, no. 8 (1984): 1–33.



FIGURE 1.3 The Puquina and Uro Colla Worshipping the Titicaca with the Sun in the background by Murúa

The religious Sucusu Inca family of Cuzco, whose familiar divinity was *Wiracocha*, settled in Copacabana, as mentioned, for religious, strategic, and

economic reasons together with several families from the nobility of the Inca capital, from the royal lineages (*panacas*) of Capac Yupanqui, Topa Inca Yupanqui, Huascar, and Lloque Yupanqui.¹⁵¹

We note that by the seventeenth century, all the places cited by Murúa that had belonged to the Pukina and Uro-Colla of Capachica and Coata were part of the properties of don Lope José Mayta Capac Atauchi, heir of the famous Tito Atauche, brother of Huascar Inca, who also lived in Copacabana during the Inca Empire, as del Río remarks.¹⁵²

Some *mitimaes* from the Canas, Canchis, and Colla, who probably formed part of the Tiwanaku *mitimaes* (displaced persons) of the Island of the Sun, stayed in Copacabana. All those groups, as del Río noted, were devoted to *Wiracocha* and had very famous sanctuaries dedicated to this god in their own lands; this is likely reason they stayed to pray to this god of the underworld on the island.¹⁵³

5.2 *The Collas and the Mines*

In creating the first linguistic map of the Collasuyu, I demonstrated that, in the sixteenth century, the Pukina language, particularly linked to the Collas, continued to be spoken at the beginning of colonization in a broad area mainly on the eastern bank of the Titicaca, in the Omasuyu area, among the chiefdoms of the Canas, Pacajes, Collas, and Kallawayas, where the workforce was recruited to mine the gold deposits of Larecaja and Carabaya.¹⁵⁴

A long unnoticed part of a very well-known document allows me to assert that, before the Incas, the Pukina-speaking Collas were not only the owners of the sacred Titicaca island, as said, but also of the Potosí silver and the Carabaya gold mines. Indeed, in two chapters of his *Letter to the King*, Poma de Ayala, referring to the past, considers that the wealth and power of the Colla lord, and of the Colla queen, *Capac Comege*, was linked to them being owners of both mines. Poma de Ayala wrote: “*Capacomemallku warmi tallama*, this woman was very beautiful so fat she was ... rich people called *colla capac* rich with silver from potosí and with gold from carabaya the finest gold in the entire

151 del Río, “De sacerdotes,” 64.

152 del Río, “De sacerdotes,” 65. Those sanctuaries were Vilcanota, Aconcagua and Cacha.

153 del Río, “De sacerdotes,” 24.

154 Thérèse Bouysse-Cassagne, “Perteneencia étnica, status económico y lenguas en Charcas a fines del siglo XVI,” in *Tasa de la Visita General de Francisco de Toledo*, ed. D. N. Cook, (Lima: Universidad Mayor de San Marcos, 1975), 314; Bouysse-Cassagne, “Apuntes para la historia,” 288.

kingdom.... And they are big, weak, clumsy beasts and therefore they are called *poquiscolla, mapa colla*.”¹⁵⁵

The words *capac* and *ome*, which designed the Colla queen, are recorded as Pukina by de la Grasserie (1894), in his compilation of the lost dictionary of Oré: *Capac* means “rich” and *ome* means “mother.” Consequently, *Capac Comege* was the “Rich Mother” and Pukina-speaking Colla queen.¹⁵⁶

Another important aspect should also be taken into account. Several sources relate the *Capac Colla*, the Pukina-speaking lord, heir of Tiwanaku, with the cult of the Sun and of course with the Island of the Sun. His noble title was *Capac Capaapoyndichuri*, which, according to Betanzos, means “king and only lord son of the sun.”¹⁵⁷ For his part, Sarmiento proposed that “this *Chuchi Capac* (or *Colla Capac* as he also called him) gained so much in authority and wealth in the nations of the Collasuyu that all of the Collas respected him as ‘*Inca Capac*.’”¹⁵⁸ This sovereign controlled the people over “twenty leagues from Cusco to the Chichas and all the districts of Arequipa and the seacoast toward Atacama and the mountains on the Mojos.”¹⁵⁹ This vast territory, which corresponded approximately to the formerly Tiwanaku region of influence, was gradually divided into different chiefdoms when the empire collapsed, without all its prestigious *wakas* and traditions having been completely destroyed, as I will show.¹⁶⁰ Under these conditions, and although the old Colla territory was divided up in the sixteenth-century documentation, it is worth observing that we continue to find remains of the Pukina language linked to cults of Tiwanaku background, in the environment of the Carabaya and Larecaja gold mines and in Potosí at that time. Consequently, we might wonder how much of our historic documentation relative to the mines is the result of the diaspora generated by the collapse of Tiwanaku, as some of the limnologist studies supposed, or the remaining Tiwanaku Empire, or both.

But first we have to take into account the numerous changes generated by the Incas in the mines of Carabaya and then of Potosí.

After the conquest of the Collas and the massacre of their lord, Inca Pachacuti Yupanqui reorganized the gold mining region bordering the lands of

155 Felipe Guaman Poma de Ayala, *Coronica de Buen Gobierno* [1615–1616] (México: Siglo XXI Editores, 1980), cap. 77 and 178.

156 Raoul de la Grasserie, *Textes puquina contenus dans le “Ritualet seu manuale peruanum” de Gerónimo de Oré publié à Naples en 1607* (Paris: Jean Maisonneuve, 1894), 18.

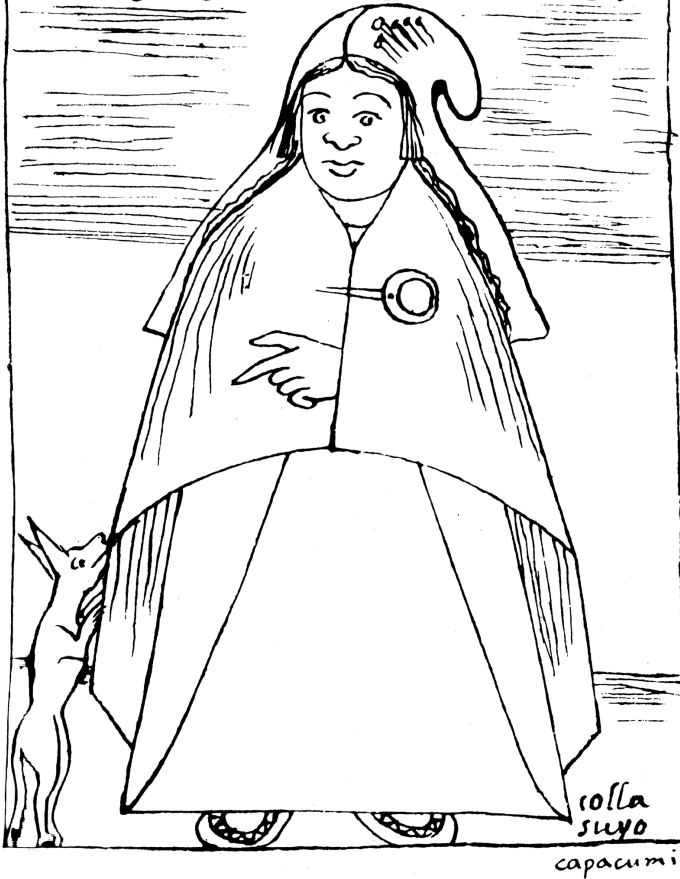
157 Bouysse-Cassagne, “Las minas de oro de los incas,” paragraph 65.

158 “Inca” is a title, not an ethnic name. Sarmiento de Gamboa, *Historia de los Incas*, 103–5.

159 Sarmiento de Gamboa, *Historia de los Incas*, 105.

160 Bouysse-Cassagne, “Apuntes para la historia,” 295.

177 TER ZERA SEMORA
CAPACOMETALLAMA



173

FIGURE 1.4 The Colla Queen, *Capac Comege*. Guaman Poma de Ayala, *Coronica de Buen Gobierno* [1615–1616] (México: Siglo XXI editores, 1980), 156

the Antisuyu,¹⁶¹ appointing new chiefs. At that time, it was the Pukina-speaking chief of Charazani, Ari Capac Iqui, and his son, Hayaba, who opened the path

¹⁶¹ The lowland Amazonian quarter of the Inca Empire.

to the nearby Antisuyu lands to the Incas, through the Apolo valleys,¹⁶² where they found more gold mines. In repayment, the Inca appointed Ari Capac Iqui as governor of a new Inca-Kallawayá province.¹⁶³

Subsequently, a fraction of the lands of Larecaja formed part of the heritage of the lineage of Tupac Yupanqui. In 1550, Sayri Tupac, his descendant, was recorded as owning the property of his great-grandfather in this region.¹⁶⁴ According to Saignes,¹⁶⁵ a member of the Sucusu's family established in Copacabana, Orco Guaranga Acustupa Inca, was, in turn, appointed as governor of the Chunchos, Yungas, and Larecaja, when the lands of Titicache and Guacatti of the Ayata valley in Larecaja region were assigned to the Titicaca *waka*, demonstrating the relationship that the Incas maintained with this gold mining region and worship center.¹⁶⁶ This is how the Sucusu, and several members of the *panaca* of Tupac Yupanqui, exercised control over the gold region that had belonged to the *Qolla*, appointing new authorities.

On the connection between the Kallawayá language related to the Pukina and the practice of herbal medicine, Saignes wrote in his introduction to the Kallawayá vocabulary of Girault that it was around the twelfth to fifteenth centuries—during the late intermediate, between the collapse of Tiwanaku and the Inca conquest—that the Kallawayas originating from the Colla chiefdom settled in the Yungas.¹⁶⁷ Were those Kallawayá curanderos the heirs of the doctors and priests of Tiwanaku, whose knowledge was transmitted by the regional Colla kingdom?

One very important piece of historical data authorizes us to connect the mine workers of Carabaya to the religious traditions of the lowlands of the Andesuyu and to those of Lake Titicaca during Tiwanaku. During the reign of Tupac Yupanqui, a feast in honor of the birth of his son, Tupac Amaru, was celebrated. On this opportunity, “the miners of Carabaya and the *mitimaes*

162 Thierry Saignes, “Introduction,” in *Kallawayá*, ed. L. Girault (Paris: Éditions de l'ORSTOM, 1984), 35–47; Thierry Saignes, “De la filiation à la résidence. Les ethnies dans les vallées de Larecaja,” *Annales* 33 (1978): 5–6; Carmen B. Loza, *Kallawayá: reconocimiento mundial a una ciencia de los Andes* (La Paz: UNESCO, Viceministerio de Cultura, Fundación Cultural del Banco Central de Bolivia, 2004), 44.

163 Bouysse-Cassagne, “Las minas de oro de los Incas,” paragraph 46.

164 María Rostworowski de Diez Canseco, “Nuevos datos sobre tenencia de tierras reales en el incario,” *Revista del Museo Nacional* 31 (1962): 130.

165 Thierry Saignes, *Los Andes orientales: historia de un olvido* (Lima: IFEA/CERES Cochabamba, 1985), 255.

166 del Río, “De sacerdotes,” 22.

167 Saignes, “Introduction,” 36–37.

carried to Cuzco their divinity which animated the *otorongos* as ‘apu’.¹⁶⁸ It was the god *choquechinchay*, a gold ocelot,¹⁶⁹ who also represented a constellation of twenty-seven stars.¹⁷⁰ This god of the Carabaya gold mine was characterized in the sources by his polysemy: he was related to the celestial sphere, atmospheric phenomena, and the world of the mine, as I have demonstrated in a previous paper.¹⁷¹ Indeed, in the well-known cosmographic representation of Pachacuti Yamqui Salcamaygua,¹⁷² this small feline, which spits hail (*chichi* in Quechua), was also the provider of gold nuggets (*chichi cori*).¹⁷³ It has two names on this drawing: *choquechinchay*¹⁷⁴ and *coa*. According to Lira’s modern Quechua dictionary, the *choquechinchay* (or *felis pardalis equatorialis*) is a feline with mottled skin, halfway between the jaguarundi and the wildcat.¹⁷⁵

In Oré’s Pukina text, *coa upalleno* means “sorcerer” and in the form of *regah coa upalleno* means “worshippers of the *regah coa*.”¹⁷⁶ According to Adelaar, *coa* is a synonym for *waka*¹⁷⁷ and Girault translates *reka* (or *regah*) as “cat.”¹⁷⁸ In short, the Pukina Collas of Carabaya—who spoke the same Arawak language as those of Capachica and Coata, the old owners of the Island of the Sun—were sorcerers and miners who worshipped a mottled feline (the *chinchay* or *coa*)¹⁷⁹ that supplied gold (*choque*). This wildcat, who “animated” the Amazonian *otorongos*,¹⁸⁰ not so surprisingly looked very much like the small Tiwanaku golden god representation founded by Delaere in the bottom of Lake Titicaca near the Island of the Sun (Figure 1.2).

A small number of evangelizers learned the difficult Pukina language. While most Pukina speakers were bilingual during the sixteenth century, the Spanish

168 In the sky, numerous stars protecting and stimulating the land animals were considered *apu*.

169 According to Lira, the *tigrillo* or *Felis pardalis aequatorialis* from the *felidae* family is the Chinchay or ocelot. Cf. Jorge Lira, *Diccionario Kkechuwa-Español* (Tucumán: Universidad Nacional de Tucumán, Instituto de Historia Lingüística y Folklore, 1944), 290. According to Polo de Ondegardo, “He was a tiger who protects tigers, bears, and lions.” Spaniards gave the jaguar the name of the only felines they knew at that time.

170 Bouyasse-Cassagne, “Las minas de oro,” paragraph 53.

171 Bouyasse-Cassagne, “Las minas de oro,” paragraph 53–57.

172 Pachacuti Yamqui Salcamaygua, *Relación de antigüedades*, f. 21v.

173 Bouyasse-Cassagne, “Las minas de oro,” paragraph 53–57.

174 *Coa* was added by Francisco de Ávila, who possessed the Salcamaygua manuscript.

175 Lira, *Diccionario Kkechuwa-Español*, 476.

176 de la Grasserie, *Textes puquinás*, 13, 37, 53.

177 Although in another part of Oré’s treaty, he writes *coac upalleno*, “serpent worshippers.”

178 Girault, *Kallawaya, guérisseurs*, 58.

179 Both, Oré and Calancha consider that the *coac* idols could also be a serpent.

180 Bouyasse-Cassagne, “Las minas de oro,” paragraphs 53–57.

often evangelized in Aymara or Quechua. This was one of the reasons the Pukina tongue remained secretly attached to idolatrous cultural traditions like prestigious Colla rituality, inherited from Tiwanaku.¹⁸¹ However, the presence of Kallawayas specialists in curative art is scarce in the documentation. One (late) document, the Second Synode of la Plata of 1619, states that “many of the Collas who walked through the Collasuyu pretended to be doctors and that they know how to cure, and they raised doubt among the Indians and a lot of sorceries.”¹⁸² And it is no small matter that the word *colla* means medication in Aymara. Two documents were mentioned by Torero: the first, in 1766 of a Catholic priest of the village of Charazani, described them as herbalists wandering on the pathways of the viceroyalty “carrying aromatic resin, incense, *quina-quina* (*coutarea hexaandra*), medicinal plants, they restore health thanks to the application of a mixture of herbs with specific properties”;¹⁸³ the other document (1800), a memorial of six Kallawayas from the village of Curva, relates the facts that led them to sell their medicines in Buenos Aires in order to pay their tribute.¹⁸⁴ The Kallawayas, priests and doctors of the Omasuyo valleys, prayed to the *choquechinchay* and knew the *Otorongo*, god of the nearby Antisuyu, where they collected plants for their pharmacopeia. We can easily conceive that those prestigious itinerant specialists, custodians of the religious and historic memory of Tiwanaku, were effectively a link between the diaspora’s people, and we can suspect their presence in the mines as providers of ritual psychotropic drugs for the miners and religious specialists in the mines. It seems likely that those Kallawayas disseminated their mining knowledge, but we have no direct information concerning that transfer.

6 Potosí, God of the Cerro, the Incas, and the Tiwanaku Background

Regarding the region of Potosí, I would like to stress that the “Copia de Curatos” that I discovered mentions that in 1596, Pukina, Quechua, and Aymara were spoken in the parishes of Potosí, and Pukina in the reductions (villages) of San Francisco de Puna, Quilaquila, and Yotala in the Yampara lands and in La Plata (Sucre).¹⁸⁵ Furthermore, chronicler Pedro Pizarro realized that the language spoken by the Charcas, allies of the Qaraqara, was “somewhat different” and

181 Bouysse-Cassagne, “Apuntes para la historia,” 287.

182 Bouysse Cassagne, “Le lac Titicaca,” 151. *Colla* means “doctor” in Aymara.

183 Saignes, “Introduction,” 16.

184 Torero, *Idiomas de los Andes*, 457.

185 Bouysse-Cassagne, “Pertenenencia étnica,” 312–28.

that “the *Amparaes* likewise differ in language” from the rest of this Aymara-speaking region.¹⁸⁶

Potosí was the destination of a massive migration during its economic heyday around 1610. In the mines, special linguistic codes were developed, with specialized lexicon containing words from different languages, as Van de Kerkes’s study of Garcia de Llanos’s dictionary demonstrates. However, in the present analysis, I would like to stress that this “code-mixing language” was probably born before colonization and was the consequence of various successive political, technological, and religious supremacies.

We know that Capacomege, the Colla- and Pukina-speaking queen, was the owner of Cerro Rico. And the name of the god of the cerro is a Pukina word, which is probably the most valuable testimony of the influence over the cerro that the Colla once formerly exerted and of vestiges of long-lasting cultural habits, as we will examine. And we cannot ignore that under the Spanish, 500 miners from Copacabana, probably heirs of the Lacustrine tradition of mining revealed by the liminological studies of Guedron, were working in Potosí for their encomendero, Garcia de Leon.¹⁸⁷

The Franciscan from La Paz, Bernardino de Cárdenas, inspector and eradicator for the Council of La Plata (1632), spoke Aymara, Quechua, and the Leco’s language, through which he evangelized.¹⁸⁸ He was responsible for recording vocabularies in Latin, Aymara, Quechua, Pukina, and Takana¹⁸⁹ and was the author of a manual of rites in these languages.¹⁹⁰ As a linguist and religious expert, Cárdenas, who introduced us previously to the cult of the mines of Oruro, allows us to appreciate the remote origins of the cult of the Cerro Rico:

I saw in the houses of the place and settlement that they had a place for when the demon came, who they saw sometimes in different figures, others did not see him but heard him speak, and among the things that I observed once he told them that he was the rich lord and therefore those Indians in their language called him Capac iqui, which means Rich Lord or that the mountain of Potosí was his son and thus the Indians

186 Pizarro, *Relación del descubrimiento*, 199.

187 Waldemar Espinoza Soriano, “Copacabana del Collao: Un documento de 1548 para la etnohistoria andina,” in *Temas de etnohistoria boliviana*, ed. W. Espinoza Soriano (La Paz: Producciones CIMA, 2003), 3–37.

188 The Lecos lived in the tropical region of Larecaja and South Apolo.

189 A linguistic family of the Bolivian Amazon.

190 Julián Heras, “Los franciscanos del Perú, Defensores del nativo,” *Revista peruana de historia eclesiástica* 3 (1994): 157.

worshipped it and that he gave them the silver and that the god of the Spanish did not have it, that therefore they came from Castilla to take from them what he gave them and that the silver was more valuable than the souls; and that the Priests and Corregidores and Visitadores were not seeking the soul but rather silver, and that it was a greater sin not to give pleasure to the Corregidor and to the Priest than the sorcery and the drunkenness, since they did not punish them, and for the former they were so mistreated that together they could have him for their god first and then that of the Spanish, and many Indians do this. And there was a time when he told them that the image of the crucifix which was in the church was his and that they had to worship him in it.¹⁹¹

Capac ique means rich (*capac*) father (*ique*) in Pukina; it is the male equivalent of the *capacome*, the Colla queen. However, Álvarez offers its deepest meaning, comparing *ique* with the concept of “soul,” explaining that the sense of *ique* was close to the powerful animating force contained in the body of the deceased ancestor.¹⁹² Likewise, in Oruro, where *mallku*, *wallchi* or *supay* represented “the soul” of the ancestor, as cited, we notice that *Capac ique* designated in Pukina the ancestral force engendering the wealth of the cerro, in the same way as “the Lord of the gold which does not diminish” engendered the gold of Chuquiabo. The sacred status of a lord is found in a variety of sources, and Molina wrote that “all the lords of the land no matter where they were, made people worship them in life and in death, and in the first half of the 16th century and the middle of 17th many continued to play a leading role in clandestine religious observance.”¹⁹³ Some of these ancestors had spontaneously lithified in the form of mountain, and the natives worshipped them and it seems to have been the case of the Cerro Rico.¹⁹⁴ The Sun was the god of the Collas and we remember that the rich Colla lord was the “son of the Sun” (*apuindichuri*) and Potosí, too.¹⁹⁵ Therefore, when the miners worshipped

191 “Memorial y relación de cosas muy graves,” Biblioteca del Palacio Real de Madrid, Miscelanea de Ayala 2845, and *Biblioteca Nacional de España*, ms. 3198.

192 Bouysson-Cassagne, “Las minas del centro-sur andino,” 452–53.

193 Cited by Susan Ramírez, *To Feed and Be Feed* (Stanford: Stanford University Press, 2005), 144.

194 In other regions like Chancay, beside the bones of the ancestors they sacrificed to and worshipped the Sun, Moon, thunder, stars, and an idol that had been the Sun’s priest, long since lithified. In Huamantanga in 1656, they invoked the Sun as the “father and lord of all the guacas.”

195 According to Torero (*Idiomas*, 394–95), *iquile* “currently means father in the Kallawayá language.” Nathan Wachtel, *Le retour des Ancêtres* (Paris: Galimard, 1989), 541–45; Mario Polia Meconi, *La cosmovision religiosa andina* (Lima: PUCP 1999), 249; Ximena

the god of the cerro, under the name of “son of the *capac ique*” they also worshipped the Colla Lord.

With this perspective, it is important to note that Franciscan friar Bocanegra used the Pukina word *ique* (the father) to design God the Father of the Christians, as we can read on the pillars of his Andahuaylillas chapel near Cuzco.¹⁹⁶ And in fact, the Sun was the father of all the *wakas*. On incarnating the son of the father Sun, Potosí had to be replaced during colonization by the son of the Christian God—that is, the image of the Holy Cross, as Cárdenas explained. Therefore, according to the “eradicator,” in the seventeenth century, the miners indiscriminately worshipped the Cerro Rico “son of the Father,” or Jesus Christ on the cross, or both at the same time. And as Arriaga wrote, some Andean priests spread a religious relativism and prayed simultaneously to the Christian God and to their *wakas*.

But at the end of the sixteenth century, the eradication of idolatry in Cerro Caltama (south of Porco), and that of Toropalca and Caiza, open our eyes to important regional worship centers that should disclose traces of Colla ritual in an Aymara-speaking environment and give us a new lead on some of the important religious reasons that the news of Porco, Potosí, and the Visisas was kept quiet to the Pizarro brothers and didn't appear in their encomienda's titles.

Indeed, in 1591, an eradicator priest, Hernán González de la Casa, heard that the Cerro Caltama housed several mine idols, including the big *mama* stones of *tacana* of the Porco mine—which was the god of war for the Aymara Qaraqara-Charca confederation of the south Collasuyu—and four mine stones from four mountains of silver and lead mines (called Cuzcoma, Chapote, Suricaba, and Aricaba),¹⁹⁷ but nothing was said about Potosí, the old Colla property of

Medinacelli, in “Bertonio y el mito de Tunupa,” *Ciencia y Cultura* 28 (2012): 133–51, referred to a *carta annua* of a Jesuit, Cabredo (1602), in which he wrote that the Andeans knew about a creator god called Pusicaka—thunder or lightning—and that his son, Tunupa, born of a virgin called Iqui, was worshipped “instead of Christ,” and considered that the Cerro Rico was none other than Tunupa. The three authors did not notice that the Jesuitic source was an Andeanized transposition of “the Catholic myth” of the Virgin Mary and that, on this occasion, Cabredo did not hesitate to promote a fantasized etymology of Iqui, in the tradition that manipulated local etymologies to adapt them to the needs of evangelization. In this case, Cabredo translates the word “virgin” as *iki*, while the word, which, according to Oré, designated a virgin girl in Pukina, was *inki*. The father was *iki* and the mother was *ome*. According to Cabredo, Jesus Christ would be none other than the son of this Andeanized virgin and the Jesuit concluded that “thus the elderly called Jesus Christ Tunupa” (*Carta Annua* of 1603).

196 Bruce Manheim, “Un traité sur la confession pour la région andine,” *Chasqui* 22 (2014).

197 Platt, Bouyasse-Cassagne, and Harris, *Qaraqara-Charka*, 184.

the Sun. To save their worship, Indigenous communities eventually moved the *mama* of Porco and the other *wakas* to Caltama to be hidden, sometime between the 1538 murder of Chalco Yupanqui and the time when the Aymara chiefs, Cuisara and Moroco, gave Porco—whose owner had been at that time Huayna Capac—to Pizarro, –but there are no known documents to prove this movement for the moment.¹⁹⁸

Caltama's extirpation informs us of an important place of worship and sacrifice and, overall, of the presence of a famous Andean priest, Diego Iquisi, whose name means (more or less) “of the father” (*ique-si*) in Pukina and seems to connect him, in 1591, not only to the Porco's *waka* but to the Sun of Potosí itself.¹⁹⁹

Indeed, Iquisi, who was a “very recognized wizard” was the *punku camayoc* (guardian of the entrance) of the *waka* of Caltama. This key custodial role seems similar to that of the Colla priests of the Island of the Sun, moved by the Incas to Yunguyu, where they confessed the pilgrims (as the *ichuri* they were) when they advanced to the sanctuary.²⁰⁰ Indeed, in 1591, Caltama was a place of pilgrimage where worshippers deposited their offerings (small pieces of silver, axes, flutes, bracelets, *kerus*, textiles, ropes, blankets, herb tortillas to dye clothing, different kind of llamas). The shrine, which brought together several *wakas*, seems to have played a prominent supra-regional role, since the Aymara confederation of the “Charcas, Caracaras, Yamparaes, Chichas, Yuras, Visisas, Asanaques, Carangas and Chuis as well as pilgrims from Cochabamba”²⁰¹ still visited it at the time of its eradication. And “all the Indians of these provinces sacrificed their children, llamas and other animals and had many superstitions, for the illness and for the storms invoking the god of rain and thunder”²⁰² who was the god of this great confederation of Aymara miners.

Iquisi heard the confessions of the Indians, carried out the sacrifices, preached, foresaw, cured diseases with plants, gave oracles, and also knew how to say the Catholic mass, which was carried out with corn *chicha*, and we can assume that was one of the moments when the miners worshipped Jesus Christ together with the Cerro Rico. We can suspect for all these reasons, and above all for his Pukina name, that Iquisi was an esteemed Colla (or maybe Kallawayá)

198 Platt, Bouysson-Cassagne, and Harris, *Qaraqara-Charka*, 863.

199 Rodolfo Cerrón Palomino, “El puquina como lengua de Tiwanaku,” 195–96. I am grateful to Rodolfo Cerrón for the discussions about this particular point.

200 Bouysson-Cassagne, *Lluvias y Cenizas* (La Paz: Hisbol, 1988), 65.

201 Platt, Bouysson-Cassagne, and Harris, *Qaraqara-Charka*, 187.

202 Platt, Bouysson-Cassagne, and Harris, *Qaraqara-Charka*, 187.

priest, heir of the priests of Tiwanaku.²⁰³ For this purpose, it is important to report that at the time of the extirpation (1591), Iquisi had made the devotees worship the Caltama shrine like “God and the sun and the moon and the god of the rain and the thunder.”²⁰⁴ Indeed, some of the human sacrifices that took place on the mountains such as Caltama were dedicated not to the *wakas* of the mines themselves but to prominent gods such as the Sun or *Wiracocha*.²⁰⁵ On the other hand, “a rite glorifying a peak did not have to be observed on the peak itself, but could take place on a nearby hill or crag” and this was probably the case for the sacrifices offered in Caltama.²⁰⁶ In this respect we cannot rule out that it was about a *capacocha*, the most important ritual to the Sun of the Incas. *Capacocha* occurred not only in exceptional circumstances, as during disease outbreaks in the Inca or the great feasts of the calendar; such offerings could also relate to the exploitation of an important resource such as mines. And obviously, the miners needed to make sacrifices as a sign of reciprocity to the god who gave them such a wealth of silver.

All of these data lead us toward presupposing a *capacocha* ritual that founded a system of political alliances, which has significant implications for the mechanisms of political integration of the regional Aymara chiefdom of this part of the Collasuyu, in the Inca Empire, and that was part of the social, economic, and religious reciprocity of the Incan state. This ritual was part of the political cosmogony,²⁰⁷ and the great confederation of Qaraqara Charka of the south Collasuyu could therefore be strengthened by means of a *capacocha*, in which the Aymara chiefs of the confederation sacrificed, to the Sun god of the Incas (and before them, of the Collas),²⁰⁸ infants, llamas, clothing, and costumes of the *wakas*, as appeared in other *capacocha* rituals studied in other regions.

In a similar *capacocha* context, in the village of Recuay, eradicator Hernández Príncipe remarked that the people, having hidden their idols and mummies from his predecessors more than three decades, secretly continued their worship in 1567: “the son that knew, feared his father and grand-father, and the

203 We know that Ari Capac Iqui, the Kallawayá heir of the Tiwanaku priests, was elevated to lord of the Kallawayá chiefdom by the Incas.

204 Platt, Bouyasse-Cassagne, and Harris, *Qaraqara-Charka*, 189.

205 Cobo, *Historia del Nuevo Mundo*, 57.

206 Thomas Bessom, *Of Summits and Sacrifice: An Ethnohistoric Study of Inka Religious Practices* (Austin: University of Texas Press, 2009), 88.

207 P. Duviols, “La *capacocha* mecanismo y función del sacrificio humano, su proyección geométrica, su papel en la política integracionista y en la economía redistributiva del Tawantinsuyu,” *Alpanchis* 9 (1976): 11.

208 Platt, Bouyasse-Cassagne, and Harris, *Qaraqara-Charka*, 186n5.

latter feared the principal lords and head of the town, who, out of fear that someone might discovered their idolatry, concealed the beliefs of the community, so that as a consequence nothing was ever revealed not even in the penitential act.”²⁰⁹ We can easily imagine that Caltama was a place where the god of Porco and other mines was worshipped quietly until 1591, and for the same reasons in Recuay until 1590.²¹⁰ And I remark that in addition to the sanctuary of Caltama, González de la Casa destroyed “the most important *waka* of the region,” in the villages of Toropalca and Caiza, where the Visisas were reduced in 1572 but unfortunately, as expected, the content of this *waka*, as in Requay, was never disclosed.²¹¹

7 Felines

As we pointed out, the Pukina-speaking Colla, heirs of Tiwanaku, were the owners of the Island of the Sun, of Carabaya, and of Potosí, and in these three places, the people worshipped a sacred mottled feline. We also observe the presence of a jaguar in Salta’s copper mine at the end of the Tiwanaku around 1000 AD.

In two previous studies, I maintained that there is a relationship between the small gold feline of Carabaya and the *titi*, a wildcat of the Island of the Sun. Both felines were linked to mining, both were characterized by a diversity of meanings, and they had some similar functions. Both were worshipped by the Pukinas. But while the *choquechinchay* was related to gold, Ramos Gavilán wrote about the Island of the Sun that the word *titi* in Aymara means not only *oscollo* (ocelot) but also “lead, copper and tin.”²¹² This relates it to the silver and copper mining smelted during the time of the Tiwanaku in that region, as Guedron et al. remarked.

Our lake and island are called Titicaca, after a rock called like this, which means the rock where the cat walked, and it gave great brightness. For intelligence it should be warned that Titi in the Aymara language is the

209 Hernández Príncipe [1621] in Pierre Duviols, *Procesos y Visitas de Idolatrías, Cajatambo Siglo XVII* (Lima: IFEA /Fondo Editorial de la PUCP, 2003), 26, 29–30.

210 Villagomez, *Exhortaciones e Instrucción acerca de las idolatrias de los indios del Arzobispado de Lima*. Lima: Horacio Urteaga, 1919, 146.

211 Platt, Bouysson-Cassagne and Harris, *Qaraqara-Charka*, 201, 205.

212 In Quechua, *titi* means lead, *yurak titi* is tin (González Holguín [1608] 1989, 344). See also Bouysson-Cassagne, *Lluvias y Cenizas*, 114.

same as wildcat, which the Indians from the general Quichua language commonly called *Oscollo*, and *Kaca* means rock, and together the two words form *Titicaca*, which means what we have said.²¹³

Once the etymology of *Titicaca* had been clarified, Ramos Gavilán explicitly related the *titi* with the Sun and wrote, “These Indians think that in past times a cat was seen on the rock with great brightness, and that it often wandered around on it; for this reason they say that it was the rock where the Sun had its palaces, and this was the greatest and most solemn shrine that the kingdom had dedicated to this Planet.”

Before the Incas, the island and Potosí belonged to the Colla. Therefore, it is not surprising to find “the lions of the land” (the *titi*) standing near the sanctuary of the summit of the silver mine of the Cerro Rico (*kaca* means “Cerro” in Aymara) as on *Titicaca*’s island. And we understand better why Murúa drew the *Titicaca* idol on the peak of a rocky mountain with one *Pukina-Colla* and one *Uro-Colla*, worshipping it, and a big Sun in the background (Figure 1.3).

The relationship between Potosí and the Island of the Sun is moreover clarified when, summarizing a myth, Ramos Gavilán attributed the power to conceal (or to give?) stones to the mottled skin of the *titi*: “this animal has such an instinct that with a curtain or a fluffy cover that nature gave it, wrapped up the stone when it felt that they are pursuing and within reach of it.”²¹⁴ I have commented in previous work that the Island of the Sun and the peninsula of Copacabana were places of worship to various stones: not only to the *Titicaca* rock of the island, but also to the green-blue stone of Copacabana. This stone, compared by Ramos Gavilán to the Philistine god Dagon, represents a fish and has an important ritualistic role since it was the god of the Uru fishermen of the lake.²¹⁵ The Inca undoubtedly owned some precious sacred stones, particularly a large one they called *Intiptoca*, probably a *mama*, which, in this case, “is the same as an object spat out by the Sun.”²¹⁶ Both the *chinchay* and the *titi* spat magical stones that contained flashes of sunlight. Further, Santa Cruz Pachacuti asserts that Tupac Yupanqui “brought stones which lit up at night, removing them from an *oscollo* (ocelotl) from Aporima.”²¹⁷

The *choquechinchay* and the *titi*, small felines—which, like the *otorongos*, had spotted skin, although not their size or all of their characteristics—did not

213 In his dictionary, Bertonio likewise explains this (Bouyasse-Cassagne, *Lluvias y Cenizas*, 119).

214 Ramos Gavilán, *Historia del célebre Santuario*, 46.

215 Bouyasse-Cassagne, *Lluvias y Cenizas*, 102–7, 108.

216 Ramos Gavilán, *Historia del célebre Santuario*, 46.

217 Pachacuti Yamqui salcamaygua, *Relación de antigüedades*, fol. 24.

just produce magical stones for the Inca. To a great extent, the relationship that the *titi* maintained with the miners, explained by Bertonio, clarifies how silver mining was conceived. Bertonio's Aymara dictionary (1612) mentions that the word *titicamana* designated both “the official who removes the lead”—that is, the person who practiced the silver metallurgy—and “the person whose trade was to catch wildcats (the *titi*) and to prepare their skins.”²¹⁸ “*Titi* was the name given to the daughters of these officials in times of the Inca and they called the sons *copa* and then they inherited the trade of catching cats.”²¹⁹ Vázquez de Espinosa states that in the Andes, the skins of felines were tanned with *villca*, the psychotropic plant well known of the Kallawayá doctors (whose name was also associated with the Sun in ancient Aymara), and this task was the responsibility of the individuals who had hunted them.²²⁰ Several skins of felines, closely related to the stimulating forces of the feline gods and transmutation processes in shamanic cults, were found alongside the inhaling equipment of Tiwanaku medicine men in Carabaya territory. Horta also demonstrated that the iconography of various snuff tablets from Atacama, used in shamanic cults, represented an individual with their head embedded in that of a feline, and several caps with ears that she studied were used for this same effect.²²¹ For these reasons, I do not rule out the possibility that the miners who asked the *Otorongo* for strength, the metalurgists, and those who wore the skins of felines were engaged in an ancient ritual in which, according to Holguín, in Quechua, “a robust strong man”—such as the *Wari* god—was an “*Otorongo hina cinchi*” [a valorous warrior like an *otorongo*] “*otorongo hina runa*” [a man who looks like an *otorongo*], and a light runner like a tiger “*otorongo hina pahuaycacicha*.”²²² The paragon of this figure was undoubtedly the brother of Inca Yupanqui, conqueror of the Andesuyu, who, after having killed the *Otorongo*, god of this

218 Ludovico Bertonio, *Vocabulario de la lengua Aymara* [1612] (Cochabamba: MUSEF, CERES, IFEA, 1984), 353.

219 Bouysse-Cassagne, *Lluvias y cenizas*, 119.

220 Apurima or Apurimac, in the Abancay region. Antonio Vazquez de Espinosa, *Compendio y descripcion de las Indias Occidentales* (Madrid: Atlas, 1969), 609–10.

221 Horta, “Lo propio y lo ajeno,” 578. In Cuzco, the Incas participated in the ritual of presenting the insignia to the *orejones* with similar attire. Betanzos (*Suma y narración*, 68), moreover, points out that “for the occasion all of the lords of Cuzco wore long and coloured shirts which ... went down to their feet, and they have tanned lion hides on their backs and the heads of these lions have gold ears on top of theirs.” Finally, in 1954, in the town of Tiwanaku, Vellard and Merino (“Bailes de quena quena,” *Travaux de l'Institut français d'études andines* [1954]: 96–99) studied a hunting dance, the *quena quena*, in which all the dancers were covered with skins of jaguars or ocelots.

222 Diego Gonzalez Holguín, *Vocabulario de la lengua general de todo el Perú llamada lengua Qichua o del Inka* [1608] (Lima: Universidad Nacional Mayor de San Marcos, 1989), 265.

region, and having swallowed its flesh, was transformed in this god, possessed his animating force (*camac*) and then had the title of Apu *camac* Inca and of *Otorongo Achachi* (the ancestor *Otorongo*).²²³ It is indeed highly likely that before the Incas, during the Tiwanaku, strong metaphorical relations had been established between felines and mining, along with the Sun as bestower of wealth, through the ancient cult of the *Wari*. The richer the mine, the more important those relations were, and there is no doubt that Potosí, whose god was the Sun, was the richest of all.

8 By Way of Conclusion

Our aim was to understand the pre-Hispanic past of Potosí, starting from scarce, elusive, and fragmentary sources. To avoid writing a history of mere indications, we first situated the different stages of its development in pre-Hispanic times using the studies of geologists and limnologists. This led us from the collapse of Tiwanaku to 1545, the culminating moment of its famous “discovery” by the Spaniards. It was necessary to understand the contexts in which the cerro was formed and mineral deposits were established, before accompanying Gualpa to the peak of the mountain where the sanctuary was located. The tests that he carried out during his ascent allow us to assume that he was in a position to observe the wealth and the sacred nature of this great silver ore-bearing mountain. Our *yanakuna* did, indeed, share with other miners a complex system of beliefs that converted the mine—and particularly Potosí, the richest of them all—into a unique sacred space. The entire mining production systems of Potosí, Porco, Oruro, and Carabaya were ritualized and revolved around old shamanic practices. The Incas, on settling in the Collasuyu, manipulated the beliefs inherited from the Tiwanaku and imposed new administrative divisions in the mines and elsewhere. They reformulated the political and religious organization using traditional Colla medicine men’s capacity for performance, increasing the importance of the mining *wakas* as demonstrated in the *capacocha* ritual at Caltama.

Regarding Potosí, since there is very scarce regional documentation concerning the mark left by the Incas on the cerro, our analysis went beyond the regional space and covers the period prior to the arrival of the Incas. This space does not correspond to the territorial divisions that the latter imposed or even

223 Therese Bouysse-Cassagne, “La piel que habito. De algunos mecanismos de aparejamientos ontológicos entre humanos y animales en los Andes del Sur,” in *Interpretando Huellas*, 308, 313.

to all the divisions of the late intermediate. It is based on the Pukina linguistic traces that the Tiwanaku culture left in the Collasuyu. Insofar as the Pukina-speaking Collas **sought** to be the heirs of the Tiwanaku and worshippers of the Sun, in the sources they claim to be the owners of the two most prestigious Collasuyu mines: Carabaya and Potosí. It is also highly likely that the Kallawayas, itinerant doctors, were in many cases guardians of the Tiwanaku tradition. Some mining myths that we have mentioned moreover demonstrate that several small felines shared their powerful identity with the *Otorongo*; this allows us to consider that if, in Potosí, as Gualpa said, there were “several beds of these lions of the land,” the *titi*, this is because it was a great center of worship devoted to the Sun and related to that of Titicaca Island and to Carabaya. Several linguistic indications and the visit by Cárdenas lead us to think that the cult of the Sun continued in the great mine to at least 1632, and it must be recognized that the miners and the *guayradores* (Indigenous smelters) did not cease their rituals after 1545.

In an emic perspective, we don't separated the religious data from the economic and politic ones. The increase in silver production at the beginning of the Colony probably generated an intensification of the rites “to the god which gave them the silver”, and the miners were well aware “that the god of the Spaniards did not have it and that therefore they came from Spain to take it away from them”. In exchange for their work the Spaniards, who stigmatized “ritual songs, dances (*taqui*) and drunkenness” in words but not in acts, did not succeed in eradicating their gods nor their cults.

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Potosí (today in Bolivia) was the major supplier of silver for the Spanish Empire and for the world and still today boasts the world's single-richest silver deposit. This book explores the political economy of silver production and circulation, illuminating a vital chapter in the history of global capitalism. It travels through geology, sacred spaces, and technical knowledge in the first section; environmental history and labor in the second section; silver flows, the heterogeneous world of mining producers, and their agency in the third; and some of the local, regional, and global impacts of Potosí mining in the fourth section.

The main focus is on the establishment of a complex infrastructure at the site, its major changes over time, and the new human and environmental landscape that emerged for the production of one of the world's major commodities: silver. Eleven authors from different countries present their most recent research, based on years of archival research providing the readers with cutting-edge scholarship.

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