



PROJECT MUSE®

Rituals of the Past

Rosenfeld, Silvana, Bautista, Stefanie

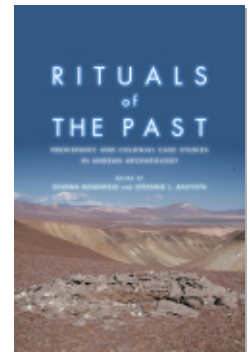
Published by University Press of Colorado

Rosenfeld, Silvana & Bautista, Stefanie.

Rituals of the Past: Prehispanic and Colonial Case Studies in Andean Archaeology.

Boulder: University Press of Colorado, 2017.

Project MUSE., <https://muse.jhu.edu/>.



➔ For additional information about this book

<https://muse.jhu.edu/book/51261>

2

Chavín de Huántar is a well-known middle-late Formative (1200–500 BC) site located in the north-central sierra of Peru, recognized for its monumental construction that includes fully worked stone blocks of considerable size, extensive stone art that decorated many of its architectural contexts, and major use of underground space in the form of stone-lined galleries that are often labyrinth-like and run deep into the site’s major platform mounds (figure 2.1). Although the term *castillo* is still used to refer to the site or some of its buildings (e.g., Quilter 2014:140), all current investigators consider the principal function of these monumental structures to be religious and often refer to the site as the temple(s) of Chavín (Burger 1992; Lumbreras 2007; Rick 2005). While rituals may occur in a variety of contexts, it seems obvious that religious contexts are likely to witness some degree of ritual.

Ritual itself is worthy of definition, not so much for detecting it in archaeological circumstances but to generate a context in which to think about it. Ritual includes the idea of action, as it usually consists of rites or ceremonies but adds the sense of repeated actions, done in a customary manner (Merriam-Webster, “Ritual”). Beyond this simple definition, ritual has been dealt with anthropologically in a literature impossible to summarize here, but Moore’s (1996) definition of ritual architecture brings important elements to the fore. He agrees with Tambiah that ritual “is a culturally constructed system of symbolic communication” (ibid.:136,

The Nature of Ritual Space at Chavín de Huántar

JOHN W. RICK

DOI: 10.5876/9781607325963.c002

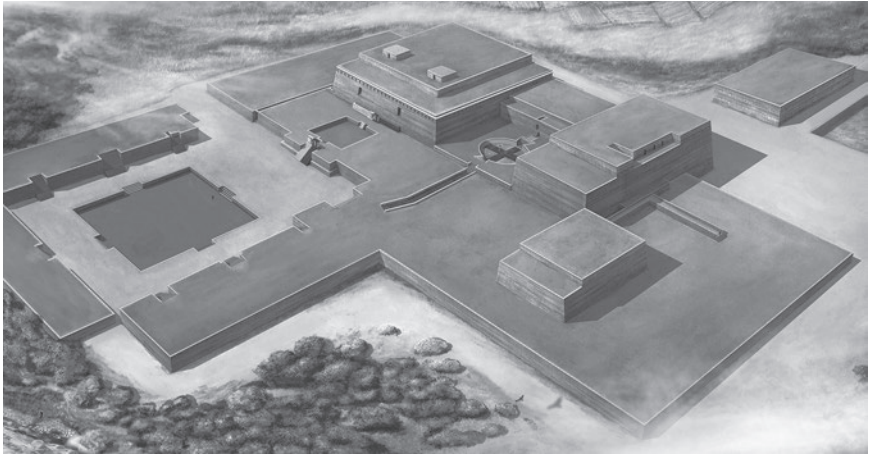


FIGURE 2.1. *Current interpretation of the architectural layout of Chavín de Huántar at about 600 BC cal. Art by Miguel Ortíz.*

citing Tambiah 1985:128). In application to most archaeological situations, however, Moore acknowledges that the symbolic meanings on an etic level will be difficult to recover. This definition leaves the archaeologist with the option of simply listing the traits or assemblages of traits found archaeologically or plunging into an interpretive depth that may or may not bear a resemblance to the original meanings understood by those involved in the ritual.

I propose a somewhat different perspective. Rituals may be a form of communication, but they are likely to have been carried out, consciously or customarily, according to the purposes of the various actors. This raises the issue of effectiveness in serving those purposes, and while feeling “symbolically communicated” may be one of those purposes, I suspect that more tangible outcomes were often at issue. Outcomes that can be obtained easily and reliably because of access, power, or other capability may not need ritual involvement. Similarly, impossible outcomes are unlikely to be pursued through ritual for any length of time because the rituals will be considered ineffective. But reasonably probable outcomes that are remote in time, space, or likelihood may be facilitated, perceptually or actually, by ritual—customary actions that are effective in obtaining outcomes over which the participants have little other controlling power. Needless to say, there may be multiple desired outcomes to rituals, especially those affecting or perceived to be affecting individuals in different roles. Thus, while communication is involved in ritual, the goals and perceptions vary according to situations and who is involved.

Chavín has long been seen as a religious center in which ceremonies occurred in various contexts involving audiences or participants. This defines a set of enactors, presumably based at Chavín, who designed and built the architecture and designed and carried out the rituals and another set of participants who observed or joined the rituals. The former have often been characterized as priests or religious leaders, while the latter are termed visitors, supplicants, or travelers. There may have been a role in the center for simple agrarian participants, but I have argued that the data and configuration of Chavín emphasize the presence of high-ranked individuals. What outcomes any of these involved parties would have sought is speculative, but the architectural contexts give hints about the strategy of the planners and the experience of the participants. This chapter reviews probable ritual contexts at Chavín de Huántar, including a number recently discovered, to update our vision of this key Andean site.

ARCHITECTURE

The architectural forms at Chavín help confirm both the site's probable religious function and the presence of ritual contexts. Plazas of various sizes, largely devoid of surface features indicating obvious non-ritual functions; staircases with fairly high steps made of cut stone transported significant distances; alignments of staircases representing likely procession-ways; and highly ornamented gateways are all highly compatible with generalized ideas of ritual practice. The dark, confusing, and extensive underground spaces, mysterious and unsettling to many visitors today, are difficult to see as contexts for any comfortable residential or materially productive activities; and the expense of their planning, construction, and maintenance is at odds with any attempt to place them in an energetically advantageous strategy of space use. Add to these the massive platform mounds capped by modest-sized but massive walled and symmetrically placed structures overlooking the plazas and accessways, and the scenario of ritual seems almost undeniable. Then the negative evidence—the lack of residential architecture in the site's monumental core,¹ the lack of occupation deposits with any apparent evidence of trash expected of residential function, and, perhaps tellingly, the complete lack of hearths suitable for residential cooking—is compatible with the assumption that the monumental center of Chavín functioned primarily as a religious center. Lack of evidence for storage of mundane materials, lack of any defensive strategy in the architecture, and the scarcity of generalized weaponry further distance us from alternative functions. Puzzling but perhaps compatible with these observations is the total lack thus far of interments of formally positioned, complete

human remains, but the presence of non-articulated human bones—often broken, burned, or cut marked—in scattered locales suggests potential ritual activity resulting in the deposition of human remains (Lumbreras 2007:300). All of these are arguments that the monumental core of Chavín served primarily, if not exclusively, as a site of ideologically related activities. Moreover, others and I have argued that there seems to be consistency in the successive architectural forms and layouts that suggests a presence and continuity of a planning strategy over many centuries (Kembel 2008:78). I have argued that Chavín's configuration is a strategic attempt to create a physical context that would have generated desired psychological states in inductees and participants in the evident cult of Chavín (Rick 2005, 2006).

Thus, in a general sense, it is possible to argue for Chavín's core having served as a religious center, even if the heart of many of these arguments is to some degree the classic "if we can't otherwise identify the function, it must be religious/ceremonial/ideological." But the evidence can probably be seen as arguing that these are temples beyond a reasonable doubt. Turning to ritual, we face the necessity of populating the scene with specific contexts, actors, objects, activities, and intentionality on a far more explicit level. Aside from the inference of processions, what actual evidence is there for ritual activities in the center? Prior to the Proyecto de Investigaciones y Conservación de Chavín de Huántar (hereafter the Stanford Project), relatively few projects had either reached stratigraphic depths to observe Chavín period ceremonial remains, were working in appropriate locations, or had documented or published any relevant evidence. A notable exception was Lumbreras's excavation of the Ofrendas Gallery in 1966 and 1967, producing what he interprets as an extensive offering of highly elaborate pottery and other materials that served as a dedicatory offering for the adjacent Circular Plaza (Lumbreras 1993, 2007). The late site caretaker/curator Marino González Moreno cleared many key ritual locations in Chavín, but in spite of significant records of his work now being published (González Moreno 2012; Lumbreras and González Moreno 2012), it seems unlikely that data of the quality capable of inferring ritual behavior will emerge. Thus, we largely have conjectural contexts with little evidence of specific ritual activity.

This raises a particularly difficult issue for most ritual analysis, especially in formal settings such as ceremonial centers—the taphonomy of ritual evidence is often overlooked, and our most reasonable site formation models for intensively used and maintained ritual use surfaces will predict only rare and poorly preserved remnants of the actual activities. Chavín is no exception—our experience excavating over a wide range of Chavín surface contexts

confirms that Chavín was maintained with an exceptional lack of accumulation of sediments or artifacts. Most deposits built up over likely ritual surfaces are identifiably post-Chavín in age, either from subsequent cultural periods or from post-Chavín erosional processes or events. While we attempt to intensify field methodologies to capture fugitive and small-scale data in such surface circumstances, overall the prospect of Pompeii-like fossilization of original surface materials in ritual-reflecting distribution is not promising. The Chavín Stanford Project has been able to identify discarded materials from the cleaning and reconstruction of ritual space and architecture (Mesía 2007), but behavioral inference from such materials will always be difficult at best. Chavín has the distinct advantage of cave-like underground contexts, in which at least some surface natural transformations of the archaeological record may be reduced (e.g., plowing, some forms of washing, heavy temperature swings) and dispersion contained. Other natural transformation, especially water transport in canals, and cultural transformations may be focused and extreme; in practical reality it seems that many of the galleries of Chavín were explored and largely cleared prior to the beginning of careful archaeological methodologies.

We are searching for the material correlates of ritual activity, which logically involve ritual material, its local distribution as relatable to human activity, the architectural and landscape contexts of those assemblages, and their greater pattern within a ceremonial core. At best we can hope for a certain percentage of the objects and patterns to be preserved and recoverable across time; many may have been eliminated, altered, reorganized, intermixed, and made otherwise difficult to use as evidence of ritual. Within Chavín, it is clear that many contexts have been altered or destroyed across time; the biggest factors are:

1. The inferred Chavín period maintenance of ritual areas, removing physical remnants of activities on a regular basis
2. Activities of immediately subsequent people who clearly dismantled and otherwise altered many contexts, particularly the more elaborate ceremonial ones
3. The long-term cultivation and animal husbandry still occurring on the site at the time of Julio C. Tello's early research in the early decades of the twentieth century (Tello 1960)
4. Clearing of sediments down to the highest recognized Chavín structures and surfaces, a mid-twentieth-century archaeological practice that took little care in detection and documentation, not to mention publication (Lumbreras and González Moreno 2012)

5. The erosion and displacement of structures and materials caused by the massive 1945 landslide (Indacochea and Iberico 1947; Turner, Knight, and Rick 1999), which impacted, scoured, and buried the site, injecting sediments under high pressure into even well-sealed underground spaces.

Thus, physical evidence of ritual activity on flat, unobstructed surfaces will be the least likely to have survived, having been easily cleaned, perforated through, swept away, or excavated out of existence. Contexts that accumulate sediment rapidly, such as sunken plaza floors and other basins, will have somewhat greater potential, as do intentionally sealed situations in which surfaces or structures were intentionally buried (see Contreras, this volume). Materials and contexts that are underground have much greater potential for preservation but are also foci of subsequent activity, at Chavín used for trash pits (or dumps) or post-Chavín interments or suffering intentional cleaning or looting. Ritual materials intentionally placed underground, such as offerings, have much greater potential for survival if not removed by looting. Perhaps the best situations that can be hoped for would be materials and contexts used for actual underground ritual activity, in which the chambers or other spaces will naturally contain the materials, where reduced light or access may limit the removal of materials, and where rapid sedimentation will tend to cover materials quickly.

MATERIAL EVIDENCE OF RITUAL AT CHAVÍN DE HUÁNTAR: RECENT FINDS

The strategy of this analysis will be to examine material finds in recent work at Chavín de Huántar by the Stanford Project, within general locational categories that consider the architectural and other contextual factors simultaneously.

FINDS ON EXTERIOR USE SURFACES

A fair range of excavated areas falls within this category—notably, surfaces in the area of the Black-and-White Portal of Building A, the atrium of the Circular Plaza, the floor of the Circular Plaza, small surface areas to the west of Buildings A, B, and C (but within the core), surfaces to the north of Building C, and the edge of the monumental core in the Wacheqsa sector (figure 2.2). A complexity to consider is that many of these areas had multiple use surfaces in the Chavín period, as floors and buildings were superimposed over time. In most cases we only have the chance to see the latest Chavín surface, given our project policy of not removing or damaging Chavín period structures to

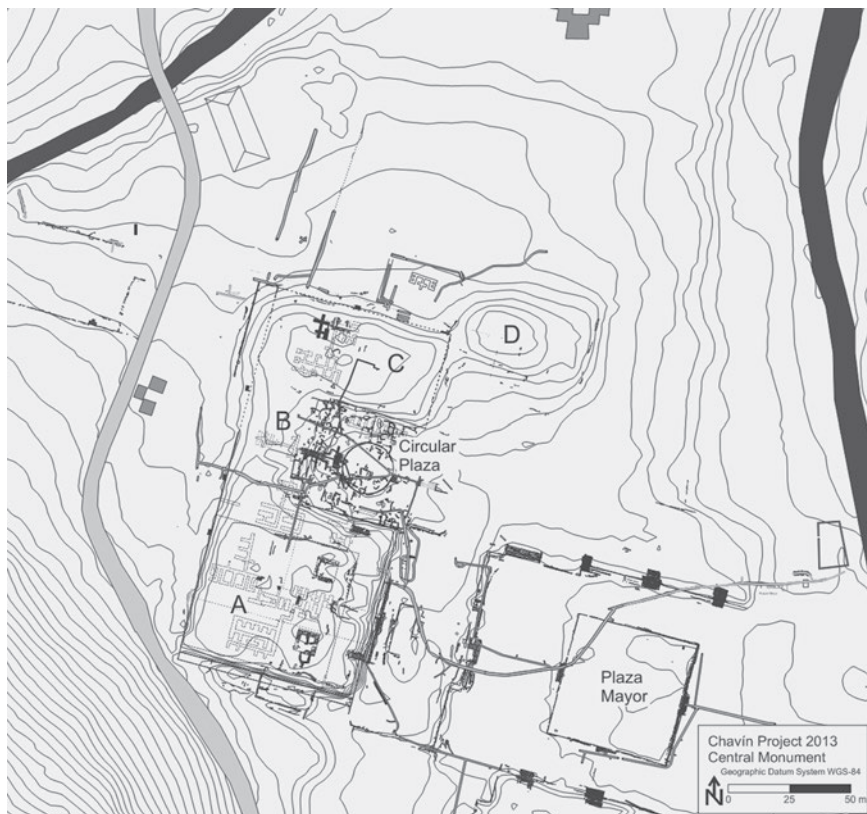


FIGURE 2.2. Map of relevant parts of the monumental core of Chavín de Huántar, showing plazas, major buildings A–D, and locations mentioned in the text

access underlying spaces. Although in many cases the preservation of these surfaces was adequate, very few materials were found on the surfaces, and there were few non-architectural indications of ritual arrangements. Materials in fills between Chavín surfaces are considered separately.

The most notable examples come from excavations to the north of Building C, where a complex arrangement of ceremonial architecture has been uncovered with some Chavín period use surfaces reasonably undisturbed. The central and perhaps dominant feature of this late Chavín (ca. 900–550 cal BC) arrangement is an otherwise unknown architectural form for the site—an elevated ramp leading to the facade of Building C. Lying between the balustrade walls of the ramp is an elongate flat surface bearing a small-dimension surface canal, which is draining toward the building rather than away from it.

The surface itself is well-defined, consisting of packed clay into which small fragments of material were embedded. The floor contents were primarily tiny but highly decorated Chavín black ware sherds, fragments of a variety of bone ornaments, and small fragments of turquoise and obsidian; it is unclear if the latter are broken ornaments or shatter from production. By a close examination, it has become obvious that obsidian was massively smashed and otherwise reduced and damaged. The abrupt angular fracture pattern and intense surface scratching on the very small obsidian fragments in a number of Building C ceremonial contexts suggest intentional destruction in what may have been sacrificial acts (figure 2.3). Overall, the material on this floor is small, broken, and detrital in character but consists of remnants of rare raw materials or highly worked items that would be consistent with showy ritual activity involving the intentional destruction of valued materials.

Another potentially parallel situation comes from the Circular Plaza, where an opportunity to excavate below the ca. 800 BC plaza floor revealed a flagstoned floor found about 2.5 m below. While the 2 m × 2 m area was insufficient to determine if this is a plaza floor, the area did reveal that a small-dimension canal, similar in size to the one mentioned above, was present on top of the flagstones and used them as the canal base. The floor was immediately overlain by typical layered stone and clay mortar fills but had been clean prior to the fill buildup.

FINDS WITHIN CONSTRUCTION FILLS

Chavín monumental construction “fills” generally consist of a formulaic combination of tempered clay mortar surrounding layered, highly selected quartzite blocks of elongate rectangular form, sometimes laid in courses that alternate orientation to provide an interlock between layers. On occasion we have penetrated this exceptionally stable core of construction and noted that within the massive clay mortar is a slight but consistent background of very small, often less than 1 cm pottery, obsidian, and marine shell fragments. The regularity of this presence likely represents some sort of background behavior regularly supplying this material to the construction process. A second fill content is the presence of camelid bones, usually found in small groups in limited fill areas, as if the remains of some camelid-related event that occurred at or near the time of the fill installation. Notable in these cases is that this occurs in fills of major buildings, as described, and in somewhat less organized fills used to build up terraces and some floor surfaces; also, the bones, often large fragments or complete bones, come from bony extremities

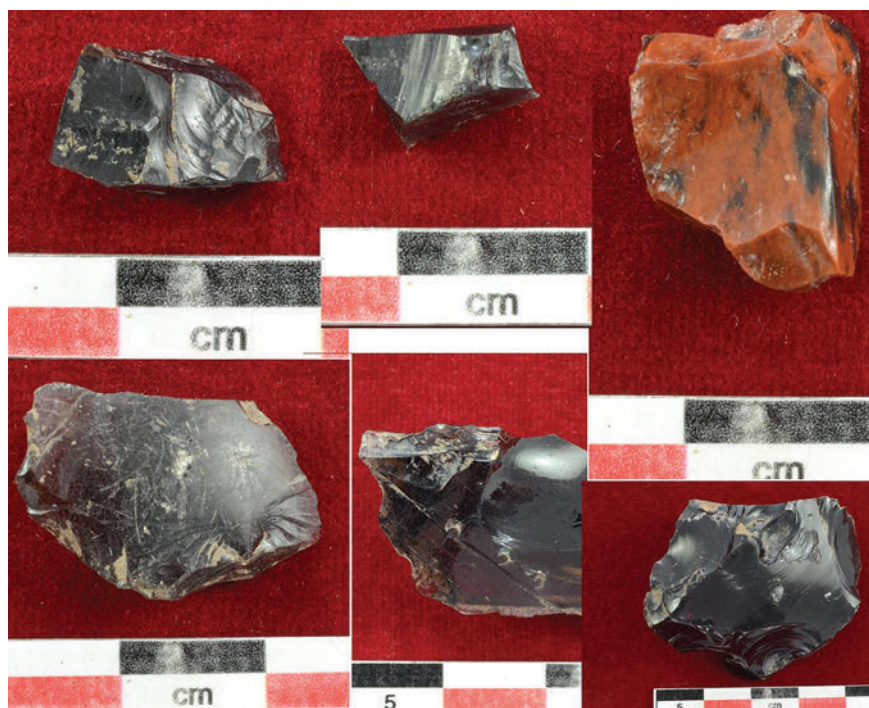


FIGURE 2.3. *Samples of smashed, hammered, and scratched obsidian angular debris illustrating intentional destruction of this material in a number of Building C contexts*

of camelids, which seem to be exceptionally large in size compared with modern llamas.

A quite different assemblage comes from clear concentrations within fills, representing materials deposited in high density within limited layers. Such a deposit was found in the West Field area (see Contreras, this volume, for a more detailed description of this sector) toward the top of a deep fill built up in a single event in late, possibly terminal, Chavín times (estimated on ceramic associations to 750–500 BC cal) to avoid the collapse of a massive facade of a West Field monumental building. This thin layer contained the fragmented remains of a very limited number of late Chavín vessels, with many fragments per vessel present. The pottery included polychrome pre-fire painted, post-fire resin-painted, and incised vessels with a decorative style unlikely to have come from the Chavín area, as well as Janabarroide² black polished circle-stamped vessels typical of Chavín and an oversized camelid ulna sculpted to provide a tray-like form. These objects and the surrounding soil were stained and at times

saturated with a cherry-red mineral colorant that appears to be cinnabar, clearly an intentional scattering of concentrated pigment. The material was apparently deposited within a fill episode, but it is not certain whether this represents a use surface within that fill or simply materials deposited during continual filling.

A more ambiguous context comes from above the roof stone beams of lower Rocas Canal, just to the east of the north-flanking mound of the Plaza Mayor. Here, a highly localized and high-density concentration of Janabarroide sherds representing at least ten vessels was found, possibly a poorly defined pit fill or a deposit placed over the canal roof during a filling activity. Little other material was present, although a fair amount of charcoal was interspersed within the deposit. Most striking is that with very few exceptions, the hundreds of polished black potsherds were decorated only with circles, circle-dots, or concentric circle motifs—a very small subset of the Janabarroide design repertoire. We are not aware of any other sizable ceramic concentration at Chavín with anywhere close to this exclusivity of design, circles or otherwise. At the very least, this evidence indicates that pottery with certain designs was isolated for disposal and the pieces were probably used together, suggesting highly structured, likely ritual behavior (Rick 2014).

FINDS WITHIN PITS OR CISTS

In Chavín it is rare to encounter pits dug from Chavín-era surfaces, a type of context that might have material remains that were cleaned and buried from ceremonial contexts or placed as small-scale caches or dedicatory offerings. I have previously observed the general lack of small-scale, informal, or otherwise modest offerings at Chavín (Rick 2006:210), while fairly clear offerings involve large amounts of material, exotic and probably valuable items of rare raw materials, and often a very specific range of objects, as in the case of the Ofrendas and Caracolas Galleries (Lumbreras 2007; Rick 2008:24–27).

A large conical pit of Chavín age was found in the West Field area, relatively near the major lower terrace. Although only partially excavated, since much lay beyond the excavation units undertaken, the pit was around 2.5 m in diameter and filled with fairly loose earth, complete and large fragments of camelid bones, large chunks of charcoal, and an unusual complex of Chavín pottery. Although new to us at the time, this pottery is clearly Chavín in form, often consisting of bottle forms, including some with small, spherical bodies and long, large-diameter tubular necks—often taller than the body itself by a considerable factor and often much heavier (figure 2.4). Other forms are present, but the distinctive characteristic is a fine, smooth finish on a battleship-gray



FIGURE 2.4. *Rare intact example of sacrifice ware found in a Building C subterranean canal below a vertical chimney, illustrating the striking form, fine but not highly polished surface treatment, and total lack of evident decoration typical of this category of ritual material*

ceramic that is not highly polished or decorated. Since this 2001 field season discovery, we have become accustomed to finding this ware in situations that seem to imply ritual, particularly sacrificial contexts. If accompanied by other ceramic forms, they are always among the most highly decorated of the Chavín pottery variants. In this pit, the pottery was found in distinctively large fragments—the breaks were fresh and sharp, and the vessels themselves showed little or no signs of wear, as if they arrived at this location brand-new and were broken by perhaps one simple, intentional act. The condition of this pottery seems similar to much larger sacrificial contexts associated with later Wari period sites (Cook 1984–1985; Isbell and Cook 2002) and may represent a less structured but still highly organized series of ritual acts, perhaps related to dedicatory or feasting behavior.

The large, square Plaza Mayor produced two likely ritual contexts that were located through two separate remote sensing efforts. In both cases resistive or dense anomalies were suggested starting just below the plaza surface and extending downward beyond the method's depth limitations at 2–4 m below surface. One, in the geometrical center of the plaza, proved to be a very large river boulder with signs of fire-reddening on its surface, resting within and on top of cultural deposits with varied characteristics (Rick 2008:17). To the west of the large boulder, which had been trimmed to accommodate it, we found a circular stone-lined pit covered with elongate stones. On top of the stone beams lay two *Spondylus* shell valves in closed position, full of a cherry-red powder that is likely to be cinnabar. Within the cist itself, neatly occupying the extent of the chamber, was a stone vessel with four short cylindrical feet. Low relief carving on the vessel's sides showed a continuous band of rhomboids. The vessel had originally contained pigments of various colors and a small series of poorly preserved beads of shell and soft stone. In the area of the cist we could discern the presence of a larger pit enclosing both the cist location and the huge boulder. A small air pocket was found under the boulder, sufficient to be sure that cultural material underlay it and to determine that another large rock of as-yet-unknown dimensions continues downward, within the area of the large encompassing pit. Excavation conditions and time did not permit further investigation of this feature.

A second geophysical anomaly was detected toward the northwest corner of the Plaza Mayor in 2009, which upon investigation proved to be a similarly huge river boulder again lying just below the original plaza floor and similarly burned on its surface, as evidenced by localized fire-reddening and heat spalling (figure 2.5). In this case, clear evidence was found of a pit, measuring approximately 3 m in diameter and closely enclosing the large boulder, which



FIGURE 2.5. *Exploration of deep pit below the floor of the Plaza Mayor, capped by a huge spalled and burned boulder. Pit extends at least 2 m below the base of the boulder; layers of plaza foundation construction including sizable boulders are visible in profile.*

extended downward for more than 3 m. Excavations around the boulder but within the pit found increasingly loose soil that eventually entered under the rock, but at a depth of greater than 4 m it became dangerous to work because of the overlying multi-ton boulder, and excavation was suspended. Little material of note came from the pit fill, but close to the maximum depth of our excavation we found a linear arrangement of five approximately 25 cm rounded stones of brilliant colors: red, mustard yellow, white, gray, and black.

In both of these cases, ritual activity is clearly indicated, but the activities remain enigmatic because of our incomplete knowledge of the very large pits' total contents and configuration.

FINDS IN UNDERGROUND CONTEXTS: GALLERIES

As most galleries were apparently cleaned out long ago, there are few opportunities to find intact deposits; one of the exceptions was the Ofrendas Gallery (figure 2.6), whose contents turned out to be surprisingly intact (Lumbreras 1993, 2007). Ofrendas suggests that some galleries may have functioned to receive offerings that were so extensive and covered so much floor area that it

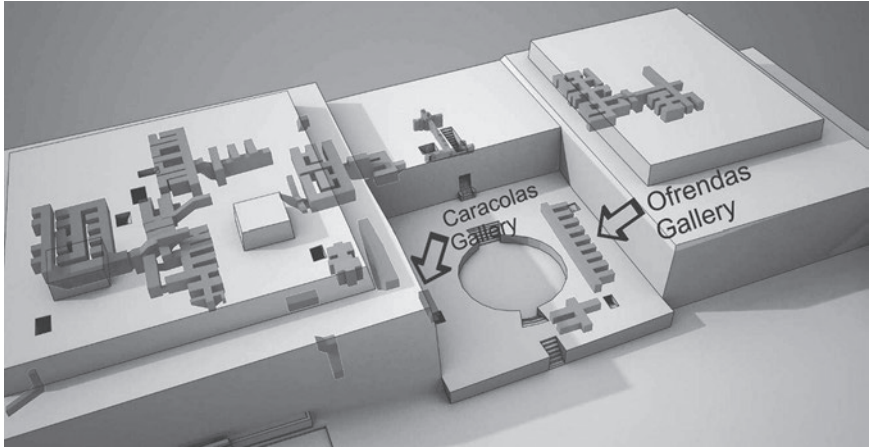


FIGURE 2.6. Location of galleries mentioned in the text and general gallery distribution in Buildings A–C. Modified from graphics courtesy of the Rietberg Museum (Zurich, Switzerland), and ArcTron 3D.

seems unlikely that the space could have been used subsequently for any other purpose involving human activity inside. The Lanzón Gallery, with its central idol and floor plan that seems to focus on this image, suggests that ritual involving repeated activity aimed at the Lanzón most easily explains the situation, and interpretations can easily include the possibility that the Lanzón functioned as an oracle or was otherwise consulted, viewed, or animated. Recent work by the acoustics team of the Stanford Project has shown that if the Lanzón spoke with the voice of a *pututu*, ducts leading out of the Lanzón Gallery would have enhanced and preferentially transmitted the native *pututu* frequencies for audibility outside the gallery, particularly in the Circular Plaza (Kolar et al. 2012). The Stanford Project has had the opportunity to work on three further cases of relatively intact gallery deposits.

The first was the Caracolas Gallery, the smallest of the galleries at barely more than 1 m × 6 m in size, which proved to contain twenty *pututus* or *Strombus galeatus* trumpets resting directly on the gallery floor plus fragments of many more instruments that had been broken up in the act of making small shell ornaments (Rick 2008:24–27). The gallery floor or near-floor sediments contained virtually nothing but these trumpets, and various contextual factors³ argue that the horns were stored in a sacristy-like space, probably for use in the various ritual spaces—the Circular Plaza and Lanzón Gallery are just a few paces away. Storage of ritual instruments could have been a third primary function for the galleries.

Second was the Loco Gallery, where modest-sized excavations found that intact deposits and the gallery floor still existed in some areas, although areas of disturbance were present from small-scale looting. The relatively intact segments largely yielded clean floors, although one fragment of a slate plaque engraved with Chavín designs was found. This may be the best context of use for this fairly frequent class of decorated stone, whose original locus of use or display is otherwise unknown. The areas excavated thus far are passageway contexts rather than cells or rooms and were probably subject to frequent cleaning or at least movement of materials caused by the passing of feet. Thus, it is not surprising that *in situ* ritual materials or debris are not commonly found.

Finally, in Building C a gallery whose existence was mostly conjectural was discovered, opened, and conserved in 2012. One of a triad of linked galleries along with Loco and Mirador, the westernmost gallery has been dubbed the Capilla Gallery for the original chapel-museum that existed directly above it prior to the 1945 aluvión landslide. The gallery, a mirror image of the Mirador Gallery, suffered a major looting event, probably in the nineteenth century AD, but we have been able to locate significant segments of intact floor and carefully excavate the deposits immediately overlying it. Both Chavín period deposits and some materials suggesting post-Chavín activity are present in layers above the clear formal floor of the gallery. A second, precursor gallery immediately underlies the Capilla Gallery, still fully preserved to its full height except for the lack of roofing beams. The lower gallery was excavated down to its original floor in a very small area (approximately 1 m²), which was found to have no cultural material whatsoever lying on it. The upper gallery floor, excavated to date over about 15 m², has produced a series of layers with cultural material, none in immediate contact with the floor but the lowest very close and apparently containing only Chavín period pottery and possibly of Chavín age. Notably, its primary content is the broken, intermixed, and disorganized bones of camelids and humans; neither is notably burned or with obvious cut marks. On occasion, human bones in anatomical positions (i.e., rib cage fragments) were found, and the human remains overall are predominantly from children.

UNDERGROUND CONTEXTS: CANALS

Investigations in Chavín's extensive underground water canal system, initially a mere component of our site conservation effort, have revealed a ritual world largely unknown before. This system did indeed serve to drain water from the overall monument area to the adjacent rivers, but many of its features

and contents indicate a functionality that goes far beyond that of a mundane drainage system. First, as suspected previously (Contreras and Keefer 2009; Lumbreras, González, and Lietaer 1976), water was not only removed from the center but also brought to it. Supply canals have been identified, and one inevitable conclusion is that they were not primarily providing water for human consumption or aesthetic purposes but rather provisioning an active and recognized element that was fundamental to Chavín beliefs and ritual activity. The extension and complexity of this system are only beginning to be understood, and what is written here will probably be quickly outdated by further discoveries. Reasonably mature knowledge comes from the long-known Rocas Canal (originally termed a gallery [Lumbreras and Amat Olazabal 1965–66]), but it is easily separable as a canal system with little or nothing to do with the galleries (see figure 2.2). Our most recent work in the separate, previously unknown extensive canal systems around the north side of Building C has increased our knowledge of the diversity of activities involved with the canals, in part because of the canals' undisturbed contents.

Two initial points are important. First, the difference between underground canals and galleries is categorical, not a matter of degree. Galleries are almost always larger in cross-section; they are spacious enough to walk through comfortably, they always have prepared clay-gravel floors, the segments are leveled, any change in level is carried out with one or more formal stair steps, and they have horizontal ducts between segments or with the external world. Canals generally have flagstone floors, are often too small to walk through upright, always have measurable and usually uniform gradients, never have formal steps (except in descending staircase entrances into the canal), and ducting is in the form of vertical or inclined ventilators or input drains. Second, while galleries and canals are in some cases found reasonably close together, they almost never intersect, and their design and construction over time must have involved extensive planning to accommodate their use of common space with such hermetic separation, perhaps reflecting the risk of disastrous flooding of the gallery system.

From the first investigation of Chavín canals (Bustamante and Crousillat 1974) onward, it was clear that substantial quantities of elaborate Chavín-period materials were present in floor and near-floor sediments. At first it made sense to think that these contents were inadvertently washed in from outside or at most informal leavings, but it has become clear that perhaps the majority of Chavín material in the canals includes highly decorated pottery, large fragments of camelid bone representing relatively few animals, drug-related paraphernalia, or other categories of ritual material. Also, the condition of these materials is often pristine, with negligible evidence of water

transport and often still bearing coatings of powdered colorants that would not have survived significant washing. Often, pottery sherds can be reassembled to reconstruct whole or near-whole vessels.

ROCAS CANAL

Rocas Canal remains the largest canal system at Chavín, and it basically drained the basin formed by Buildings A, B, C, and D and the north- and south-flanking mounds of the Plaza Mayor, as well as all three known sunken plazas. In 2011 we discovered that it passed completely underneath Building C; as of the date of writing, we have not found any upstream ends to the canal or its main branches. It seems likely that at least some upper parts of the canal took water from the Wacheqsa stream to also bring water into the canal, at least at certain times. The acoustic canal proposed by Lumbreras and colleagues (1976) is one such branch of Rocas and may represent a water supply brought in under a pressure head, allowing water to be elevated up into the major buildings in an otherwise downward trajectory. Elaborate vertical drains brought water down from building tops and plaza floors, usually through vertical drops that range from 2 m to as much as 8 m. The layout of the canal presents a fairly coherent, if extensive and complex, functional whole, but it has a wide variety of construction techniques, cross-sectional sizes, and other details that suggest some degree of modification and rebuilding over time. The canal has a fairly uniform gradient that smooths the vertical drops implied by the high buildings and major terraces and suggests a high degree of pre-planning. Most notably, as seen from the relatively final building plan of the late Chavín Black-and-White Phase, the canal has very little latitude in vertical or horizontal positioning to achieve the difficult function of draining the huge number of vertically spaced areas in one system. There can be little doubt that the basic layout of the canal was a nearly initial feature of the site, passing underneath major buildings and clearly predating them; yet the canal's positioning strategy corresponds to the site's final architectural design. Thus, the canal's planning was integral to that of the surface structures and the huge fills placed to shape Chavín's landscape, which suggests that its installation anticipated the building of structures hundreds of years later.⁴

Among the most notable aspects of the canal are the multiple formal entranceways into it (figure 2.7). These entranceways take the form of staircases and short gallery-like passages that occur, at times in pairs, in what seem to be strategic locations adjacent to plaza areas and, notably, at the joining of canal segments. While the staircases are not spacious in character, their dimensions



FIGURE 2.7. *Segment of Rocas Canal just west of the Circular Plaza, in original condition. Note the flagstone floor and formal staircase entrance. Canal continues to the left.*

and design go far beyond what would have been needed for simple maintenance access to the subsurface space. They are usually immediately upstream from canal segments that have yielded particularly rich concentrations of elaborate and ritually related materials. It seems very likely that these materials were introduced into the canal through the formal entrances, and their nature and state argue that they were broken and deposited in ritual acts that may have been sacrificial in character. In one clear case within the Circular Plaza, the subsidiary canal joining the main Rocas channel is in fact the abovementioned acoustic canal, which seems to be a water supply source that would have entered with extremely high energy and an angled immediate drop. If this were functioning simultaneously at the time of sacrifice, the water would have impressively swept away the broken offerings from the participants' view.

CANALS IN THE VICINITY OF BUILDING C

Although still under investigation, a separate and apparently more spatially dense complex of canals has been discovered in a major esplanade area to the north of Building C. In an intensive sampling and area excavation effort, about 10 percent of this space of 80 m × 50 m has been excavated. Subsurface

canals were found in all excavations that passed below Chavín use surfaces, with about 210 m of canals explored and excavated to date. Although perhaps to some degree interconnected, they represent six complex canal systems involving supply and drainage canals, clearly dating to more than one temporal phase of Chavín usage. Given sampling likelihoods, the canals known to date probably represent 10–20 percent of overall systems and a somewhat lesser percentage of total canal linear distance. Thus, this area is underlain by a dense network of canals completely inexplicable by any need for drainage function (figure 2.8). Only one short segment of one of the canals was known prior to 2011, when intensive work began in the area, and there is no evidence of post-Chavín period human activity or materials in these canals or any form of modern intrusion—unlike the Rocas system, which has both in many segments.

The canals are particularly useful for working with issues of canal function; their position rather near the Wacheqsa stream may help explain why there appears to be a particularly high density of canals in this area of the site. Supply canals, particularly those employing pressure heads to elevate water, would have been most easily built in this area of Chavín's monumental architecture. To date, it appears that the area north of Building C has a much higher frequency of canals than other known areas in Chavín, although canals are present in every sector where excavations have reached the necessary depth. This particularly great quantity of canals makes it obvious that they must not have been restricted to drainage functions. This in turn, given the contents of the canals, suggests that they represent a focus on water-related ritualism in this area of the site.

These canals repeat the same basic theme of the Rocas Canal—entranceways, sometimes paired; intersections of canals, frequently at staircase accesses; and clear concentrations of sacrificed elaborate, high-status materials in precisely these locations. A new theme, however, is the presence of very small-volume surface canals, either open or covered and just below ritual use surfaces. Most striking, these canals are frequently taking water toward Building C rather than away from it and are routed toward the base of the main Building C facade. After bringing water to these key areas, they seem to drop their water down to a lower canal level through short vertical chimneys. The water is then carried away from Building C (or the monumental core) toward the Mosna or Wacheqsa Rivers, often passing entranceway/canal juncture/sacrificial contexts (figure 2.9).

Three notable observations should be highlighted. First, at this early stage of revealing the canals, it is fair to say that water was probably running in

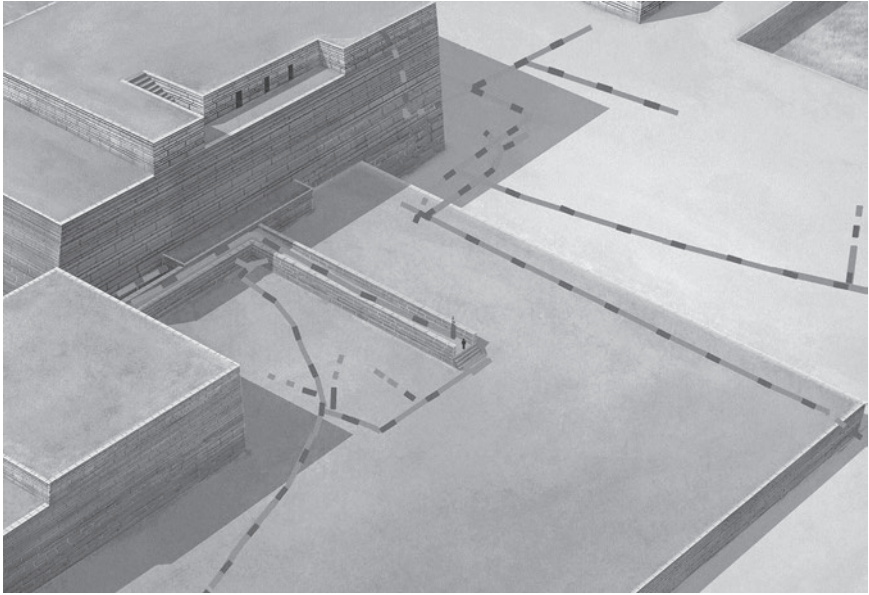


FIGURE 2.8. *Known canals in the north esplanade of Building C as of 2013. These systems represent a small percentage of the likely total of canals underlying Chavín surfaces in this area. Supply canals come from the top right area; drainage extends down to the Mosna and Wacheqsa Rivers to the north and east, respectively.*

many different directions at the surface and at different depths below it within any given period of canal use. Water was transported in and out of this sector, joined, split, crossed over or under other canals apparently in contemporary use, dropped out of sight, and raised to the surface; and it could potentially have had spring- or fountain-like features with water pushed upward under pressure.

Second, we can now start to more clearly recognize the pattern of canal junctures in which a larger principal or trunk low-slope canal is joined by a smaller-volume but rapidly descending high-energy tributary, which tends to be a supply canal rather than a receiver or drainage canal. Interestingly, these smaller canals always seem to enter the larger canals from the left side, looking downstream along the principal channel. In at least one case, the high-energy subsidiary approaches from the right side, crosses over, and then drops into the main canal, seeming to indicate special effort expended to achieve this right-side entrance. It is notable that this is the pattern of the meeting of the Mosna and Wacheqsa Rivers, which consists of a principal larger-volume and lower-energy channel (Mosna), with the lower-volume higher-energy Wacheqsa

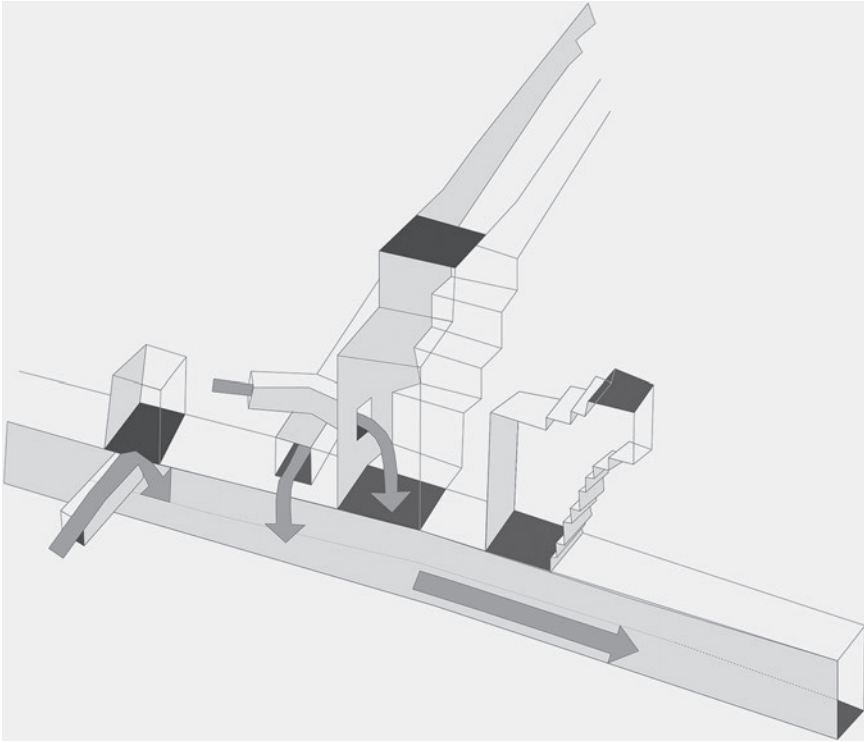


FIGURE 2.9. *Isometric drawing of Canal CE2 of the north esplanade of Building C, showing formal staircase entrances and secondary canal intersections. An important high-energy canal with fountain-like drop into the primary canal is indicated by the descending arrow.*

entering from the left side. This joining of the rivers is referred to locally as a *tinku* or *tinkuy*, terms of complex meaning in the Andes. Allen (1988) defines these terms primarily as the encounter, often violent, between watercourses or between people; Webb (2012) adds further complexity to the term that includes issues of complementary and opposing, even opposite forces or dualistic entities, their intermingling, and their sometimes turbulent coexistence. Structurally, the Chavín canal conjunctions could conceivably represent, on a small, controlled scale, the large *tinku* at which Chavín was built, in the similarly positioned pattern of unequal size and water energy.

Third, it is perhaps not surprising that such *tinku*-like features in the canals would be locations of sacrificial ritual activity. The finding of complete

but smashed vessels and other materials similarly destroyed in the formal entranceways suggests that ritual participants are either inside the cramped canal itself or immediately outside. In either case, only a handful of individuals at a maximum could have witnessed or participated in these rituals, making them very restricted in character. Downstream in the canals below the tinku-like joining we frequently find an extended distribution of materials similar to those at the junction itself, suggesting that sacrificed materials were washed away by canal flow, perhaps intentionally. Because most canals are now known to have been supplied with water from the Wacheqsa stream, we can suggest the possibility that water flows were orchestrated with sacrifice actions and that the sweeping away of offerings, perhaps accompanied by water-generated sounds, may have been integral parts of Chavín canal-related ritual.

CONCLUSION

Although the amount of data related to ritual from Chavín de Huántar has greatly increased in the last two decades of research, even more important is the diversity of content, pattern, and location of the evidence (see Contreras, this volume). Whereas before it was possible to imagine a fairly monolithic ritual pattern of processions from lower to upper plazas and on into gallery settings of a simple, if hierarchical, religious leadership, this vision no longer comes close to encompass the range of activity that is evident.

First, the locations of ritual activity have increased notably. Broad new types of architectural contexts have been added, including elevated ramps, underground canals, sub-plaza locations, and contexts under construction. More important, most of these locations are not near the centerline of the U-shaped Chavín monumental layouts. In particular, investigations on the outside of the U-shaped enclosures have shown a wealth of evidence for ritual that suggests a locational diversity of concerted and systematic ritual at the site. It seems very likely that at least some of the diverse locations were in use contemporarily, indicating that a wide range of ritual activities took place, probably corresponding to calendric or cultic diversity.

Second, the material remains of the activities are also diverse, both within and between types of contexts. Categories such as shell, human and animal bone, obsidian and other semi-precious stone, and a diversity of ceramic wares and decorative types are differentially distributed in a way that argues for significant segregation of ritual materials, perhaps according to locational categories and, by extension, genres of ritual itself. Although beyond the bounds of this chapter, there is good evidence that at least some categories of ceramics

are rarely found outside specific ritual settings, suggesting specialized production of materials for specific types of rituals.

The complexity we can begin to infer for Chavín ritual and its organization argues for the presence of either an extremely diverse yet highly structured central cult or, just as likely, the presence of more than one cult entity. The implication of multiple cults, should they become evident, is far from clear, but it suggests a sophistication and diversification beyond what I have previously conceived. While there is good evidence for artistic, technological, architectural, and craft traditions of long duration at Chavín, the growing multiplicity of these traditions uncovered over the course of decades of research and, apparently, centuries of Chavín period site use hints at organizational abilities greater than anticipated. In addition, a fair degree of uniqueness of the stand-out Chavín characteristics, compared with other contemporary Formative sites, suggests that local development and innovation were characteristic of this center, as I suspect they were of others. Far from contradicting my earlier ideas about interaction spheres in the Formative, this degree of distinction is probably the result of the conscious designing of cultic identities at each center, in awareness of those emerging across the Central Andes.

A few specific points about Chavín ritual are worth emphasizing in this context. It is clear that Chavín emphasized underground spaces, as has long been known for the gallery systems that in their multiplicity and sophistication seem to be one of the signatures of this center. The addition of underground canals into Chavín's panorama of ritual activities is important in a number of senses. It further emphasizes the use of highly restricted ritual spaces and the large proportion of evidence that suggests very small numbers of individuals were involved. At the same time, the canal systems are exceedingly complex in their multiplicity and interlinkage and hint at the local development, through innovation, of hydraulic knowledge that underwrote this system. The emphasis on water is not surprising, given later Andean developments, but it begins to put flesh on the bones of our knowledge of early water cults. Also, the canals of Chavín give surprising evidence of advance planning abilities—not only is there an intrinsic logic to the way the hydraulic systems work, but that logic, combined with the location of the canals over time, tells much about how later construction was anticipated by the canal system design. Canal systems in this case are far from poor, water-washed archaeological contexts but are actually excellent containers of data, less subject in many ways to destructive taphonomic processes than are many surface locations.

I feel that the conjunction of canal entrances, canal intersection, and material evidence of ritual activity provides a glimpse into some of the ritual

concepts present in Chavín. Not just water but water acting in certain ways—joining forces, creating turbulence, even provoking the *huaicos* (massive, catastrophic landslides) and other land movement that are so apparent at Chavín. Recognizing the energy levels and the structure of drainage, the values and perils involved in natural world water distributions, and then replicating them under directly controllable circumstances in canals seems an almost predictable outcome and a great playing ground for a belief system.

Canals also emphasize, from the nature of their content, sacrificial acts that have become clear as a core of Chavín ritual. The systematic destruction of obsidian is emblematic of what is happening with other material categories more subject to destruction—for example, pottery, bone, coal. Rethinking many discoveries of ritually related materials now suggests to me that the many situations in which we have all or nearly all the pieces of heavily fragmented objects is a reflection of local sacrifice and deposition in a logic applied to many classes of material.

Canals such as those at Chavín focus our attention on water-related ritual, and in this sense we can return to the definition of ritual given at the beginning of this chapter. While it is difficult to address what the specific desired outcomes of Chavín ritual were—and the diversity of ritual evidence at Chavín suggests they were multiple—the site's context and setting can define some likely foci. Contreras (2007) and Contreras and Keefer (2009) have explored the relationships between natural water supply and the site's developed canal system. Similarly, they and others have emphasized the need for draining Chavín's many architectural features in this relatively rainy setting. Attention was paid to water, beyond a doubt, and Contreras's evaluation of environmental hazards and risks makes clear that in many senses water was a threat as well as undoubtedly a resource. Julio Vargas-Neumann, John Hurd, and I have further developed perceptions on the risks water represents to Chavín's construction and conservation, today and in the past (Rick, Hurd, and Vargas-Neumann 2012). I argue that controlling the challenge of these risks might have even been a measure of the competitive effectiveness of authorities in relation to natural forces. Lumbreras (2007:637–49) has emphasized Chavín's potential role in predicting water-driven climatic problems, both the provisioning of water to agricultural systems and the anomalous water situations that arise in El Niño climatic events. It is not unreasonable, although hardly proven, that Chavín might have been involved in prediction, detection, or even remediation of such climatologically driven issues.

The development of ritual within supply/drainage canals could certainly be related in many ways to issues of uncertainty in obtaining information, control,

or desired results in a world of powerful water forces. First, what would have been better than to control the element—water—in a canal circumstance, showing cult dominance and control in obtaining obedience from a potentially destructive and limitedly predictable natural element? Second, divination, possibly using water pathways through multiple channels and water's acceptance/non-acceptance of sacrificed offerings, could have been a dynamic—and manipulable—ritual feature, with some apparent parallels known from Inka times. Third, of all the natural elements, water is the most observable, timely, and subject to priestly manipulation, perhaps in competition with fire—but perhaps even more predictable and controllable, especially in a canal setting. In sum, water could have been a condition, an outcome, a demonstration—all in the interest of showing control through ritual activity—of an important but capricious element, one capable of giving life but also of taking it away.

I want to add another very important, if somewhat obvious, observation about Formative ceremonial centers: their categorical difference from their hinterlands. The Formative period was definitely a time of change in almost every imaginable sense—major changes occurred in technology, organization, belief, interaction, scale, and probably subsistence; this in many ways is why we call it the Formative period. But change doesn't just happen, it comes from somewhere; where it came from was the regional centers. At Chavín, much of the development of technology—for example, ceramic, stone, bone, shell, acoustic, constructive, hydraulic developments—seems tightly linked to a driving need to innovate in ritual contexts, acts, and effects. But in the Chavín area at least, the hinterland is largely characterized by scattered, small-scale, modest dwellings and communities that seem largely to have remained much as they were over time. Perhaps they accepted or could gain access to certain new materials, ideas, or other aspects of life, but that access was limited; overall, they appear rather conservative and stable—the advent of the Formative probably had relatively little impact on the lifestyle in the hinterlands as opposed to the centers, which were likely a fountain of change, comparatively speaking.

As centers were the places of innovative change that promoted rituals emphasizing elites, they were also the primary drivers of social differentiation. These centers, as the most obvious contexts for the transfer of messages and ideas about such innovations, also spurred the increasing differentiation of elite versus rural traditional populations, but they needed ways to communicate and situate the very character of these changes. In a society that was undoubtedly conservative overall, innovation would not have been easily accepted or necessarily comprehended unless framed within a characterization—some sort of

contextualizing that gave the change its meaning and valence (in a certain sense, “bundling” in the broader definition of Pauketat [2012]). It is logical that ritual would have played a significant role in this regard—a showcase for demonstrating, highlighting, making accessible or remote, controlling, classifying, ranking, and otherwise imposing structure and meaning to the material, behavior, and concepts that drove change in the Formative. A new social order was being installed, with all its beliefs, material correlates, and other components that made it a reality. Ritual may certainly have integrated participants, but it may equally have differentiated among them—either within the groups of participants or between participants and those not included in the ritual process.

ACKNOWLEDGMENTS

I would like to thank a few of the uncountable people and organizations that were helpful in this research. Major financial support for the work came from the Antamina Mining Corporation, Global Heritage Fund, the Historical Society (John Templeton Foundation), Fundacion Wiese, Stanford University, and the Harbor Lights Foundation. Permissions were granted by Peru’s National Institute of Culture and later the Ministry of Culture. I thank Peruvian cultural officials at the local, regional, and national levels for their help with the fieldwork and paperwork. The Municipality of Chavín de Huántar has provided valuable assistance as well. My colleagues Luis G. Lumbreras, Rosa Mendoza de Rick, Daniel Contreras, Christian Mesia, Augusto Bazan, and Julio Vargas-Neumann have been instrumental in the development of both fieldwork and my thinking about Chavín. Any flaws in that process are my own.

NOTES

1. The *monumental core* refers to the area of monumental architecture at Chavín de Huántar, easily distinguished as the area that has platform buildings at least 5 m high.
2. Janabarroide refers to pottery with the generalized characteristics of the Jannabariu phase, as presented by Burger (1992); since no specific classes or types of pottery are delineated in his work, this term indicates pottery similar to the type illustrated for that phase. Approximate defining characteristics are stamped, modeled, and incised decoration on a predominantly polished blackware with a broad variety of forms present (see Rick et al. 2009:113 for a more complete description of and rationale for this ceramic class).

3. These include evidence that the trumpets may have been hung in bags from the walls of the gallery, the well-worn surfaces of many of the shells, and a short and immediately accessible entranceway convenient to the Circular Plaza atrium.

4. Although we do not have reliable dating for or necessarily know the earliest construction phase of Building B, it likely predates the beginning of the maximum-extension Black-and-White Phase construction (ca. 600 BC cal) by a minimum of 300 years, but the difference could be notably greater.

REFERENCES CITED

- Allen, C. J. 1988. *The Hold Life Has: Coca and the Cultural Identity in an Andean Community*. Smithsonian Series in Ethnographic Inquiry. Washington, DC: Smithsonian Institution Press.
- Burger, R. L. 1992. *Chavín and the Origins of Andean Civilization*. New York: Thames and Hudson.
- Bustamante, J., and E. Crousillat. 1974. "Análisis Hidráulico del Sitio Arqueológico de Chavín de Huántar." Undergraduate thesis, National Engineering University, Lima, Peru.
- Contreras, D. A. 2007. "Sociopolitical and Geomorphologic Dynamism at Chavín de Huántar, Peru." PhD dissertation, Department of Anthropological Sciences, Stanford University, Stanford, CA.
- Contreras, D. A., and D. K. Keefer. 2009. "Implications of the Fluvial History of the Wacheqsa River for Hydrologic Engineering and Water Use at Chavín de Huántar, Peru." *Geoarchaeology: An International Journal* 24 (5): 589–618. <http://dx.doi.org/10.1002/gea.20279>.
- Cook, A. G. 1984–1985. "The Middle Horizon Ceramic Offerings from Conchopata." *Ñawpa Pacha: Journal of Andean Archaeology* 22–23: 49–90.
- González Moreno, M. 2012. *Chavín de Huántar: Diario de Campo de las Excavaciones de 1957 y 1958*. Lima: Instituto Andino de Estudios Arqueológico-Sociales.
- Indacochea, G. A., and M. Iberico. 1947. "Aluvionamiento de Chavín de Huántar el 17 de Enero de 1945." *Boletín de la Sociedad Geológica del Perú* 20: 21–28.
- Isbell, W., and A. Cook. 2002. "New Perspective on Conchopata and the Andean Middle Horizon." In *Andean Archaeology II: Art, Landscape, and Society*, ed. W. Isbell and H. Silverman, 249–305. New York: Kluwer Academic/Plenum. http://dx.doi.org/10.1007/978-1-4615-0597-6_11.
- Kembel, S. R. 2008. "The Architecture at the Monumental Center of Chavín de Huántar: Sequence, Transformations, and Chronology." In *Chavín: Art, Architecture and Culture*, ed. W. J. Conklin and J. Quilter, 35–84. Monograph 61. Los Angeles: Cotsen Institute of Archaeology, University of California.

- Kolar, M. A., J. W. Rick, P. R. Cook, and J. S. Abel. 2012. "Ancient Pututus Contextualized: Integrative Archaeoacoustics at Chavín de Huántar, Peru." In *Flower World—Music Archaeology of the Americas*, ed. A. A. Both and M. Stöckli, 23–53. Berlin: Ekho Verlag.
- Lumbreras, L. G. 1993. "Chavín de Huántar: Excavaciones en la Galería de las Ofrendas." *Materialien zur Allgemeinen und Vergleichenden Archäologie* 51. Mainz am Rhein: P. von Zabern.
- Lumbreras, L. G. 2007. *Chavín: Investigaciones Arqueológicas*. Lima: Universidad Alas Peruanas.
- Lumbreras, L. G., and H. Amat Olazabal. 1965–66. "Informe Preliminar sobre las Galerías Interiores de Chavín (Primera Temporada de Trabajos)." *Revista del Museo Nacional* 34: 143–97.
- Lumbreras, L. G., C. González, and B. Lietaer. 1976. *Acerca de la Función del Sistema Hidráulico de Chavín: Investigaciones de Campo*. Lima: Museo Nacional de Antropología y Arqueología.
- Lumbreras, L. G., and M. González Moreno. 2012. *Chavín de Huántar: Los Descubrimientos Arqueológicos de Marino Gonzales Moreno*. Lima: Instituto Andino de Investigaciones Arqueológico-Sociales.
- Mesía, C. 2007. "Intrasite Spatial Organization at Chavín de Huántar: Three-Dimensional Modeling, Stratigraphics, and Ceramics." PhD dissertation, Department of Anthropological Sciences, Stanford University, Stanford, CA.
- Moore, J. D. 1996. *Architecture and Power in the Ancient Andes: The Archaeology of Public Buildings*. New Studies in Archaeology. Cambridge: Cambridge University Press. <http://dx.doi.org/10.1017/CBO9780511521201>.
- Pauketat, T. R. 2012. "Bundles of/in/as Time." In *Big Histories, Human Lives: Tackling Problems of Scale in Archaeology*, ed. J. Robb and T. R. Pauketat, 35–56. Santa Fe, NM: School for Advanced Research Press.
- Quilter, J. 2014. *The Ancient Central Andes*. New York: Routledge.
- Rick, J. W. 2005. "The Evolution of Authority and Power at Chavín de Huántar, Peru." In *Foundations of Power in the Prehispanic Andes*, ed. K. J. Vaughn, D. Ogburn, and C. A. Conlee. Archeological Papers of the American Anthropological Association. Arlington, VA: American Anthropological Association. <http://dx.doi.org/10.1525/ap3a.2005.14.071>.
- Rick, John W. 2006. "Un análisis de los centros ceremoniales del Período Formativo a partir de los estudios en Chavín de Huántar." *Boletín de Arqueología PUCP* (Lima) 10: 201–214.
- Rick, J. W. 2008. "Context, Construction, and Ritual in the Development of Authority at Chavín de Huántar." In *Chavín: Art, Architecture, and Culture*, ed.

- W. J. Conklin and J. Quilter, 3–34. Monograph 61. Los Angeles: Cotsen Institute of Archaeology, University of California.
- Rick, J. W. 2014. “Cambio y Continuidad, Diversidad y Coherencia: Perspectivas sobre Variabilidad en Chavín de Huántar y el Período Formativo.” In *El Centro Ceremonial Andino: Nuevas Perspectivas para los Períodos Arcaico y Formativo*, ed. Y. Seki. Senri Ethnological Studies 89. Osaka: National Museum of Ethnology.
- Rick, J. W., J. Hurd, and J. Vargas-Neumann. 2012. “Chavín de Huántar, a Past Challenge to Nature, a Current Challenge to Archaeological Conservation.” Paper Presented at the XI Conferencia Internacional sobre el Estudio y Conservación del Patrimonio Arquitectónico de Tierra: Terra 2012, Pontificia Universidad Católica del Perú, Lima.
- Rick, J. W., C. Mesía, D. A. Contreras, S. Kembel, R. Rick, M. Sayre, and J. Wolf. 2009. “La Cronología de Chavín de Huántar y sus Implicancias para el Período Formativo.” *Boletín de Arqueología PUCP* 13: 87–132.
- Tambiah, S. J. 1985. *Culture, Thought, and Social Action*. Cambridge: Harvard University Press. <http://dx.doi.org/10.4159/harvard.9780674433748>.
- Tello, J. C. 1960. *Chavín: Cultura Matriz de la Civilización Andina*. Lima: University of San Marcos.
- Turner, R. J. W., R. J. Knight, and J. W. Rick. 1999. “Geological Landscape of the Pre-Inca Archaeological Site at Chavín de Huántar, Peru.” *Current Research: Geological Survey of Canada* 1999-D: 47–56.
- Webb, H. D. 2012. *Yanantin and Masintin in the Andean World*. Albuquerque: University of New Mexico Press.

