

The Environmental Contexts of Guaman Poma: Interethnic Conflict over Forest Resources and Place in Huamanga, 1540–1600

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Don Felipe Guaman Poma de Ayala's *Nueva corónica y buen gobierno*¹ purports to present an "epic tale of Andean experience," applicable to the vast region and populace subordinated to Inca and Spanish rule during the fifteenth and sixteenth centuries (Adorno 2000, 11). To establish the rhetorical basis of its authority as a trans-Andean account, Guaman Poma provides a detailed list of his main native informants (*testigos de vista*), emphasizing the age and ancestry of their testimony. In one of his most famous drawings, he portrays himself holding counsel in the manner of the Inca lords of old, vigorously engaged in conversation with an aged descendant of the Inca and a vast crowd of Quechua- and Aymara-speaking lords from the four quarters of Tahuantinsuyo (NC [368–69, 1088–89]).² Meetings of this sort were actually quite common in real life during the era of the Toledan reforms and provided the cultural basis for much of the geographical source material we have from sixteenth-century Peru. In order to complete the official questionnaires that were sent out from Lima and Seville, local officials often went to the effort to gather together "all of the elders and caciques from th[e] region," to record oral traditions and the most current evaluations of the geohistory of the realm. These gatherings typically used an *yndio ladino* or multilingual mestizo as translator and scribe—an office we know Guaman Poma performed at various stages of his career (*Relaciones geográficas* 1965 [1557, 1586; 1881–97], 1:218–19, 220, 226, 237; Stern 1978).³ One *visitador* working in the Vilcashuaman district of Huamanga province "ordered that the caciques make models of the said land, with the fruit trees, rivers, springs, lakes, pueblos," and

other landmarks represented thereon, which were then used to produce a documentary description and painted map of the district, with the hope that these activities would help resolve outstanding disputes and dictate rights to land and resources that would be respected “under penalty of loss of *cacicazgos*” (quoted in Stern 1982, 78).⁴

According to Guaman Poma, the act of writing and visualizing this group testimony enabled “their eyes and those of the author” to become “the same eyes of the king” to whom the *Nueva corónica* was addressed, so that “what they have seen with their own eyes, and walked the whole earth in order to see” could provide the king with a proper basis for the reinstatement of justice and good government in Peru (NC [114–15]). To underscore the geographical basis of his authority as spokesperson for this Andean experience, Guaman Poma concludes his account with a list of over 160 *tambos* and *tambillos* (way stations) that aided the flow of information along the imperial road system, to which he later added a detailed chronicle of his pilgrimage through the central Andes in search for justice (NC [1092–1103]). As an essential feature of this eyewitness testimony, the text and drawings of the *Nueva corónica* contain precisely drawn, authoritative representations of the Andean environment. These environmental details had deep, personal significance to Guaman Poma, rooted in years of legal disputes involving his kin and a range of other ethnic groups over woodlands, water, pasture, and farmland in his home district of Huamanga (now Ayacucho) in Peru’s central highlands.⁵ This study confirms the insight of Roberto González Echevarría that colonial chronicles are grounded in the authoritative rhetoric provided by legal writing (1990, ch. 2). Based on a detailed examination of these legal cases and reconstruction of the Huamanga region’s historical geography and ecology, this essay will argue that Guaman Poma’s personal experience in colonial courts regarding interethnic conflict over forest resources, place, and the defense of their meaning according to Andean conceptions of reproduction and inheritance provided the original and most basic inspiration for composing the *Nueva corónica*.

This investigation is premised on an idea fundamental to the disciplines of environmental history and ecocriticism: that careful attention to the environmental surroundings and ecological relationships of historical subjects can provide basic insights into how these subjects perceived, represented, and interacted with the world. From this theoretical

perspective, “nature” exists as something more than a sociocultural construct, and “culture” is dependent on environmental constraints and relationships with non-human organisms. In early colonial Peru, the decline of the indigenous population, environmental deterioration, and public disorder were enormous worries among Spanish intellectuals, an army of indigenous plaintiffs, and an entire genre of writings chronicling the generations of the Inca kings. From the perspective of both the colonizers and the colonized, demographic decline entailed the destruction of the most basic source of wealth and improvement—human labor. This resulted in the creation of *despoblados*, a derogatory term for wasteland or wilderness where flourishing populations had once resided, and also for the proliferation of *monte*, undisciplined landscapes where wild plants, animals, and peoples dominated.⁶ The court cases involving Guaman Poma fixated on the *modes of reproduction* of Andean society, and were consciously thought of in such terms by their protagonists. Carolyn Merchant deploys the concept of modes of reproduction to help understand the ecological, social, and cultural transformations that accompanied the colonization of New England during the seventeenth century. Modes of reproduction are the biological and sociocultural activities (such as mating behaviors, rearing of young, domestic and community interactions, and forms of governance) that ensure the intergenerational perpetuation of humans and other species. They serve as intermediaries between modes of production (organismal growth, biogeochemical cycles, subsistence, extraction, processing, and exchange) that make material existence possible and modes of consciousness (cosmology, science, religion, language, ritual, art, and performance) that, for human cultures, establish moral imperatives for behavior and give meaning to modes of production and reproduction (Merchant 1987; 1989). As this essay will show, intergenerational justice was an essential issue for indigenous plaintiffs like Guaman Poma, and fundamental for us to make sense of interethnic conflict in his home region and changing attitudes toward nature and society in early colonial Peru.

Environmental Representation in the *Nueva corónica*

Guaman Poma carefully composed the *Nueva corónica* to present precise details regarding the ecology and geography of the Andes—many of them specific to the Huamanga region where he spent most of his life. The most obvious examples of this are in his two chapters on the months of the year, which provide minute details of human interaction with celestial bodies, climate, the soil, native and introduced crop plants, domestic and wild animals, disease, and even excrement, during the course of the agricultural and ritual year. Its drawings indicate the specific phase of the moon when maize, potatoes, and *ocas* should be planted (NC [1165, 1175]; cf. [252]), when sacrifices and divinations would be most auspicious (NC [240, 242, 250, 256, 1141]), and even make an effort to portray “father sun” dramatically waxing and waning in size and intensity from midwinter to midsummer (Fig. 1). According to Cieza de León, the oldest residents of the Huamanga region were famous for their ability to predict what would come to pass in the future by observing signs in nature (Cieza de León 1984 [1553], vol. 1, bk. 1, ch. 88, 113–14). Among the Lucanas of southern Huamanga, the morning star and the Pleiades (known locally as *auquilla* and *larilla*) were especially venerated (*Relaciones geográficas*, 1:241–42). For Andeans, using the stars to predict the future was not an esoteric science. We know from ethnoastronomical research elsewhere that the seasonal clarity of Venus and the Pleiades can be excellent predictors of the long-range climate and productivity of the upcoming growing season (Orlove et al. 2000). Guaman Poma’s main informant in these matters, Juan Yunpa from Uchucmarca in Lucanas, provided the archetype for those “indigenous philosophers” and “poet astrologers who know the circuits of the sun, and of the moon and eclipses, and of the stars and comets; the hours, weeks, months, and years; and of the four winds of the world, ... and thus see what time to sow the fields, early and late,” as well as to decide the proper moment for a host of other activities.⁷ Yunpa taught Guaman Poma that the day of St. John the Baptist, immediately after the winter solstice in late June, and the beginning of planting season in August were the most important times for climbing high into the mountains to keep watch on the skies and look for these signs. The accompanying image of Yunpa im-

plies he used knotted string *quipu* to keep track of what he observed (NC [253, 897–98, 1162]).

For all cultures, the position and movements of celestial bodies provide a basic sense of time and direction (Huth 2013), and they are fundamental to the Andean understanding of place and time. Within Andean tradition, the word and concept for place (*pacha*) also entails passage of time and is closely related with the life-giving qualities of soil (Bouysson-Cassagne and Harris 1987; Urton 1981). Under the Inca, the self-proclaimed sons of the sun, the location on the southeastern horizon where the sun rises on the December solstice, known as *yndiplucina*, provided a fundamental point of orientation. According to Santo Tomás, the earliest and best authority on the Quechua spoken on the central coast and in the adjacent cordillera, the opposite direction where “indy” sets (and where the new moon first appears) was referred to as *yndiayaucuna*.⁸ The position of the sun on the *Nueva corónica*’s *mapa mundi*, as the accompanying text explains, indicates “where the sun is born on the left-hand side in the direction of Chile [and] Collasuyo,” while the direction of the crescent moon indicates “Chinchaysuyo on the right-hand side where the sun sets” (NC [1000]).⁹ The typical spatial convention in Guaman Poma’s illustrations, with the sun in the upper left and crescent moon in the upper right—by deduction—orients the viewer toward the southern horizon. The placement of the sun on the right-hand (western) side of an image is sometimes used by Guaman Poma to denote the passage



Fig. 1. Representations of the changing intensity of sunlight in the chapters of the months of the year, indicated by the size of the sun disk and variable number of rays. Shown to the same scale as they appear in the original drawings: July/midwinter (left pair), December/midsummer (right pair). Details of GKS 2232 4^o, pp. [250, 1160; 260, 1175], The Royal Library, Copenhagen.

of time, as it does in his portrayal of the first generation of Indians following the creation of Adam and Eve (NC [22, 48]). Entities on the right hand of the viewer tend to be subordinate to those on the left hand. Both are subordinate to the top center, which corresponds to the zenith, the position of greatest authority and reproductive power within Andean cosmology.

Environmental elements thus play a definitional role in determining the positional rules that govern the spatial symbolism of images in the *Nueva corónica* and the didactic messages regarding the social and cosmic order they seek to communicate. As Rolena Adorno has shown, Guaman Poma frequently departs from this spatial convention as a means to criticize the overturning of the ordered universe that had been brought about by Spanish colonialism.¹⁰ In his map of the “pontifical world”—the world of spiritual authority—Guaman Poma portrays Cuzco and the four *suyos* of Peru “at a higher degree than all of Castile, Rome, and Turkey,” in a position of prominence closest to the sun and its generative power (Fig. 2).¹¹ According to Guaman Poma’s way of thinking, the Indies (*las yndias*) had been named by Columbus because they were “the land in the day, *yn día*,” meaning the land furthest to the west and closest to *yndiyaucuna* where gold and silver were thought to “grow” in greatest abundance (NC [42–43]).¹² In his intricately detailed *mapa mundi* (Fig. 3), Guaman Poma follows the medieval European mapmaking tradition and flips the orientation of his map of the pontifical world to look east toward the mountains of paradise, where it was said the Garden of Eden still grew, but he reinforces the subversive political geography of his map of the pontifical world by subtly relating Spanish savagery to the Amazonian wilderness. In the *mapa mundi*, Castile, Rome, and their coats of arms are portrayed in the direction of the unconverted, unconquered, and uncivilized lowland forests, rivers, and tribes of Andesuyo, “abut[ing] with the kingdom of Guinea” in Africa (NC [1000–2]).¹³ As Guaman Poma never hesitates to point out in the *Nueva corónica*, Andesuyo is a land of “warlike Indians of the *montaña* (wilderness) that eat human flesh,” defined both by its fertility and its wild creatures: “tigers and lions, savage poisonous snakes and alligators, wild cattle and asses ... and numerous macaws, parrots, and birds, male and female monkeys, wild pigs, and numerous warlike Indians, and naked, ... and others whose men wear clothes like women” (NC [77], cf. [155, 1000]).¹⁴

Guaman Poma used these same points of reference and textual identifi-



Fig. 2. "Pontifical mundo." Visual and textual clues, including the closed eyes of the sun, orient the viewer as looking up and toward the west where the sun sets, in the direction of yndiayaucuna. GKS 2232 4°, p. [42], The Royal Library, Copenhagen.

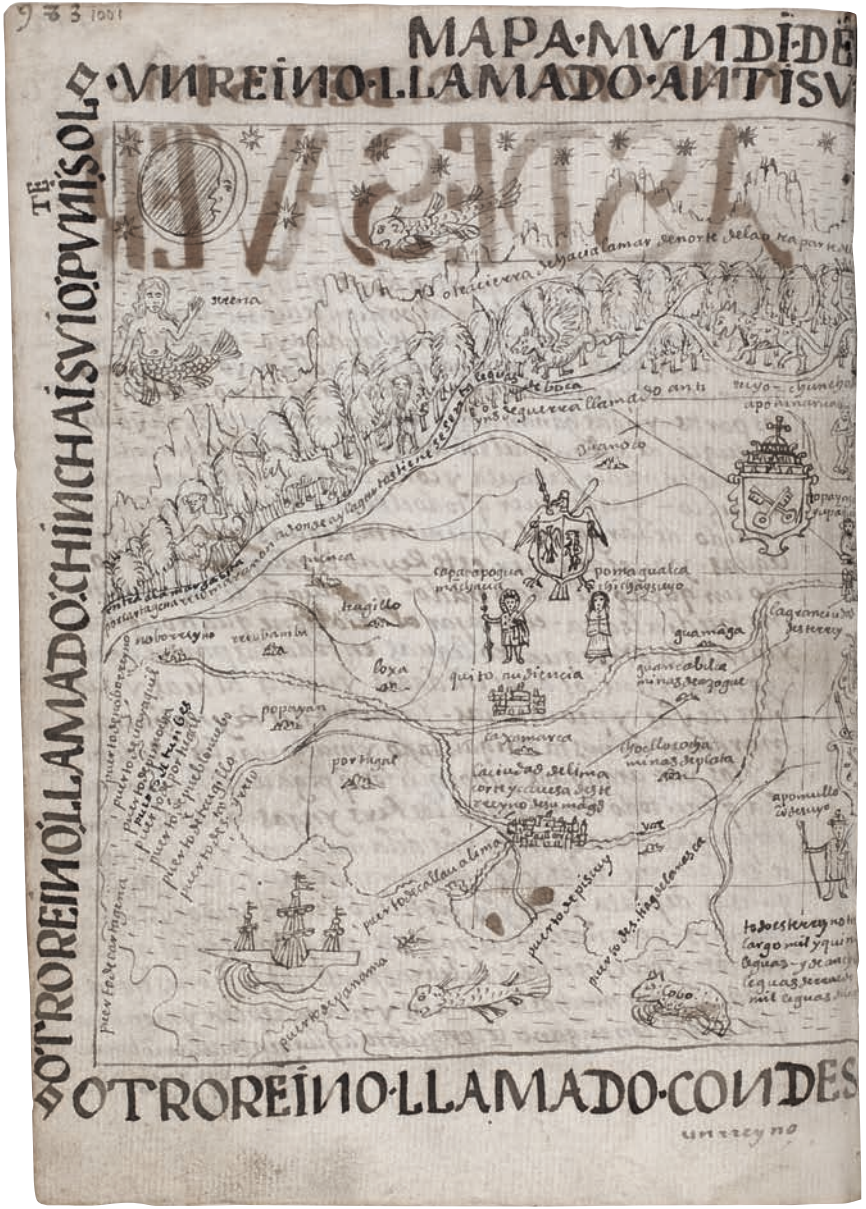




Fig. 3. "Mapa mundi del reino de las Indias." Looking up and toward the east. GKS 2232 4°, pp. [1001–2], The Royal Library, Copenhagen.

ers to orient a strikingly naturalistic map of his home region produced for a 1590s court case defending the rights of his ancestral line to Chupas, a tableland with deeply incised valleys of around 100 square kilometers immediately south of the colonial city of Huamanga (Fig. 4). In relation to modern cartographic conventions, what we call east is on the left, “where the sun of the city of Cuzco is born.” South is at the top of the map, in the direction of the “plain by the sea.” North is at the bottom of the map, in the direction of “la montaña, where there are wild Indians yet to be conquered [and] the coca-growing lands of the andes.” The right-hand edge is cut off on the original manuscript, but lies due west, in the direction of Lima, the City of Kings, and setting sun. This map is therefore oriented similarly to standard images in the *Nueva corónica*, with the direction of the rising sun (*yndipllucsiná*) on the left, and direction of the setting sun and rising new moon (*yndiyaucuna*) on the right.¹⁵ Two other features give basic structure to this map, as they also do to the *Nueva corónica*’s *mapa mundi*. Guaman Poma takes care to point out that all the rivers in this map, like so many rivers in the Andean World, eventually flow together to form “the great river Marañón.” Similarly, a network of roads carries rivers of humanity, livestock, and trade goods between settlements on the map, including the main royal highway built by the Inca that connected Cuzco to Lima and the rest of Chinchaysuyo. The map centers on the two main urban protagonists in the court case: the Spanish city of Huamanga, shown with a male/female pair of Spanish residents in the center-right of the map, and the indigenous town and battlefield of Chupas, shown in a position of prominence directly above it. According to the accompanying text, the original domain of Chupas had been marked out by the three pictured personages “Topa Ynga Yupanq[ui] and Dⁿ Juan Tingo Ynga Caviña, [and] Dⁿ Ma[rtí]n de Aiala, Casiques prinicipales” (*Expediente Prado Tello*, 52v–53r). Disregarding European-derived cardinal directions, when the geographical and environmental conventions of this map and the *Nueva corónica* are compared, it becomes clear that Guaman Poma’s *mapa mundi* is a simple reversal of the up/down, left/right orientation of the world as seen from his home city and province in this earlier map. From his point of view, the *mapa mundi* showing Peru governed by Spain and Rome literally portrays a “world upside down.” The real *cuzco* or center of space/time for understanding Guaman Poma’s cos-

movision lay in Huamanga. Privileging environmental indicators makes this clear.¹⁶

Portrayals of wild animals in the *Nueva crónica* also communicate cosmic truths about the relationship between nature and society. Following the example of Martín de Murúa's illustrated chronicle, noble women are often portrayed in close association with flowers, birds, and small animals—all symbols of fertility. These were sometimes drawn to evoke specific species, such as the gray, long-eared *vizcacha* with ventrally lined tail (*Lagidium peruanum*) held by Chimpo Ocllo Coya (Murúa 2008 [1613], 31v), and long-tailed macaw and short-tailed green parrot from the rainforests of Andesuyo shown at the feet of the last Inca *colla* (NC [142]). In Guaman Poma's portrayals, hunting and the protection of crops from animal pests were clearly important occupations for boys and men (NC [206, 208, 210, 520, 873–74, 1148]). Guaman Poma portrays the traditional Andean office of gamekeeper in European guise—complete with falcon, hunting dogs, and horn—thereby communicating its continued relevance under the colonial order (NC [864–65]). Echoing a concern leftover from earlier days when it is believed that he worked as an assistant to the extirpation of idolatry campaigns among the Lucanas and Soras, Guaman Poma takes special care to identify indigenous animals traditionally believed to communicate bad omens, including four different species of owl frequently portrayed in trees elsewhere in the text, perhaps symbolically (NC [282–85, 689–90]). Guaman Poma also lists several animals that he claims were kept in menageries by the Inca to torture and kill enemies of the state. Three varieties of snake can be distinguished in the accompanying drawing; their markings indicate they are most likely the diamond-backed bushmaster (*Lachesis muta*), the deadly striped-and-spotted pit viper (*Bothrops* sp.), and the double-spotted anaconda (*Eunectes murinus*) (NC [304–5]). The terror that these creatures inspired and the justice that Guaman Poma saw in this form of punishment were deeply rooted in the Andean belief that nature itself has the ultimate power to punish human activities violating the cosmic order. In a closely related diagram, Guaman Poma slyly portrays a selection of Old and New World creatures personifying the diabolical hierarchy of priests, *corregidores*, and other colonial personages that had made life miserable for him and other indigenous peoples under the colonial regime (NC [708]).





Fig. 4. “Ciudad de Guamanga [y] los mojones del valle de Chupas.” (Circa 1596–97). Looking up and toward the south. (Expediente Prado Tello, fols. 52v–53r). Published with permission on The Guaman Poma Website by The Royal Library, Copenhagen.

Guaman Poma's most striking portrayal of an Andean animal taking on a new guise for the colonial era shows a fanged jaguar drawn to resemble an ocean wave devouring the damned in the "city of hell" (Fig. 5). This is none other than the *chuqui chinchay*, "a many spotted animal, of every color, that they say was *apu* [god] of the jaguars, in whose care hermaphrodites, Indians of two natures, are given" (Pachacuti Yamqui 1993 [1613], 21V–22r). The *chuqui chinchay* was believed to guard the entry to the land of the ancestors, where the sun and stars set on the other side of the ocean, in the farthest reaches of Chinchaysuyo—the *suyo* of the jaguar. In the Christianized persona of the "prince of darkness," this fanged guardian of the afterlife took its place in an iconographic genealogy dating back to the jaguar-serpents of Chavín, the wrinkle-faced fanged lord of the Moche, serpent-headed ocean waves of the Sicán and Chimú, the flying decapitator of the Wari,



Fig. 5. "Ciudad del infierno." The cat-eyed branding iron shown burning the "arrogant, sinful, wealthy" Spaniard is caught directly between the fangs of the jaguar. It is surrounded by a star-like flame identical to evocations of bright stars elsewhere in the manuscript, and was likely intended to represent the bright-red star Antares (α Scorpii). Antares is part of the dark-cloud constellation on the Milky Way known widely in the Andes as the *chuqui chinchay*, or jaguar. This asterism dominates the night sky during the dry season when sterility and death reign in the natural world, and it is directly overhead at midnight at the time of the winter solstice celebrations of Inti Raymi and Corpus Christi, the most important festivals of the Incaic and colonial Andes. GKS 2232 4°, p. [955], The Royal Library, Copenhagen.

and dating forward to the black jaguars so often seen in Andean paintings of *la divina pastora* and the Last Judgment from the eighteenth and early nineteenth centuries.

Although Guaman Poma's portraits of cities of the realm all have fanciful elements, many have place-specific details. Even the tiniest features can have symbolic significance.¹⁷ The fishing port of Piscuy (or Pisco, meaning "bird") realistically shows half a dozen indigenous watercraft known as *caballitos de totora*, some fishing close to shore, some far out to sea. One is towing a sea lion to port. The marine bird portrayed closest to town is unmistakably a *guanay* cormorant, which orients itself toward the sun and spreads its wings in this distinctive manner when resting (NC [1047], cf. [1029, 1041, 1043, 1045]; Johnsgard 1993, 48–49) (Fig. 6). Portrayals of both animals are evocative of real-life poses seen in pre-Hispanic ceramics and



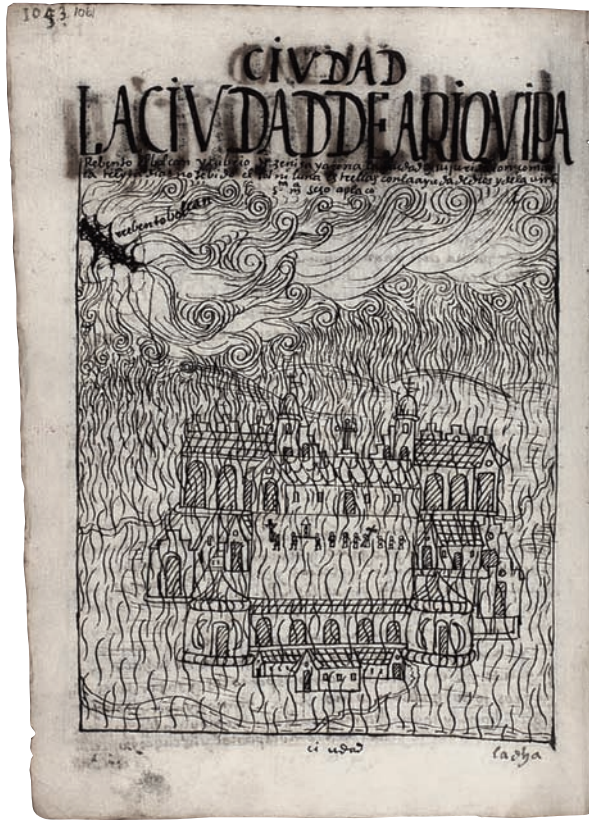
Fig. 6. “La villa de Pisqui, de mucho pescado.” Note the mating pair and wing-spreading behavior of guano-producing birds and realistic poses of marine mammals. GKS 2232 4°, p. [1047], The Royal Library, Copenhagen.

metalwork, while the frequent pairing of swimming birds in these coastal scenes (upper left) may have been intended to carry a deeper meaning. In coastal cultures, mating marine birds were greatly venerated, not only as symbols of reproduction, but also as providers of fertility to Andean agriculture via guano extracted from coastal islands. Perhaps to underscore this connection, Guaman Poma shows a woman from Chinchaysuyo offering a nest full of eggs to the deity Pachacamac—the father and husband of Urpi Huachac, “she who gives birth to birds.” This portrayal of religious ritual is instantly evocative of the disk-like nests of pure guano known as *quil-lairaca*, “the moon’s vagina,” produced by *guanay* breeding pairs on coastal islands associated with her name (NC [268]).¹⁸

Portrayals of Arequipa and Arica vividly represent the cataclysmic eruption of Huaynaputina in 1600, one of the largest volcanic eruptions on earth during the past 1200 years (Verosub and Lippman 2008) (Fig. 7). According to Guaman Poma, the whole Condesuyo region was “chastened by God” involving “fire, and the apparition of evil spirits, and ... sudden burst of fire and fumes of ash and sand that covered the entire city and its district where many people died ... For thirty days neither the sun, moon, nor stars could be seen.”¹⁹ Unlike most eruptions of this magnitude, Huaynaputina did not involve the collapse of an existing volcano and formation of a caldera. As its Aymara name suggests, this “young affliction” involved the opening of a large new fissure, accurately shown in the upper left of the Arequipa drawing with a realistic representation of pyroclastic flow and tephra fall emanating from the volcano onto a barren landscape (NC [1061–64]; Bertonio 1612, pt. 2, 156, 282).

Several details in Guaman Poma’s representation of the city of Huamanga suggest that it was meant to be a recognizable portrayal of his home region (Fig. 8). The position of the *camino real* entering the city from both sides indicates that the viewer is looking at the city from the east, up toward the high *puna* of Angaraes in the direction where the sun sets (NC [1057]). As Fig. 4 clarifies, the right-hand road continues down the Viñaca River valley toward the colonial capital Lima, while the left-hand road heads up toward the tableland of Chupas and eventually to the Inca capital Cuzco. The annals of the *cabildo* of Huamanga indicate that these roadside crosses were put in place as an early ritual of possession demarcating the town’s boundaries soon after it was established at this locale in 1540 (*Libro de cabildo* 1966

Fig. 7. “La ciudad de Ariquipa” during the 1600 eruption of Huaynaputi-na. Note the great crevasse labeled *rebento volcan*, horizontal pyroclastic flow, vertical tephra fall, and procession of the virgin in the city plaza. GKS 2232 4°, p. [1061], The Royal Library, Copenhagen.



[1539–47], 29–30, 179). Like portrayals of Lima, Cuzco, and the heavenly city in the *Nueva corónica*, Huamanga’s central plaza contains a four-sided, life-giving fountain oriented toward the four quadrants of Tahuantinsuyo.²⁰ Like the *audiencia* cities of Quito and Panamá (but not Chuquisaca), Huamanga’s central plaza is portrayed with a stone pillory (known as *rollo* or *picota*) used for whippings and hangings, which provided an ongoing symbol of the colonial state’s willingness to use formal displays of violence to defend its authority (NC [1057]).²¹ The main church bears a striking resemblance to the Convento de Santo Domingo built in 1549, one of the foes Guaman Poma faced in his land title cases. The temporal dimension of *pacha* is clearly represented in the central square by the decapitation of the

rebellious *corregidor* don Diego García de Solís Portocarrero in 1601, and is given further emphasis in the accompanying account of the historical role played by Guaman Poma's father in the founding of the city and decisive defeat of the *almagristas* at the Battle of Chupas in 1542 (NC [1058]).

As the final section will show, the four trees in the foreground of this portrayal have special significance for Guaman Poma's relationship with this colonial city and the natural environment of his home province. The two stumps in the middle are not images of wanton deforestation. They distinctly show *sauces criollos* or native willow trees (*Salix humboldtiana*) in the process of regrowth after their branches have been cut for use as firewood or fodder—an agroforestry practice known as pollarding. Pollarded willows are also portrayed to the left and front of Guaman Poma's visualization of Huánuco, another city with which he had close genealogical ties through his grandfather.²² The two slender trees framing the image of Huamanga are Andean alders (*Alnus acuminata*), known as *aliso* in Spanish



Fig. 8. “La ciudad de Guamanga.” Looking up and toward the west. Note the twin pairs of alder and pollarded willow trees in the foreground, the *camino real*, and execution of don Diego García de Solís Portocarrero in the main city plaza. GKS 2232 4°, p. [1057], The Royal Library, Copenhagen.

and *lambra* in the local Quechua variant. *Alisos* are one of the most economically and ecologically valuable native tree species of the high Andes and are today an icon of sustainable forestry. Both trees are riparian species requiring abundant water to support their prodigious abilities to reproduce and grow. In the image, they are geographically positioned below the city to the east, where a late colonial map shows green lines of trees growing in the river bottom (*Plano no. 2, 1802*).²³ We can trace many of the perspectives that frame Guaman Poma's denunciation of Spanish colonialism in the *Nueva crónica* back to interethnic conflict over these exact species of tree, which were used to build the doorways, walls, and roofs of the exact buildings portrayed in this image of the colonial city that ruled over Guaman Poma's home province.

Conquest Ecological Imperialism in Huamanga

Highland Peru was exposed to the same forces of conquest ecological imperialism as other "new lands" of the Americas and Pacific. According to Alfred Crosby's original formulation of the concept, European colonization of these regions was aided by a range of Old World microbes, plants, and animals, including a number of species of weeds that tend to prosper in disturbed environments. "Winds" also played an important part in this story, not only as a means of transoceanic transportation as Crosby portrays them, but also as an aspect of climate.²⁴ From an indigenous point of view, woodlands were the environment most dramatically impacted by Spanish colonization of the Andes, however.

Diseases introduced from the Old World certainly had a major impact on the indigenous populations of Huamanga. According to oral traditions preserved by the *relaciones geográficas*, the population of this general area reached its peak during the decades following the conquest of local powers by Topa Inga Yupanqui in the second half of the fifteenth century. Some of this was driven by the natural increase of Angaraes, Lucanas, Soras, Chocorbos, and other original groups who remained a majority in higher districts of the region. The main source of population growth, however, came from other ethnicities known as *mitmaqkuna* brought in from all over the Inca Empire to colonize and farm Huamanga's main river valleys. Ethnic groups specifically recorded as living in the immediate vicinity of the city of

Huamanga in court cases involving Guaman Poma's family include Quichuas, Huancas, Hurin Huancas, Lucanas, Lucanas Andamarcas, Chilques, Changas, Soras, Chuschi Aymaras, Condesuyos, Huauiacondos, Quinitos, Cayambes, Cañaris, Chachapoyas, and Caviñas. The *relaciones geográficas* of Huamanga, Vilcashuaman, Soras, Lucanas, and Lucanas Andamarca are all unanimous that each of these ethnic enclaves spoke its own ancient dialect or language (*huahuasimi*) in addition to the lingua franca of the Inca (*Expediente Prado Tello*, *passim*, esp. 51v, 65r; *Compulsa Ayacucho*, 1r; *Relaciones geográficas*, 1:184, 188, 210–11, 221, 227–28, 238). The Huamanga heartland was one of the most ethnically diverse regions in all of South America during the sixteenth century, a detail that further bolsters Guaman Poma's claim to authority as a spokesperson for trans-Andean experience—as long as we recognize that this diversity also gave his home region unique potential for interethnic conflict.²⁵

A horrible shock in the mid-1520s during the reign of Huayna Capac brought an abrupt end to the era of great fertility that was said to have followed the arrival of the Inca. During a military campaign in the far north near Cuenca, the Inca emperor was sickened, to quote Guaman Poma, by “a pestilence of *saranpión birgoelas*. And the fear of death caused him to flee from the company of men and hide in a cave, where he died.” During the epidemic of disease, civil strife, and famine that followed, “there was no justice; the land was devastated and everything was lost” (NC [114], cf. [1096]).²⁶ As Guaman Poma's usage indicates, early colonial Andeans tended to conflate the viral diseases smallpox (*viruela*) and measles (*sarampión*), both of which tend to manifest themselves by round spots known as *mu* in Quechua (McCaa, Nimlos, and Hampe-Martínez 2004; Cook 2004). This combined ecological and political crisis severely weakened the Inca Empire's legitimacy as protector of Andean society's ability to reproduce, and cleared the way for the Spanish to usurp its authority (Ramírez 2005).

The *kurakas* of AtunSORAS and communities near Huamanga estimated that the regional population was half as large by the mid-1580s as it had been during the days of Topa Yupanqui. The elders of Lucanas Antamarca thought their population had recovered somewhat from the “*cámaras de sangre y sarampión y tos*” (bloody dysentery, measles, pneumonia) and civil wars that had followed the death of Huayna Capac and the arrival of the Spanish—but that was before Huamanga was struck by two more deadly

waves of *viruela sarampión* in 1585 and 1606 that Guaman Poma is likely to have witnessed (*Relaciones geográficas*, 1:184, 220–21, 227–28, 238, 244; Cook 1981, ch. 5). An early *relación geográfica* from 1557 reported an extreme imbalance of women and elderly in towns near the city of Huamanga, indicating that warfare also played a significant role in population decline there. The forced migration of male tributaries to work in the mines of Huancavelica, Castrovirreyna, and other regional locales caused yet another drain on population, resulting in chronic gender imbalances in tributary communities. Many returned home ill from mercury poisoning—if they returned at all—and tributary populations continued to drop from death or flight well into the seventeenth century. For example, the *repartimiento* of Caviñas, to which part of the population of Chupas belonged, declined from an official total population of 560 circa 1570 to 365 in 1610, with the largest drop among aged males (*Relaciones geográficas*, 1:176, 260–284; Cook 1975, xxviii, 273).

When looking for explanations for the success of Spanish colonialism it is important to recognize that European peoples were hardly immune to these maladies. The first colonists of Hispaniola and the Darién also died in great numbers from epidemics and malnutrition. Plague, smallpox, “the new sickness” (whooping cough), subsistence crises, and war caused population losses of a third or more in many parts of the Old World during the Little Ice Age and General Crisis lasting from circa 1570 to 1720 (Sauer 1966, 86, 97, 148, 250–51; Parker 2013; Neukom et al. 2014). We also should not exaggerate the long-term impact of colonization on the ethnic makeup of Huamanga. Of the 25,821 people who lived in the jurisdiction of the city of Huamanga in 1660, 20,373 were classified as *indios*, 5,279 as mestizo or black, and only 169 as *españoles* (González Carré, Gutiérrez, and Urrutia Ceruti 1995, 61).

Older ways of thinking about climate directly influenced the foundation of Huamanga as a Spanish settlement. For early modern Europeans as well as Andeans, “climate” was a much broader concept than it is for us today. It included sensible properties such as hot, cold, wet, and dry; it encompassed seasonality and the possibility of extremes; but it was far more concerned with the geographical constituents of place, and most of all, with a place’s suitability to specific “kinds” of individual, organism, or ethnicity, and to particular cultural practices. Moving from one clime to another was considered a risky enterprise, and early colonial commentators often blamed

migration to a “very different climate” governed by “new stars” for poor health (*Relaciones geográficas*, 1:184; Stern 1982, 117).²⁷ The rainy season was a particularly dangerous time for travel, according to Guaman Poma. Besides the hazards posed by flooded rivers and muddy roads, *serranos* journeying to the lowlands during this time of year risked coming down with dysentery, skin diseases, both kinds of malaria, “*mal de valles*,” or being struck by lightning (NC [1174]).²⁸ Such comments on astral influences should not be dismissed as superstition. The ability of Andean seers like Juan Yunpa to read the heavenly bodies and decide when it was best to plant or harvest was highly specific to the microclimate of particular locales. The disruption of a person or community’s relationship with place and the carefully timed rituals that allowed them to thrive in a locale could mean the difference between prosperity or poverty, life or death, reproduction or extinction of an ancestral line (see Bolin 1998).

The Spanish established their first outpost in the Huamanga region to serve as a military stronghold protecting the main highway connecting Cuzco to Lima and the rest of Chinchaysuyo from attack by the neo-Inca forces of Manco Inca based at Vilcabamba in the wild *montaña* to the north. The original founders of San Joan de la Frontera de Huamanga initially chose to settle at the town of Quinua, which was strategically placed on a roadway heading down to the coca fields of the *montaña*, rather than at the region’s main ceremonial and administrative center Vilcashuaman, where the Inca had built a fabulous stone temple to the sun and a large complex of storehouses and barracks at the exact halfway point on the Inca highway system between Quito and Chile. On April 1, 1540, the *alcalde* called together the *cabildo* to consider relocating from Quinua, which was “too cold in winter as well as summer,” often “full of mud and fog,” and dangerously hemmed in by *quebradas* (steep valleys), which could prevent escape in case of an attack. Those who favored staying at Quinua cited its abundant woodland, water, pasture and farmland, contiguity to indigenous settlements, and fine buildings. Most preferred relocating to the tableland of Chupas, which was adjacent to the *camino real* but had scanty water supplies. Cocha (Huamanguilla) was also considered, but many considered it too hilly and surrounded by *monte* to be defensible, plagued by “many mosquitos and loud singing bugs during summer,” and “way too hot” for good health—especially if indigenous populations from higher up were to move there.

After visiting the candidate sites, the *cabildo* decided to move San Joan de la Frontera de Huamanga to a tableland known as Pucaray for a small indigenous fortress that stood there. It lay just a short distance below Chupas on the *camino real* between two *quebradas* on the well-wooded banks of the Pinagua River (*Libro de cabildo*, 28–31, 50; Cieza de León 1984 [1553], vol. 1, bk. 1, ch. 86–87, 112–13; *Relaciones geográficas*, 1:181–82; Plano no. 2; González Carré, Gutiérrez, and Urrutia Ceruti 1995, 32–35, 140–48, 206–7). As Guaman Poma so often did for events of historical importance, he placed his father don Martín Guaman Mallqui de Ayala at the scene when the site was rechristened as a Spanish town (NC [1058]; *Expediente Prado Tello*, 52r).

Guaman Poma was by no means alone in considering this new settlement and its hinterland to have “the best climate in the kingdom” (NC [1058]). The city of Huamanga sits in the mid-altitude ecoregion known then and now as *quichua*—just like Cuzco and the *quichua*-speaking valleys of the Inca heartland from which this ecoregion got its name. Compared to other altitudinal environments, the *quichua* zone is “neither cold nor hot,” but still has seasonal differences. The dry “summer” season in Huamanga, then as now, is typically announced by strong winds blowing from the south in May and June, which provide ideal conditions for drying many kinds of food for long-term storage. During these months, frost can occur even at temperate altitudes. According to Guaman Poma’s understanding, strong easterly winds blowing from the distant Atlantic announce the next seasonal change in August and September, when old timers have traditionally watched the skies for signs of what the coming growing season will bring. Sometimes the rainy “winter” season can arrive as early as October—an almost sure sign of a plentiful harvest, and an occasion for feasting—but water more typically remains scarce through the month of November, “the month of irrigation,” when the year’s early-sown crops will fail unless carefully tended. In most years, the rainy season begins in earnest in December and peaks in January through March. Although many of these climatic details also apply to higher and lower altitudes and more distant locales, it is important to recognize that Guaman Poma’s portrayals of agriculture in the *Nueva corónica* apply first and foremost to the *quichua* zone of Huamanga (NC [1141–75]; *Relaciones geográficas*, 1:177, 182–83, 227, 238).

As these drawings repeatedly emphasize, maize (*Zea mays*) was the traditional staple of *quichua* lands, but Huamanga’s early prominence as a Span-

ish settlement actually rested on the ability of Old World wheat (*Triticum aestivum*) to thrive in this area. According to Cieza de León, the Huamanga area had already acquired a reputation for producing the finest and most abundant wheat and bread in all of Peru at the time of his visit in the mid-1540s (Cieza de León 1984 [1553], vol. 1, bk. 1, ch. 87, 113). Wheat quickly became an important item of tribute for communities in the *quichua* eco-region of Huamanga. The *visita general* of 1570, for example, required the *repartimiento* of Caviñas to produce 45 *fanegas* of wheat and 95 of maize each year as taxation—about 75 liters of grain per tributary male (Cook 1975, 273). In order to ensure a decent crop, many communities planted twice: an irrigated crop once the danger of frost had passed in August or September, and a rain-fed crop when the wet season began in earnest in December (NC [1162, 1165, 1174]). As community production declined, estate production of wheat emerged as a major source of wealth for entrepreneurs of various ethnicities who supplied Huancavelica and other nearby mining centers with their daily bread—too often leaving Huamanga with little bread of its own (Stern 1982, 109, 111; Urrutia Ceruti 1985, 160–66).

As the hand-drawn map Guaman Poma produced for his family's court cases illustrates, Huamanga's *quichua* zone was defined by the existence of river valleys. The Huatata valley descending from the tableland of Chupas had the most reliable water supply and agricultural land of greatest value during the colonial era. The Huatata also powered the gristmills that produced the flour from which Huamanga's famous bread was baked. It joined the Yucay and Pinagua to form the Río Viñaca just below the town of Huamanga, soon to be joined by the Río Cachi on its way down out of the *quichua* region to the Amazonian lowlands. Settlements belonging to a larger river known at various points as the Choclococha, Colcamayo, Cayhuachaca, Vilcas—or simply as the Río Grande—stretch along the upper (southern edge) of the map. This river should not be confused with the Sanayaco shown in the upper left corner, a tributary that flows into the Río Grande near Vilcashuaman and that marked the boundary between the city of Huamanga's hinterland and that province (*Expediente Prado Tello*, 52v–53r; *Relaciones geográficas*, 1:183–84, 206–16).²⁹ The Inca highway curving up from the “*tanbo rreal* and rope bridge” on the lower right, past the *tambo* and *tambillo* of Chupas and Yllahuasi, to the *tambo* of Vilcashuaman on the upper left,³⁰ was also viewed as a basic dividing line separating the warm valleys

of the province on the left-hand side of the road from the “flat, high, open, cold,” and thinly peopled grasslands referred to as “puna or xalca” on the right-hand side (*Relaciones geográficas*, 1:177, 227). This ecoregion stretches for great distances to the west and south, and included the upland provinces where Guaman Poma spent several years of his life holding the grandiose title of “*governador de los yndios y administrador de todas las comunidades de la Provincia de los Lucanas y Soras, Andamarca y Sircamarca*” (*Expediente Prado Tello*, 55v).

The area of irrigable land was actually quite small in these deeply incised valleys (and a source of perennial dispute), but over the generations, farmers had developed an intricate pattern of land use and inheritance designed to take advantage of slight differences in slope, soil, exposure to sun and wind, and altitude in order to maximize the productivity of valley lands. A 1595 court document involving Guaman Poma’s half-brother and “*yanacona del hospital*” Martín de Aiala, Martín’s daughter Ysabel, and other kin in a dispute over several plots of land in the vicinity of Santa Catalina de Rantavilca de Chupas details the ways in which this late sixteenth-century indigenous community made use of this vertical landscape. According to their testimony, nearly every part of the archipelago of island-like tablelands of the Chupas region and the steep slopes that surrounded them had been improved “a million times over” by the hands of their ancestors. The lowest, steepest, best-watered, but most flood-prone part of these valleys, referred to as *yunga*, had plots of cold-sensitive *ají chiles* (*Capsicum* spp.) and at least a dozen different kinds of planted tree, including three fruit trees emphasized in Guaman Poma’s portrayal of indigenous horticulturists: the pod-bearing *pacay* (*Inga feuillei*), a type of guava known as *saguinto* (*Psidium sartorianum*), and “a great number of peaches” (*Prunus persica*) introduced from Europe (NC [879–80]). Above this, on irrigated terraces in *el medio chaupi yunga*, they planted maize, string beans (*Phaseolus vulgaris*), and *maguey* (*Agave* spp.). On gentler, more exposed slopes and flatlands above that, “next to the puna,” they planted rain-fed wheat, potatoes, the root crop *oca* (*Oxalis tuberosa*), and the high-protein grain quinoa (*Chenopodium quinoa*). Beyond that began the “very cold” zone proper to domesticated animals, with fenced and open pasture and scattered paddocks for “llamas, sheep, mares, cows, and pigs.” It stretched some distance to the “cordillera

and hills of Toctocaxa” and the pastures of the Chuschi Aymara in the Río Grande watershed (*Expediente Prado Tello*, 65r–66r).

This only begins to enumerate the native and introduced plants cultivated in the Huamanga region by the late sixteenth century. The *relaciones geográficas* and *Nueva crónica* also make explicit reference to sweet potatoes (*Ipomoea batatas*), zapallo squash (*Cucurbita maxima*), poroto beans (*P. vulgaris*), several native tropical fruits, introduced figs, olives, grapes, melons, quinces, apples, pears, cherries, limes, lemons, oranges, grapefruit, garbanzos (chick peas), and “all of the legumes of Spain” as being grown in the valley bottoms of Huamanga, Vilcashuaman, Soras, Lucanas, and Lucanas Andamarca. In higher and less protected locales, farmers also grew the native tubers olluco (*Ullucus tuberosa*) and mashua (*Tropaeolum tuberosum*) and introduced barley (*Hordeum vulgare*). Market farmers along the Huatata rotated their grain crops with thirsty alfalfa (*Medicago sativa*) brought from the Mediterranean, while upland farmers had long rotated their plantings with tarhui (*Lupinus mutabilis*), an indigenous analog to the *altramsis* of Spain. These nitrogen-fixing legumes not only provided nutritious cattle fodder, but also helped maintain the fertility of the soil, as did the application of other green, animal, and perhaps human manures. The Atunlucanas and AtunSORAS living higher up were well known for cultivating yuyo, a generic terms for edible greens well known to Guaman Poma, which could be dried or eaten fresh and prepared with salt and spicy ají (*Relaciones geográficas*, 1:190–92, 206, 212–18, 234, 245–46, 248; NC [1141–75]; Cook 1975, 270–71; *Expediente Prado Tello*, 65r–65v). Guaman Poma also lists a number of Old World vegetables, herbs, and flowers grown by indigenous horticulturists in house gardens: cabbage (*Brassica oleracea*) and lettuce (*Lactuca sativa*) were often grown to pay tribute, as were “onions, garlic, cilantro, parsley, mint, radishes, mustard, roses, carnations, fennel, borage, turnips, and other vegetables for the whole world” (NC [880]).³¹ A full listing of medicinal plants grown by these communities would be longer still.

Like many Andean settlements, Santa Catalina de Rantavilca de Chupas had formal relationships with distant lands providing items that could not be produced locally. Colonists living in the *montaña* communities of Chilcampa, Pata, and Vitococa far to the north traditionally owed eight baskets of coca during each *mita* cycle as tribute to the Congachuri Caviña ayllu of don Juan Tingo, *segunda persona* to Guaman Poma’s father as *caciques* of Ran-

tavilca. Such relations also involved the local settlement of colonists from other regions and ethnic lines in reciprocity for providing labor and other services. According to the testimony of several elders taken at Rantavilca in November 1594, including the aged daughters of Juan Tingo and “Martín de Ayala Prinsipal andamarca,” at the time of the founding of Huamanga, don Juan had been required to give over half of his lands and a great number of alder trees on the tableland of Chupas to settlers from a number of ethnicities, including the Andamarcas, in reciprocity for labor they provided in building canals in the district to serve the new Spanish city. To this day, one of the oldest barrios in Ayacucho is known as Andamarca. It lies on the southern edge of the old city, just across the river from the old road to Chupas, astride the main canal that brought water into the original city. This bit of local testimony suggests that Guaman Poma’s parental line may have derived from *mitmaqkuna* resettled from Andamarca to Chupas at the time of the conquest, and it has inspired speculation that Guaman Poma may have been born in this same neighborhood of old Huamanga (*Expediente Prado Tello*, 60v–61r; González Carré, Gutiérrez, and Urrutia Ceruti 1995, 144, 184, 187).

At both local and regional geographical scales, the small pueblo of Chupas exemplified the “vertical archipelago” of settlements, land and resource rights, and social relations that traditionally provided for the subsistence, reproduction, and well being of family and ethnic lines in the Andes (Murra 1972). As this dazzling list of cultivars makes clear, the productivity of this varied landscape ultimately derived from the spectacular diversity of crop plants and varieties available to Andean farmers (Zimmerer 1996). Even though indigenous communities in Huamanga greatly resented having to produce set quantities as tribute, the evidence in these sources strongly suggests that they were quite enthusiastic about the adoption of Old World plants brought to the Andes by Spanish colonists and their African slaves. At least where plants were concerned, Andean peoples saw themselves as benefiting greatly from the Columbian exchange (Crosby 1972; Carney and Rosomoff 2010).

The first generation of Spanish *vecinos* also acquired their own “vertical archipelago” of land holdings to accommodate the differing requirements of crop and cattle raising and the support of native dependants (*yanacona*) (González Carré, Gutiérrez, and Urrutia Ceruti 1995, 34; *Libro de cabildo, pas-*

sim). The available evidence indicates that immigrant Spaniards were also well aware of strategies for maintaining the fertility of agricultural plots, and they greatly depended on indigenous labor and know-how on these matters during the early colonial period in any case. We should not assume that colonial agriculture resulted in large-scale soil exhaustion in Huamanga, as it often did in the Caribbean and the “neo-Europes” of North America and the Antipodes (Cushman 2013, ch. 1–3; Watts 1987). Today, Huamanga’s bygone “age of wheat,” before the greed of the *hacendados* caused indigenous autonomy and prosperity to turn to dust, is actually remembered with fondness among the inhabitants of Chupas (Macera 1991, 15–16).

Huamanga also rapidly emerged as an important center for raising domestic animals from the Old World. According to Cieza de León, the Viñaca valley already had large numbers of rock pigeons (*Columba livia*) when he passed through in the mid-1540s. Pigeons are an often overlooked example of the “portmanteau biota” discussed by Crosby that thrive in humanized environments, in this case specially adapted to the “forest of churches” for which Huamanga became famous (Cieza de León 1984 [1553], vol. 1, bk. 1, ch. 87, 113; Crosby 1986; González Carré, Gutiérrez, and Urrutia Ceruti 1995, 169–70). By the 1580s, cows, horses, donkeys, mules, sheep, goats, and ducks were all present, even in remote districts of the region. Pigs and chickens were especially numerous, and the latter appear repeatedly in Guaman Poma’s drawings. According to the *visita general* of 1570, a total of 12,676 chickens and 1,099 pigs were theoretically owed each year as taxation by tributaries living in the jurisdiction of Huamanga. The proliferation of these animals was undoubtedly a boon to native predators, and would explain a campaign by city officials to require male tributaries to produce one dead condor each year, which were known to kill newborn calves and colts. Old World livestock were also subject to the vagaries of climate, disease, and neglect, however, and their numbers did not grow inexorably. In fact, they had dropped noticeably in Atunlucanas by the mid-1580s, despite the partial recovery of the area’s human population. As for wheat and other foodstuffs, the growth of mining districts generated the greatest demand for meat, wool, hides, tallow, and draft animals—both indigenous and introduced (*Relaciones geográficas*, 1:184, 193, 234; Cook 1975, 257–84; Urrutia Ceruti 1985, 32; Stern 1982, 99, 240).

The reallocation of rights to land for grazing impacted far greater swaths

of territory than cultivated fields, and more directly subverted indigenous land tenure systems that had existed under the Inca. According to legal tradition developed during the course of the Iberian *reconquista*, uncultivated lands known as *tierras baldías* belonged to the king, and the pasture, wildlife, woodland, and other resources of these common lands could be used theoretically by anyone (Vassberg 1984). On January 23, 1546, the *cabildo* declared that all lands not currently occupied or cultivated by indigenous communities for several kilometers around Huamanga henceforth belonged to the city, to serve as “*pastos comunes*.” This officially eliminated all traditional rights that indigenous groups had in this area beyond their cultivated lands. The markers that the “first conquistadors” placed across the landscape, as illustrated on Guaman Poma’s map, extended the boundaries of the city to include over 100 square kilometers—from the banks of the Viñaca River to the first *quebrada* of the tableland of Chupas (*Libro de cabildo*, 179–80; *Expediente Prado Tello*, 52v–53r).

The rights of conquest also gave Spanish municipalities the authority to grant entitlements to private property within their jurisdiction. One of the main activities of the *cabildo* during its early years was the granting of *mercedes* in the vicinity of the city. This included formal grants to Spanish *vecinos* as well as indigenous communities, as in the case of Lieutenant Lorenzo de Aldana. In June 1543, he asked the *cabildo* for a huge *merced de estancias* in the vicinity of Chupas:

for pasture and placement of cows, sheep, pigs, other livestock, and mares, from Pinagua to the river that is in the extremity of Cangallo, [and] from the *cordillera de la syerra* to the large river that is between the *yndios* of said lieutenant ... [and] the *yndios* of Pedro Díaz, and also requests ... that his *yndios* be given a place in Chupas and Pinagua where they would want thirty *fanegadas* of land to put under cultivation. (*Libro de cabildo*, 126–27; cf. 130)³²

Due to its proximity to the city and *camino real*, the tableland of Chupas was especially attractive to ranchers, and its development was closely tied to that of Carmen Alto and San Juan Bautista—two barrios on the opposite bank of the river from the city center that became the main marketplace for cattle, meat, and mule transport for the whole region. The river itself

within this urbanized area became known as La Tenería, for the many tanneries producing cordovan leather and dye works that sprouted up on its banks (Murúa 2008 [1616], 272r; González Carré, Gutiérrez, and Urrutia Ceruti 1995, 180, 183; Stern 1982, 91). By the end of the sixteenth century, Chupas had been divided among dozens of claimants—Spanish, mestizo, and indigenous—including Guaman Poma, who owned summer and winter corrals for cows, sheep, and goats at five separate locales.³³

The trespass of cattle and ranchers onto cultivated lands was a ubiquitous complaint in the early colonial Americas, and could have tragic consequences for indigenous land tenure and subsistence. Chupas was no exception. In 1586, the *reducción* of Pocolilca sued Alonso Hernandes Alvites, a Spanish *vecino* of Huamanga, for forcibly removing their fields of maize, potatoes, and fallow lands on the *loma* of Motoy in order to establish a cattle ranch. To make matters worse, Hernandes allegedly allowed cows to destroy the canal that fed their fields. He countered that the disputed lands were “in the *puna* and very cold,” and after an inspection, the court confirmed his title based on the finding that he had improved what had been wild *tierras baldías* by constructing fences, corrals, and outbuildings (*Expediente Prado Tello*, 38v–42r; cf. 43v–48v). This was a typical outcome of cases like this, and there is no reason to doubt that cattle caused substantial environmental degradation in heavily impacted locales. Nevertheless, we should not jump to the conclusion that “a plague of sheep” and other Old World livestock ate indigenous populations out of existence or caused large-scale desertification in the Andean highlands during the sixteenth century.³⁴ Andean peoples were already intimately familiar with llamas and alpacas, of course, and the herding economies of the Lucanas, Lucanas Andamarcas, Soras, and other upland ethnicities appear to have prospered, for the most part, between the suppression of the Taki Oncoy rebellion of the 1560s and inklings of a widespread crisis among these herding peoples during the 1640s (Stern 1982, 231, 249–50). Guaman Poma, for his part, welcomed cows, sheep, and goats—at least when they belonged to him or his kin.

Trees and Inheritance

These court cases reveal one area in which Spanish colonization of the Huamanga countryside had an indisputable impact on the environment

and indigenous patrimony: riparian woodlands and cultivated trees. The *relaciones geográficas* make glowing reference to the abundance of woodland in the temperate valleys of Huamanga. Under the Inca, wood had been a major item of tribute from the region, and had been carefully accounted for using knotted *quipu*. According to Murúa, a special office known as the *malqui camayoc* existed to regulate the planting and care of wood- and fruit-bearing trees. He strictly prohibited the cutting of planted trees until their fourth year of growth, and possessed the authority to harshly punish those who wastefully cut beyond what they needed for subsistence (Murúa 2008 [1616], 270v–271r; Gade 1999, 54, 61). For Guaman Poma, everything had its proper time and place. The beginning of the dry season was the best time for woodworking, and the weeks just before the arrival of the yearly rains marked the time when wood needed to be cut and stored. Then and now, the gathering of firewood was an important daily occupation for both



Fig. 9a–b. The age groups of men and women, showing a girl aged twelve and a man aged sixty gathering firewood. Every age had something productive to contribute. GKS 2232 4^o, pp. [227; 198], The Royal Library, Copenhagen.

males and females, young and old (*Relaciones geográficas*, 1:178; NC [198, 227, 1157, 1169] (Fig. 9a–b).

Commonly propagated tree species living in the mid-altitude *quichua* ecozone (~2,500–3,500 meters) served a host of uses. Native willow trees (known as *sauces* in Spanish, *huayaco* or *huayao* in Quechua) favor the wettest locales and play a vital role in stabilizing riverbanks and preventing erosion. They can provide firewood and dry-season forage on a sustainable basis if they are pollarded and protected from unintended browsing by cows and goats. *Quishuar* (*Buddleja* spp.) have exceptionally dense, strong wood that is a favorite for making household utensils, including the *chaquitacla* foot plow. It is easily carved and was used for making sacred images and cups (*qeros*) well into the colonial period. *Quishuar* also burns well, even during the rainy season, and is particularly good for making charcoal, while its leaves are high in phosphate and can be composted for use as fertilizer or fodder. Cut-down *quishuar* trees will quickly send out new shoots—the basis for a sustainable forestry practice known as coppicing. New trees were preferably propagated by cuttings, which establish themselves rapidly as long as they are fertilized, irrigated, and sheltered from the elements. *Quishuar de puna* and *chachacoma* (*Escalonia* spp.) can handle higher, colder areas and in the latter case provide a host plant for an edible butterfly, as well as valuable wood. *Molle* trees (*Schinus molle*), known elsewhere as *piru* or California pepper, are now a widespread ornamental and invasive species in semi-arid environments around the world thanks, in part, to their enthusiastic transplantation by Spanish colonialists. *Molle* tolerate drier locales, but flourish around irrigated fields. Besides having hard, durable wood and insect-repellant resin, the red berries of this species were traditionally used to produce an antibacterial salve invaluable for curing battle wounds, to mummify the bodies of the ancestors, and to brew the *chicha* that archaeological investigations have shown provided an important marker of ethnic identity for the Wari elite, an empire preceding the Inca that had its start in the Huamanga region (Goldstein, Goldstein, and Williams 2008). Mid-altitude horticulturists successfully introduced *pacay*, *saguinto*, *pati* (*Carica augusti*), *psonay* (*Erythrina falcata*), *nogal* (*Juglans* spp.), and *cedro* (*Cedrela* spp.) from lower elevations for their fruit and wood, and, in the case of *Chupas*, also rapidly embraced the cultivation of European fig (*Ficus carica*), olive (*Olea europaea*), and, above all, peach trees. These

tree species attained new importance during the early colonial period in the design of fence rows needed to keep European-derived animals out of household gardens. As further evidence of their local cultural importance, *quishuar*, *molle*, and *lambra* frequently occur as place names in the Chupas district (*Expediente Prado Tello*, 54v–55r, 57r, 61v 65v; *Relaciones geográficas*, 1:183, 208, 210–18, 223–24, 231, 233, 245; Murúa 2008 [1616], 302v; Cobo 1891 [1653], vol. 2, bk. 6, ch. 2, 42, 49, 78; Sherbondy 1986, 7–9; Gade 1999, 46–47, 55–56, 59–63).

Andean alder (also known as *aliso* or *lambra*) was the most ecologically and culturally significant mid-altitude tree in the Huamanga region. In Bernabé Cobo's evaluation, it was "the most widespread tree of its kind that can be found in all of the provinces of Peru" (Cobo 1891 [1653], vol. 2, bk. 6, ch. 2, 11). Its multitude of attributes include:

- The ability to seed themselves, tolerate transplant to new locales, and colonize new ground.
- Relative tolerance for dry sites and a variety of soil types.
- Very fast growth rates, forming straight trunks up to 14 meters high with few large branches and soft, easily worked wood.
- Deep, spreading roots that do not steal resources from adjacent plants and are good for shoring up slopes, preventing erosion, and rapidly cycling nutrients back to the surface.
- Symbiosis with nitrogen-fixing bacteria, enabling them to tolerate nutrient poor soils.
- As a deciduous tree, they help enrich the topsoil; composted leaves have nitrogen levels comparable to cow manure.
- Both fresh and dried leaves can supply nitrogen-rich fodder to livestock.
- Their upright growth and rooting characteristics makes them especially well suited for constructing living fence rows and windbreaks.
- Coppiced trees regrow when cut close to the base, and can provide a sustainable source of lumber and firewood if protected from browsing.
- Studies show that alder leaf litter provides a major food source for stream invertebrates in Andean waterways, which are essential to

maintaining high biological productivity and fish stocks in nutrient-poor, oligotrophic waterways.

- Alders recover quickly from fire and severe floods—and are therefore exquisitely adapted to El Niño-prone regions (Chepstow-Lusty and Jonsson 2000; Easdale, Sabaté, and Grau 2005; Rios-Touma, Encalada, and Prat Fomells 2009).

Paleoecological reconstructions of plant cover in the central Andes show that alder populations grew rapidly during the centuries preceding the arrival of the Spanish, strongly suggesting that the Inca, and perhaps the Wari, encouraged their proliferation as part of agroforestry systems. (The same is true to a more modest extent for *molle*.) This same evidence shows alder numbers have declined in recent centuries, particularly after *Eucalyptus* was introduced to the Andes, beginning in the late nineteenth century, and replaced them as the *quichua* ecoregion's most common tree. Pollen counts from Lake Pachuca in a neighboring province, just a few kilometers from the city of Andahuaylas, provide the best analog in the literature for ecological conditions around Huamanga and Chupas. They show a marked decline in alder and maize pollen during the colonial period. This was paralleled by an abrupt increase in *Ambrosia arborescens*, an indigenous herb species that thrives in pastures, abandoned fields, and disturbed ground. It is known regionally as *marco* or *altamisa* and was recognized back then by *indios* and Spaniards alike for its medicinal properties. Today, it is just as thoroughly despised by northern allergy sufferers who know it and its relatives as ragweed (*Relaciones geográficas*, 1:234; Gade 1999, 64–65; Sublette et al. 2012; Valencia et al. 2010).

These are strong indications of deforestation, depopulation, and the sort of disturbance caused by livestock grazing, which provide independent evidence of the kind and extent of environmental change that accompanied Spanish colonization. Some of this was an unintended consequence of the introduction of Old World livestock, microbes, and plants.³⁵ But one of the most glaring changes to the regional landscape and ecology—the destruction of *aliso* and other trees—was a direct consequence of the conquistadors' prodigious demand for wood.

Spanish building practices were a major culprit. When Cieza de León visited in the mid-1540s, he thought Huamanga had “the largest and best

houses that there are in all of Peru, all made of stone, [adobe] brick, and tiled roofs with large towers, in such a manner that there is no lack of places to sleep" (Cieza de León 1984 [1553], vol. 1, bk. 1, ch. 87, 113).³⁶ Forty years later, the *relaciones geográficas* remarked that the buildings of Huamanga bore a great resemblance to the cities of Spain, with many churches, gabled roofs, large rooms, and corridors. Alder logs were the preferred material used for lintels, posts, beams, and rafters, with the largest trees going to the roof's main ridge beam. As a form of conspicuous consumption, Spaniards and those who aspired to their seigniorial lifestyle liked to put a second storey, balconies, and towers on their dwellings, which dramatically increased their use of wood. To protect their walls from the elements, many sixteenth-century buildings had their whole exterior covered with young alder poles or stalks of *magüey* (*tollo*), a material that also found its way into the matting that underlay the city's celebrated tile roofs. Religious buildings used wood more extravagantly still, and could have their entire roofs built from alder beams and planks, often vividly painted, although they favored *cedro*, *nogal*, or *quishuar* when they could get it because they were more durable and could be ornately carved. Firing clay tile, the preparation of stone mortar and plaster, baking bread, roasting meat, smelting, and smithies, meanwhile, all required ongoing supplies of fuel wood. Early colonial Huamanga was a city built from wood and powered by local woodlands (*Relaciones geográficas*, 1:194–95; Gade 1999, 55–56, 58–59).

Indigenous-style dwellings in the Huamanga region, even for *caciques*, were much smaller and encapsulated the vertical ecology of the region. The use of wood was usually restricted to the roof, with alder reserved for the main beam and rafters, strong *chachacoma* and *quishuar* for smaller rafters and purlins, *magüey* stalks or *titora* reeds (*Schoenoplectus titora*) for the lath—all woven together with rope and thickly covered with *ichu* grass thatch (*Festuca ichu*) harvested from the *puna*.³⁷ Except for an occasional prestige building built from dressed stone, the rest of the building was constructed almost exclusively from a mixture of clay and rough stone, though the Lucanas liked to cover their walls with stalks of *magüey*. Indigenous households also rarely used wooden doors, shutters, tables, benches, or other furniture, and restricted their use of wood to household implements. In Bernabé Cobo's evaluation, a Spanish household might consume as much wood in a day as a typical indigenous household did in

a month. Indigenous cooking methods used a fraction of the fuel, and the use of wood for household heat was almost unheard of (Cobo 1891 [1653], vol. 2, bk. 6, ch. 1, 6–7; *Relaciones geográficas*, 1:176–77, 208, 218–19, 224, 231, 234–35; Nair and Hastorf 2014).

It is important to recognize that Spanish colonists were familiar with similar European species of alder and willow, and at least some would have known how to coppice, pollard, and protect them from overgrazing in order to sustain wood supplies. Iberian colonists came from a region where wood conservation was an engrained practice on both private and common lands (Grove and Rackham 2001, esp. 48, 52, 55, 88, 101, 144–45). Depletion of wood resources nevertheless became a severe problem in some of the viceroyalty's most important regions. The Lima *audiencia* began investigating the overexploitation of trees in the vicinity of Cuzco and Urcos in 1549, leading to a temporary ban on cutting by the viceroy in 1556. In 1590, the Cuzco *cabildo* assigned an indigenous parish to replant steep hillside valleys below the city with *aliso*, *quishuar*, *chachacoma*, and high-altitude *quiñuar* (*Polylepis* spp.), and it established an *alcalde de las arboledas* with the authority to punish illegal cutting that was elected annually by the parish until 1646 (Sherbondy 1986, 16–18, 20–22). Mining and urban development had a prodigious impact on mid- and upper-altitude forests in what is now central Bolivia. According to a legend related by Murúa, the silver deposits of Potosí were originally discovered by an Aymara shepherd searching for members of his flock lost in a large *quiñuar* thicket on the now barren slopes of the red mountain (Murúa 2008 [1613], 379v). As part of the Toledan reforms of the 1570s, regional authorities began requiring permits for *cedro* cutting, banned charcoal-making and bark gathering for tanning within 15 kilometers of the mines, prohibited the burning of *puna* grassland and woodland from the beginning of the dry season to August 15 each year, and mandated a six-year regeneration period for slow-growing *quiñuar*. One reformer proposed systematic reforestation of the region's mid-altitude valleys using introduced peach trees, which could be pollarded on a three-year schedule for fuel wood. By all indications, these state-led attempts at conservation utterly failed to prevent progressive deforestation of valleys in northern Chuquisaca, which helped turn the rural hinterland of Sucre and Potosí into one of the most desertified and impoverished districts of modern Bolivia (Gade 1999, 66–73).

Local governmental authorities also made at least some effort to deter the overexploitation of wood in the immediate vicinity of Huamanga. On October 18, 1543, the *cabildo* officially recognized that

so many citizens of the town and their *yanaconas* and *yndios* ... had cut and commanded the cutting of groves of *molles* and *sauzes* and other trees that were in the vicinity of this town ... and having done so have destroyed them together with the soil to the great damage and injury of this town and its residents ... It is so ordered and mandated that no one ... of any status and condition will dare to cut or order to be cut any willow or pepper tree for a space of half a league around this said town ... Any citizen Spaniard, resident, or inhabitant that cuts them or orders them to be cut ... will incur a fine of 15 gold pesos ... and any *yndio* or black or *yanacona* that cuts them will be given 50 lashes in the main plaza on its pillory. (*Libro de cabildo*, 132)³⁸

But even if this law had an effect, it merely displaced the problem to the outskirts of town—to the tableland of Chupas.

Court cases involving Guaman Poma, his kin, and neighboring communities dating from the 1580s and 1590s indicate that this tableland's extensive groves of *aliso* were what made it so attractive to colonization. In the case of Guaman Poma's most daunting foes, the Chachapoyas, their original request to resettle at Chiara and the municipal court's decision to grant their petition rested to a significant extent on the "*muchos alisos . . . y mucha leña*" that could be found in *quebradas* surrounding these supposedly abandoned lands (*Compulsa Ayacucho*, iv, 5v–7r.). Some of this cutting was done with the consent of older claimants. In one instance from the 1570s, Guaman Poma's half-brother Martín de Aiala traded the right to cut wood with another *yndio* for a flock of llamas, but it was far more common—as in the case of the Pocovilcas' new next-door neighbors, the Chiara Chachapoyas—that colonists simply took advantage of the status of woodland under Spanish law on *tierras baldías* to come in and cut trees and firewood at will (*Expediente Prado Tello*, 40r, 66v). The free cutting of alder trees was particularly grating to older indigenous claimants because, despite their appearance, for them these trees were anything but wild. For Guaman Poma and the Pocovilcas, these trees were just one of a long list of things that had

been “planted by their own hands” and those of their ancestors, according to rules of stewardship put in place by the original conquerors who had first civilized these lands back in the days of the Inca. According to the Andean sensibility regarding the establishment of ownership over a place, planting a grove of *aliso*, *molle*, or *quishuar* was little different than planting an orchard of peach trees or *chacra* of maize, or building a canal or a church (*Expediente Prado Tello*, 54r, 56r, 61v; Sherbondy 1986, 14–15). Better yet, *aliso* would keep growing for years, granting fertility to soil and stream long after their planters were gone, even if they were not well cared for.

The symbolic associations attached to *aliso* go much deeper than this. Even the words used to describe them betrayed their connection to reproduction and ancestry. In Quechua as well as Aymara, *malqui* can mean “a young plant ready to be transplanted,” a sprout, a sapling, or almost any fruiting body. *Malqui* can also mean an ancestor (who by implication was fruitful), or the literal body or mummy of a dead ancestor. In both colonial and modern usage, *malqui* provides the root for a whole class of words related to planting and forestry (Santo Tomás 1951 [1560]; González Holguín 1952 [1608]; Sherbondy 1986, 7, 9). “Sapling” and “ancestor” might seem like opposites, until one recognizes that the one generates the other, *ad infinitum*. Carolyn Merchant’s concept of modes of reproduction challenges us to give studious attention to the social and ecological practices that enable a lineage, society, or species to perpetuate itself, and how these practices have been transformed by historical revolutions. Such concerns are embodied by the Andean concept *malqui*, and they are pivotal to understanding the motivations, rhetoric, and outcomes of legal disputes over forest resources and place in early colonial Huamanga.

Guaman Poma started the September 1597 presentation of his court case against the Chachapoyas and other usurpers of his family’s domain, as well as the *Nueva corónica*, with letters to the king and his representatives presenting the story of his father don Martín Guaman Mallqui de Aiala. As his third name overtly declares, his father was a *bearer of fruit*, not only through the act of giving birth to Guaman Poma and his kin, but through all the attendant activities that ensured their well-being and reproduction. The name provided for his grandfather “*capac apo Guaman Chaua*. . . *capitán general de los Chinchay Suyos*,” had similar implications. According to Santo Tomás (1951 [1560], 121r), *chaua* means something raw, unripe, or uncooked,

and in its derivations can refer to the earliest ancestors, such as Adam and Eve (*Expediente Prado Tello*, 49r/v; NC [5–7, 167–68]; González Holguín 1952 [1608], 99).³⁹

The natural and cultural characteristics of *aliso* in this early colonial context reveal additional layers of meanings tied to the concept of *malqui*:

- *Aliso* regenerate from the root, trunk, and cut branches—even after flood and fire.
- They bind and invigorate the soil that gives them life.
- Groves of *aliso* provided the original homes for the wild relatives of potato, *oca*, and other domesticated tubers; their boughs and trunks provide homes to nesting animals; and when cut, they provide home and hearth to humanity.
- Once returned to the earth, through their fallen leaves and bodies, they give life to the next generation of crops, grazing animals, fish, and the people who eat them.
- *Aliso* must be left to mature, however, and must be propagated if they are to keep providing for future generations. The older they are, the more they are to be respected. They are a model for earthcare (Merchant 1995).

As with everything for Guaman Poma, this was true in image, as well as words. As we have seen, *aliso* and pollarded trees appear several times in the *Nueva crónica*. A pair of *aliso* frame his home town of Huamanga, where the *malqui* of his father and mother lay dead in the Convento of Santo Domingo—which happens to bear a striking resemblance to the single-towered church to the right of the plaza in the image (NC [20, 1057]; *Expediente Prado Tello*, 49v). *Aliso* in the guise of an “*arbol mallqui*” also appear to the lower right of the famous cosmogram by the early seventeenth-century Aymara intellectual don Joan de Santa Cruz Pachacuti Yamqui Salcamaygua. Significantly, this tree is paired with “the eyes of all things”—incipient, unripe seedlings embodying the concept of *chaua* that will eventually give root to, feed, and embody the next generation. Two other *aliso mallqui*, almost identical to the ones framing Huamanga, also figure in Pachacuti Yamqui’s portrayal of an earlier version of the Coricancha, the temple of the sun in Cuzco, supposedly built during the reign of the first Inca and

colla Manco Capac and Mama Ocllo (Fig. 10). *Apo tampo*, the grandfather tree, stands on the left; *apachamama achi*, the grandmother tree, stands on the right, with roots and fruit of silver and gold symbolizing reproduction across the generations (Pachacuti Yamqui 1993 [1613], 8v, 13v).

Guaman Poma cared so much about *aliso*, not only because of their monetary and use value, but also because of their symbolic meaning within Andean modes of reproduction; *aliso* are the archetype of *malqui* and embodied his ancestral ties to the tableland of Chupas. To add insult to injury, the Chachapoyas and Cañari, Quinitos, and Cayambes that had come to join them at Chiara all belonged to northern peoples that his grandfather Guaman Chaua had purportedly helped to subjugate to the Inca Empire in the days of Huayna Capac (NC [168]).

In his defense of these trees and ancestral lands from appropriation by newcomers, Guaman Poma rehearsed some of the basic rhetoric and arguments that he would later deploy in his *Nueva corónica*. This chronicle was born out of a legal proceeding in which he accused the *cacique* of the Chachapoyas of having “a mouthful of venom and devilry” and for using evil enchantments in an attempt to kill off the family line of don Juan Tingo (*Expediente Prado Tello*, 57r). It grew out of his defense against the mestizos, mulattos, *negros*, and “muy muchos yndios cimarrones” who had come “carrying swords, knives, and clubs, searching for us day and night in order to kill us” so they could keep cutting *aliso* on the slopes of Chupas (64r). Guaman Poma was well aware that these ethnicities were accomplices of the Dominican friars, *corregidor*, *protector de indios*, and other Spanish notables in the city of Huamanga, and were pledged in service to the very judicial office where his family’s case was being heard. “Y no ay remedio, because they are all *vesinos* and powerful and rich and the judges do everything that they ask of them” (63v).⁴⁰ There was no real recourse, because the trees that had been planted by the hand of his ancestors had already been cut, their root stock destroyed, and were incapable of bearing again (64r).

On the March equinox of the year 1600, the court of Huamanga journeyed up to Santa Catarina de Rantavilca de Chupas “to see this place where he calls himself *cacique*.” Its environmental state was a damning witness against him. The village only had seven or eight scattered houses, a small chapel with no door, and had none of the attributes of a proper town except for a few fields and corrals. It had none of the flourishing farms, in-

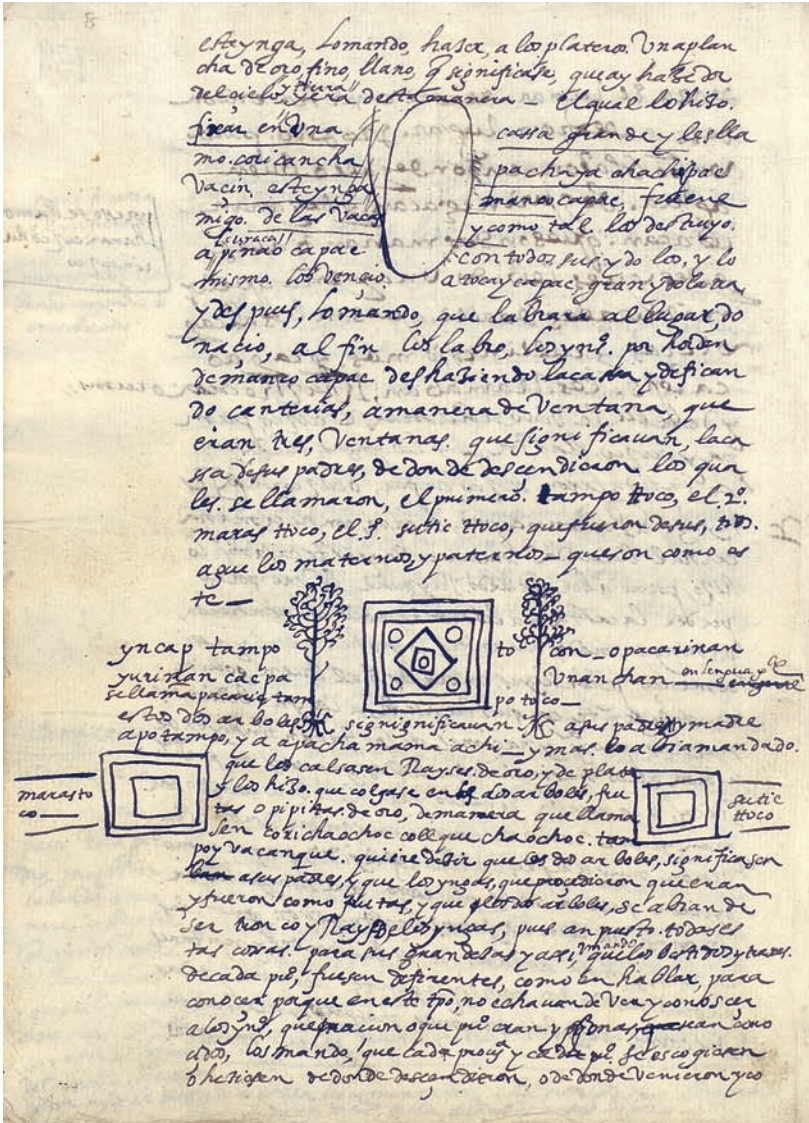


Fig. 10. Alder trees representing the founding ancestors of the Inca dynasty frame the “window” or cave where their children originally emerged from the earth. The two caves on either side represent the aunts and uncles of the first Inca, and the golden disk above them represents the creator Viracocha. (Joan de Santa Cruz Pachacuti Yamqui Salcamaygua, *Relacion de antigüedades deste Reyno del Piru* (ca. 1613), Ms. 3169, fol. 8v). Reproduced by permission of the Biblioteca Nacional, Madrid.

stitutions, and population of the settlement of Chiara that the Chachapoyas and other foreigners from the north now called their home. Guaman Poma probably knew that his case was doomed by the very logic that propelled it, and did not bother to show up for the inspection. However, this did not spare him from the embarrassment of the sentence: “The said don Felipe Guaman Poma who it has been shown is also known by the name of Lázaro” was found to be nothing more than “a poor *yndio* and fugitive” before the law, and condemned “to two hundred lashes, to be given publicly” on the city pillory, “and also condemned to two years of exile” (*Compulsa Ayacucho*, 24r–29v).⁴¹ How could someone claim to be a *cacique* of a town and family line that had failed to reproduce in this place?

Although Guaman Poma chose to believe that his case had failed due to the perversion of power under Spanish governance, his case also failed by some of the old rules of reproduction and inheritance. By his own claim, his generational ties to Chupas had their beginning over a century before when, on behalf of Topa Ynga Yupanqui, the invading forefathers of Juan Tingo and the Caviñas had defeated the original population of Angaraes who had lived there, forcing their survivors to slink away in defeat wearing the clothes of women, to eventually resettle in the distant upland village of Pata (*Expediente Prado Tello*, 25v, 51v–52r; *Relaciones geográficas*, 1:203). Chupas had then been given to the Caviñas to settle, and after that subdivided with Guaman Poma’s paternal kin in recognition of service to the Inca and Spanish empires. After suffering a fate similar to the Angaraes of Pata in the course of Inca and Spanish imperial expansion, the Chachapoyas were themselves looking for a place where they could put down roots. For all his grandiose titles, illustrious heritage, and lettered status, Guaman Poma also belonged to a resettled ethnic line (*mitmaqkuna*) and had little tangible connection to the land itself.⁴² His claims to inheritance by rights of conquest and service mattered far less, in this case, than the material evidence of his inability to reproduce in this place—by both the old rules and the new. Of his family line, only the trees were left on the land to testify to the acts of his forebears, but they had no voice or legal standing and were rapidly disappearing. Lucky for us, Guaman Poma was inspired by his personal tragedy to record for future generations how this dispossession had come to pass, and his writings promise to offer us many more insights of this sort, as we give further attention to the environmental con-

texts of the colonial past and their place in reproducing the world in which we now take part.

Notes

- 1 *El primer nueva corónica y buen gobierno* (1615), The Royal Library, Copenhagen, GKS 2232 4° (abbreviated as NC).
- 2 All page references refer to the corrected pagination of Guaman Poma 1980 [1615] and 2004 [1615/2001], and are in this format. Images not reproduced here can be easily accessed in facsimile at the Royal Library's Guaman Poma website. All translations are my own.
- 3 For a study and theorization of geohistorical writings as a colonial genre, see Arias (forthcoming).
- 4 In 1582, the Aymara lords of Canas and Canchis used sand and stones to draw a giant map of their province south of Cuzco on the pampa of Çangalla; unfortunately, the paper copy sent to Spain has been lost (Glave 1992, 50); on indigenous participation in this colonial project in Mexico, see Mundy 1996.
- 5 These include the *Expediente Prado Tello*, a mid-seventeenth-century copy of documents dating from the 1560s to the 1640s, available in facsimile on the Guaman Poma Website, and the "Compulsa de los autos sobre posesión de las tierras de Chiara" (1586–1600) cited here as the *Compulsa Ayacucho* using original pagination. Page references to the former refer to the facsimile manuscript available on the Guaman Poma website; see also transcriptions and commentary in *Y no ay remedio* 1991, Zorrilla Aramburú 1977, and Adorno 1993.
- 6 These Mediterranean concepts transferred to colonial Latin America provide useful alternatives to the obsession with primordial, uninhabited wilderness in northern European and North American environmental thought; see Nash 1982; Diegues 1999.
- 7 "Astrólogo pueta que save del ruedo del sol y de la luna y [e]clip[se] y de estrellas y cometas ora, domingo, y mes y año y de los quarto uientos del mundo ... y allí uen qué tienpo se a de senbrar las sementeras tenpranas y tardías."
- 8 There is no word for north or south in traditional Quechua or Aymara (Santo Tomás 1951 [1560], 302 [fol. 142r]).
- 9 "Chinchay Suyo a la mano derecha al poniente del sol; ... da donde naze el sol a la mano equierda hacia Chile Colla Suyo." Emphasis added; the actual illustra-

tion of the *mapa mundi* portrays them in reverse of this description for reasons noted below.

10 On these and other spatial rules, see Adorno 2000, ch. 4.

11 “En este tienpo se descubrió las Yndias del Pirú, y ubo nueua en toda Castilla y Roma de cómo era tierra en el día, yndia, más alto grado que toda Castilla y Roma y Turquía. Y acá llamado tierra en el día, yndia, tierra de rriqueza de oro, plata ... porque está en más alto grado del sol.”

12 Early modern Europeans and Andeans both considered the earth to be a living entity and believed that veins of gold, silver, and gems grew best in regions closest to the nutrifying energy of the sun, moon, and stars. This observation is crucial to the insight that Columbus and the *bandeirantes* of São Paulo headed toward the tropics and meridian of Potosí, respectively, in search of mineral wealth; see Wey Gómez 2008; Holanda 1969.

13 The placement of these coats of arms directly on the axis of the sun and moon was likely intended to carry additional meanings, such as their subordination to these celestial bodies.

14 “acá son yndios belicosos, yndios de la montaña, comen carne humana. Y en su tierra ay animales, serpientes y tigres y leones y culebras ponsoñosas y saluages y lagartos, bacas, asnos montecinos y otros animals y muchos uacamayas y papagayos y páxaros, monos y monas, puercos montecinos y muchos yndios de Guerra y otros desnudos ... y otros que tray atra anaco [manta de señora], los hombres como las mugeres.”

15 For a recent discussion of this map, see Rappaport and Cummins 2012, 174–83. Their identification of the directionality of this map is erroneous, both from colonial Andean and modern cartographic perspectives, although their more general interpretation of the map as representative of Andean spatial and historical vision still stands.

16 On the possible meanings of *cuzco*, see Ramírez 2005.

17 On portrayals of cities, see Kagen 2003.

18 Cf. the nest portrayed in NC [858]. On the centrality of these birds and the guano industry to Peruvian history, both ancient and modern, see Cushman 2013, esp. xxi–xxii, 1–8, 34–35, which deals with its use and symbolism during the colonial era.

19 “Le fue castigado por Dios cómo rreuentó el bolcán y sallió fuego y se asomó los malos espíritus y salió una llamarada y humo de senisa y arena y cubrió toda

la ciudad y su comarca adonde se murieron mucha gente ... treynta días no se bido el sol ni luna, estrellas.”

20 To underscore this manner of geographical spacialization, the portrayal of Potosí literally represents the four quarters of Peru as four retainers and four columns protecting the Inca king, with a river of humanity and silver flowing into and out of the womb of the red mountain beneath their feet (NC [1065]).

21 Atres, Quito, Cuenca, and Panamá also have fountains, but round. The *audiencia* city Lima has a gallows, rather than a whipping post (NC [952, 1009, 1011, 1015, 1035, 1039, 1059, 1069]). For portrayals of the violent use to which these columns were put, see NC ([503, 571, 810]).

22 Camaná and Nazca are also pictured with willow trees with their lower branches cut; a pollarded tree is shown in the foreground of the image of Misque (NC [1035, 1037, 1051, 1073]).

23 An *aliso* is also shown among the vineyards of Nazca (NC [1051]).

24 I have argued elsewhere that these “biological allies” lose their efficacy after the initial phase of colonization and that the continued prosperity of neo-European societies has required new forms of environmental engagement and exploitation, which I term “neo-ecological imperialism” to distinguish them from the conquest ecological imperialism described by Crosby (1986); see Cushman 2013, ch. 3.

25 For the historical geography of ethnicities in surrounding districts, see Urrutia Ceruti 1985, 20–51.

26 “de pestilencia de saranpión, birgoelas. Y de la temorida de la muerte se huyó de la conuerción de los hombre y se metió de una piedra. Y allí dentro se murió.”

27 On the relevance of climate and astral influences to early colonization and ethnic identity in the Caribbean and Mexico, see Sauer 1966: 202–6, 248–50; Cañizares Esguerra 1999.

28 For other commentary on Andean peoples out of place in different climes, see NC [866, 887, 1141, 1150].

29 The Sanayaco and Cachi valleys also denote the administrative boundaries of the five *repartimientos de indios* that made up the early colonial province of Zangaro y Huanta, of which this is also a map. See Cook 1975, xxviii; Urrutia Ceruti 1985, 22–28.

30 The use of two-stepped crosses to denote *tambos* on this map and in the *Nueva corónica* provides further evidence that it was drawn by Guaman Poma (NC [1100]).

31 “coles, lechuga, sebollas, ajos, culantro, pergil, yerbabuena, rráuanos, mostasa, rrosa, claueles, ynojo, borrasas, nabos y demás uerduras para todo el mundo.”

32 “le hagan merced de estancias pa pastos e asientos de vacas ovejas y puercos y otros ganados e yeguas desde pinagua hasta el rio questa de aquel cabo de cangallo desde la cordillera de la syerra hasta el rio grande questa entre los yndios del dicho señor tenyente ... [y] de los yndios de pedro diaz e asy mysmo pidio ... mandan dar en chupas y en pinagua asyeno de sus yndios a donde las quysiere treynta hanegadas de tierras en sembradura.”

33 For a partial listing of claimants, see *Expediente Prado Tello*, 53v–54v, 56v.

34 This thesis also needs to be modified for central Mexico, particularly in view of the megadroughts that struck the region during the sixteenth century. See Melville 1994; Butzer and Butzer 1995; Butzer and Butzer 1997; Stahle et al. 2011; Therrell et al. 2006.

35 Alfred Crosby inaccurately concluded that Old World weeds were significant contributors to ecological imperialism, at least in Andean South America. Based on impressionistic evidence from Peru, he asserts that white clover (*Trifolium repens*) was “the champion weed” aiding European colonization of the Americas. In the Andes then and now, *trebol* or *layulayu* actually refers to members of the *Trifolium amabile* complex, indigenous clovers occupying “a wide range of habitats, including open hillsides, along roadsides, grasslands, open moist places, among rocks, very firm sandy soil, steep slopes, and alpine conditions.” This nitrogen-fixing species is well adapted to grazing by native and introduced livestock at a range of altitudes, and is “one of the first species to inhabit fields in their first year of fallow,” often arriving in the dung of livestock. See Hendy 2013, esp. 31; Bruno 2008, 235–36; contra Crosby 1986, 154–57.

36 “en lo cual han edificado las mayores y mejores casas que hay en todo el Perú, todas de piedra, ladrillo y teja, con grandes torres; de manera que no falta aposentos.”

37 For illustrations of indigenous roof construction styles, see NC [57, 331, 337].

38 “que por quanto algunos vecinos desta villa e sus yanacunas e yndios por su mandado e syn cortavan e mandaran cortar el arboleda de molles e sauzes e otros arboles questan en termynos desta dicha villa ... por avello hecho estan destruydos e junto al suelo e grandaño e perjuicio desta dicha villa e de los moradores della ... ordenaron e mandaran que nynguna ... de nyngun destado e condicion que sea sea osado cortar ny mandar cortar nyngun arbol de sauze ny de muelle en espazio de media legua al deredor desta dicha villa ... quel español vecino estante

o avitante que lo cortare e mandare cortar cayga e yncurra en pena de quinze pesos de oro ... y al yndio o negro que lo cortare o yanacona les sean dados cincuenta açotes en la plaça desta villa en el rollo della.”

39 To underscore these ethnic ties, Guaman Poma portrays these two ancestors almost identically in drawings in the *Expediente Prado Tello* and *Nueva corónica*; see Adorno 1993, 56–58.

40 “y no ay remedio por q[ue] son Vesinos y poderosos y rricos de hacienda y las Justicias hasen todo lo q[ue] ellos piden.”

41 “Devo declarar, y declaro que el dicho Don Felipe Guaman Poma que por otro nombre está averiguado llamarse Lazaro por no parte, ... é por que el dicho Lazaro Yndio es yndio pobre, y fugitivo condeno ... en doscientos Azotes que se le den Publicamente ... y mas le condena en dos años de destierro, a seis leguas a la redonda.”

42 On this point and for further details of the case, see Adorno 1993.

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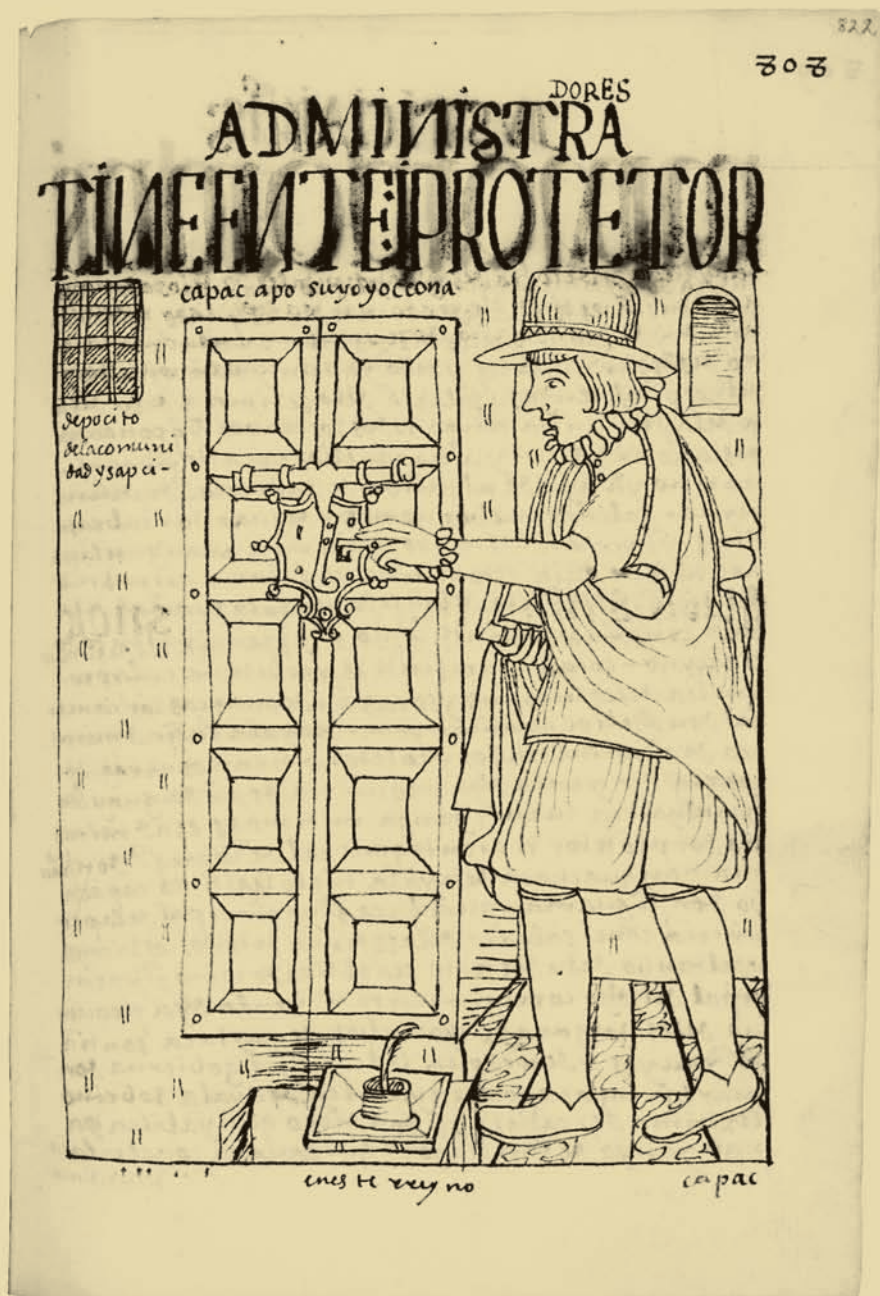
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Unlocking the Doors to the Worlds of Guaman Poma and His *Nueva corónica*

Edited by Rolena Adorno and Ivan Boserup



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Rolena Adorno and Ivan Boserup (eds.)

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Foreword

Among the manuscript treasures of the Royal Library, the National Library of Denmark, the autograph illustrated codex of the *Nueva corónica y buen gobierno* by the Andean Indian Felipe Guaman Poma de Ayala (Peru, 1615), often referred to by its shelf mark in the Old Royal Collection, “GKS 2232 4º,” has since the early nineteenth century been securely preserved and curated on a par with the most precious remains of Danish national heritage—from medieval national chronicles and richly illuminated devotional books to the philosophical and personal papers of Søren Kierkegaard (1813–55) and the original manuscripts of the *Fairy Tales* of Hans Christian Andersen (1805–75).

Since the 1920s, the Royal Library has warmly encouraged initiatives to promote through diverse media the awareness and use of Guaman Poma’s work by scholars, students, and the wider public. The *Nueva corónica* is today available in a “cleaned-up” facsimile published in 1936 (reprinted 1968 and 1989), in microphotography, and not least in the critical edition in three volumes based on the scrupulous autoptical examination, during the summer of 1977, by Professor Rolena Adorno, Yale University, of the 1,200 pages of the original manuscript, published in 1980 (and later) by herself, together with George L. Urioste and the renowned anthropologist John V. Murra (1916–2006).

Most recently, in 2001, the Royal Library completed and published on the Internet a digital facsimile with global free access of the *Nueva corónica* manuscript, expanded in 2004 with the full Murra-Adorno transcription with commentary of Guaman Poma’s text. The *Guaman Poma Website* has been a distinctive success, to judge by the average number of daily “hits,” and by unequivocally appreciative responses of the international scholarly world. The opening of the website was accompanied by the simultaneous publication in English and in Spanish of a detailed historiographical essay by Professor Adorno, *Guaman Poma and His Illustrated Chronicle from Colonial Peru: From a Century of Scholarship to a New Era of Reading* (2001). I should like

to add that in 1980 and from 2002 to 2015, the scholarly yearbook of the Royal Library, *Fund og Forskning i Det Kongelige Biblioteks Samlinger* (Findings and Research in the Collections of the Royal Library) has welcomed a number of important studies on various aspects of Guaman Poma and his *Nueva corónica*; these resources are available in open access mode at <http://tidsskrift.dk>.

The present publication can be viewed as yet another token of the library's dedication to the stewardship of Guaman Poma's unique manuscript, which in 2007 was included in UNESCO's *Memory of the World Register*—as mentioned by Professor Adorno in the "Introduction" that she has authored for the purpose of providing a factual and historiographical context regarding GKS 2232 4° for the following fourteen specialized essays. It is my pleasure to thank her, as well as Ivan Boserup, Head of Western Manuscripts of the Royal Library from 1999 through 2014, for having organized, together with Jean-Philippe Husson, Professeur émérite of the Université de Poitiers, on Danish soil and within its national library, the celebration of the 400th anniversary of the *Nueva corónica*. This was brought to fruition through an international colloquium, held in October 2013, in which invited essays on Guaman Poma and his work by distinguished scholars from Peru, the United States of America, France, Israel, and Denmark were read and discussed during three days of intense work and intellectual exchanges.

I wish to express my sincere gratitude on behalf of The Royal Library to the contributors to the colloquium, who all immediately accepted the invitation to convene in the modern "home base" of Guaman Poma's manuscript, and to contribute significant results of their scholarship to the library's celebration of the fourth centenary of the *Nueva corónica*. Last but not least my thanks go to the efficient Adorno-Boserup editorial team and the professional staff of Museum Tusulanum Press. An unexpected grant from the Global Research Funds of the Danish Ministry of Research in 2012 made it possible to organize the international colloquium and subsequently to publish its results in a manner that matches their scholarly excellence.

Erland Kolding Nielsen
 Director General
 The Royal Library

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Felipe Guaman Poma de Ayala's handwritten illustrated book *Nueva corónica y buen gobierno* from 1615—honored by UNESCO as a “Memory of the World” item—rewrote Andean history in accordance with his goals of reforming Spanish colonial rule in Peru. On the eve of the four-hundredth anniversary of Guaman Poma's book, a renowned group of international scholars has been assembled to focus fresh attention on the work, its author, and its times. This volume brings together a range of established and younger scholars to explore the countless avenues of inquiry that emerge from Guaman Poma's work, including Andean institutions and ecology, Inca governance, Spanish conquest-era history, and much more.

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