

Locking Eyes with the Sun: Perception, Landscape, and the Fame of Greenstone in a Sixteenth-Century Nahuatl Narrative

Allison Caplan

- 1 An early colonial narrative in the central Mexican Nahuatl language describes a striking scene in which a wise person, referred to as a *tlaiximatini*, or “experiential knower,” climbs to a point high on the land in the pre-dawn darkness (Fig. 1).¹ Upon the rising of the sun, the knower scans the landscape for hovering smoke and mist, emitted by precious stones buried beneath the earth’s surface. Likely drawn from Nahua oral tradition, the episode appears twice in the Florentine Codex, or *Historia general de las cosas de la Nueva España*, a twelve-book work written in central Mexico between 1575 and 1577.² The first version appears in Book 10, on people, and describes the practice as a form of knowledge used by the ancient Toltec people. The second, in slightly modified form, appears in Book 11, on the natural world, as an account of how wise people among the Nahuas located precious stones.

- 2 The Book 10 version recounts of the Toltecs:

Injc cenca vellaiximatia: intla nel vei tetl iitic ca, in tlein tlaçotli tetl, vel quittaia: auh intla nel tlallan cana ca in tlaçotli, in maviztic tetl, vel qujttia: quilmach injc qujttia. oc ioac in qujçaia, cana tlapac in motlaliaia, qujxnamjctimotlaliaia in tonatiuh: auh in jquac ie oalqujça tonatiuh, vel imjx intequjuh, nelli mach in mjxpepetza, qujl inic qujtta, in canjn ca tlallan tlaçotetl, tlaçuechaoatica: auh in jquac oalpetzinj tonatiuh, oc cenca iquac in oalmomana, qujl poctontli, aiauhontli moquetzticac: in vncan ca tlaçotetl, in aço tlallan, in anoço tetl iitic in qujtta, iuhquin popocatica tetl.

To such an extent did they know things: if it was inside a very large rock, whichever precious stone, truly they saw it; and if it was well inside the earth, the precious, the marvelous stone, truly they saw it. It is said that in this way they saw it. It was still night when they emerged, and somewhere high up they placed themselves, they placed themselves to meet eyes with the sun: and when the sun came emerging, great was their eyes’ work, truly did their eyes shine; it is said that in this way they see, wherever in the earth is the precious stone: the place is moistened; when the sun comes shining, especially when he comes laying himself out, it is said that a little smoke, a little mist stands up in place: there where the precious stone is, perhaps in the earth, perhaps inside a rock, they see it, as if the stone is smoking.³

- 3 The second version presents the same episode, adapted to Book 11’s discussion of precious stones:

Auh in tlaiximatinjme, in nonotzaleque iehoantin qujtta: injc

qujximati, in canjn ca, vel qujtta: ca mjhiotitica, maiauhiotitica: oc ioac, vellavizcalpan in qujça, in contemoa, in canjn motlalia in canjn, moquetza, qujxnamjquj in tonatiuh, auh in ie oalquiça tonatiuh, cenca imjx intequjuh, nelli mach in tlachia, vel mjxpetzoa, aoc òmjxcueionja, vellachia: in canjn iuhquj poctontli moquetza, vel qujtta, in catleoatl maiauhiotitica, iehoatl o, in tlaçotli: aço techachaquachtli, aço tlailtetl, anoço itla texixipetztl aço itla teololli, conana qujvica. Auh intlacatle ipā aci: in canjn poctontli moquetza, intla çan tlalnemjuhian, ic qujmati ca vncā tlallan ca in tlaçotli in tetl: njmā tlatataca vncā qujtta, vncā qujpantilia, aço ie tlaiecchioalli, aço ie tlapetlaoalli in tlaçotetl, aço vncā tlatoctli in qujtta, anoço tetl, anoço tecaxic; anoço tepetlacalco in ca, in noço temj in tlaçotetl; vncan in tlacnopilhuja i, Auh no yoan injc qujximati injn tlaçotetl, vncā ca: muchipa tlacelia, tlacecelia, qujlmach inin chalchivitl ihiiio; auh in jhiio cenca cecec, tlacamaoanj: ivin in motta, in mana chalchivitl:

The *tlaiximatinimeh*, the thinkers, they see it. In this way they know it, where it is, truly they see it: it is sending out breath, giving off mist. When it is still night, truly at the dawn, is when they emerge, they seek out where to place themselves, where to stand themselves, they meet eyes with the sun; and when the sun comes emerging, great is the work of their eyes, truly do they observe, truly do their eyes shine, no longer do they blink, truly do they observe. Wherever something like a little smoke stands up, truly they see it, whatever is giving off mist, that is the precious thing. Perhaps it is a spattered stone, perhaps it is a dirty stone, or perhaps it is a polished stone, perhaps a spherical stone: they take it away, they carry it off. And if there is nothing arriving on the surface, there where the little smoke stands, if it is only razed land, thus do they know that where the earth is, that is where the precious thing, the stone is: then they dig there where they see it, where they discover it. Perhaps it has already been made beautiful, perhaps it is already polished, the precious stone; perhaps where what is seen is buried, perhaps it is a stone, perhaps it is in a stone bowl, perhaps it is in a stone box, or overflowing with precious stones; there is where they obtain things. And also in this way do they know this precious stone, where it is: it is always sprouting there, sprouting constantly, they say that it is the breath of the greenstone, its breath is very cool, it is an announcer: in this way it is seen, is taken the greenstone.⁴

4 The account preserved in these two passages has generally been interpreted as a description of a prospecting technique and as a major piece of evidence that Nahua people of the Aztec Empire valued greenstone for its association with water. In 1974, Tatiana Proskouriakoff cited the Book 11 version as an “account of how the Aztec prospected for jade in Conquest times in Mexico,” concluding, “the account is permeated by superstitious belief, but it is clear that the Aztec deliberately set out to find worked jades buried in caches and in tombs, noting the formerly occupied sites or cemeteries by differences in vegetation.”⁵ Emily Umberger (1987) later reported Proskouriakoff’s

interpretation that “one passage in Sahagún’s Florentine Codex indicates that the Aztecs looked for changes in surface plant growth and other signs as indications of where to dig for ancient objects.” Umberger further linked this practice to Nahuas’ association of greenstone with water and fertility and a belief that these stones attract moisture, noting, “perhaps for this reason the Aztecs looked for a column of mist and greener plants.”⁶ Most recently, Leonardo López Luján presented the Book 11 passage as a description of “the procedure individuals had to perform to acquire precious stones” and linked the passage to Aztec excavations of Toltec and other antiquities.⁷ By and large, these discussions have focused on the Book 11 version, positioned the human viewer as the main subject of the episode, and seen the text’s central issue to be its connection of greenstone to water.⁸ Although these readings highlight an important component of the text, the narrative’s marked interest in the senses and in the way the visual exchange between human and stone takes place within the landscape points to further dimensions of the episode that also provide a new understanding of the meaning of the precious stones’ emissions.

- 5 Comparison of the two versions of the episode highlights its existence not as an ethnographic account but as a narrative, which was purposefully incorporated into two different contexts in the *Historia general*. The Florentine Codex was composed between 1547 and 1579 through a collaboration between the Franciscan friar Bernardino de Sahagún and multiple Nahuatl authors and artists, including Martín Jacobita, Antonio Valeriano of Azcapotzalco, Alonso Vegerano and Pedro de San Buenaventura of Cuauhtitlan, Diego de Grado and Bonifacio Maximiliano of Tlatelolco, and Matheo Severino of Xochimilco.⁹ Intended as a study of Nahuatl culture and language that would benefit missionaries in the region, the project included a sustained focus on documenting the Nahuatl language and oral tradition.¹⁰ Early in the project, Sahagún and the Nahuatl collaborators spoke with Nahuatl elders, known as *tlamatinimeh*, or “wise ones,” in Tepepulco, México-Tenochtitlan, and Tlatelolco.¹¹ Following these conversations, the Nahuatl collaborators penned texts in Nahuatl, which are preserved in draft copies, today held at

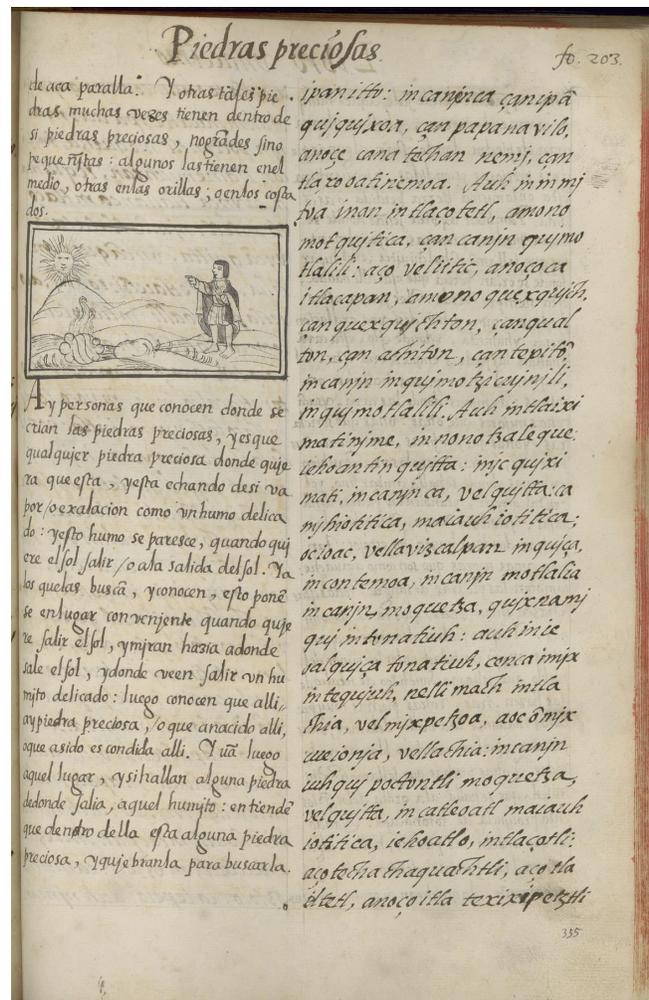


Fig. 1. Florentine Codex book 11, folio 203r. Ms. Med. Palat. 220, Biblioteca Medicea Laurenziana, Florence. By concession of MiBAC. Further reproduction by any means forbidden.

the Real Academia de la Historia (RAH) and the Biblioteca del Palacio Real in Madrid and thus known as the *Códices matritenses*. Sahagún ultimately reorganized and lightly edited these texts for the Florentine Codex version, using them as well as the basis for accompanying Spanish translations and images made by Nahua artists.¹² Throughout the project, the contributions of the Nahua authors, alongside Sahagún's interest in recording Nahuatl discourse in textual form, gave rise to highly literary passages that privileged original Nahuatl forms of expression, many of which were likely based on the words of the Nahua elders.¹³

- 6 The *tlaiximatini* episode from the Florentine Codex appears in the earliest extant copy of the text, in the portion of the *Códices matritenses* held at the RAH. The Book 10 version appears in identical form on folios 174r–v of the earlier RAH manuscript in the hand of a Nahua scribe, with only one marginal annotation added by Sahagún, glossing the section, “De la manera que tenjā en descubrir las piedras preciosas” (“On the manner they had of discovering precious stones”) (174r). In the folios of the RAH manuscript that correspond to Book 11, the same scribal hand incorporated some of the same ideas in the first draft of a text on precious stones, writing of *quetzalitzli* (emerald-green jade): “this stone, [it is] something that has smoke, has mist; wherever it is, it is giving off smoke, giving off mist. The thinker, when it is still early morning, places themselves facing where the sun emerges, waiting for it; greatly do their eyes shine” (“inin tetl pocyo ayauhyo ȳ canī ca mopocylitica. mayauhyotitica ȳ monotzaleq̄ oc yovatzinco ȳ quiça tonatiuh quixnamictlalia tlachixuicate ~~quitzi cēca mixpetzova~~”).¹⁴ This entire section was then crossed out, and the same scribe began anew on the next folio (309r), providing a full account of the *tlaiximatini* episode as an attribute of precious stones (*tlaçotetl*) more generally. These details from the RAH manuscript support the text's attribution to a single Nahua scribe and suggest that both versions derived from a common source, which was included twice because of its perceived relevance to two different sections of the *Historia general*.
- 7 Despite their adaptation to different contexts, the two final versions of the narrative retain the same key terms and phrases, which evoke the vision of an interconnected, sensory landscape. In their use of these structuring terms, the texts employ a strategy that is itself fundamental to oral storytelling and which may connect the written versions to an earlier oral telling.¹⁵ Close consideration of the key terms and phrases used suggests a new understanding of the relationship that connects the precious stones, the human knower, and the sun, an important yet generally unacknowledged third participant. As close attention to the texts' word choice reveals, the episode evokes a place-bound relationship that links the human, sun, and precious stones by virtue of their mutual acts of presenting themselves to and seeing one another. In these sensorial exchanges, the three actors are all described as emerging from a state of hidden interiority into a fully public sphere, in which they can both see and be seen. This underlying structure of a shared, socio-sensory sphere of interaction counters Western notions of a possessive, anthropocentric gaze, while instead echoing ancient Maya concepts of a communally possessed perceptual field, referred to as *-ichnal*.¹⁶ The participatory landscape that grounds the episode further suggests a new understanding of the precious stones' emissions as a form of fame, which signals the stones' possession of social presence. By emitting vapors that announce both their presence and their

inner nature, the precious stones reveal their ability to enter and participate in a public sphere. As a whole, the two versions of the episode trace how interactions between sun, human, and precious stone form a socio-sensory landscape, premised on the notion of multiple beings interacting and becoming knowable to one another.

Seeing Within Landscape

- 8 Readings of the Florentine Codex episode as documenting a human prospecting technique have often implicitly drawn on a culturally specific, Western concept of landscape as a visual practice. In this construction, which originated in the Renaissance, human subjects both bring the landscape into being and possess it through their gaze. In this Western tradition, Denis Cosgrove has argued, “the landscape idea represents a way of seeing—a way in which some Europeans have represented to themselves and to others the world about them and their relationships with it.”¹⁷ As Dianne Harris and D. Fairchild Ruggles write, this way of seeing draws heavily upon certain visual and representational strategies, most notably single-point perspective, which centers vision in a privileged vantage point, from which space is conceived of as infinitely visible.¹⁸ In this form of surveillance, “the viewer brings a landscape into being but remains unseen, and therefore is imbued with a globalizing sense of totality.”¹⁹ In this approach to landscape, the act of viewing constructs a relationship between viewer and viewed that defines one as subject and the other as object. Viewing thereby reinforces the different ontologies of viewer and viewed, constituting the former as set apart from the external world, which they can know only through the filters of perception, comprehension, and desire. In this way, “vision does not unite subject with object so much as it discloses the eternal chasm between them.”²⁰ This Western act of viewing simultaneously enacts a relationship of epistemic and economic possession, constructing the environment as a resource for human use.²¹ These theorizations of landscape as a tradition in which vision, subjectivity, and domination are intricately interwoven thus designates landscape as a prime site of Western ideology.
- 9 Although the Florentine Codex seems to employ many of these same terms—with its attention to viewership, landscape, and valued resources—the actual interaction between these elements suggests instead an understanding of landscape as a social sphere, comprised by multiple human and non-human agents. This approach to landscape is suggested in part by comparison with Maya concepts of a social landscape comprised by visual exchanges. Stephen Houston and Karl Taube have argued that the Maya term *-ichnal* encapsulated the concept of a visual field that emerged from and asserted the subjecthood of multiple participants. *-Ichnal*, the authors explain, was a visual field defined “in terms of the totality of objects within view, each as a participant in the world.”²² In glyphic inscriptions, they found:

The visual field always embraces another person and someone else’s action ... [I]t was not simply a vista or a bracing view of architecture, but ... a reciprocal, heavily social context involving other people or beings. In truth, this was ‘communion-oriented’ vision, an ‘ecological

event' ... of a very special sort. With gods in particular, the *-ichnal* would have been extended, presumably, by the field of view [of] multiple participants.²³

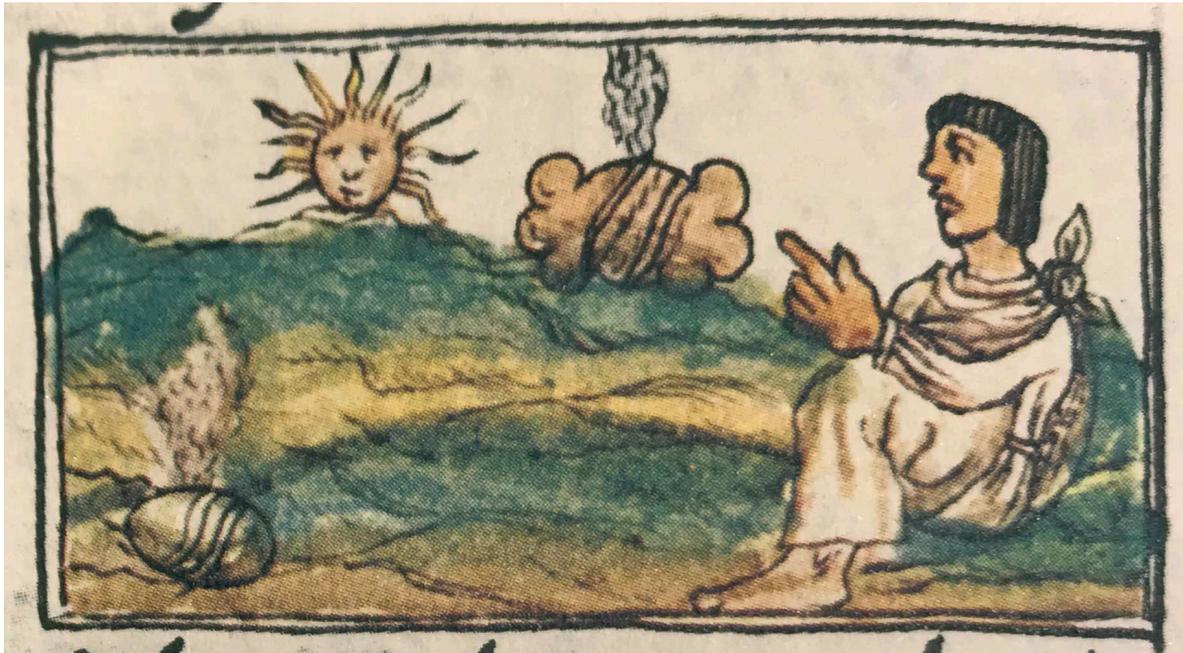


Fig. 2. Florentine Codex book 10, folio 117v (detail). Ms. Med. Palat. 220, Biblioteca Medicea Laurenziana, Florence. By concession of MiBAC. Further reproduction by any means forbidden.

- 10 In this ancient Maya construction, seeing formed a shared sphere that was place-bound, participatory, and potentially communal. Among modern Mayan speakers, William Hanks (1990) described the cognate concept of *-iknal* as a possessed space of perception with connotations of interpersonal connection. As a visual field, *-iknal* can be possessed communally by multiple participants, including such non-human entities as trees, animals, wells, and cars.²⁴ Hanks writes, “under face-to-face conditions, unless otherwise specified, the *-iknal* of either participant includes the other one as well. Hence it denotes a joint interactive corporeal field containing reciprocal perspectives rather than an individual *schéma corporel*.”²⁵ The Maya concept suggests an understanding that sensory exchange occurs within and inaugurates spheres of communication between multiple, and not exclusively human, participants. Within this construct, visual experience forges not an experiential divide between human subject and non-human object, but a space of communication. Though not an articulation of Nahuatl thought, the Maya concept of a social perspectival field nonetheless suggests an alternative to Western constructions of landscape and suggests the need for a sensitivity to reciprocated, non-human gazes.
- 11 The two illustrations (figs. 2, 3) that accompany the main episode in the Florentine Codex provide an initial indication that, in the narrative, the human gaze is neither the sole nor most important visual act. The Florentine Codex’s paintings were developed by Nahuatl artists in response to the Nahuatl text and were added in the manuscript’s

blank left column after the Nahuatl text had already been written (see fig. 1).²⁶ As such, the images can be taken in part as a visual interpretation of the text that provides some insight into contemporary Nahua artists' reading. Despite the two images' similarity in composition, their differences in anatomical proportion and line quality suggest that they are the work of two different artists, although one may certainly have based their composition on the work of the other, recognizing that the episode recounted was the same.²⁷ Both artists portrayed an Indigenous noble at right, his eyes looking straight ahead and his finger pointing left to the rising sun, while stones to the left send out emissions.²⁸ In both images, the man shares the foreground with a smoking stone and is positioned either with his feet planted firmly on a low rise of ground or seated in the landscape. In the Book 10 version, a second, glyphic representation of stone is placed on the top of a distant mountain ridge, yet also apparently just in front of the figure's pointed finger in the foreground. In the images, the placement of the man and smoking stones in a shared foreground suggests their spatial proximity to one another while also anchoring the human figure within the landscape.



Fig. 3. Florentine Codex book 11, folio 203r (detail). Ms. Med. Palat. 220, Biblioteca Medicea Laurenziana, Florence. By concession of MiBAC. Further reproduction by any means forbidden.

- 12 The spatial organization of these compositions departs radically from Italian Renaissance conventions typically associated with a possessive landscape view. Both of the Nahua artists employed select European conventions in depicting the sun as a round face with pointed rays and in creating spatial depth in the landscape, evident in the rows of receding hills. Nonetheless, the larger perspectival orientation of the scene differs from the Italian Renaissance approach of orienting the view of the landscape with the human's perspective. This alignment is typically achieved by positioning the human

figure on a high or otherwise sheltered outcrop in the immediate foreground, looking out into the deep space of the landscape.²⁹ This approach can in fact be seen in a different image in Book 11 of the Florentine Codex (fig. 4), which shows a seated merchant (*pochteca*) looking and pointing up toward the setting sun. In this image, the artist adhered far more closely to the Italian strategy, by positioning the man on an outcrop in the foreground that is visibly cut off from the landscape behind, as signaled both by the cross-hatching along the outcrop's far edge and the use of grasses and a tree that partially shield the man from view. Using a high horizon line, the artist further created a perspectival alignment between the merchant and the image's viewer, such that as the merchant looks and points deeper into the image's fictive space, so too do the viewer's eyes move into the space of the landscape. In this composition, the image's viewer identifies with the depicted human viewer, based on their shared location at the margin of the image, as they both look into the fictive space that constitutes the landscape. In the *tlaiximatini* images, in contrast, the artists constructed the composition as a general view that is not attributable to any one depicted figure. Rather than placing the human external to and looking into the landscape, the artists portrayed him in profile with his eyes and raised finger pointing exactly parallel to the picture plane. This gesture creates a type of spatial flattening within the composition: the figure's pointing parallel to the picture plane embraces elements—the sun and the distant stone—ostensibly positioned in the background. Through this gesture, the sun and stones seem to come forward into the same space as the human figure, flattening the perspectival landscape and bringing its major components onto a single plane.

- 13 The leveling effect of the images' composition is compounded by the artists' further personification and attribution of agency to the sun and stones. The artists gave the sun an anthropomorphic face and placed it at eye-level with the man, generating a tangible back-and-forth between the image's two sets of eyes. The man's pointed finger reinforces the interaction by functioning as a communicative gesture. In the Florentine Codex, pointing is a typical gesture of speakers, as seen, for example, in the representation of a noblewoman addressing a group by emitting a speech scroll from her lips and pointing to her listeners (fig. 5). In this and other images in the Florentine Codex, speakers—some shown with speech scrolls, and others without—point at the person whom they address, indicating the presence of the listener



Fig. 4. Florentine Codex book 11, folio 197r (detail). Ms. Med. Palat. 220, Biblioteca Medicea Laurenziana, Florence. By concession of MiBAC. Further reproduction by any means forbidden.

to the listener herself and forging a connection that is both auditory and visual, and grounded in the here and now.³⁰ Employed in the depiction of the human and the sun, pointing in full view of the sun indicates the human and sun's presence at the same time and place and suggests a communicative exchange. The gesture, in turn, is partially mimicked by the stones, which likewise direct plumes of smoke up towards the sun. In the Book 11 version, the smoke is represented in the more traditional Nahua style as curled scrolls that overtly resemble speech scrolls.³¹ Stated in the text to occur exactly when the sun arrives shining on the scene, the human's pointing, the stone's emission of smoke, and the sun's rays knit the three entities together into a network of mutual visibility and contact.



Fig. 5. Florentine Codex book 6, folio 80r (detail). Ms. Med. Palat. 219, Biblioteca Medicea Laurenziana, Florence. By concession of MiBAC. Further reproduction by any means forbidden.

- 14 The choices made by the Florentine Codex artists in interpreting the scene visually highlight that agency in the episode is broadly possessed by humans and non-humans alike and underscores the interrelationship of acts of seeing and of revealing oneself. In their visualizations of this scene, the artists portrayed landscape as a network, in which creating visual contact allows human, sun, and stone to enter and form a shared, social space. The artists' interpretation of the text highlights a broadly interactive approach to landscape, which is further evidenced by nuances of the text itself.

Seeing/Shining

- 15 The Florentine Codex episode describes a charged time and place in which human, sun, and precious stones form a relationship with one another, predicated on their sudden ability to see and appear to one another. Though previous interpretations have focused exclusively on how the precious stones enter human vision, the Nahuatl texts highlight that the narrative's other two players—the human and sun—undertake parallel acts of sensorial emergence. In the episode as a whole, the human, sun, and stones all engage in both seeing and appearing, actions that the text conveys are linked intimately to one another.
- 16 As the first entity on the scene, the human *tlaiximatini* is said to arrive on a prominent place on the landscape, where they look upon and appear in their surroundings by using their *ixtli*, a Nahua body part that encompassed the eyes, face, and surface.³² The *ixtli* is fundamental to the human's characterization and actions in the narrative. The term appears in the human's main designation, *tlaiximatini* ("experiential knower," plural *tlaiximatinimeh*), which is comprised of the verb *ihmati*, "to know how to do something well, to be deft, expert in something," and the incorporated noun *ix(tli)*, meaning, "one who knows by means of the *ixtli*."³³ An open-ended descriptor, *tlaiximatini* was applied variously to gold-workers, lapidaries, physicians, and Toltecs, all of whom possessed knowledge grounded in experience.³⁴ In fact, the Book 10 version specifically frames the episode as a demonstration that the Toltecs were *tlaiximatinimeh*, noting, "injc cenca vellaiximatia," "to such an extent did they know things with the *ixtli* [*iximatia*]."³⁵ *Ixtli* also features in the major actions that the human performs in the episode: working their eyes (*huel/cenca imix intequiuh*), making their eyes shine (*mixpepetza/mixpetzoa*), not blinking (*aoc omixcueyonia*), facing the sun (*quixnamictimotlalia/quixnamiqui in tonatiuh*), and recognizing the precious stones (*quiximati in tlaçotetl*). Particularly when understood in light of the fuller meanings of *ixtli* as an entity that conflates sight, appearance, and social presence, these terms frame the human's act of seeing as a simultaneous act of appearing to those around them. As underscored by these terms, in using their *ixtli*, the human emerges from a state of inaccessible interiority into an external sphere of interaction.
- 17 As a bodily organ, the *ixtli* encompassed eyes and visual experience, surface appearance, social presence, and engagement with the external world. By combining reference to eyes and surface—respectively, the organ of visual perception and the aspect of self that was visible to the external world—the *ixtli* served as the bodily entity through which beings both perceived and were accessible to the outside world. The *ixtli*'s role in seeing and appearing is suggested by its derivations. In uses that denote the eyes and sensory perception, *ixtli* appears in the compounds *ixtelolohtli*, "eyeball;" *ixayotl*, "tears;" *ixmiqui*, "to be blinded by the sun or bright light;" *ixmixtlachiya*, "for one's vision to be clouded;" and *ixnehnemiltia*, "for one's eyes to swim."³⁶ Simultaneously, derivations related to surface condition or appearance include *ixahuia*, "to rinse or whitewash something;" *ixcuicuilli*, "someone with a dirty face;" *ixhuicci*, "to blush;" and *ixnehuilia*, "to resemble someone."³⁷ *Ixtli*'s applicability to both vision and appearance

suggests that the *ixtli* enabled perceptibility in general, with acts of seeing and appearing linked by their co-occurrence in the space just beyond the body's surface.

- 18 *Ixtli*'s relation to exteriority is developed further by its use to designate presence and social contact.³⁸ *Ixpan* ("on the *ixtli*") means, "before, in front of, in the presence of, in the time of," and *ixtlan* ("at the *ixtli*"), "before, in the presence of."³⁹ As one example, *ixpan* is used in the Florentine Codex to denote offerings made in the presence of the ritual impersonator (*ixiptla*) of the solar god Tonatiuh: "tlacotonaia, tlenamaca, yn ixpan ixiptla tonatiuh" ("they beheaded quail and offered incense before [*ixpan*] the sun's *ixiptla*").⁴⁰ The locative uses of *ix(tli)* are related conceptually to further derivations that designate social interaction. Such terms include *ixnamiqui*, "to have a confrontation"; *ixcomaca*, "to confess to having done something; to tell another person his faults to his face, to give evidence"; and *ixnahuatia*, "to make an assertion, to condemn or dismiss someone, something." Further examples include *ixpoloa*, "to dissemble, to be misleading about what one is doing"; *ixmahuiztic*, "someone pleasant, agreeable"; and *ixtilia*, "to hold oneself in high regard, to be vain, to have respect for someone."⁴¹ The inclusion of *ix(tli)* in these terms marks the action's performance in the presence of others, as in a face-to-face confrontation, denunciation, or assertion. In incorporating a social dimension, these terms also underscore the main action's social implications. Thus, compounded with *ix(tli)*, *poloa* (to perish) takes on the social valence of "misleading," and *mahuiztic* (marvelous, awesome) acquires the sense of a character evaluation, "agreeable." In these uses, *ixtli* exceeds the meanings of sensory perception or perceptibility to denote actions carried out in relation to other people and with embedded social valences.
- 19 In an even more general sense, *ixtli* is used in a final set of derivations that denote accessibility to the outside world. *Ixpetlani* means, "to revive, sober up, return to one's senses" and *ixitia*, "to wake up, come to, to recall something."⁴² Although Alfredo López Austin interprets such usages as direct references to consciousness, these derivations can also be understood on a more basic level to denote engagement with one's surroundings.⁴³ As descriptions of emerging from sleep, drunkenness, or senselessness, *ixpetlani* (to revive) and *ixitia* (to wake) refer to a renewed engagement with the surrounding world. Another suggestive derivation, *ixquiza*—literally, "to depart the *ixtli*"—is defined, "to go about aimlessly and without rest, for dye to wash out of something, for something to get defaced."⁴⁴ In this term, the departure of the *ixtli* is described as the fading of dye or the defacement of a work and, in people, as obliviousness to and detachment from one's surroundings. As a whole, usages of the term suggest a basic understanding of the *ixtli* as a structure that permitted vision, appearance, presence, and socio-sensory contact, because it was the part of the body through which entities were present in and engaged with the external world.
- 20 Understood in light of its larger network of meaning, the specific uses of *ixtli* in the Florentine Codex texts signal how the human uses their *ixtli* to become present in their surroundings, both visually and socially. The idea that the human's act of seeing also entails becoming visible to and interacting with others is further conveyed by the Nahuatl terms used to describe the act. The two versions of the episode describe the human's actions of *mixpepetza/mixpetzoa* (to scrutinize, lit. "for the *ixtli* to shine"),

mixcueyonia (to blink, lit. “for the *ixtli* to glitter”), *ixnamictia* (to encounter, lit. “to meet with the *ixtli*”), and *quiximati* (to recognize, lit. “to know with the *ixtli*”). Translated literally, the first two terms describe acts of seeing as, respectively, “burnishing” the *ixtli* (*ixpetzoa*, *ixpepetza*) and preventing it from “glittering” (*ixcueyonia*), while the latter two describe the human using the *ixtli* to “meet” and “recognize” the sun and precious stones, in a manner that suggests social as well as visual contact.

- 21 Alonso de Molina defines the first term, *mixpepetza*, as, “mirar con diligencia escudriñando alguna cosa” (“to look with diligence, scrutinizing something”).⁴⁵ More literally, this term and the closely related *mixpetzoa* denote “shining” one’s *ixtli* and are derived from *petzoa*, “to polish, burnish something, to make something smooth and shiny.”⁴⁶ In this way, Frances Karttunen defines *ixpetzoa*, “to be involved in scrutinizing something; to plane, smooth, polish something.”⁴⁷ The term is built on the root *?petzi*, which derives from *petztli*, defined by Molina as “piedra de espejos” (“mirror stone”) and identified by Karttunen as pyrite.⁴⁸ As seen in derivations like *petztic* (literally, “mirror-stone-like”), defined as “pulido, brillante, reluciente, barnizado, fino, liso” (“polished, brilliant, shining, varnished, smooth, even”), the root describes reflectivity of light that arises from the smoothness of a surface.⁴⁹
- 22 The text’s allusion to blinking, *ixcueyonia*, describes a contrasting form of brilliance in the *ixtli*: shimmering. *Cueyoni* appears in Molina as a synonym of its derived form, *cuecueyoca*, “relumbrar o relucir, o bullir y heruir los piojos, pulgas, gusanos, hormigas en el hormiguero, la gente en el mercado, o los peces en el agua” (“dazzling or gleaming, or the seething and swarming [*alt.* boiling] of lice, fleas, worms, ants in an anthill, people in a market, or fish in water”).⁵⁰ The logic of this definition associates the macroscopic view of a multitude of tiny, moving components with the visual effect of dazzling or glittering. With the addition of the incorporated noun, *ix(tli)*, the term *ixcuecueyoca* is defined, “pestañear” (“to use the eyelashes,” or blink).⁵¹ The term’s etymology suggests a reading of blinking as a motion that gives rise to a glittering effect, possibly as the shining eye is seen intermittently through closing lashes.
- 23 Both descriptors of the eye may be rooted in empirical observations of eyes’ glistening and luminous effects and are clearly related to other Nahuatl descriptions of eyes as shining, brilliant entities.⁵² In the Florentine Codex passage, however, these terms more specifically denote qualities of vision, with *mixpepetza/mixpetzoa* (for the eye to shine) signaling an intense and unwavering looking, whereas *mixcueyonia* (for the eye to glitter) refers instead to intermittent vision. Suggestively, both of the terms name these qualities of vision by describing the eye’s appearance to an outsider, with the eye’s intense engagement in vision denoted as the eye taking on a polished, mirror-like quality and abstaining from a fluttering, glittering affect. The approach of describing quality of vision via an external portrayal of the eye, in turn, evokes a more basic understanding, common across Mesoamerica, of sight as extromissive, that is, projected from the eye. As Byron Hamman has shown, Nahua, Maya, and Mixtec codices depict nobles’ eyes projecting smoke, feathers, and flames, descriptors that Hamman interprets as designating different styles of vision and that he connects with the representation of sound as emitted speech scrolls.⁵³ In describing the appearance of unwavering and interrupted vision, the Nahuatl texts of the Florentine Codex likewise evoke the idea

that acts of seeing are themselves visible. By employing the *ixtli*, the human viewer in essence engages their body's surface, entering an external sphere of vision and simultaneous visibility.

- 24 By emitting shine from their *ixtli*, the human further parallels the emissions of brilliance by the sun and, later on, of smoke by the precious stones. In taking on a specifically mirror-like brilliance, the human's *ixtli* acquires an appearance that directly resembles that of the sun. In both versions, the sun is said to be *oalpetzini* ("one that comes shining"), an agentive form of *petzihui*, defined by Molina as "pararse muy luzio lo bruñido, o acecalado" ("for something burnished or smoothed to turn out shiny"), and built on the same root, *petztli* (mirror stone), as the descriptor of the human's eyes.⁵⁴ Though the term is a common descriptor of the sun, its pairing in both versions of the text with the less common *mixpepetza/mixpetzoa* as a descriptor of the human's eye highlights an underlying similarity between the seeing human and shining sun. Through their actions, both acquire a shining, mirror-like surface that enables vision at the same time that it makes the owner visible. Rather than an exceptional act that exposes the separation between human and landscape, seeing is presented as basically similar to the actions of the sun and stones and, fundamentally, as serving to permit contact between these entities. By using their *ixtli*, the human reveals themselves to and becomes present within the landscape, opening themselves up to sensory and social interaction with other members of the shared space.

Meeting Eyes with the Sun

- 25 Because the narrative opens in the pre-dawn darkness, neither the sun nor light are represented as given features of the landscape. Instead, the episode's major action hinges on the sun's rising, which simultaneously brings light into the scene and prompts the human to begin seeing and the stone to begin smoking. The two versions of the text state that both of these actions occur only once "the sun came emerging" ("in jquac ie ocalqujça tonatiuh"). By rising, the sun produces the conditions of visibility and, simultaneously, encounters the awaiting human and stones. Highlighting the social dimensions of seeing and being seen, the passage's portrayal of the sun and its statement that the sun's rising prompts the human to "meet eyes with the sun" (*quixnamictia/quixnamiqui in tonatiuh*) conveys that in entering the scene, the sun gives rise to the visual interactions that will integrate sun, human, and stone into a shared social space.
- 26 Highlighting its agency, the sun performs a series of dynamic actions to reveal itself to the other members of the landscape. Using terms common in Nahuatl descriptions of sunrise, the texts describe how the sun *hualquiza* (comes emerging), *hualmomana* (comes laying itself out), and *hualpetzini* (comes shining).⁵⁵ All of the verbs employ the directional *hual-* (alt. *oal-*), meaning that the actions are performed towards the main point of reference, typically the speaker.⁵⁶ As highlighted by this element, the sun's actions cause it to enter a shared space of reference, thought of as the sun's emergence from the land of the dead into the living world, giving rise to light, time, and the cardinal

directions.⁵⁷ In the context of the narrative, the frame of reference into which the sun moves (*hual-*) is more specifically the space shared with the human and stones. This point is underscored by the human, who parallels the sun's actions and position by also "emerging" (*quiza*) onto the scene and positioning himself in a prominent place, described as *tlacpac* ("on top"), the main root of which, *-icpac*, also forms the basis for *icpalli*, a throne or seat of authority.⁵⁸ Underscored by these terms, the sun and human's emergence onto prominent sites create a direct spatial symmetry, as the two entities move in relation to one another and produce a space of shared reference. In revealing itself, the sun thus creates the very possibility of vision and interaction and, simultaneously, helps form a new, shared frame of reference.

- 27 The social valences of the sun's emergence are signaled principally by the statement that the human "meets *ixtli* with the sun," conveyed by the phrase, *quixnamictia/quixnamiqui in tonatiuh*. The main verb, *ixnamictia*, is a compound of *ixtli* (face, eyes, surface) and *namictia*, "to get married, to come together with someone for some purpose; to marry someone off, to join two things together or to even things off."⁵⁹ One dimension of this term's meaning is suggested by the flanking Spanish texts in the Florentine Codex, which translate it as denoting orientation—rendering the term as "el rostro hacia donde sale el sol" ("with their face towards where the sun rises") and "miran hazia adonde sale el sol" ("they look towards where the sun rises"). Nonetheless, the original Nahuatl term encapsulates a strong additional sense of interpersonal contact, as is evident from examining attestations of the phrase and its main verb.⁶⁰ This fuller understanding of the phrase *quixnamictia in tonatiuh* (meeting *ixtli* with the sun) underscores the roles of both the sun and human as actors who thereby meet and form a relationship with one another.
- 28 In the Florentine Codex, simple spatial orientation, including in relation to the sun, is typically denoted with the verb *itta* (in combination, *itz-*), to look, as in, "ie tonatiuh icalaqujampa itzticac in ticitl" ("the midwife stood facing the sun's place of entering [i.e. West]") and "tonatiuh yixcopa itztiaque" ("they went towards the sun's front [i.e. East]").⁶¹ In contrast, the phrase *quixnamictia in tonatiuh* (meeting *ixtli* with the sun) is far rarer, appearing less than half a dozen times in the entirety of the Florentine Codex.⁶² Besides the *tlaiximatini* episode, there are only three other places where this phrase occurs. Examining these attestations in depth provides a fuller sense of the meaning of this phrase in the main episode. In the first occurrence of this term, the eagle is described as "aixmauhquj, amjxmauhtianj: vel qujxnamjquj, vel qujztimoquetza in tonatiuh" ("not fearful, not a timid one; it truly meets [*ixnamictia*], it truly stands watching the sun").⁶³ In the second instance, a priest dressed as a fire serpent is said to "meet" the sun during the festival of Huitzilopochtli, a god with strong solar connotations:

Auh in ocōnmanaco, niman no ic oaltemo in xiuhcoatl, amatl itlaquen ietiuitz, in inenepil cueçalli tlatlatiuitz. In otemoco tlatzintla in oncan itlaquaia Vitzilobuchtli, quisnamictimoquetza in tonatiuh: niman ie ic coniaoa in iscopa, nauhcampaisti iuh quichioa.

Once they had come to make the offering, then, in the same way, the

fire serpent came descending. His garments came being of paper, his tongue of scarlet macaw tail feathers came burning. Once he had descended here to the base, where was Huitzilopochtli's place of eating, he stood confronting [*ixnamictia*] the sun. Right then, he made an offering in his presence;⁶⁴ to all four directions he did so.⁶⁵

- 29 The final attestation is in the description of a Spanish raiding party that was captured and decapitated. Using *ixnamictia*, the passage describes how the Spaniards' heads were arranged on a *tzompantli* (skull rack): "Auh in ontlamjctiloc, nec qujnquaquauhço in intzontecon in Españoles...in çoçotoca, tonatiuh qujxnamjctoca" ("And when they had been killed, there they drove stakes through each of the Spaniards' heads...They each lay pierced, meeting [*ixnamictia*] the sun").⁶⁶
- 30 In each of these contexts, the phrase *quixnamictia in tonatiuh* (meeting eyes with the sun) denotes a communicative encounter with the sun itself. In contrast to uses of *itta* (to look) to describe simple orientation vis-à-vis the sun, the first example of the eagle "meeting" the sun evokes a true encounter with the solar entity that requires actual bravery on the part of the bird. In its other uses, *ixnamictia* is used suggestively to denote an offering to the sun or the solar god Huitzilopochtli. The second example cinematographically describes how the priest descends to the base of the temple, "meets *ixtli*" with the sun, and "niman ie" (right then) makes an offering "at the *ixtli*" ("iscopa") of the sun. Similarly, the placement of the Spaniards' heads on the *tzompantli* (skull rack) so that they "meet the sun" reinforces and may even signal their status as sacrificed war captives, meant to nourish the sun.⁶⁷ In these instances, then, the use of *quixnamictia in tonatiuh* underscores a degree of mutual recognition and exchange, in which the sun registers the orientation of the other player towards it.
- 31 The subtle portrayal in these examples of the sun as a perceiving, social presence is further underscored by the fact that, in the latter two examples in particular, *tonatiuh* (sun) seems to refer simultaneously to the solar body and *teotl* (god). Tonatiuh was as a divinity associated with the east, daylight, militarism, and the start of cosmic cycles, and is described by H. B. Nicholson as "the symbol of godhead *par excellence* and the theoretical recipient of all blood sacrifice."⁶⁸ The sun was also identified with select other *teteoh* (gods), most notably the Mexica patron Huitzilopochtli.⁶⁹ The natural and divine aspects of *tonatiuh* were not necessarily distinct: as Esther Pasztory argues, though Nahua gods could be conceived of and represented anthropomorphically, they were also understood as literal natural phenomena, such as rain, thunder, and wind.⁷⁰ Nonetheless, the sun's identity as a *teotl* (god) encapsulates its particular ability to interact socially. As Molly Bassett writes, "Aztec *teteo* (gods) acted in the world: they spoke to devotees, they inhabited and oversaw elements of the landscape, and they appeared in localized embodiments constructed by priests and practitioners."⁷¹ Given their emphasis on social interaction, the infrequent references to "meeting eyes" with the sun may further highlight engagement with the sun specifically as a *teotl*.
- 32 The social implications of this phrase's use in the main passage are made clearer by examining the term *ixnamictia* ("meeting with the *ixtli*") in depth. Molina defines *ixnamictia* as, "aforrar algo, o poner vna cosa contra otra; competir, o rifar con otros;

reboluer a otros” (“to fold over, to put one thing against another; to compete or dispute with others; to confront others”).⁷² In its invocations of folding and confrontation, the entry underscores mutual, symmetrical contact, in which two entities come face-to-face with one another. In its further designations of a competition or dispute, *ixnamictia* also carries a strong interpersonal sense. *Namictia* can be derived from the noun, *namictli*, “spouse,” or from the intransitive verb *namiqui*, “to go to meet someone or find something, to have a confrontation.”⁷³ These definitions together suggest a core meaning of an encounter between two parties, in which their relationship is implicated. The senses of intimate contact, symmetry, and social relationships also appear consistently in the term’s usage across the Florentine Codex. These elements are seen most overtly in uses of the term to describe mating, as in the statement that the *tapaxi* lizard “m̄jxn̄am̄jctiman̄j, anoço moteca, ce tlan̄j onoc, aquetztoç, ce pan̄j onoc” (“mates [*ixnamiqui*], perhaps it lays down, one lying below, on its back, one lying on top”).⁷⁴ Evoking a similarly symmetrical relationship, the term is also used to name the overlay of two materials, such as layers of paint or feathers, to create an optical mixture.⁷⁵

- 33 In other uses, the term connotes two-way social encounters more generally. A description of the *tlatlahuqui ocelotl* (“red jaguar”) in Book 11 uses *ixnamictia* to describe how the animal confronts hunters:

Ca in iquac qujtta: in iquac qujnamiquj, in qujm̄jxn̄am̄jctia: Anquj,
in tlam̄jquj: amo motlaloa, amo choloa: çan qujxn̄am̄jctimotlalia, Vel
motlalia, hatle qujmotoctia: inin ocelutl.

When it sees, when it meets, encounters [*ixnamictia*] a hunter,
it does not run, it does not flee. It simply places itself to confront
him [*ixnamictia*], it places itself well, it does not hide itself behind
anything, this jaguar.⁷⁶

- 34 In contrasting *ixnamictia* with fleeing (*tlaloa*, *choloa*) and hiding behind something (*quimotoctia*), the text underscores the former term’s connotations of a full and open encounter, in which both entities are visible to one another. A similar sense is apparent in the term’s use in the Book 12 narrative of Moteuczoma and Hernán Cortés meeting:

Njm̄a qujoalilhuj in Motecuçoma. Cujx amo te? cujx amo ie te? ie te
in timotecuçoma: qujto in Motecuçoma, ca quemaca ca nehoatl: njm̄a
ie ic vel ommoquetza conjxn̄am̄jctimoquetza, connepechtequjlia, vel
ixqujch caana, motlaquauhquetza:

Then he [Cortés] said to Moteuczoma, “Is it not you? Are you not he?
Is it you, Moteuczoma?” Then said Moteuczoma, “Yes, it is I.” At this,
he arose and stood to encounter him [*ixnamictia*], bowed to him,
drew near, and stood erect.⁷⁷

- 35 Strikingly, in the passage, *ixnamictia* denotes unfettered and mutual social contact, as the two men speak to and formally recognize one another, while standing, facing one another. A final use in Book 10 describes the *tetzauhçioatl* (translated by Arthur J. O. Anderson and Charles Dibble as “scandalous woman”):

ca tetlaxinqui tepaniani, auilli camanalli, uetzquitzli, netopeoalli, aoc
tle itoca, aoc tle itenio, omic, omomiquili, ichtacapiloa, motlatlaxiliani,
açazce quimixnamictia...

she is an adulteress, a goer-on-top. She is pleasure, a joke, laughter,
ridicule. Nothing is her name, nothing her renown; she is dead, she
was killed; she bears children in secret, she is a repeated aborter; no
one interacts with her [*ixnamictia*]...⁷⁸

- 36 The passage's evocation of the woman's social death—expressed by her lack of name, renown, and even her metaphorical death—comes to a culmination in the statement that, “no one interacts with her,” expressed in the Nahuatl as, “açazce quimixnamictia,” “no one meets *ixtli* with her.” Across these three examples, and as especially marked in the final example, *ixnamictia* denotes mutual and overtly social interactions, with connotations of visual access, recognition, and social relations.
- 37 Understood in light of these examples, the use of *quixnamictia in tonatiuh* (meeting *ixtli* with the sun) in the main passage suggests that the encounter described occurs mutually between the human and sun, which, from their prominent places on the landscape, face one another and form a relationship premised on mutual accessibility. Exceeding simple orientation or unilateral viewing by the human, the invocation of “meeting *ixtli*” conveys instead a full, visual and social encounter between human and sun, which see one another and thereby form a relationship. In these actions, the sun is construed as a social entity, possessing the capacity for social interaction and possibly identified specifically with the solar *teotl*. Upon entering the shared space, the sun introduces light and prompts responses in kind from the other participants in the landscape, as the human's eyes begin to shine like mirrors and the stones begin giving off smoke and mist. Ultimately, the sun's emission of light and the resultant possibility of visual interaction knits these three entities together in a particular moment and place, creating a place-bound relationship that is at once sensory and social.

Breath, Smoke, and Mist

- 38 The human and sun's interactions provide a new vantage onto the emissions of breath, smoke, and mist by the precious stones, which typically have been interpreted as an indication of greenstone's connection to water.⁷⁹ Attention to the larger narrative's interest in socio-sensory contact instead highlights the connection between the stones' actions and ideas of communication and fame. In both versions of the Florentine Codex passage, the gases emerge from a stones that initially are described as either unseen, because they are hidden within a larger stone or the earth, or unrecognized, because of their rough appearance. The Book 11 version explains,

Wherever something like a little smoke stands up, truly they see it,
whatever is giving off mist, that is the precious thing. Perhaps it is a
spattered stone, perhaps it is a dirty stone, or perhaps it is a polished
stone, perhaps a spherical stone: they take it away, they carry it off.

And if there is nothing arriving on the surface, there where the little smoke stands, if it is only razed land, thus do they know that where the earth is, that is where the precious thing, the stone, is: then they dig there where they see it, where they discover it.⁸⁰

- 39 In the passage, the stones' emissions fundamentally serve to make them visible, both by designating the stones' location and, crucially, by making them recognizable as precious. Both passages primarily refer to the stones in question not as *chalchihuitl*, or greenstone, but as *tlazohtetl*, precious stones, a broader category that includes greenstone but exceeds it. The name *tlazohtetl* derives from *tlazohtli*, meaning "beloved, precious, rare," and *tetl*, stone or any other discrete, solid entity, and includes a wide range of semi-precious stones, a number of which were said to give off various emissions.⁸¹ As a trait of *tlazohtetl* (precious stones) generally, rather than greenstone specifically, breath, smoke, and vapor betray a close association with the stones' ability to manifest fame, renown, and social presence. Within this context, the stones' emissions act not only as a passive sign but as an intentional signal, by which the stones manifest their valued status to those who see and thereby know them. In this sense, the stones' emissions are cast as an act of self-proclamation, performed in relation to an informed public that can see and interpret the signal. Understood in light of the larger episode and its interest in interpersonal, sensorial relationships, the stones' emissions are a sensory act that connects the stones to other elements of the landscape, directly paralleling the human and sun's acts of seeing and shining. Through their act, the stones emerge into a sphere shared with the human and sun and gain social recognition as stones of value.
- 40 The stones are said in both versions to release breath, moisture, smoke, and mist at the exact moment of the sun's rising, coinciding with the human's act of seeing. The description may have an empirical basis in the tendency of certain materials, referred to as hygroscopic, to maintain moisture equilibrium with the relative humidity of the surrounding air. In an environment like the one described, these materials absorb moisture at night, when relative humidity is high, and release it in the form of vapor at sunrise, when the relative humidity drops. Through this process, materials respond to diurnal cycles of the rise and fall of relative humidity, cyclically absorbing and releasing humidity in the form of water vapor. Examples of hygroscopic materials include organics like wood and paper, as well as inorganics like salt.⁸² Jadeite, an aggregate crystalline material, is another likely candidate for this type of responsiveness to ambient humidity.⁸³
- 41 Providing a further layer of interpretation, the specific Nahuatl terms used to characterize these emissions underscore their social valences and point to an understanding that, by emitting gases, precious stones were presenting themselves to a knowing public. The two versions describe the stones' emissions as follows: "mjhiotitica" ("it is giving out breath"), "tlacuechaoatica" ("it is getting moist"), "pocotontli, aiauhontli moquetzticac" ("a little smoke, a little mist stands up in place"), and "popocatica" ("it is smoking").⁸⁴ Collectively, these terms describe specific types of emissions: breath (*ihiyotl*), smoke (*pocotli*), and water vapor (*ayahuitl*). The first term, *mihiyotitica* (it is giving out breath), provides a general description of the phenomenon of an entity's

partial sublimation into its surroundings, allowing it to acquire an overtly sensible and agentive quality. The second two terms provide a more specific characterization of the emissions as *pochtli* (smoke) and *ayahuitl* (water vapor). Together, these terms form a rhetorical pair, known as a *difrasismo*, that refers to one's manifestation before a viewing public.⁸⁵ As will be seen, these terms collectively interpret the stone's emissions as transforming aspects of its materiality into a perceptible, social presence.

- 42 The first term, *ihiyotl*, describes the stones' breath as a sensorial emission that emerges from a body into surrounding space.⁸⁶ The term is known mainly from its application to humans, where it named an animating force, conceived of as a gaseous entity that resided in the liver.⁸⁷ Jill Furst describes the human *ihiyotl* as multisensory, characterized by both smell and glow, and able to emerge from the body as living breath and, upon death, as nebulous gas.⁸⁸ Usage of *ihiyotl* in other contexts provides a fuller sense of this term and its applicability to a broader range of observable emissions. In his definition of *ihiyotia*, to cause or make *ihiyotl*, Molina glosses the term as, “resollar, o peerse, o tomar aliento o resplandecer y luzir con ricas vestiduras” (“to breathe heavily, to pass gas, to breathe, or for rich apparel to gleam and shine”).⁸⁹ Complicating an anthropocentric understanding of *ihiyotl*, Molina's reference to emissions of light from “ricas vestiduras” (rich apparel) suggests that the term names not only gaseous emissions from the human body, but also other strongly sensorial emissions. This interpretation is also suggested by the definition of the verb in its reflexive form, *mihiyotia*, “to make *ihiyotl* for oneself,” used in the main Florentine Codex passage to describe the stone “giving off breath” (*mihiyotitica*). Molina defines *mihiyotia* as, “echar de si resplandor, o proceder grã frio dela nieue, o gran ardor o dela llaga” (“to give off resplendence, or for great cold to come from the snow, or a burning sensation from a wound”).⁹⁰ This gloss evokes emissions of brilliance, cold, or burning, all of which are unified by their connection to sensory experience, with their specific traits derived from the nature of the body from which they emerge. In this way, cold emerges as the *ihiyotl* of snow and burning as that of a wound. These definitions portray *ihiyotl* as an incorporeal yet sensorial entity that expresses the nature of the body from which it emerges and enables that entity to be experienced.
- 43 In addition to carrying sensory information, the *ihiyotl* was also closely tied to communication—especially speech—and to action in the outside world. *Ihiyotl*'s connection to speech is seen in its use in the phrase, *ihiyotl, tlahtolli* (“breath, words”), a metaphor for fine speech.⁹¹ Its communicative and interactive nature is underscored further by its use in the term *tlaihiyoana*, “to take things with the breath,” a frequent attribute of precious stones. The term is formed from *tla-*, the non-specific impersonal object prefix; *ihiyotl*, “breath”; and *ana*, “to take hold of, seize,” with the resultant meaning, “to take hold of things using the breath.”⁹² This term appears in Book 11 of the Florentine Codex as an attribute of the greenstone *quetzalitzli* (“quetzal-obsidian”), which is said to be “mjtonjanj tlaihioananj” (“one that sweats, a taker of things with its breath”). This usage suggests that, in addition to an incorporeal entity that elicited sensory experience, *ihiyotl* could be used to act in one's surroundings. In this way, *tlaihiyoana* (to take with the breath) was used to describe certain animals' technique of hunting by drawing unwilling creatures to themselves with the breath. The Florentine Codex states of the *tlilcoatl*, or black snake:

Auh in aca çan qujpantilia: in aço vmpa aci, in oncan canjn onoc
 tlilcooatl: injc vel cana achtopa qujztlacmjna, in iehoatl tlilcooatl ...
 njmā qujhiioana, yioma ivicpa iauh in tequanj; mochichicanauhtih,
 chichicoieoatiuh, iuhqujn tlaonquj icamac calaquj in tequanj...

If someone just comes upon or arrives there, where the black snake
 is lying, because of this, right there, the black snake strikes first ...
 Then it siezes him with the breath [*ihiyotl*], and, oh!, towards the wild
 creature he goes: he goes being taken and proceeding while weaving
 side-to-side, and, like a drunkard, enters into the mouth of the wild
 beast...⁹³

- 44 In this usage, the *ihiyotl*, by virtue of its ability to emerge from the body and make contact with external entities, physically draws them into the body from which it emerged.⁹⁴ A related dimension of the *ihiyotl* appears in the statement that the *ocelotl tlatlahuqui* (“red jaguar”) “mjpotza injc ihiiotica qujçotlaoaz, qujiolmjetiz, in tlamjnqui” (“belches, so that by means of its breath [*ihiyotl*] it will make the hunter faint and pass out”).⁹⁵ Though, in their translation, Anderson and Dibble render *ipotza* as “hiss,” the term appears in Molina defined, “regoldar” (to belch), apparently describing an eruption of breath, or *ihiyotl*.⁹⁶ In these actions of the *ihiyotl*, its ability to carry sensory information to the outside world also entails an ability to act in the same realm, communicating, intimidating, and even physically moving entities it contacts.
- 45 In light of these more general usages, the reference to the *ihiyotl* in the main Florentine Codex passages suggests the stone’s emergence from a state of self-containment into one of interpersonal contact. As a perceptible emission, grouped in the passage with water vapor and smoke, the *ihiyotl* acts by emerging from the unseen or unrecognized stone into a space shared with the sun and human knower, where it can be seen and known. In so doing, the stone produces its own social presence. By way of this act of self-presentation, the stone creates sensory contact with those around it, who thereby recognize it as a precious stone.
- 46 The Florentine Codex’s entries on the different kinds of precious stones, which appear in Book 11, speak more broadly to the role of such emissions in transforming a stone’s essential nature into a perceptible signal. Of the forty-one precious stones listed in the section, five—turquoise, amber, and three kinds of greenstones—are said to emit breath, moisture, or smoke. Among the greenstones, *quetzalitztli* (emerald-green jade) is described as “mjtonjanj tlaihioananj” (“one that sweats, a taker of things with its breath”); *quetzalchalchihuitl* (“quetzal-jade”) as “mjtonjanj, in ommahaiovia, mjtonjtiquiça” (“one that sweats, it emits moisture, it quickly sweats”); and *chalchihuitl* (jade) as “mitoniani” (“one that sweats”). *Apozonalli* (amber), the name of which means “water foam” in Nahuatl, is described as a “tlaihioani” (“one that breathes”). Finally, a single form of turquoise, *teoxihuitl* (“fine turquoise”), is said to “popoca, teoxiuhpopoca” (“smoke, smoke like fine turquoise”).⁹⁷ In these entries, possession of breath (*ihiyotl*) frequently coincides with emissions of moisture, denoted with *mitonia* (to sweat) and *ahayohuia* (to produce moisture). In contrast, the sole reference to smoke (*popoca*) appears alone, as an attribute of fine turquoise. The distribution of these terms suggests

that emissions of moisture were associated with the greenstones and amber, materials perceived as watery in nature, whereas turquoise, a material associated with the sun and the daytime sky, exuded fiery smoke.⁹⁸ Echoing Molina's discussion of *ihiyotl*, these descriptions suggest a harmony between the materiality of the stone's body and its emissions, such that the sensory emissions from the stone truthfully index, and indeed may be understood as a transmutation of, the stone itself.

- 47 A similar approach, linking the *ihiyotl* of greenstone with watery emissions, appears in an addendum at the end of the Book 11 passage, the sole portion of either of the main episode texts to refer specifically to *chalchihuitl* (greenstone) rather than to *tlazohtetl* (precious stones). The brief section describes "another way" in which greenstones (*chalchihuitl*) are known: "muchipa tlacelia, tlacecelia, qujlmach inin chalchivitl ihii; auh in jhiio cenca cecec, tlacamaoan]" ("there it is always sprouting, intensely sprouting. They say that is the greenstone's *ihiyotl*, that its *ihiyotl* is very cold and an announcer of its qualities").⁹⁹ The Nahuatl terms used to describe "sprouting" (*tlacelia*) and "coldness" (*cecec*) derive from the same root, *ce(tl)*, ice, reflecting a wider cultural association of coldness, water, and vegetation, and simultaneously implying a material connection between the cold and sprouting aspects of the greenstone's breath.¹⁰⁰ In a literal sense, the cold, sprouting *ihiyotl* of the greenstone is a transmutation of the stone's materiality into a sensory signal, populating its surroundings with visible and tactile experiences. The text's final note that the *ihiyotl* is "tlacamaoan]" ("an announcer of its qualities") underscores this communicative aspect. The term is comprised of the prefix *tla-*; *cama(tl)*, "mouth"; the suffix *-huia*, to wield or apply; and the habitual *-ni*, giving the meaning, "one who converses." In the earliest extant version of the text, in the Real Academia de la Historia manuscript, Sahagún wrote in the margin the Spanish gloss for the term: "tlacamaoan] comun]ca su virtud" ("*tlacamahuani*, communicates its virtue") (369v). As underscored by this term, in transmuting the stone into a cold, vegetative signal, the *ihiyotl* serves as a vocalization of the stone itself.
- 48 Nonetheless, in the main passages' discussion of precious stones (*tlazohtetl*) more generally, the essential nature communicated by the stones is not their wateriness, but rather their possession of personal presence. In the main section of the Book 11 and the entirety of the Book 10 passages, the stones' emissions are characterized as a combination of both "smoke" (*poc(t)li*) and "mist" (*ayahuitl*) that "stand up" (*moquetza*). Unlike the individual entries on precious stones in Book 11, where smoke and water vapor distinguish fiery from watery materials, the main episode texts instead pair these emissions to form the *difrasismo*, "poc(t)ontli, ayauhtontli" ("a little smoke, a little mist"), a Nahuatl rhetorical phrase that denotes fame and renown.¹⁰¹ The meaning of this couplet is explained in a passage from Book 6 of the Florentine Codex:

Injn tlatolli: itechpa mjtoaia in aca tlatoan], ai amo vecauh omjc,
ai amo polivi in jpocio, in jaiauhio: qujtoznequj: imavizço, itëio: anoço
aca veca oia, ai amo polivi in jtëio, in jmavizço.

These words were said about some ruler who had died not long ago,
whose smoke, whose mist [*poc(t)li*, *ayahuitl*] still had not been lost.
It means: their honor, their fame [*mahuizyotl*, *tenyotl*]. Or else, of

someone who had left for a far-away place, that their fame, their honor had not yet disappeared.¹⁰²

- 49 In the expression, the departed's persistence in collective memory is denoted by the statement that their "smoke and mist" continue to be visible, as enduring aspects of their social presence. The passage further describes *poctli, ayahuitl* ("smoke, mist") as an equivalent of *tenyotl, mahuizyotl* ("fame, honor"), a key expression of renown.¹⁰³ As Patrick Hajovsky argues, these terms express fame as a combination of that which is said by and about a person (*tenyotl*, literally, "lip-ness") and their visible aura (*mahuizyotl*, "awe"), providing a larger articulation of fame as one's audible and visible presence.¹⁰⁴
- 50 As an attribute of precious stones, "smoke and mist" underscore that the essential nature communicated by the stones is their very possession of renown and personal presence. Fundamentally, the "smoke and mist" emitted by the stones allow them to present themselves to the sun and seeing human, and thereby to emerge from a state of internal containment into one of interpersonal contact and recognition. A nearly identical usage of the phrase in a prayer to the god Tezcatlipoca underscores that the emissions connote becoming exposed and knowable in another's presence. The passage from Book 6 of the Florentine Codex reads:

a ca quavatl, ca tetl itic, titlachia, titlamati: auh aviz nelle axcan, ca titic titlamati, titic titechcaquj, ticcaquj, ticmati in tlein titic tiqujtoa, in tiqujlnamjquj, in tix, in toiollo, iuhqujn poctli, aiavitl mjxpantzinco moquetza.

That which is inside the trees, inside the stones, you observe, you know. Truly now, what is inside us, you know; what is inside us, you hear. You know what we say inside ourselves. You remember our faces, our hearts. Like smoke and mist [*poctli, ayahuitl*], in your presence, they stand up [*moquetza*].¹⁰⁵

- 51 Employing terms deeply reminiscent of the main episode, the prayer describes Tezcatlipoca's ability to see inside stones, trees, and people to their true nature, denoted by "tix, toiollo," "our faces, our hearts," an expression of one's personhood and identity.¹⁰⁶ In the passage's final line, the speaker's true, inner self is said to stand up, "like smoke and mist, in your presence" ("*iuhquin poctontli, ayahuitl mixpantzinco moquetza*"). With this expression, the speaker evokes a full and open manifestation of one's nature, externalizing what was once hidden and transforming it into a visible signal that is presented to another entity. That this action is said to take place in Tezcatlipoca's *mixpantzinco* ("presence," literally, "on your *ixtli*") further underscores the social dimension of revealing oneself in order to be seen and known.
- 52 The expressions used to denote precious stones' emissions in the main episode suggest that the release of *ihiyotl* (breath) and *poctli, ayahuitl* (smoke, mist) were modes through which precious stones made their inner nature visible and knowable to members of the outside world. Engaging in the same types of actions as the human and sun, both of whom emerge beyond themselves into an external realm of interaction,

the precious stones generate a signal that derives from and expresses their materiality. Attributed in the passages to *tlaçotetl* (precious stones) generally, these emissions serve to communicate and manifest the stones' status as materials of value that carry renown and personal presence. In this way, the Book 11 version states, “in canjn iuhquj poctontli moquetza, vel qujtta, in catleoatl maiauhioitica, iehoatl o, in tlaçotli” (“wherever something like a little smoke stands up, truly they see it, whatever is giving off mist, that is the precious thing”).¹⁰⁷ Through this sensory interaction, the stone not only reveals its physical location but connects with those around it by presenting itself to them.

Conclusion

- 53 As understood from two closely related versions in Books 10 and 11 of the Florentine Codex, a narrative describing interactions between a human knower, sun, and precious stones enables a new interpretation of Nahua accounts of precious stones releasing vapors, while also providing greater insight into the nature of sensory experience in Nahua thought more generally. Attention to the larger narrative suggests that the episode situates descriptions of stones releasing gasses within a larger theory of the role of sensation in forming a sphere of social interaction. The episode in fact hinges on the actions of three players—a human, sun, and precious stones—all of whom emerge from concealed states into a shared scene, in which they interact sensorially and socially, seeing, meeting, and recognizing one another. To do so, the human and sun engage in parallel, extromissive acts of seeing and shining, while the precious stones transform their materiality into perceptible emissions of breath, smoke, and mist that communicate their nature and presence to those around them. Through these respective acts of emergence, human, sun, and stone become present to one another, giving rise to an interactive, socio-sensory field, bounded in space and time.

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Notes

1. I wrote this article while a predoctoral fellow at the Center for Advanced Study in the Visual Arts (CASVA) in Washington, D.C., where I benefitted immensely from the Center’s support and from intellectual exchanges with the other fellows. I would also like to express my deep thanks to Dana Leibsohn and to this article’s two anonymous reviewers, who greatly enriched this article through their generous and thoughtful comments.
2. The *Historia general* exists in various versions, the most complete of which is the Florentine Codex (ms. 218–220, Col. Palatina), an illustrated codex in three volumes held in the Biblioteca Medicea Laurenziana. Earlier drafts of the document, known as the *Códices matritenses*, are held in Madrid’s Real Academia de la Historia (ms. 9-c-103) and Biblioteca del Real Palacio (ms. rfa. 3280). The Florentine Codex is comprised of twelve books, which follow an organizational sequence of divine, human, and natural subjects that is thought to have been based on contemporary European works, especially Pliny the Elder’s *Historia naturalis* and Bartholomaeus Anglicus’s *De proprietatibus rerum*. See Ángel María Garibay K., *Historia de la literatura náhuatl*, vol. 2, second ed. (Mexico City: Editorial Porrúa, 1953–54), 69–71; Donald Robertson, *Mexican Manuscript Painting of the Early Colonial Period: The Metropolitan Schools* (New Haven: Yale University Press, 1959), 170–72; Bernardino de Sahagún, *Florentine Codex: The General History of the Things of New Spain*, vol. 1, trans. and eds. Arthur J. O. Anderson and Charles E. Dibble (Santa Fe: School of American Research and the University of Utah, 1950–1982), 11.
3. Bernardino de Sahagún, “General History of the Things of New Spain by Fray Bernardino de Sahagún: The Florentine Codex” (World Digital Library, 2016), bk. 10:117r–117v; my translation; <http://hdl.handle.net/10079/gd027f4a-9bd8-4713-ba1e-2092584716bd>. Throughout, I provide highly literal translations, meant to give readers a sense of the literary and syntactic features of the Nahuatl, but without presuming to stand in for the original. Readers may also consult Arthur J. O. Anderson and Charles Dibble’s translation for a more idiomatic rendering in Sahagún, *Florentine Codex*, bk. 10: 167–68; bk. 11: 221–22. In this article, I use the singular “they” when referring to the human in the main episode, except in the context of the Florentine Codex images, where the figure has explicitly been gendered male. My usage reflects the gender-neutrality of Nahuatl, which uses a third person pronoun (*yehuatl*) that does not specify gender.
4. Sahagún, “General History,” bk. 11: 203r–203v; my translation.
5. Tatiana Proskouriakoff, *Jades from the Cenote of Sacrifice: Chichen Itza, Yucatan*, vol. 10, no. 1 in *Memoirs of the Peabody Museum of Archaeology and Ethnology*, Harvard University (Cambridge, MA: Peabody Museum of Archaeology and Ethnology,

1974), 15.

6. Emily Umberger, “Antiques, Revivals, and References to the Past in Aztec Art,” *RES: Anthropology and Aesthetics* 13 (Spring 1987): 66–67.

7. Leonardo López Luján, “The Aztecs’ Search for the Past,” in *Aztecs* (London: Royal Academy of Arts, 2002), 25.

8. An exception to the exclusive focus on the Book 11 version is Molly Bassett, *The Fate of Earthly Things: Aztec Gods and God-Bodies* (Austin: University of Texas Press, 2015), 101, where the author cites the Book 10 passage as evidence of the Aztec association of turquoise with the Toltecs.

9. Sahagún, *Florentine Codex*, vol. 1: 55; Miguel León-Portilla, *Bernardino de Sahagún: First Anthropologist*, trans. Mauricio J. Mixco (Norman: University of Oklahoma Press, 2002), 115–16. See also SilverMoon, “The Imperial College of Tlatelolco and the Emergence of a New Nahua Intellectual Elite in New Spain (1500–1760),” PhD diss., (Duke University, 2007).

10. León-Portilla, *Bernardino de Sahagún*, 132–33; Sahagún, *Florentine Codex*, vol. 1: 11. From Sahagún’s perspective, the importance of Nahuatl expression to the project is suggested by his initial conception of the work as a *calepino*, a vocabulary including citations from classical texts to illustrate usage. See Sahagún, *Florentine Codex*, vol. 1: 50; Pilar Maynez, *El calepino de Sahagún: Un acercamiento* (Mexico City: UNAM ENEP-Acatlán, Fondo de Cultura Económica, 2002), xxi–xxii.

11. León-Portilla, *Bernardino de Sahagún*, 213.

12. This editorial process is made evident through comparison of the Florentine Codex with the earlier *Códices matritenses*, in which the hands of Bernardino de Sahagún and various Nahua scribes are identifiable. See Sahagún, *Florentine Codex*, vol. 1: 9–23; Howard Cline, “Evolution of the *Historia general*,” in *Handbook of Middle American Indians*, vol. 13, eds. Robert Wauchope, Howard Cline and John Glass, (Austin: University of Texas Press, 1973); Miguel Ángel Ruz Barrio, “Los *Códices Matritenses* de fray Bernardino de Sahagún: estudio codicológico del manuscrito de la Real Academia de la Historia,” *Revista española de antropología americana* 40, no. 2 (2010): 189–228; and Rebecca Dufendach, “Nahua and Spanish Concepts of Health and Disease in Colonial Mexico, 1519–1615,” PhD diss., (University of California, Los Angeles, 2017), 210–19.

13. See Louise Burkhart, “Flowery Heaven: The Aesthetic of Paradise in Nahuatl Devotional Literature,” *RES: Anthropology and Aesthetics* 21 (Spring 1992): 90.

14. Real Academia de la Historia Manuscript, ms. 9-c-103, folio 308v; my transcription and translation. My attribution of both passages to the same scribe is based on comparison of the handwriting in the original document, which contains distinctive letter formations that strongly suggest that they belong to the same hand.

15. See Albert B. Lord, “Homer, Parry, and Huso,” *American Journal of Archaeology*

52, no. 1 (Jan.–Mar. 1948): 34–44. I am grateful to the article’s first anonymous reviewer for suggesting this connection.

16. Stephen Houston and Karl Taube, “An Archaeology of the Senses: Perception and Cultural Expression in Ancient Mesoamerica,” *Cambridge Archaeological Journal* 10, no. 2 (2000): 287.

17. Denis Cosgrove, *Social Formation and Symbolic Landscape* (Madison: University of Wisconsin Press, 1998), 1.

18. Dianne Harris and D. Fairchild Ruggles, “Landscape and Vision,” in *Sites Unseen: Landscape and Vision* (Pittsburgh: University of Pittsburgh Press, 2007), 18.

19. *Ibid.*, 24.

20. *Ibid.*, 13.

21. See Nathaniel Wolloch, *Nature in the History of Economic Thought: How Natural Resources Became an Economic Concept* (London and New York: Routledge, 2016).

22. Houston and Taube, “Archaeology,” 287.

23. *Ibid.*, 288.

24. William Hanks, *Referential Practice: Language and Lived Space among the Maya* (Chicago: University of Chicago Press, 1990), 92, 94.

25. *Ibid.*, 92.

26. Jeanette Peterson, “The Florentine Codex Imagery and the Colonial Tlacuilo,” in *The Work of Bernardino de Sahagún, Pioneer Ethnographer of Sixteenth-Century Aztec Mexico*, eds. Richard M. Leventhal and J. Jorge Klor de Alva (Austin: University of Texas Press, 1988), 273–93.

27. See Diana Magaloni Kerpel, *The Colors of the New World: Artists, Materials, and the Creation of the Florentine Codex* (Los Angeles: Getty Research Institute, 2014).

28. Although the Nahuatl text is gender-neutral, the artists for this section represented the human as male.

29. See Svetlana Alpers, *The Art of Describing: Dutch Art in the Seventeenth Century* (Chicago: University of Chicago Press, 1983).

30. For example, see Sahagún, “General History,” bk. 6: 53r, 63v, 106r.

31. On the resemblance between speech scrolls and smoke, see Patrick Hajovsky, *On the Lips of Others: Moteuczoma’s Fame in Aztec Monuments and Rituals* (Austin: University of Texas Press, 2015), 58–78.

32. Frances Karttunen, *An Analytical Dictionary of Nahuatl* (Norman: University of Oklahoma, 1992), 121; Alfredo López Austin, *Human Body and Ideology: Concepts*

of the Ancient Nahuas, trans. Thelma Ortiz de Montellano and Bernard Ortiz de Montellano (Salt Lake City: University of Utah Press, 1988), 195–97. *Ix(tli)* is an absolutive noun, which is translated most literally as “it is a face/surface/eye.” When possessed or in a compound form, *ix(tli)* appears without the absolutive suffix *-tli*, simply as *ix*.

33. Karttunen, *Analytical*, 121, 99.

34. The Florentine Codex attributes the action of *iximati* to the eyeball (*ixtelolo*), which “teiximati, tlaiximati” (“recognizes people, recognizes things”), in Sahagún, *Florentine Codex*, bk. 10: 103. *Iximati*’s distinction from *mati* (to know) is reflected in Alonso de Molina’s definition of *mati* as “saber algo” (to know something) and of *iximati* as “conocer algo generalmente” (to be familiar with something generally), aligning *mati* with the Spanish *saber*, to know facts or learned skills, and *iximati* with *conocer*, to be acquainted with something. Alonso de Molina, *Vocabulario en lengua castellana y mexicana y mexicana y castellana*, facsimile edition, ed. Julio Platzmann (Leipzig: B. G. Teubner, 1880 [1571]), 45v, 52v. See also López Austin, *Human Body*, 177, 195.

35. Sahagún, “General History,” bk. 10: 117r.

36. Karttunen, *Analytical*, 110, 116, 119.

37. *Ibid*, 110–11, 113–16.

38. See López Austin, *Human Body*, 195–96.

39. Karttunen, *Analytical*, 117, 121.

40. Sahagún, *Florentine Codex*, bk. 4: 6; my translation.

41. Karttunen, *Analytical*, 112–13, 115–16, 118, 120.

42. *Ibid*, 115–117.

43. López Austin, *Human Body*, 195–96.

44. Karttunen, *Analytical*, 119.

45. Molina, *Vocabulario*, 46v.

46. Karttunen, *Analytical*, 192.

47. *Ibid*, 117.

48. Molina, *Vocabulario*, 81r; Karttunen, *Analytical*, 193; see also Emiliano Gallaga M., “Introduction,” in *Manufactured Light: Mirrors in the Mesoamerican Realm* (Boulder: University Press of Colorado, 2016), 3–24.

49. Rémi Siméon, *Diccionario de la lengua náhuatl o mexicana* (Mexico City: Siglo Veintiuno, 1977 [1885]), 381.

50. Molina, *Vocabulario*, 26r, 25v; my translation.

51. Ibid, 45r; my translation.
52. See Sahagún, *Florentine Codex*, bk. 10: 103.
53. Byron Hamman, “Seeing and the Mixtec Screenfolds,” *Visible Language* 38, no.1 (2004): 84–93. Hamman’s finding that these forms of vision pertain specifically to elites is also suggestive, given that the accompanying images portray the human in this episode as a noble.
54. Molina, *Vocabulario*, 81r.
55. Karttunen, *Analytical*, 213, 135, 192.
56. Lockhart, *Nahuatl*, 14.
57. Sahagún, *Florentine Codex*, bk. 6: 163. This latter effect is particularly explicit in Nahuatl, which expresses both time of day and cardinal directions in reference to the position of the sun (*tonatiuh*). For instance, *nepantlahtonatiuh* (at midday) literally means “middle *tonatiuh*”; and “in aiama valqujça tonatiuh” (early dawn) is literally, “when *tonatiuh* had not yet come to emerge.” Similarly, the term for “east,” formed from *quiza* (to emerge), is *tonalquizayampa*, literally, “where the sun habitually emerges.” Karttunen, *Analytical*, 169, 246; Sahagún, *Florentine Codex*, bk. 11: 25.
58. Karttunen, *Analytical*, 95. Sample usages include *icpac tepetl* (“on top of the mountain”), *nocpac* (“on my head,” literally, “my *icpac*”), and *tlalticpac* (“on earth”). James Lockhart, *Nahuatl as Written: Lessons in Older Written Nahuatl, with Copious Examples and Texts* (Stanford: Stanford University Press and UCLA Latin American Center Publications, 2001), 23.
59. Karttunen, *Analytical*, 121, 158.
60. Sahagún, “General History,” bk. 11: 117r–117v, 203r–203v; my translation.
61. Sahagún, *Florentine Codex*, bk. 6: 201, bk. 10: 191; my translation.
62. I generated this count using a word-searchable PDF of Anderson and Dibble’s paleography of the Florentine Codex, created by William Gassaway and Andrew Finegold, to whom I am most grateful for sharing this resource with me.
63. Sahagún, *Florentine Codex*, bk. 11: 40; my translation.
64. Though Anderson and Dibble translate *coniiaoa* as “gesture,” a more specific meaning appears in Molina’s entry: “Iyaua. nitla. ofrecer algo desta manera, o incensar” (“*Iyaua. nitla.* to make offerings in this manner, or to offer incense”). Molina, *Vocabulario*, 36v; my translation.
65. Sahagún, *Florentine Codex*, bk. 9: 65; my translation.
66. Ibid, bk. 12: 99–100; my translation.
67. H. B. Nicholson, “Religion in Pre-Hispanic Central Mexico,” in *Handbook of Middle*

American Indians, vol. 10, eds. Gordon Ekholm and Ignacio Bernal (Austin: University of Texas Press, 1971), 424–25. On the *tzompantli*, see Virginia E. Miller, “The Skull Rack in Mesoamerica,” in *Mesoamerican Architecture as a Cultural Symbol*, ed. Jeff K. Kowalski (New York: Oxford University Press, 1999), 340–60; and Emilie Carreón Blaine, “*Tzompantli*, horca y picota: Sacrificio o pena capital,” *Anales del Instituto de Investigaciones Estéticas* 88 (2006): 5–52.

68. Nicholson, “Religion,” 424; Cecelia Klein, “The Identity of the Central Deity on the Aztec Calendar Stone,” *The Art Bulletin* 58, no. 1 (1967): 3.

69. Nicholson, “Religion,” 425.

70. Esther Pasztory, *Aztec Art* (Norman: University of Oklahoma Press, 1998), 57.

71. Bassett, *Fate*, 89.

72. Molina, *Vocabulario*, 46r; my translation.

73. Karttunen, *Analytical*, 158–59.

74. Sahagún, *Florentine Codex*, bk. 11: 92; my translation.

75. *Ibid.*, bk. 9: 96, bk. 11: 244.

76. *Ibid.*, bk. 11: 2; my translation.

77. *Ibid.*, bk. 12: 42; my translation.

78. *Ibid.*, bk. 10: 56; my translation.

79. See for example, Pasztory, *Aztec*, 251–52; and Umberger, “Antiques,” 66–67.

80. For the Nahuatl, see above, paragraph 3.

81. Karttunen, *Analytical*, 306, 235.

82. “The Who, Why, When and How of Moisture Equilibration,” Image Permanence Institute, Rochester Institute of Technology, 2018, <http://hdl.handle.net/10079/abd2a2a0-81d6-4a57-9dfe-b83e1502ff3f>.

83. Jill Walker, “Jade: A Special Gemstone,” in *Jade*, ed. Roger Keverne (London: Anness Publishing, 1991), 32, 41.

84. Sahagún, “General History,” bk. 10: 117v; bk. 11: 203r; my translation.

85. Mercedes Montes de Oca Vega, *Los disfrasismos en el náhuatl de los siglos XVI y XVII* (Mexico City: UNAM, 2013), 181–82, 236, 642.

86. For a fuller analysis of *ihiyotl* and its representation, see the forthcoming dissertation by Alanna Radlo-Dzur, Ohio State University.

87. López Austin, *Human Body*, 194, 232–235; Jill Leslie McKeever Furst, *The Natural*

History of the Soul in Ancient Mexico (New Haven: Yale University Press, 1997), 156.

88. Furst, *Natural*, 156.

89. Molina, *Vocabulario*, 36v; my translation.

90. *Ibid*, 56v; my translation.

91. Bartolomé de Alva, *A Guide to Confession Large and Small in the Mexican Language, 1634*, eds. Barry Sell and John Frederick Schwaller, with Lu Ann Homza (Norman: University of Oklahoma Press, 1999), 22.

92. Karttunen, *Analytical*, 11.

93. Sahagún, *Florentine Codex*, bk. 11: 71; my translation.

94. The crocodile similarly is said to hunt with its *ihiyotl*: “ieh vel camacoiaoac, camaxacaltic, tlapetztoanaj, tepetztoanaj, teihioanaj...tlaihiioana, teihioana, tlapetztoala, tlacēcalaquja” (“it is gaping of mouth, with a mouth that is cavernous [literally, ‘like a shack’]; it swallows things, swallows people with ease, it seizes people with the breath [*ihiyotl*]...it seizes things with the breath, seizes people with the breath, swallows things with ease, takes them in whole”). Sahagún, *Florentine Codex*, bk. 11: 67; my translation.

95. *Ibid*, bk. 11: 2; my translation.

96. Molina, *Vocabulario*, 42r.

97. Sahagún, *Florentine Codex*, bk. 11: 223–34.

98. Karl Taube, “The Symbolism of Turquoise in Ancient Mesoamerica,” in *Turquoise in Mexico and North America*, eds. J. C. H. King, Max Carocci, Caroline Cartwright, Colin McEwan, and Rebecca Stacey (London: Archetype Publications in association with The British Museum, 2012), 132; Justyna Olko, *Insignia of Rank in the Nahua World* (Boulder: University Press of Colorado, 2014), 314; Emily Umberger, “Conflicting Economic and Sacred Values in Aztec Society,” in *Rethinking the Aztec Economy*, eds. Deborah L. Nichols, Frances Berdan, and Michael E. Smith (Tucson: University of Arizona Press, 2017), 196–97, 201.

99. Sahagún, “General History,” bk. 11: 203v; my translation.

100. Olko, *Insignia*, 314.

101. Montes de Oca, *Difrasismos*, 181.

102. Sahagún, *Florentine Codex*, bk. 6: 244; my translation.

103. See Marc Thouvenot and José Rubén Romero Galván, “Fama, honra y renombre entre los nahuas,” *Estudios de cultura náhuatl* 39 (2008): 54–55.

104. Hajovsky, *On the Lips of Others*, 28–29.

105. Sahagún, *Florentine Codex*, bk. 6: 25; my translation.
106. López Austin, *Human Body*, 196–97.
107. Sahagún, *Florentine Codex*, bk. 11: 203r; my translation.



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