

Gabriela A. Siracusano

---

## Mary's Green Brilliance: The Case of the Virgin of Copacabana

Can materials preserve memory? Do materials contain within themselves memories of past practice? Can materials act as trace evidence? Suppose that the evocative power of images, understood as *simulacra*, guides us to a wide but finite universe of mental images preserved in memory. Is it possible to trace those indelible marks of past ideas and feelings within matter itself? Peru's viceregal period, specifically the sixteenth and seventeenth centuries, presents a fruitful area to study South American artistic production through the study of signs, taking into account cultural practices, artistic materials, and techniques combined with the evangelistic objectives of the period.

An image assumes agency when its materiality not only reflects but also produces meaning. In the absence of an embodied "voice" to leave us traces of the past, materials have to become an important part of the artistic language. However, this relevance, which seems obvious to visual artists, has not always been acknowledged in the history of art. Recently, scholars in art history have turned to questions surrounding the material conditions of art objects, the choice of new materials, or the deliberate selection of materials charged with ancestral meanings. Art historians have to take into account how material condition reveals itself as a complex field of analysis. Material and its metaphorical density and opaqueness should not be underestimated; in fact, this "density" should be embraced if we want to understand creative

Gabriela A. Siracusano is Professor of Art History, National University of General San Martín (UNSAM); Career Scientific Researcher, The National Scientific and Technical Research Council (CONICET), Argentina; and Research Secretary of the Instituto de Investigaciones sobre el Patrimonio Cultural (UNSAM). She is the author of *El Poder de los colores* (Buenos Aires, 2005), published in English as *Pigments and Power in the Andes* (London, 2011); *El Poder de los colores* (Buenos Aires, 2005).

This article is a revised version of a lecture given at the Institute of Fine Arts, New York University, April 5, 2011. The research has been supported by the CONICET and the National Agency for the Promotion of Science and Technology of Argentina, project PICT2007-1556, based at the Institute for Research on Cultural Heritage (UNSAM). The author thanks Marta Maier (CONICET-University of Buenos Aires) for the chemical analyses and team members Eugenia Tomasini (University of Buenos Aires) and Carlos Rúa Landa (Vice Ministry of Culture, Bolivia).

processes, the conditions of production and consumption, and their functions across time.<sup>1</sup>

In the dimension of making, the empathetic choice of materials, the fascination with their properties, and the relationship between humans and earthly substances alchemically converge. A powerful and generative energy in artistic materials invades the creative moment—the material power of the iconic, which, over time, displays both change and permanence.<sup>2</sup>

One of the most compelling aspects of matter is its link to sacredness. Throughout the centuries, sacred images have shared a symbiotic relationship with materiality. Charged with a power given by those who promote, create, and venerate them, these images return that same power in a reflective and enhanced way, “offering” thaumaturgic, healing, or protective qualities and thereby creating a closed circuit between image, matter, and devotees. This circuit is activated in every cultural expression and every ritual. So, too, the objects’ sacredness results from the idea that the material was created/crafted by God’s hands. From the ontology of the sacred tree, the Shroud of Turin, and the *mandylon* to relics, matter in its various forms—wood, fabrics, bones, or pigments—is charged with sacredness. In these cases, matter and image seem inseparable, each conditioning the possibility of the other. The divine presence is inextricable from the materials chosen to represent it.

Christian religious images considered miraculous share something of this ontology, even though Catholic doctrine is clear in showing the difference between “being in the place of” and “being pure presence.” The Spanish language uses two different verbs for this distinction—*estar en lugar de* and *ser*. During the colonial period in the Americas, Christian doctrine drew a line between *being* and *representing*, between a (false) presence of the sacred and an occupation of place by an absent but real object. The power of images lay not in what they were (canvases, pigments, wood, stones, or metals) but in what they represented.

Sermons preached to the natives in the territories of the viceroyalty of Peru were clear on this point. In Avendaño’s words,

1 Michel Foucault (trans. A. M. Sheridan Smith), *The Archaeology of Knowledge* (New York, 1982), 100.

2 See Siracusano, “Viejas estrategias sobre un arte actual: Algunas reflexiones sobre los modos de representación de la sacralidad,” in Marisa Baldassarre and Sylvia Dolinko (eds.), *Travesías de la imagen: Historia de las artes visuales en la Argentina* (Buenos Aires, 2012), I, 570–585.

“[T]hough in paintings, and images, the painters do paint Saint Michael armed, and holding a sword in his hand, you are not to understand that Saint Michael has a body, and flesh as we do, but that the painters could not paint a spirit in any other way, nor could the eyes see them, if they were not to paint him as if he were a man.” Another sixteenth-century sermon explained, “Christians worship not images nor kiss them for what they are, nor do they worship that wood or metal, or painting, but [they worship] *Iesu Christo* in the image of the Crucifix, and the mother of God Our Lady the Virgin Mary in her image, and the saints also in their images...and if they do revere the images and kiss them, and doff their hats before them, and kneel, and wound their breasts ’tis for what those images represent, and not for what they are in themselves.”<sup>3</sup>

CULTURAL AND SCIENTIFIC HISTORY A research project from 1996 to 2005 focusing on colonial art and architecture in Argentina as part of the conservation project known as Fundación TAREA of Argentina, identified a wide array of pigments, dyes, and resins manipulated by Spanish, native, Creole, and mestizo painters in workshops located in Lima, Cuzco, Lake Titicaca, Potosí, or the Humahuaca region of Argentina. Various scientific techniques were able to detect vermilion, hematite, minium, and cochineal carmine for the reds; indigo, azurite, smalt, and Prussian blue for the blues; malachite, verdigris, copper resinates, and Verona green for greens; orpiment and ochre for the yellows; and white lead, bone black, and smoke for shadows and lights, as well as earth colors. This analysis also discovered the mixtures of elements used in the creation of different hues.<sup>4</sup>

3 Fernando de Avendaño, *Sermones de los Misterios de Nuestra Santa Fe Católica, en lengua castellana y la General del Inca: Impugnarse los errores particulares que los indios han tenido: Parte primera* (Lima, 1648), 77; “Confessionario para los curas de indios con la instrucción contra sus ritos y exhortacion para ayudar a bien morir: y suma de sus privilegios y forma de Impedimentos del Matrimonio,” *Doctrina Christiana y catecismo para instrucción de los indios, y de las de mas personas, que han de ser enseñadas en nuestra Sancta Fe* (Lima, 1584); “En que se reprehende de los hechizeros, y sus supersticiones, y ritos vanos. Y se trata la diferencia que ay en adorar los Christianos las ymagenes de los Sanctos, y adorar los infieles sus ydolos, o Guacas” (Lima, 1585), 114–116.

4 For the research project, see José Burucúa et al., *Tarea de diez años* (Buenos Aires, 2000). Scientific examinations included Fourier Transform Infrared (FTIR) spectroscopy, scanning electron microscopy (SEM-EDS), high performance liquid chromatography (HPLC) with diode array detector, gas chromatography, Raman microscopy, mass spectrometry, et al. See A. M. Seldes, Burucúa, Siracusano, et al., “Blue Pigments in South American Painting (1610–1780),” *Journal of the American Institute for Conservation*, XXXVIII (1999), 100–123; Seldes, Burucúa, Siracusano, et al., “Green, Yellow and Red Pigments in South American Painting, 1610–1780,” *ibid.*, XLI (2002), 225–242.

By combining scientific method with cultural history, we began to understand that many of these pigments and dyes had travelled long distances from their place of origin—mines, mountains, volcanoes, or cultivated fields—to be processed in workshops and apothecaries for the benefit of textile, medicinal, or artistic use. Apprentices, officials, and masters had to experiment with these substances to obtain the necessary effect required by Christian symbolic strategies—for example, a bright blue for the cloak of an Immaculate Virgin or a passionate red for the blood of Christ. One of these colors was the cochineal carmine (see Anderson’s article in this volume). In historical written sources, it appears as *grana*, *grana fina*, and *grana de esta tierra*, among other terms. One of the most precious colors for painters, it was also strongly related to the Spanish Crown economy, which held it in monopoly. The vegetal dye indigo blue, known as *añil* or Castile blue, which had a similar relevance for the Spanish economy, was popular in Cusquean and Altoperuvian workshops because it covered surfaces well, produced green hues when mixed with yellow pigments (especially orpiment), came at a reasonable price, and was acceptable in payment for taxes. Like carmine, it saw extensive use in the textile industry. The Central American region was the great supplier of this color, although it was also pervasive in Andean territory.<sup>5</sup>

Other interesting aspects of these colors concern how their names were derived and they acquired meanings and misunderstandings in South America. Cases in point are the confusion between vermilion and minium, and the virtues and defects of the green *cardenillo*. Native terminology sometimes allowed diverse meanings. For example, *llimpi*, the Quechua term for vermilion, is translatable as *color* but also relates to war and festive practices, and in the European tradition, the green verdigris “pestilence” was associated with the idea of idolatry. These layered meanings provide a clue to how and why painters decided to employ specific pigments in their works.<sup>6</sup>

Color was extremely important to the Andean cultures subjugated to the Incas. The prehispanic construction of color in the Andean region enables forms of social, political, and economic

5 See Siracusano, *El Poder de los colores* (Buenos Aires, 2005).

6 Siracusano, *Pigments and Power in the Andes: From the Material to the Symbolic in Andean Cultural Practices, 1500–1800* (London, 2011).

organization to be identified. Color structured the relationship between the native settlers. The use of red, green, or blue hues in images, clothes, or other objects was a privilege of the Inca nobility or certain deities, as opposed to the brownish earth colors that indicated the dominated classes. The most vivid representation of this “glorification” of color in the Andean world was the rainbow, which was considered sacred—an embodiment of metals and precious stones from the mines, the confused and vague colors of twilight and dawn, the eyes of serpents and felines, as well as colored water wells or the changeable tints of fabrics and feathers. Could these perceptions of color have disappeared with the arrival of the new Christian images that followed the process of conquest?<sup>7</sup>

Despite the forceful imposition of new iconography, the old perception of color may well have persisted. In any case, colors were re-signified, due to new appropriations. Christian imaginary recovered part of the iridescence of the hummingbird feathers that adorned royal Inca clothes, as well as the smooth chromatic changes in skies and rainbows, by granting a new meaning to them. The connection between colors, powers, and Andean sacral images was extremely intense. Many written colonial sources and some archaeological discoveries suggest that color powders, or powdered pigments, for example, were also involved in ritual practices. Worshippers kissed them and blew them into the wind during a ceremony called *muchani*. Vermillion, azurite, hematite, and copper-based pigments were the main substances in this ceremonial practice, mentioned by Spanish testimonies as idolatrous.

How aware of these cultural phenomena were those in charge of their destruction, and could they neutralize the persistence of such practices by imposing a new imaginary without applying a mechanism of negotiation? The evangelization process found a potential means of counteracting “idolatrous power” in the divinization of the materials used to produce such devotional images and objects as virgins, saints, and crosses, building a semantic halfway between reflexivity and transitivity, to use Marin’s terms.<sup>8</sup>

7 See Siracusano, *Pigments and Power*, 101–125. For the chromatic and symbolic dimension, see Gerhard Wolf and Joseph Connors (eds.), *Colors between Two Worlds: The Florentine Codex of Bernardino de Sahagún* (Milan, 2011); Thomas Cummins and Barbara Anderson, *The Getty Murúa: Essays on the Making of Martín de Murúa’s “Historia General del Perú”* (Los Angeles, 2008).

8 Louis Marin, *Le portrait du Roi* (Paris, 1981); *idem.*, *Des Pouvoirs de l’image (Gloses)* (Paris, 1993).

CASE STUDY (1): THE CANVAS AS A “LIVING BODY” The power in the very materiality of Andean images rivals that which their shapes exhibit and evoke. An example is the image of Our Lady of Chiquinquirá from Colombia. According to the Chronicle of Fray Pedro de Tobar and Buendía written in 1560, Alonso de Narváez painted the Virgin of the Rosary with Child, escorted by Saint Andrew and Saint Anthony of Padua, at the request of the *encomendero* Antonio Santa Ana and the Dominican order in the city of Tunja. After several years in the chapel of Suta, the image was spoiled due to “having been wet many times, and as [the authorities] didn’t care, putting straw in the roof of the chapel, a lot of water entered through the altar and ... fell on the canvas.” Therefore, it became faded and “disfigured,” with numerous tears and large torn pieces. After being moved to a small chapel in Chiquinquirá, the painting continued to deteriorate, especially after being used as a fabric for drying wheat, until a devout woman named María Ramos rescued it.<sup>9</sup>

Without recognizing its iconography, Ramos cleaned the canvas of accumulated dust, recomposed the broken frame, and attached the painting to the wall “with a string of sique, with four or five knots” at the top of the altar. One day, an Indian woman named Isabel and a mestizo boy noticed what became understood as the first miraculous renewal of the painting—the image of the Virgin turning bright. This miracle was followed by others—the chromatic “reintegration” of the pigments in the painting—“so bright and renovated with cheerful heavenly colors, so much that it was a glory to see it”—and then the repairing of the holes by the “*Deus Restaurator*” that left no trace in the support or in the pictorial layer. Thanks to its sacred materials, the image, as promoted by the Dominican order, acquired a sacred presence. Its “divine renewal” transformed it into a “living body”—an intervention by God that enabled miraculous actions.

CASE STUDY (2): A POLYCHROME SCULPTURE AND THE COURT OF SATAN Sixteenth-century Spanish America was the site of numerous legends and traditions about images created or modified by belief

9 Pedro de Tobar y Buendía, *Verdadera Histórica Relación del origen, manifestación y prodigiosa renovación de sí misma y milagros de la imagen de la Sacratísima Virgen María Madre de Dios Nuestra Señora del Rosario de Chiquinquirá* (Bogotá, 1986; facsimile of the first edition, Madrid, 1694), Chap. 3, 12 (author’s translation).

in divine intervention. In the celestial workshop, the *Deus pictor*—the Holy Spirit, Christ, or the Virgin—with the help of color-grinding angels, or in the earthly workshop, a painter or sculptor, “aided” by the divine hand, introduced these *Imagines Dei* into colonial America to “talk” to the soul of the faithful. Indeed, among the *acheropoietas* images created in the viceroyalties—those thought to have been created without the involvement of the human hand—the Virgin of Guadalupe is the most radical example of this synthesis between the material and the divine. The imprint of her image on the cloth of the Indian Juan Diego at Tepeyac gave rise to a myriad of interpretations that led to identifying its materials—an ayate cloak and its pigments—either with those present in the Eucharist, which reinforced the presentational character of the image, or with the elements of God’s prodigious nature, roses, transformed into celestial pigments.<sup>10</sup>

In the viceroyalty of Peru, *Our Lady of Copacabana*, on the banks of Lake Titicaca, stands halfway between these strategies (Figures 1 and 2). It still remains one of the greatest Andean devotions. Though not attributed to the hand of God but to that of a native sculptor named Francisco Tito Yupanqui, who had carved and polychromed it by 1582, historical written sources declare the presence of divine intervention in three ways: (1) through the position of the Virgin’s hand, (2) through its brightness (gold leaf), and (3) through its pigments. The Chronicle of Alonso de Ramos Gavilán and the *Holy Poem* of Fernando de Valverde, both of them by Augustinians, are central to understanding the artistic strategies that were responsible for the idea that a human creation could embody a strong sacred presence. The Chronicle demonstrates how the Augustinian order was able to establish itself in a region previously administered by the Dominicans; one of its many plans included the implantation of powerful images in specific places.

As Ramos Gavilán says, “[W]here the Prince of Darkness set the stone of scandal, the Prince of Peace put the precious stone, the rich Daisy of His Mother to enrich heaven, for that means Copacabana: the place where you can see the precious stone.” He

10 Jaime Cuadriello, “El Obrador Trinitario o María de Guadalupe creada en idea, imagen y materia,” in *Museo de la basílica de Guadalupe: El Divino Pintor: la creación de María de Guadalupe en el Taller Celestial* (Mexico City, 2001). See also Siracusano, “Viejas estrategias,” 570–585.

Fig. 1 Francisco Tito Yupanqui. *Our Lady of Copacabana* (1582), Holding Child, Ornately Dressed against Gold Background in the Basílica de Nuestra Señora de Copacabana. Polychrome Sculpture



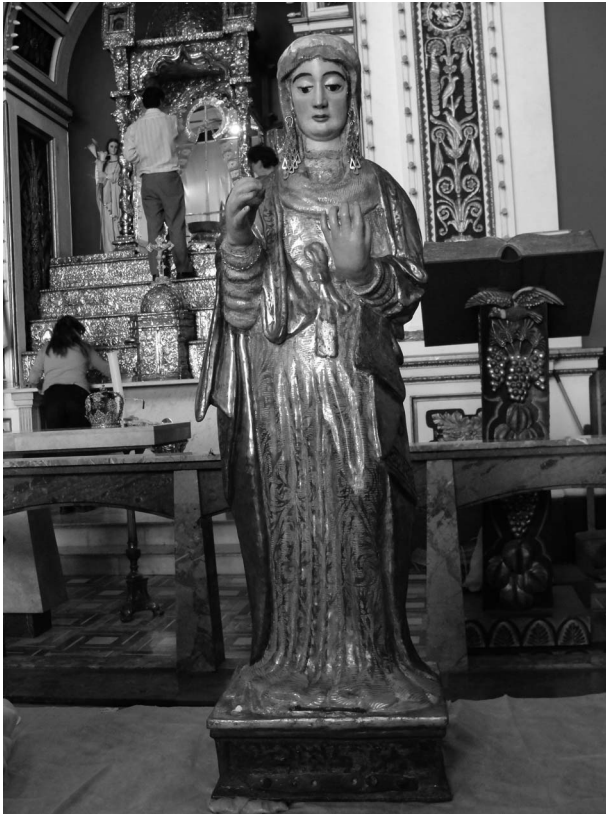
SOURCE Gabriela Siracusano/Carlos Rúa Landa.

justified the name of Copacabana by saying, “*Copa* sounds so much like precious stone, and *cabana* is deduced from the term *kaguana* which means the place where you can see.... Copacabana, the town where you can *see* the stone.... Precious stone is Mary, as she is a smoothed diamond polished in the mines, not of the Earth, but of the high heavens.”<sup>11</sup>

11 Ramos Gavilán, *Historia del Santuario de Nuestra Señora de Copacabana* (Lima, 1988; orig. pub. 1621), Chap. 32, 194.



Fig. 2 Francisco Tito Yupanqui. *Our Lady of Copacabana* (1582). Polychrome sculpture



SOURCE Gabriela Siracusano/Carlos Rúa Landa.

The reference is evident: *Corpa* was a native term related to the world of inorganic pigments. Brightness, brilliance, and visibility were the qualities that Ramos Gavilán chose to implement, one of the many strategies that accompanied the evangelization process in Andean lands—the replacement of a “false” presence of the sacred with the “true” Marian image. Lake Titicaca (Figure 3) was the place chosen by the gods. Copacabana—the strategically visible site where an idol “of a bluish stone” with the “figure of a human face, with neither feet nor arms”—gave account of what has been considered the first Andean hierophany (the presence of the sacred in the human world). According to Ramos Gavilán, “[T]alking

Fig. 3 Lake Titicaca



SOURCE Gabriela Siracusano.

about the image) you came to Copacabana to extirpate idolatry, to break the false, to mute the idols, to destroy their altars and temples, to spread Holy doctrine, to bring faith, and ultimately to set your sanctuary at Satan's Court."<sup>12</sup>

What did he mean by "Satan's court"? Ancient ritual practices once took place near Lake Titicaca. Close to Copacabana, at the northeast shore, lay another place that the priests had marked out as witness to important idolatric rites. The Quilima hill, also called the sleeping dragon that drowns into the Titicaca, was supposed to be a *huaca*, a space of the sacred (Figure 4). A few miles away stands Carabuco, an old Indian town, which saw the first chapel built in the sixteenth century. As with Copacabana, the plan was to replace idolatry with a "true" object of belief that could "arouse" the souls of the native people.<sup>13</sup>

12 Bernabé Cobo and others used the word *corpa* for stones containing metals. Álvaro Alonso Barba construed *corperia* as stones containing silver metals. See Cobo, *Historia del Nuevo Mundo* (Seville, 1890; orig. pub. 1653), 4 v.; Alonso Barba, *El arte de los metales* (Potosí, 1967; orig. pub. Madrid, 1640); *Doctrina Christiana*. For the hierophany, see Patricio López Méndez, "La Aurora en Copacabana: un ejemplo de sustitución simbólica en los Andes del Sur," unpub. Ph.D. diss. (Univ. of Buenos Aires, 1998). Ramos Gavilán, *Historia del Santuario*, 194.

13 Note that all mentions of idolatry and idolatrous practices are from the perspective of evangelical discourse.

Fig. 4 Quillima Hill at Lake Titicaca



SOURCE Gabriela Siracusano.

CASE STUDY (3): THE POWERFUL PALM ON THE LAKE “[A] new man was seen, and never again, who did great miracles and wonders, and [the people] therefore called him...tunupa.” With this sentence, Ramos Gavilán introduced the story of the Carabuco cross and that of the presence of a disciple of Christ in the Andean region, who supposedly preached before the arrival of the Spaniards. As Bouysson-Cassagne stated, the legend links him ambiguously to St. Thomas or St. Bartholomew, a hagiographic construction that mixed elements from both saints with those of other figures like Empedocles, Moses, and such pre-Columbian divinities as Viracocha and Tunupa. Ramos Gavilán tells of Tunupa’s preaching in the Carabuco domains and his martyrdom, in which he was impaled by a chonta or palm stake. The chonta palm belongs to the species of palm *assahy mirim*, a black wood with brown fibers, used in the South American indigenous manufacture of bows, arrowheads, and canoes.<sup>14</sup>

14 Ramos Gavilán, *Historia del Santuario*, 56. Thérèse Bouysson-Cassagne, “De Empédocles a Tunupa: Evangelización, hagiografía y mitos,” in *idem* (ed.), *Saberes y memorias en los Andes* (Lima, 1997), 175–195. See also Gustavo Tudisco and Diego Guerra, “El Apóstol soy yo: José de Arellano y el programa iconográfico de la Cruz de Carabuco,” in Siracusano (ed.), *La Paleta del Espanto* (Buenos Aires, 2010), 55–76. The naturalist Alcide d’Orbigny called the chonta palm in Bolivia *atrocaryum chonta*. See Bror Dahlgren, *Index of American Palms* (Chicago, 1936), 331.

Why did Ramos Gavilán offer information about this material? He remarks that the dead saint's body was sent adrift on the lake, eventually arriving on a shore where a chonta palm grew. Ramos Gavilán characterized this palm as a sign of Christ's triumph, even claiming that it had a place on the crowns of kings and popes. The palm was also a symbol of medicine, the thaumaturgical power of kings, and incorruptibility—hence, the miraculous nature of the Carabuco cross. The Augustinian shrewdly forged a synthesis between the cross of martyrdom, the cross with which the saint had preached, and the one that grew on the shores of the lake. By establishing this wood as a new venerable substance, he also tied it to the Holy Cross and to the image of Copacabana.

The Virgin was the first person to venerate the holy tree of Christ. Both the saint with his cross and the Virgin were put together and represented in the large canvas of Purgatory, which is part of a series that still hangs in the church of Carabuco. These pictures, painted in 1684 by José López de los Ríos, represent the Last Judgment, Purgatory, Glory, and Hell—the Last Four Things. The goals of controlling the territory, strengthening evangelization politics, and substituting idolatric practices with sacred objects and images was successful for almost 100 years. The images pointed out the dialectic between sins, idolatry, and punishment. Within this visual tale, the *tondi*, or circles, that run through the entire series brought back to memory the story of the saint and his cross (Figure 5). Through words and images, they show how the cross resisted being burnt by idolaters due to its hardness. Even after it was cut into pieces and buried, its sacred materiality prevailed; its nails and pieces were converted into relics. The cross and the Virgin of Copacabana represented the presence of the sacred that counteracted the force of ancestral beliefs on behalf of metropolitan and local interests.<sup>15</sup>

Regarding the image of the Virgin, how could the pure materiality of the image created by Yupanqui possibly convert the ancient “head of idolatry” into a Christian holy site? The answer is simple—by converting the pigments' powders used in Andean rituals—azurite, verdigris, orpiment, or vermillion—into “divine mixtures.” The *Holy Poem* of Valverde written a few decades after the creation of the sculpture is the key to understanding the scope of these words. In it, Valverde explains how the intercession of grace

15 For the canvas of Purgatory in the church of Carabuco, see Siracusano, *La Paleta*, 77–96.

Fig. 5 José López de los Ríos. *The Four Last Things* (1684). Oil on Canvas. Church of Carabuco, Bolivia. Detail. The Story of the Carabuco Cross, Circle n° 2



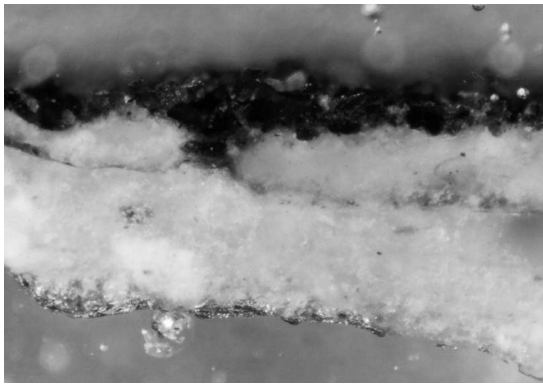
SOURCE Carlos Rúa Landa/Daniel Giannoni.

changed the pigments of the Virgin of Copacabana extracted from Mother Nature into sacred materials, or “divine mixtures.” This holy intervention, similar to the one that Ramos Gavilán mentions, occurred the night after Yupanqui had finished the gilding, when God’s hand made the sculpture bright and shining.<sup>16</sup>

In this land of “idolatry,” the sacred Christian aspect of the image, to which color made a major contribution, had to be reinforced. In fact, SEM-EDS analysis, performed about ten years ago, confirmed that azurite and orpiment, both mentioned by written sources as entangled in native ritual practices, are present in its polychromies (Figures 6 and 7). Such pigments, included in the palettes described in the manuals of Lomazzo, Carducho, Pacheco, et al., also comprised the “allied body” of the images that supported the

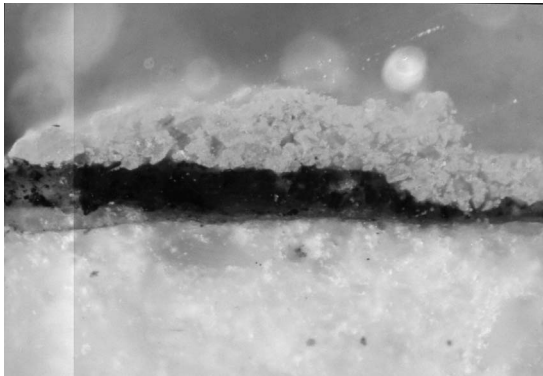
16 For Valverde, see Siracusano, *Pigments and Power*, 150. Ramos Gavilán, *Historia del Santuario*, 239.

Fig. 6 Azurite. Cross-Section of Sample from the Cloak of the *Virgin* [or *Our Lady*] of *Copacabana*



SOURCE Marta Maier/Gabriela Siracusano.

Fig. 7 Realgar (Burnt Orpiment). Cross-Section of Sample from the Cloak of the *Virgin of Copacabana*



SOURCE Marta Maier/Gabriela Siracusano.

Catholic representational system. But were all of the pigments in this image employed in European artistic practices?<sup>17</sup>

In 2011, with the help of restorer Carlos Rúa Landa and the religious community, we returned to the Copacabana sanctuary for

17 For the SEM-EDS analysis, see Siracusano et al., “Imagen y materialidad: Conservando la materia,” in *Actas del II Congreso Internacional de Teoría e Historia de las Artes (X Jornadas de CAIA)* (Buenos Aires, 2003), 585–586; Siracusano, *Pigments and Power*, 151.

a closer look at the image and take some more samples from the cloth and the veil (Figure 8). Recent analysis, developed with the help of the laboratory at the Metropolitan Museum of Art in New York, enabled us to identify one more pigment absent in the Spanish manuals of the period, never detected before in the Andean palette—Atacamite, a polymorph of the basic copper (II) chloride minerals group. Even more interesting, this pigment had a natural native origin and was used in pre-Columbian objects and burials. Archaeological and chemical studies confirm the presence of Atacamite in powdered form inside leather bags and small pumpkins in prehispanic Inca burials in the Tojo (Highlands of Tarapacá), the Humahuaca valley, the highlands of Jujuy in northern Chile, and the Lipes plateau in Bolivia. It appeared in texts for the first time in the late eighteenth century, after the mineralogical

*Fig. 8* Detail of the Green Veil of *Our Lady of Copacabana*



SOURCE Gabriela Siracusano/Carlos Rúa Landa.

expedition to Peru and Chile (1795–1800) headed by the Germans Christian and Conrad Heuland. The Heulands had arrived in Spain by 1792 to arrange the sale of the mineralogical collection of their uncle, which the Crown acquired in 1793 for the Royal Cabinet of Natural History (founded in 1771). The brothers identified the mineral as a native copper present in mines of the Lipes in the Atacama desert.<sup>18</sup>

During the viceroyalty of Peru, the Atacama region was in the province of Potosí, where Yupanqui lived while developing the initial steps in the creation of the image. Álvaro Alonso Barba, the author of *The Art of Metals* (1640) and an inhabitant of the Lipes, wrote about the “the many wonders of every kind of minerals and stones” in Atacama: “[T]here are many copper ores in all of these provinces.... Potosí is surrounded by hills where there are many of these mines.... There are very great veins in Atacama and some of them face the sea in large cliffs of this solid metal.” These facts, apart from the technical results, confirm Atacamite as the pigment chosen by Yupanqui to make the *estofado* of the Virgin’s veil—a pigment that exceeded his artistic purposes. But it may well have appealed

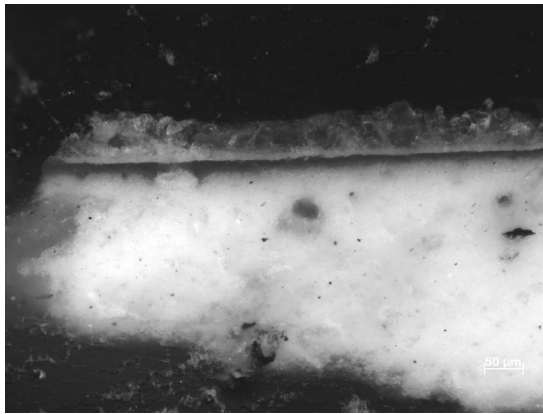
18 Eugenia P. Tomasini, Siracusano, et al., “Atacamite as a Natural Pigment in a South American Colonial Polychrome Sculpture from the Late XVI Century,” *Journal of Raman Spectroscopy*, XLIV (2013), 637–642. Atacamite has also been detected in mural paintings, manuscripts, and polychromed sculptures in Europe and China, but in most of these cases, its use as a pigment is subject to doubt; its presence might be the result of degradation of other copper-based pigments like azurite and malaquite. The identification of the pigments used in the manufacture of the Virgin of Copacabana was based on the application of Raman microscopy combined with other analytical techniques, such as SEM-EDS and infrared spectroscopy.

For the archaeological and chemical studies, see Carlos Ignacio Angiorama, “¿Mineros quebradeños o altioplánicos? La circulación de metales y minerales en el extremo noroccidental de Argentina (1280–1535 AD),” *Intersecciones antropol*, VII (2006), 147–161; José Berenguer R. and Iván Caceres R., *Los inkas en el altiplano sur de tarapaca: el tojo revisitado: Chungará (Arica)*, XL (2008), 121–143. Mario Samame Boggio, *El Perú Minero* (Lima, 1979), 128, provides a description of Atacamite’s prehispanic use in the zones of Nazca, Ica, Pica, Tarapacá, Atacama, Cerro Verde del Tambo del Cortaderal between Islay and Arequipa, Acari, Camaná, Tingué, Cerro Verde, Cerro Trinidad, Huantajaya, Ilo, Pacocha, Chala, Camaná, and Pampa Colorada. It also gives the native term for Atacamite as *lajsa*, the same one found in many written sources. See Siracusano, *Pigments and Power*, 128–164.

For the Heuland brothers, see Angel Montero and C. Dieguez, “Datos para la paleontología chilena: La paleontología en la expedición Heuland a Chile y Perú (1795–1800),” *Asclepio*, L (1998), 69–78; Montero, *La paleontología y sus colecciones desde el Real Gabinete de Historia Natural al Museo Nacional de Ciencias Naturales* (Madrid, 2003), 95–98. National Museum of Natural Sciences, *Expedición mineralógica de los hermanos Heuland a Chile y Perú, 1795–1800* (Madrid, 1987); *Nouveau Dictionnaire d’Histoire Naturelle, appliqué aux arts* (Paris, 1817), VIII, 577–579; Esther Ruiz de Castañeda (ed.), *Minería Iberoamericana: Repertorio bibliográfico y biográfico* (Madrid, 1992), III, “Biografías mineras 1492–1892,” 260.



Fig. 9 Atacamite. Cross-Section of Sample from the Veil of *Our Lady of Copacabana*



SOURCE Marta Maier/Gabriela Siracusano.

to him because it had a powerful presence in the native tradition (Figure 9).<sup>19</sup>

From what can be called an anthropology of matter, these subtle green pigments, once used in non-Christian ritual, remained present through the material of a new sacred image. The extent to which the sacred presence of this color persists for the faithful became evident during conservation work on the image. Rúa Landa, who directed that project, recalls how every cotton swab used to clean the sculpture at the sanctuary mysteriously disappeared every afternoon. After a few days, she realized that the swabs had been taken by silent and anonymous devotees who wanted to preserve what they had absorbed.<sup>20</sup>

The three case studies presented show the relevance of the material dimension in the construction of devotions in South America. The Chiquinquirá's renewed threads and colors, the wood of the Carabuco cross, and the Copacabana's pigments applied in its polychromies played an important role in the sacredness of these three devotional and miraculous pieces. By identifying and analyzing their materials from a scientific and historical point of view, we come to

19 Ramos Gavilán, *Historia del Santuario*, 235; Barba, *El arte de los metales* (Madrid, 1640), 50.

20 Carlos Rúa Landa, personal communication (2008).

answer the questions that started this article: The memory of old practices remains in the material of these images.

To borrow Belting's terms, the triad of image, medium, and body, catalyzed by faith and tradition, creates a sacred work that transcends the wood, pigment, oil, or gypsum of its construction to become living matter, capable of feeling and suffering as well as of healing souls and flesh. By this operation, material body and devotional body merge into one. This cultural relationship between matter and sacredness became established in the Andes at the very beginning of the conquest. Although present in Europe, the relationship assumed special significance in America, resting on the dichotomy between real images and false idols. Within the process of evangelization, images of Christianity were able to replace native sacred objects or places through the granting of sacredness to traditional materials.<sup>21</sup>

This anthropological and cultural condition should not be dismissed even in scientific analysis. In the conservation of sacred works, the ancient tension between sculpture, matter, and idolatry—about which even the Old Testament's Book of Deuteronomy issues a warning—is still palpable. The use of pigments in traditional rituals, the meaning of colors in Andean societies, or the collection of remains by a religious community are clear testimonies to this phenomenon. Finally, when deciding on interventions or deep restorations of sacred art works, technicians must be mindful of how religious congregations conceive of these representations and their material dimension. Conservation/restoration of these kinds of images, far removed from our modern *episteme*, necessarily entails a series of interdisciplinary actions and methods. This dialogue should embrace not only historical, anthropological, aesthetic, and scientific criteria but also devotional criteria to preserve, along with the material image, the memory and cultural identity that lies beneath the poetics of matter.<sup>22</sup>

21 Hans Belting (trans. Edmund Jephcott), *Likeness and Presence: A History of the Image before the Era of Art* (Chicago, 1994).

22 *La Sagrada Biblia* (Buenos Aires, 1950), 4:28, 183.