

Writing as Material Technology: Orientation within landscapes of the Classic Maya world

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Introduction

Writing as Material Technology

Our shared charge in this volume is to consider writing as material practice. In this way, we endeavor to shift our perspectives on texts from the transparent view that allows us to look past pages, monuments, and objects straight to the content or meaning of recorded signs, and instead to think about the embodied and material nature of writing, and the connection of texts to the material world. These material musings, and the reframing of text to include its physical nature and existence in an experiential world, led me to reflect on how writing may be understood as a material technology. I draw inspiration from Walter Ong (1982) in particular, who frames the emergence of writing in this light. In this way, we can understand text as not only having an effect or impact because of its *content* (an insult causing a war, an acknowledgement confirming affiliation), but also because of its *material form* and the ways that form is perceived and used (akin to stone tools changing the possibilities for cutting or processing, the wheel impacting experiences of distance and connection). Textual objects — a phrase I use to keep in the forefront of our minds the simultaneously material and textual nature of the artifacts I discuss — accomplish certain types of work that draw upon both the content and the material nature of the text. By considering texts in an artifactual light, I argue that texts do important work in organizing the material world. Furthermore, the specific material forms that texts take impact the ways in which such work is carried out.

I explore these ideas in the context of Classic Maya writing. For the Maya text objects I examine — a stone monument, a painted ceramic vessel, and a set of incised bone needles,

How to cite this book chapter:

Jackson, S. E. 2013. Writing as Material Technology: Orientation within landscapes of the Classic Maya world. In: Piquette, K. E. and Whitehouse, R. D. (eds.) *Writing as Material Practice: Substance, surface and medium*. Pp. 45-63. London: Ubiquity Press. DOI: <http://dx.doi.org/10.5334/bai.c>

all adorned with Maya hieroglyphic writing — I suggest that an orientational technology is at work. That is, the perception and use of these text objects serve to locate people in culturally defined landscapes, and in particular, within socio-political landscapes that include both experiential and imagined aspects. The experience of these texts allowed ancient viewers to situate themselves along a series of axes, not all of which are obvious or visible through other modes of material analysis. Particularly important are the juxtaposed perspectives of the immediately accessible aspects of a polity (spatial, temporal and political), and the more abstract ideas of what lay beyond.

As an orientational technology, these text objects are quite different from modern technologies that serve to give us our bearings upon visiting a Maya archaeological site: a topographic map, a compass, a GPS unit, and, of course, a wristwatch. And yet, in both modern and ancient instances, orientational technologies involve accessing content that shapes human actions in the world, and that is experienced in specific ways representative of particular, shared worldviews. As we read a site name or elevation on a worn and floppy paper map, or time from numerals on a metal object that we wear, we participate — consciously or not — in shared understandings of relative positioning in the universe. The text objects that I examine encode perspectives that located Maya individuals in relative positions through expressions of the shape and nature of the realms in which they lived, including dimensions of territoriality, conceptions of temporality, and constructions of personal and institutional difference.

A Few Thoughts on Technology and Landscapes

I mentioned above that Ong's work (1982) provided inspiration for considering writing as a type of technology. For him, technology is marked, at least in part, through "the use of tools and other equipment" (Ong 1982: 80–81). This is a fairly limited definition, though he notes that the transformational power of technology is not only as an "exterior aide", but also as yielding "interior transformations of consciousness" (Ong 1982: 81). Following in the footsteps of Ingold (2000: 294–299), I extend Ong's premise and embed those tools within active processes and particular types of knowledge, emphasizing both the material extensions of human selves that carry out work (in this case, both the tools that create texts, and subsequently the texts themselves) and the cultural knowledge necessary for these technologies to be created and put into action. For the purposes of this chapter, I do not introduce the concept of technology as an opposition to art, a dichotomy that implies a division between execution and conception (Ingold 2000: 295), and which may not accurately describe relationships between rulers and artisans, often conceived as attached specialists in Maya contexts (Inomata 2001). Rather, by using the term 'technology', I shift our interpretation of Maya text objects from an aesthetic interpretation or historical reading, to an appreciation of the constructive cultural work being carried out through textual implements.

As I explore the idea that Maya text objects may be considered as a type of efficacious technology serving to orient viewers and readers, I refer to the idea of landscape. I describe in this chapter a variety of culturally constructed landscapes (spatial, temporal, political, and gendered). While the natural landscape and environment are critical elements to examine in understanding ancient societies, the work that the text objects I consider are doing is focused on mediated and experiential surroundings: how people would have perceived their place in the world, on multiple planes, based on both actual experience and imagined extension. As human constructs, the landscapes I consider are unstable and constantly transformed, and require maintenance in order to retain their contours, or to change in response to shifting circumstances. I argue that text objects provide a particularly powerful communicative avenue for carrying out this work.



Figure 1: Map of the Maya area, including sites mentioned in the chapter. Map by Dayna Reale. Reproduced with permission.

A Brief Background on the Maya

Before exploring these ideas through three case studies, I first provide some background for those less familiar with Maya contexts. The texts I discuss in the following examples were created by Maya scribes in Central America (**Figure 1**) during the Classic period (c.AD 250–850). The world of the Classic Maya was characterized by a fragmented political landscape of independent city-states each ruled by a *k'uhul ajaw* (holy lord), whose authority was based on both political and religious stature. The Classic-era apogee of Maya culture was a period of trade, social and political interaction between sites, ongoing development of the governing apparatus, as well as conflict between competing polities.

The sophistication of the Maya world is marked in part by their elaborate writing system, one that allows us to learn the names of some of that era's key players, and to establish a tightly controlled chronology for the histories of these polities. Some of the extant texts that epigraphers examine today are carved on stone monuments, both upright stelae that were exhibited in public places, as well as architectural elements such as panels, lintels, and benches that would have been located in more restricted spaces. Additionally, hieroglyphic texts are found on portable objects such as painted ceramic vessels, as well as personal items such as carved bone and shell objects. The challenges of preservation in a tropical environment mean that more perishable substances that likely were vehicles for writing, such as bark paper, rarely survive.

The complex logosyllabic script of the Maya constituted a limited resource — legible to a restricted segment of the population, and written primarily by trained scribes, many of whom were also members of the royal court. In Maya contexts, however, literacy should not be seen as a binary issue (Houston and Stuart 1992). The frequent juxtaposition of text and image led to an interpretive interplay between the written word and expressive depictions. In the examples that follow, the texts and images on Maya artifacts interact with the material nature of the objects to become powerful communicative devices, accomplishing work by conveying meaning, but also through orienting and situating those who interacted with these text objects in both literal and metaphorical landscapes.

Orientation through Text Objects in the Classic Maya World: Three case studies

My interest in viewing texts in their material form, and as connected to material practice, is two-fold. I consider both how the content of texts shapes the landscape of lived experience, and also how the material format that these texts take impacts the consumption of their messages. As I introduce the orientational aspects of the following three examples, I will focus first on how they act as markers within various landscapes, with reference both to textual content and form. In the subsequent section, I will explicitly consider the communicative channels at work, and how the material form of each object works to transform each text into a particular type of tool.

Piedras Negras Panel 3: Framing locations in immediate and distant spaces

In considering the roles that text objects played in shaping and controlling Classic Maya landscapes, let us look first at Piedras Negras Panel 3 (**Figures 2–3**), a carved stone monument from the site of Piedras Negras, located on the banks of the Usumacinta River in the department of Petén, Guatemala; this monument has garnered the attention of multiple scholars over the years (including Houston and Stuart 2001; Marcus 1976; O'Neil 2005; 2012; Proskouriakoff 1963). Its perceived power in ancient times is indicated by the purposeful defacement of the figures within its frame. As I lead us into the space of the royal court that is represented on Panel 3, it will become clear that this elite and circumscribed socio-political space — as depicted on the monument — served to orient its high-status members and also individuals beyond its borders within several immediate and distant landscapes.

Panel 3 is not a large object, measuring approximately 60 × 120 cm, and yet stands out from other monuments in the Maya corpus for its notably naturalistic and lively depiction of the ruler of Piedras Negras and other members of his courtly coterie. In contrast to the kinds of formal and stoic portraits often found on standing stelae, this scene of the *k'uhul ajaw* of this polity and his court serves as a reminder of the variety of individuals beyond the apical ruler who were included in the inner social and political gatherings of the city, as well as the lively nature of such human



Figure 2: Piedras Negras Panel 3. Photograph by Megan O’Neil, courtesy of Megan O’Neil and the Museo Nacional de Arqueología y Etnología de Guatemala, and the Ministerio de Cultura y Deportes, Dirección General de Patrimonio Cultural y Natural.

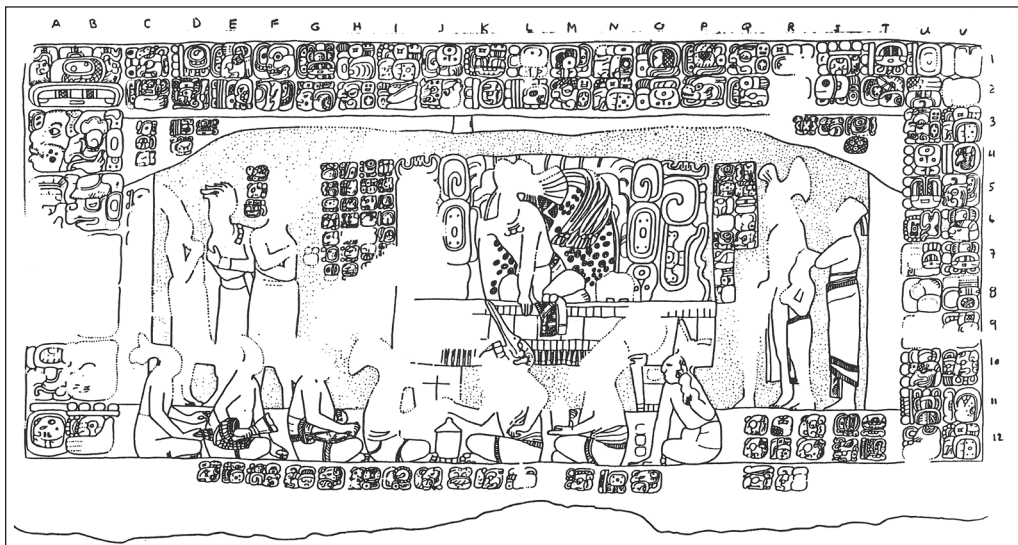


Figure 3: Drawing of Piedras Negras Panel 3 (from Schele and Friedel 1990: 304). Drawing by Linda Schele, © David Schele, courtesy Foundation for the Advancement of Mesoamerican Studies, Inc., www.famsi.org.

exchanges. The monument was associated with Structure O-13 at Piedras Negras, and may have been mounted on its stairway, though its original location is uncertain (**Figure 4**).

I suggest that several experiential landscapes are represented on this monument — spatial, temporal, and political. These orientational axes help situate viewers within immediate contexts, but also suggest imagined contexts that were not immediately accessible to them. In this way, Panel 3

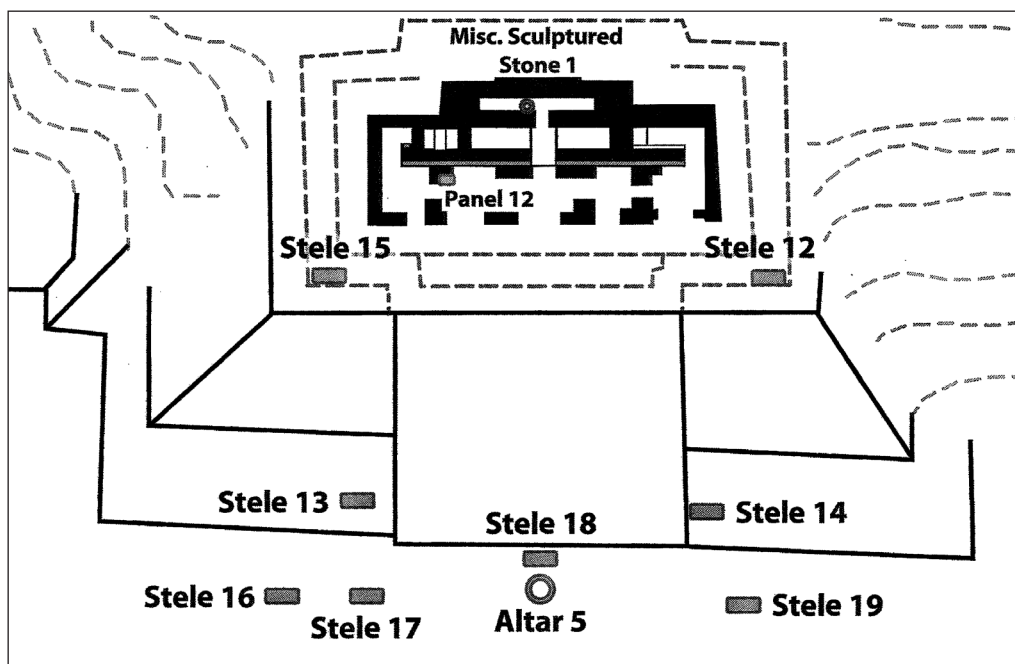


Figure 4: Plan of Piedras Negras Structure O-13, with known monument locations marked; precise original location of Panel 3 is unknown (from O’Neil 2012: 141). Image by Megan O’Neil and Kevin Cain (INSIGHT). Reproduced with permission.

does not just describe or depict particular moments or events, or even a historical series of such events, but rather creates a multi-dimensional space in which individuals are placed, and then made aware of alternate locales beyond their immediate placement.

In investigating the types of orientation involved in the visual consumption of this monument, I begin with the spatial aspects of the sociopolitical world — the most concrete and physically real of the landscapes I suggest. Visually engaging with Panel 3 involves entering, or peering into, the throne room of Ruler 4. Within this indoor architectural space, Ruler 4 is centrally located. In front of him are two seated lines of courtiers, most labeled with names and/or titles, arranged on either side of a drinking cup of chocolate. The scene is framed and bounded by architectural elements — a step, walls (composed partially of text), a rolled-up curtain. Our position as viewer is on the edge of this space. Whether derived from visual conventions indicating hierarchical relationships or from textual descriptions of the names and titles of these exalted individuals, the ancient viewer perceives a defined central space of his or her city. Furthermore, the location of this monument in or on the impressive pyramidal Structure O-13 would have situated the viewer of the text object within the grand and open architectural space of the East Group Plaza. Panel 3 was spatially fixed and the viewer would have had to move him- or herself into a clearly articulated space of authority and governance in order to view it. The viewer, depending on his or her identity within the evoked hierarchy, might identify with the characters and context pictured, or might be estranged from the scene and the communicative devices through which the information is conveyed. In either scenario, the consumption of this text involved relative positioning of the self, both in relation to this object as it is viewed, and in connection with the people and events depicted in image and text.

Panel 3 does more than provide a lively image of a central space of governance at Piedras Negras. Rather, the space of the royal court — a central religious-political axis at each site — is

thrown into relief by the presence of visitors from the neighboring site (and independent polity) of Yaxchilan. Houston and Stuart have identified the individuals standing to the left of the throne as a group of individuals visiting from Yaxchilan; the textual captions label one of them as an *ajaw*, or lord (Houston and Stuart 2001: 72). Their presence in an iconic depiction of centrality and status within Piedras Negras's kingdom serves several purposes. The presence and identification of these others locates Piedras Negras, its leaders and its inhabitants, on a larger stage. The authority projected by the *k'uhul ajaw*, and the hierarchy enacted by the bodies differentially arranged within this space, are thrown into relief by the reminder of alternate hierarchies in other spaces — and, here, by the movement of these foreign bodies into the Piedras Negras court. For ancient viewers who were not themselves acquainted with a wider world beyond their home city, this depiction places them, as local viewers, in the center of a much more broadly drawn plane.

In addition to this local and distant spatial orientation, Panel 3 works to orient the viewer in a temporal framework, though the effect may actually be one of disorientation, or lack of a fixed place. The Maya's extensive use of calendrical references in their texts — such as the Long Count and Calendar Round that begin the Panel 3 inscription, specifying a precise date — yielded a specific and temporally-grounded sense of location, the distinctive type of situating described by Ong (1982: 96) in relation to societies that keep track of time.

While the nature of Maya calendrical recording allowed for precise identification of particular dates, Piedras Negras Panel 3 has remained puzzling to scholars over the years due to certain ambiguities in the temporal references within the text. The text engages with two different eras of Piedras Negras's history — the reign of Ruler 4 (including both his accession and later death), and then the commemoration of Ruler 4's burial place by Ruler 7 (Houston and Stuart 2001: 69). If this is indeed Ruler 4 pictured in the image, then his carefully delineated court — complete with names and titles — is reconstructed some 20 years after the fact. While this possible temporal disjunction represents an interpretive issue for modern interlocutors, it may have carried other meanings for contemporary Maya individuals. The ambiguity of reference or event may have been purposeful, evoking multiple eras simultaneously and reminding the viewers of the ongoing relevance and even presence of the past in the form of ancestors and cyclical time (Carlsen 1997: 47–70; McAnany 1995). Panel 3 also implicitly refers to future events through the inclusion of a child among the ruler's family members standing to the right of the throne. This young boy is named a *ch'ok yokib ajaw* — a young Piedras Negras lord (Houston and Stuart 2001: 72), which may label him as an heir to the throne. In this image, he literally waits in the wings. Nonetheless, his presence and the text that labels him serve as reminders of future generations and future occupants of the throne. Maya individuals who were temporally oriented within specific moments in time were also explicitly reminded of their connections to the past and the future, eras that in the thinking of the Maya were not linearly separated, but rather cyclically overlapping.

Finally, Panel 3 orients individuals within a political landscape, at both micro and macro scales. Artistic conventions such as a vertical hierarchy and direction of gazes help to order the group of people depicted into a legible and ordered hierarchy (Houston 1998; Houston et al. 2006; Jackson 2009). The careful labeling of names and titles of the various individuals gathered here makes relative position and affiliation explicit, organization that is replicated through relative arrangement of bodies. In visual, if not textual, rhetoric, the viewer of this scene becomes implicated as well, joining the imagined unnamed masses that would have witnessed such a scene through the frame of the doorway, standing outside in the plaza.

Like the different scales of spatial organization, larger political orientations are manifest in this monument as well. Larger-scale political maneuverings are revealed through knowledge of broader political history of this era. While the presence of the visitors from Yaxchilan on this monument might suggest a cordial diplomatic exchange, the textual references to the reason for their presence are vague. When correlated with the textual history (or, rather, lack thereof) at Yaxchilan, we find a perplexing disjunction between Piedras Negras's claim to have welcomed a

lordly delegation, and Yaxchilan's textual silence during this period — an era known as the inter-regnum at the site, when no ruler was acknowledged (Martin and Grube 2000: 127). While we can only speculate on the true circumstances that led to this textual mismatch, the authors of Piedras Negras's history clearly are asserting something at odds with Yaxchilan's own official history. Here, the reader in Piedras Negras is placed not only within a larger spatial sphere, but also within a political network that likely exceeds his or her own personal experiences, reinforcing the power differentials between sites, and naming their hometown — Piedras Negras — not only as a central space, but as an arbiter of political history.

Using the frame of technology to describe the work that Maya text objects are doing, Piedras Negras Panel 3 works to orient the viewer within multiple realms. Significantly, in each, there are references both to immediately experienced settings, and to ones that are not directly accessible, and thus require evocation or imagination in order to make them part of an inner cartography. Of the three examples considered in this chapter, this panel is the one immobile monument, and thus the one instance in which the viewer revolves around its fixed location (cf. Whitehouse, this volume). Engagement with this text object must necessarily always happen in the same architectural setting, though perceptual qualities of light, weather, and accompanying viewers would have varied, perhaps yielding different readings in these different situational contexts.

Río Azul Cacao Pot: Containing individual and group identities

The second object I consider, as we continue the exercise of reframing texts within their material forms and exploring the consequences of this interpretive move, is a striking ceramic vessel from the site of Río Azul in northeastern Guatemala (**Figure 5**; Adams 1999; Macri 2005; Stuart 1988). This pot — Vessel 15 — is, like many ceramic vessels, intended as a container. In this case, both the hieroglyphic text on the outside of the container (Stuart 1988) and testing for theobromine and caffeine (Hall et al. 1990) reveal the ancient contents of this pot: chocolate. For the ancient Maya, drinking chocolate was a special substance, perfumed and flavored with various additives (Stuart 1988). The bubbling froth on top of a cup of chocolate represented the vitality — even life force — believed to be contained within this special drink (Marcus and Flannery 1994: 58). In the case of Vessel 15 from Río Azul, this lidded vessel, complete with screw top and handle, was more likely used for the preparation of this drink. It was recovered from Tomb 19, one of Río Azul's elaborate painted tombs, located under Temple Structure C-1 (Adams 1999: 96–97), and dated to the Early Classic period (likely in the second half of the 5th century AD [Stuart 1988: 153]).

The text on the outside, as interpreted by Stuart (1988: 154–156), and Macri (2005) is fairly simple in content, describing the contents of the container as *kakaw* (cacao, or chocolate), and the owner of the vessel as “an advisor to a prince” (Adams 1999: 97). This type of formulaic text, labeling contents and ownership, is typical on Maya ceramic vessels, often following a pattern referred to as the “Primary Standard Sequence” (Coe 1973). This explicit labeling serves to reify the experiential and necessarily dynamic nature of personal identity, and the actions that underscore such an identity. While a Classic Maya lord reclining on a jaguar-skin pillow on a sunny afternoon, savoring his cup of chocolate, may not need to have his name or titles and drink of choice textually identified (is it not obvious to himself and his attendants who he is, what he is doing, and the social meanings of his privileged access to certain foodstuffs?), this labeling allows such actions and meanings to be made permanent. For painted vessels on which chocolate drinking cups and consumption are actually pictured, this continual re-enactment or reproduction (Giddens 1979) is strikingly explicit. In the case of the Río Azul vessel, its likely use as a tool of preparation or storage, without figural iconographic reinforcement of the act of consumption, directly bridges the functional form of the pot (a closed, lidded container) with the evocation of identity and privilege indicated through the textual label. The vessel becomes a container of multiple substances: the



Figure 5: Río Azul Vessel 15. Photograph by George F. Mobley / National Geographic Creative. Reproduced with permission, and with the generous support of the Charles Phelps Taft Research Center, University of Cincinnati.

chocolate itself, the associated privilege of access to this special substance (not to mention the ability to commission and display text), and the identity of the individual who drinks such chocolate and owns such a special container. In considering the frame of orientational technologies, this text object serves to identify and orient in relation to a particular, individual person.

Such special vessels do more than mark individual identities through text and usage, however. As LeCount has convincingly argued, consumption and feasting play key roles as modes of social competition and competitive display in Maya contexts (2001). Within ceremonial feasting contexts, chocolate was a charged and marked substance, and the associated paraphernalia for serving (and, presumably, preparation) acted as “political currency” (LeCount 2001: 935–936). In this way, the Río Azul vessel — and other analogous pots — become contextualized within larger spheres in two ways. First, such special ceramics were used in public moments of display and interaction, critical to integration within particular polities, and between elites from competing Maya polities. The marked substances, including chocolate, that were consumed on such occasions become a medium of social exchange and their containers the literal and metaphorical vessels for such substances and the resulting relationships.

Second, the idea of these vessels containing not just individual identities, but connective relationships is represented by LeCount’s (2001: 936) characterization of such vases as currency, referring to the frequent gifting of elaborately painted vessels between high-ranking individuals across polity lines — perhaps a memento of a notable feast, and visit. The ability of these text objects to move contrasts sharply with the previous example of Piedras Negras Panel 3, which

was profoundly rooted to place within the Piedras Negras polity, even as it referenced other sites. While we do not have evidence that Vessel 15 traveled during its lifetime, its portable size and medium mean that it (and other similar pots) could have appeared in a variety of places and social settings, thus becoming a player itself within the elite social landscape of this era. As we imagine such vessels moving between sites, a contrastive landscape of difference is enacted through style: artists' hands and local conventions of depiction of both text and image are visually accessible, and the form of the text would have communicated the outlines of boundaries crossed as artifacts circulated in the Classic-era world (Jackson 2009: 76–77). The orientation occurring through this vessel is not only individual, but also relates to broader and more complex social landscapes, evoking relationships with individuals both present and absent.

I have just mentioned the forms of texts and images as notable to an ancient viewer, who may have been able to detect differences between styles associated with different polities or regions. We imagine texts on vessels like the Río Azul example being powerful to this Classic period viewer — if we conjure him or her as a literate individual — both for the information conveyed and for the appreciation of the skill and power involved with creating (on the part of the scribe) and commissioning (on the part of the owner) such a textual statement. Indeed, hieroglyphic texts were a perquisite of the elite, displayed and — in the case of the ruler — bestowed as aspects of the construction of distinct elite identities marked by access to “high culture” (Baines and Yoffee 1998: 235). This value placed on possession of text is made more complex by the presence of numerous Classic-era painted ceramic vessels — directly analogous in form to the precious serving vessels described above — decorated not with content-filled hieroglyphic texts, but with meaningless pseudoglyphs, representing nothing more than a visual gestalt of a textual record (Calvin 2006). We might assume that these are the ceramic “knock-offs” of would-be Maya elites, but the presence of such vessels even in high-status tombs (Calvin 2006: 249) indicates that evocation of text was — at least at times — as technologically effective as the actual text itself. In our discussion of the work that text objects are doing, the presence of these pseudoglyphs reminds us starkly that texts are accomplishing things quite apart from their specific content.

I have argued in the discussion of the Río Azul pot for particular, quite specific, landscapes of privilege and of political affiliation that are recorded, evoked, and solidified through text objects, with reference to both the ceramic vessels involved as well as the information — especially labeling of owner, rank, and contents — recorded thereon. However, as the existence of apparently content-empty pseudoglyphs illustrates, other messages are in fact encoded through text that have no connection to specifically expressed and recorded narratives. These are accepted as efficacious, despite this lack of content. Here, the material records of ‘writing’ accomplish work that has become ritualized, if you will, and evokes shared (and when moving beyond a single polity, conceptual) landscapes of high culture, specialized knowledge, and limited resources in a Classic period version of an imagined community (Anderson 1983).

Naranjo Weaving Bones: Implements of production and change

In considering the Río Azul vessel, I observed that the text was fairly short and simple — an indication of the Maya's predilection for name-tagging — but that the text object nonetheless was able to accomplish significant work in defining and reinforcing individual, local identities, as well as broader group identities, and relationships between individuals located at greater distances. This type of labeling is common (Houston and Taube 1987; Houston et al. 1989): as seen above, we are likely to learn something about an emic categorization of the object type (e.g. Houston et al. 1989), as well as the name and possible affiliations of the owner of the object. Analogous types of formulaic sequences appear on multiple types of artifacts, not just painted ceramic vessels; a perspective that takes in both the textual information and the associated material form transforms



Figure 6: Naranjo weaving bones. Photograph by Chelsea Dacus. Reproduced with permission.

these brief texts into much richer cultural expressions. To underscore the role that the material aspect of these texts plays in interpretation of the actual writing, let us look now at a set of artifacts that are name tagged, but which in comparison to the previous example do quite different work, as conceived both literally and metaphorically.

These objects are a set of 24 whole weaving bones, 13 of which are inscribed with glyphs, as well as 15 fragments of weaving bones, reported to have been recovered from a woman's tomb at the site of Naranjo, a lowland Maya site in Petén, Guatemala, not far from the Belizean border (Dacus 2005; Houston and Stuart 2001; **Figures 6–8**). Measuring 15 to 25 cm in length (Dacus 2005: 32), many of these seem to have actually been used for weaving, given the polish visible on their surfaces (Dacus 2005: 33–34). The bones are diverse in decoration, with a combination of plain and text-inscribed surfaces, and a variety of decorative elements topping them. Those that are inscribed showcase brief texts that specify that the inscribed objects are the needles (*u puuhtz'*) or bone needles (*u puuhtz' b'aak*) of a woman described with various combinations and spellings of her personal names and appellatives, identifying her as a woman of elite standing (Dacus 2005: 15, 58–78). These bone tools are notable both for being valued possessions of this person, and productive tools that were used to carry out particular activities, namely weaving and the production of textiles.

A few words on the significance of weaving in Maya contexts are in order. While in most cases, perishable textiles do not survive in the archaeological record of the tropical lowlands, both the rich iconographic record of Classic period sources and the ongoing importance of an elaborate



Figure 7: Naranjo weaving bones, continued. Photograph by Chelsea Dacus. Reproduced with permission.

textile tradition among modern Maya groups inform our understanding of this craft activity. Ethnographic research on weaving by Prechtel and Carlsen (1988), coupled with broader understandings of the Classic-era significance of specialized craft production (Inomata 2001; Reents-Budet 1998), allows us to see the making of cloth as far more than a quotidian or even artistic endeavor. Craft activities in ancient Maya contexts have a supernatural overlay, in which the creation of objects is set up as parallel to, or evocative of, godly types of creation (Inomata 2001: 331–332). In the case of weaving, this traditionally feminine activity replicates aspects of giving birth (Prechtel and Carlsen 1988), underscoring the ultimate productive power of female members of society (Halperin 2008; Hendon 2006).

For the woman who was buried with these weaving bones, these text objects marked her in several ways. As was discussed above in considering the Río Azul vessel, similarly tagged, they provide her with a specific identity — including names, titles and association with a specific polity, thereby marking salient aspects of her self and sphere. Additionally, for these objects, gender roles and ideas about gendered behaviors transform them into signs within another orientational landscape. While much commentary on relative gender roles in Classic Maya contexts consists of a marked/unmarked dichotomy in which the interpretation of extensive textual attention devoted to male subjects is contrasted with the frequent absence of female interlocutors, there are a few instances that allow us to discuss ancient female actors on their own terms. Some of these are striking instances in which women — contrary to apparent tradition — took control of leadership

themselves (including at Naranjo [Martin and Grube 2000: 74–75]). In the case of the needles, the concurrence of the remains of this elite woman with tools that reveal one of the activities she carried out provides evidence for an outlet for female productive power through particular creative or constructive practices that were apparently defining activities for her, in real or symbolic terms.

The example of these weaving bones is also critical to consider in the argument developed in this chapter — in which writing acts as a material technology — because they are the only one of the three case studies that literally qualifies as a tool, and connects directly to a particular, concrete type of technology (that of textile production). In this instance, the bone tools in this set (with or without textual inscriptions) are key aspects of a productive process. According to Dacus, based on their size, shape and curvature, these implements were likely used as weaving pins or picks in conjunction with a backstrap loom (Dacus 2005: 16, 37–38). These functional objects facilitated the creation of fabric of the type that would have been worn as a *huipil* (an embroidered blouse), or presented in folded stacks as tribute offerings as seen on vessel paintings. Elite women weaving in courtly contexts would have produced and reproduced particular designs in their cloth (one can think here of modern Maya villages that traditionally have associated particular designs with specific locales), as well as the knowledge needed to carry out these complex activities. A weaving bone decorated with hieroglyphs moving between strands of thread, a profoundly portable, and movable object, does not literally yield a different design than a plain implement. It does, however, weave the restriction of knowledge associated with text into the communicative designs of a woman's fabrics. This distinction would be visible as she created the textiles, or if her tools were viewed at moments when they were not in use. The landscape within which this woman was oriented was one of gender-determined outlets, and one of alternate routes to power — including the creation of additional, parallel modes of communication in textiles. Her text objects were quite literally the tools that enacted these placements for her.

These weaving bones are distinctive from the previous two examples in their status as a related set, allowing us to compare objects that are not just similar or analogous from different places or times, but objects that would have been used together and were understood to belong together. I draw attention here to the varied states of decoration of these bones: some with elaborate carving and hieroglyphic texts, others with only one mode of decoration, others still with a single curving line, and some that are completely plain. Dacus does not argue for different functions for the majority of these tools, suggesting that they might have been basically interchangeable, or representing a few complementary functions (Dacus 2005: 17). What do we make of the presence of texts on some of these implements and not on others — and yet, the grouping of the whole set together? The contrast seems to me to be a more extreme version of the pseudoglyph example above, in which general forms of glyphs may evoke the same or similar effect as real texts themselves (see also Sparks, this volume). Could we say the same of the differing communicative channels of a carved finial element, a single line, or even a blank needle — that in an environment of special, elite production the impact that a text produces can also be produced through blank space? This is an extreme suggestion. And yet, I wonder about the juxtaposition of elaborately carved stelae in Maya public plazas with other sites that exhibit erect stelae that are completely blank, though the form clearly indicates the genre of monument that is intended. These plain monuments may have been plastered and painted in ancient times. Or, perhaps there are instances in which invisible text, or absent text (or even imagined text) is able to do some of the work that realized texts can do (cf. Cessford, this volume). Dacus proposes a life history for these bone objects in which texts were added at different times, as indicated by different levels of wear on the bones and glyphs (Dacus 2005: 34–35), which similarly suggests that non-textual objects (especially in groups or sets within textual contexts) may not be entirely 'blank', but rather incipient in their textuality. I am offering some fairly wild speculations, but these thoughts are a reminder that despite the apparent solidity of texts, and materialized texts, they are not as stable or unchanging as we might think (see also



Figure 8: Naranjo weaving bone fragments. Photograph by Chelsea Dacus. Reproduced with permission.

Piquette, this volume). As we consider their technological efficacy, we must take into account the ways in which they change, and readings or experiences of them change.

Finally, as we remember to consider the shifting life story of text objects, it is important to note that a few of the needles included within this collection were broken fragments (**Figure 8**), including some that feature fragments of texts (Dacus 2005: 87–96). We confront here the ultimate materiality of these texts — that they may be destroyed, broken or decommissioned in their physical forms. As a tool for making textiles, a broken weaving needle is no longer efficacious. As a text, a partial statement is a less than completely clear communicative channel. And yet, the inclusion of these objects in this assemblage suggests that the power and meaning of this technology is not completely drained despite this alteration of physical form.

The weaving bones are literally technological: they yield a special type of product, a textile, which is in itself a communicative channel. Their status as text objects makes multidimensional the ways in which they make and remake identities, both connected with individuals (a particular elite woman at the site of Naranjo), and in conjunction with culturally held ideas of gender roles, providing an additional landscape of orientation. We are also reminded that the instability and change that I have commented on in conjunction with constructed landscapes similarly characterize these technologies themselves: they are not stable or static, and the changes within them also impact how they are used and consumed by humans.

Material Channels of Communication

Interaction of Multiple Communicative Channels

In the discussion above of the three case studies, I have considered these text objects through their roles in ordering a variety of landscapes, while also considering how ancient viewers would have interacted with their material forms. In thinking and writing about these objects I have, at times, had to remind myself that our collective focus is on text (not image) and materiality: image and text intersect and intertwine in profound ways on Maya objects, and it is difficult and problematic to attempt to separate them.

The implications of this are several. These objects have powerful voices because there are multiple interpretive modes through which they can be engaged. Literacy is not a black and white proposition for ancient Maya individuals (Houston and Stuart 1992), and one can imagine different levels or types of understanding that would have guided readings of these text objects at varying depths. I argue that the wide range of possibility in reception of these texts makes them powerful as technological agents, and efficient in accomplishing their orientational work — though, presumably, with differing results depending on the viewer's knowledge and interpretation.

I also want to point out that in the preceding discussion, I have often referred to the content of the texts, despite our interest in this volume in moving beyond a transparent reading, and engaging with material practices connected to such text. I have attempted to combine an understanding of the material forms of these text objects with commentary on the content; in the subsection that follows, I will look more closely at how the form of each object impacts the way the text is consumed, and thus how the work of the text object is accomplished. Nonetheless, in thinking about juxtapositions of text and materiality, the examinations above have underlined how analysis of contextualized content, in fact, returns us to material practice, in the form of orientations that shape ancient individuals' sense of self and place — and, by extension, resulting action — within the spheres that they inhabited. As these text objects were encountered and interpreted, they acted to provide direction and instruction to the viewers, through both form and content.

Material Forms of Text Objects

In thinking about Piedras Negras Panel 3, Río Azul Vessel 15, and the Naranjo weaving bones, I acknowledged the different forms of each, and imagined something of how each text object would have been interacted with. What is the impact of the different material forms of these text objects on the work that they accomplish in providing orientation in a number of planes? What is significant about the physical form that they take, and the way that this form is experienced by the viewer?

At Piedras Negras, the ancient viewer would have stood in front of Structure O-13, on the edge of an open, paved plaza, having traveled to this place to see this object, or encountered it by chance while walking through the city. The Río Azul pot was passed from hand to hand, tilted for pouring, set down on the floor, picked up again and filled with fragrant liquid. It was displayed and moved. At Naranjo, the weaving bones were put to use in a loom, and then folded up, perhaps, in a cloth pouch for safekeeping. They were touched and moved, possibly shared with a fellow crafter, and occasionally broken.

As we consider these texts as technology, we must picture how they are put into play and used. By imagining an ancient viewer, we are invited to consider how the text is consumed or internalized. Each of these objects accomplishes their work, and allows for engagement or interaction with itself, through the interface of its material form.

In the case of Panel 3, the form that this text object takes is — clearly — a carved stone wall monument. But, I would argue, thematically this text object operates as a *frame*. Visually, we perceive a social and architectural space (which the text itself helps to bound). The types of local and distant orientation discussed for this monument — spatial, temporal, political — are conveyed through things understood to be within this frame, or to exist beyond its borders.

Analyzing the form of Vessel 15 from Río Azul reveals that, not at all surprisingly, it is (and acts as) a *container*. It holds literal and metaphorical substances that may be consumed or replenished within this volumetric space, and which allow for the storage and movement of these substances to other places and for other people. As a container, this vessel is handled and handed on: it moves between social spaces on individual and group scales.

Finally, the weaving bones are *implements*. They carry out work in direct and indirect ways, and are personal and connective when used for their primary function. As they move in and out of sight, they pass through important substances (textiles), and enter into a recursive process of creating further communicative avenues. Their changing nature is a reminder of the dynamism associated with tools and text objects, as well as their products.

These may seem like less than revolutionary characterizations of these text objects — I am merely placing them into broader descriptive categories. And yet, each of these thematic characterizations says something about how the text and message are transformed by the particular form in, or on, which they are expressed. These descriptors similarly suggest how these texts are interacted with and the modes through which they are interpreted. As we think about these material forms carrying out the orientational work I have described throughout this paper, it becomes clear that the material nature of the text objects themselves provides the avenue through which this expression and maintenance of cultural landscapes is carried out.

Effectiveness Through the Real and the Imaginary

In considering the cultural landscapes that are created and maintained through texts and written technology, I have emphasized that some of these are real and tangible, while others are abstract, distant, or even imaginary to the viewer. Thus, these objects operate on, and locate individuals within, far wider spheres than immediate experience would yield. As we consider the ways that the material forms of these text objects make them particularly effective in their work, we must also notice the effectiveness of these objects in terms of how they combine or juxtapose the real and the imagined.

Throughout, the interest here has been in remaining in touch with the materiality of these objects — these are artifacts, things, that could be (and still can be) touched. In this sense, there is no ‘realness problem’ with these objects. They were physically present in the ancient world, and remain physically available today. And yet, these objects are static and unanimated: a frozen stone scene of a court, a pot, a collection of carved pieces of bone. For them to carry out their work most effectively, they are used, interacted with, made part of social practices. Intriguingly, some of the very same characteristics I have highlighted in terms of the material natures of these objects are ones that in a very different field, that of literary studies, have been argued to provide authors with powerful ways to lift objects from the page and allow the reader to vividly animate textual descriptions (Scarry 1999). According to Scarry, the presence of a frame (beyond which bodies move, enter, and exit), a tilting motion (of a vessel poured and righted again), and the action of repeated appearance and disappearance (of a bone weaving implement) all are key characteristics of the vivacity of image in literary and cognitive contexts (Scarry 1999: 100–157). In our case, these objects are not imagined, and do not need to be lifted from a two-dimensional page. However, it may be that their physical properties render them especially nimble for being put into motion in the mind, or recalled later when not present or not in active use. By the nature of their material

forms, and the ways that these forms are used in practice, these text objects hold particular promise for vivacity and duration in the effects of their work.

Conclusions

Through the discussion and exploration of these three objects, I have argued for text objects acting as a type of material technology, carrying out orientational work in a variety of cultural and experiential landscapes for the people who viewed and used them. Texts are thus intertwined with the material world through the impacts they have on individuals' practices (especially in relation to how they operate in sociopolitical planes, as determined by their relative location and identity), and through the ways in which their material form channels certain types of interactions and interpretations.

Far from being reified in their material form (a common contrast drawn between oral and literate traditions, Ong 1982: 90), we see that the text objects discussed here are changeable in both their material forms and contexts (McGann 1991: 182–186; van Peer 1997). As artifacts, these objects have life histories (Holtorf 2002) and can change in their form and in their place and manner of use. As text objects, the written record becomes implicated with these changes, and may be seen as dynamic, transforming and transformative.

Changeability of these text objects is also important to consider as we imagine their reception among ancient viewers, who would have varied widely in their knowledge, background, and identity. Not all viewers would have perceived all of the orientational directions I have suggested above. Nonetheless, these text objects encode information that potentially provides locational instructions in a material form that is particularly effective due to their combining of multiple communicative channels, and the distinctively evocative and vividly imaginable characteristics of the objects themselves. Understanding these texts in their material forms, and embedding their important content within the physical format that transmitted them, highlights the experience and actions of textual consumption, and allows us to better understand content and form in a synthesized fashion.

Returning to the opening premise of orientational technologies, the carved stone panel, ceramic vessel, and incised weaving bones discussed here all act as markers in experiential landscapes through the ways in which they were used and perceived, and through the work that their textual components do. They are shifting, in form and in perception, a quality that corresponds with the constructed and reconstructed (and thus transforming) nature of cultural landscapes. And, when their material forms are not immediately present or accessible, these text objects may be powerfully evoked, continuing orientational work and uniting both the experiential and imagined aspects of ancient sociopolitical landscapes.

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