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The architect's signature: The social production of a residential landscape at Monte Viudo, Chachapoyas, Peru

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ABSTRACT

The Chachapoyas region of northern Peru was home to one of the most elaborate, but little studied, traditions of residential architecture in the prehispanic Andes. This paper examines the ways in which individual and group decision-making, social and political circumstances, and physical environments articulated to shape the material features of circular stone houses at the settlement site of Monte Viudo. In particular, it emphasizes the process of house construction and the role of human agency. Data is based on excavation of seven residential buildings, combined with mapping and recording of features of all structures at Monte Viudo. Taking advantage of the site's excellent preservation, special attention is paid to the material attributes of residential buildings as a source of information complementary to spatial organization.

Introduction

In recent decades, archaeology has experienced a renewed proliferation of interest in the relationship between societies and their built environments, especially as scholars focus on the role of materiality in the social production of space. Many works explore variables such as power, identity, agency, memory, landscape, and so on, most frequently in the context of monumental public architecture (e.g. Moore, 1996a, Bradley, 1998; Kowalski, 1999; Pauketat, 2000; Alcock, 2002; Smith, 2003; Van Dyke, 2008, *inter alia*). Such studies are especially successful in capturing the creation of built environments as a contingent, historically specific process resulting from the interplay between agentive individuals, socio-political structures, and the material and spatial attributes of built spaces.

The study of house architecture possesses an equally rich and much longer history in both archaeology and anthropology alike, and the pivotal role that houses play in social, political, and ideological dynamics has been recognized since the early and influential works of Lewis Henry Morgan (1965[1881]) and Marcel Mauss (Mauss and Beauchat, 1979). This paper joins a small but growing body of archaeological studies that examine how the social production of space—as a dialogue between actors, social landscapes, and material objects—unfolds in the specific context of residential architecture (e.g. Pauketat and Alt, 2005; van Gijseghem, 2001; Fleisher and LaViolette, 2007; Hutson, 2010; Carmean et al., 2011; Kosiba and Bauer, 2013; Love, 2013). The unique and ideologically rich dimensions of house spaces not only offer an especially potent context in which to examine this process, but also promise to illuminate our understanding of public and monumental settings in turn.

The unusual characteristics and excellent preservation of houses in the Chachapoyas region of Peru's northern highlands present a valuable opportunity to pursue these issues. The groups who lived here in the late prehispanic period developed a tradition of residential architecture that entailed technical innovation, extensive inputs of labor and material resources, and highly developed aesthetic canons (Fig. 1) (Schjellerup, 1997; Church and von Hagen, 2008). Many of these buildings have been protected by the cover of dense cloud forest (*ceja de selva*) environments, their walls still preserved to heights of four meters or more, permitting detailed examination of spatial and material features alike. Furthermore, many Chachapoya sites are characterized by a puzzling triad of characteristics that challenge traditionally held assumptions about the relationship between residential and public architecture: residential buildings—even those of non-elites—were highly elaborate, while communal architecture was rarely monumental in scale, and, moreover, the same architectural forms were used for both residences and ritual structures.

This paper attempts to reconstruct how residents of a Chachapoya village of northeastern Peru in the early second millennium AD shaped the built environment that they inhabited on a daily basis. I foreground the reflective and active aspects of house creation, examining how individuals who were part of a

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Fig. 1. Structure 199 at Monte Viudo.

specific socio-political landscape made decisions about the material features and look of residences. In particular, this paper focuses on status and investigates how it was negotiated through the material culture of residential architecture, thus joining a number of scholars who recognize the construction and use of domestic buildings as an arena of political practice (Bowser and Patton, 2004; Lyons, 1996, 2007; Kohn, 2010; Wynne-Jones, 2013). These questions are addressed by qualitatively and quantitatively comparing the spatial and material features of residential buildings across the settlement site of Monte Viudo. Data derive from investigations directed by the author at the site of Monte Viudo during 2011–2012 for the "Proyecto Arqueológico Pueblo Chachapoya" research project (Guengerich, 2012).

The creation of residential architecture

Scholars, architects, and thinkers from Bourdieu to Winston Churchill have recognized the dialectical nature of the relationship between humans and their built environments—that is, "we make our buildings and then our buildings make us." This idea has frequently been voiced in contemporary anthropology and archaeology, especially in studies of domestic contexts that incorporate insights from practice or structuration theory (e.g. Pader, 1988; Robben, 1989; Donley-Reid, 1990). I argue, however, that in recent scholarship of residential architecture, the second element of this process has predominated over the first, especially given the influence of phenomenological studies of the lived environment (e.g. Tilley, 1994; Van Dyke, 2008) and of relational models of human-object interactions that locate greater agency in non-human objects than was previously recognized (e.g. Hendon, 2010; Hutson, 2010; Olsen, 2010).

To be sure, neither the construction nor the use and inhabitation of architecture can be studied in isolation. But this paper is intended to demonstrate that archaeologists' interpretations of residential architecture would benefit by looking beyond their final form to incorporate a richer consideration of the material actions, concrete contexts, and human subjects that participated in its production. I do not suggest that the creation process of houses is more important than the subsequent process by which they shape the subjectivity of their inhabitants; but I suggest that it is *equally* important, and that it has not yet been accorded sufficient explanatory weight. To date, the construction process itself has constituted the subject of little archaeological research on residential architecture (although see Cameron, 1998; Pauketat and Alt 2005; Carmean et al., 2011; Love, 2013), even as it is often treated as a principal analytic for the interpretation of monumental architecture (e.g. Trigger, 1990).

Over time, most scholarship of residential architecture has explained its creation by identifying underlying structural or social determinants of house form. Within the functionalist frameworks of 1970s–80s household studies and especially household archaeology, houses' significance was located in the *household*, a minimal social-material unit whose function was seen to be primarily economic and adapted to the environmental or social setting (e.g. Wilk and Rathje, 1982; Ashmore and Wilk, 1988). Around the same time, houses emerged as a prominent subject in ethnographic research, with scholars examining architectural symbolism and semiotics, and in particular the capacity of houses to order society and the cosmos (e.g. Bourdieu, 1973; Glassie, 1975; Hugh-Jones, 1979; Blier, 1987 *inter alia*). These works, often structuralist in their approach, locate the main determinants of house form at a deep cultural level rather than in proximal factors that influence particular iterations. In archaeology, ethnicity has been another prominent explanation of house form and spatial organization (e.g. Aldenderfer and Stanish, 1993; Faust and Bunimowitz, 2003; Van Gijseghem and Vaughn, 2008). In recent years, one of the most influential frameworks for interpreting the creation of residential architecture, especially in terms of spatial attributes, is Bourdieu's notion of *habitus* (1977) and related concepts of structuration (Giddens, 1984) (e.g. Pader, 1988; Robben, 1989; Yate, 1989; Donley-Reid, 1990).

All of these factors may be at play in the creation of residential architecture and need not be perceived as mutually exclusive. But I propose that these broad interpretive models are complemented and enriched by simultaneously recognizing the process of house creation as a concrete set of actions carried out by agentive subjects with a distinct array of limitations and resources. How and why did reflective builders with variable degrees of knowledge make decisions about the material features of residences, and how did they attempt to achieve these ends using the resources available to them in particular environmental and social circumstances? Of course, not all factors influencing house form are consciously conceived or perfectly understood in the minds of builders, but I contend that it is nevertheless important to not only identify the outcomes of human actions, but also to elucidate, as far as possible, the factors that led agents in a particular social and cultural context to undertake them (cf. Cowgill, 2000; Hegmon and Kulow, 2005). Moreover, the likelihood that builders will invest a substantial degree of reflection into their architectural decisions is indicated by the fact that house construction may an extremely costly investment, and one that happens relatively rarely in a lifetime (Blanton, 1994, p. 16, Carter and Collins Crumley, 2005, pp. 14–15). Therefore, even if the end result of the creation process is a building that identically reproduces existing house forms—reflecting shared class, ethnicity, cosmology, etc.—its construction still must be explained as an assembly of individuals who came to this event with different backgrounds, knowledge, or aims originating from their unique subject position.

The changes in how scholars of vernacular architecture have approached the concept of "tradition" are helpful for understanding how and why individuals reproduce familiar canons of residential architecture, with or without major or minor changes. This body of literature has the advantage of studying contemporary contexts, which enables researchers to interact with informants who can shed light on the design process. In the past, "tradition" was frequently used to denote forms and building practices transmitted generationally, and for the most part, scholars did not problematize how or why this transmission occurs or how traditions change over time (e.g. Rudofsky, 1965; Upton, 1993; Asquith and Vellinga, 2006). In contrast, contemporary scholars of vernacular architecture have invested a good deal of effort in working through issues of agency, structure, and design in their understandings of tradition.

In line with broader efforts to grapple with how traditions come into being, continue, or change (e.g. Hobsbawm and Ranger, 1983; Pauketat, 2001), architectural scholars are increasingly examining the concrete processes of planning and construction through which vernacular buildings are created, including the mechanisms of their reproduction (e.g. Hubka, 1979; Oliver, 1989; Marchand, 2006). Vellinga (2006, p. 89), for example, defines traditional architecture as "a continuous creative process through which people, as active agents, negotiate, interpret and adapt knowledge and experiences gained in the past within the context of the challenges, wishes and requirements of the present," aptly capturing its dynamic and reflexive character. Recent works also demonstrate that the concept of vernacular architecture as "architecture without architects"—as compared to modern, professional-built architecture—is not merely ungenerous but in fact inaccurate, as building experts and part-time professionals are not only present in many non-industrialized societies, but are also aesthetic innovators and respected members of their communities (e.g. Hubka, 1979; Blier, 1987; Rapoport, 1989; Marchand, 2006).

Explanations of architectural traditions by scholars of vernacular architecture parallel anthropological and archaeological studies of the interplay between structure and agency. Agency is important to the analysis in this paper, although it features not as the end goal of analysis—that is, establishing how it operated in a particular historical context—but rather as an initial premise that enables a more nuanced perspective on the given research setting. In other words, how does a traditional house "look" different to the archaeologist when she assumes that its features are the product not only of structural forces, but also of choices made by groups and individuals capable to some extent of shaping its final form in accordance with their aspirations? Central to most scholars' understanding of the structure-agency framework is the notion that structures—such as traditional house form—are perpetuated *through* acts of agency (Giddens, 1984). As such, agents may (less or more intentionally) choose to reproduce those that already exist (e.g. Cowgill, 2000; Smith, 2001; Hegmon and Kulow, 2005; Joyce and Lopiparo, 2005). From this perspective, both change *and* continuity may constitute the goals of agentively acting individuals, and shed light on the process through which individuals shaped their residential landscape.

This paper incorporates three epistemological principles for the study of residential architecture, which emerge from the foregoing discussion. The first of these follows directly from the previous comments on agency: it is important to problematize patterns of repetition, similarity, and sameness in the landscape of residential architecture. It is just as necessary to explain why two houses should resemble each other, as to explain why they differ. Drawing from vernacular architecture studies, it is important to ask why traditions were upheld, rather than approaching this as a *de facto* or automatic practice (cf. Cowgill, 2000; Pauketat, 2001).

Second, scholars also need to be attuned to the presence of variability. This is especially so since most traditions of residential architecture tend to appear, on casual glance, fairly homogeneous (cf. Tringham, 1994). In most ethnographically studied settings, however, researchers document the scope for (tempered) innovation and creativity within architectural traditions—albeit as it emerges from a long-established cultural context. As argued by architectural historian Thomas Hubka (1979, p. 29),

> It is often assumed that the constraints of traditional design emasculate the individuality or creativity of the folk designer. This is simply not born out in documentation. . ..although the folk designer manifests individuality in different ways than contemporary designers. The folk designer simply signs his signature much smaller but by no means less forcefully. This signature is in the details, in the care, and in the craft of building (and while the modern observer might not see this signature you can be sure his contemporaries saw it).

Thus, although the field of design possibilities is usually narrower for traditional architecture, traditional form is by no means a straightjacket, but rather a framework that allows for internal flexibility. And, as Hubka cogently points out, seemingly minor variations hold more significance for members of their communities than they do for outsiders like archaeologists. The ostensible homogeneity of domestic architecture, therefore, may be challenged simply by applying a finer scale of analysis. And it is—by definition—precisely in variation that archaeologists may most readily perceive individuals' choice to act in a certain manner out of a range of possibilities (Brumfiel, 2000; Hegmon and Kulow, 2005; Pauketat and Alt, 2005).

A third epistemological principle is the importance of taking into account the material attributes, indeed the materiality as such, of residential buildings. While many works now do precisely this (e.g. Cameron, 1998; Meskell, 1998; DeMarrais, 2001; van Gijseghem, 2001; Hodder and Cessford, 2004; Pauketat and Alt, 2005; Hutson, 2010; Carmean et al., 2011; Clarke, 2012), until recently much archaeological scholarship of residential architecture focused disproportionately on houses' spatial organization (Richards, 1990). Undoubtedly this has been due in part to poor conditions of preservation in much of the world, but such challenges may at least in part be mitigated by the judicious application of ethnoarchaeology (e.g. Henderson and Ostler, 2005) or experimental archaeology (e.g. Stevanovic, 1997). An emphasis on the materiality of residential architecture naturally prompts a consideration of the mechanics and logic of procurement, transportation, and assemblage of building materials—in other words, on the concrete practices that constituted the creation process.

A number of scholars have incorporated these principles into recent studies of the social production of residential architecture (e.g. Wilk, 1990; Blanton, 1994; Colloredo-Mansfeld, 1994; Birdwell-Pheasant and Lawrence-Zúñiga, 1999; Vellinga, 2004). For instance, in Cameroon and Ethiopia, Lyons has examined how households balance aesthetics, environmental resources, ethnicity, household wealth, and changing social landscapes in order use their houses to promote their political position (1996, 2007, 2009). Likewise, Kohn (2010) examines how contemporary Aymara immigrants to the Bolivian capital of La Paz balance *altiplano* architectural traditions with notions of successful urban identity, producing a unique style of residential architecture that has impacted the socio-geographical development of the city and nation.

Archaeological studies that examine these issues in past societies have been fewer, particular in the cases of non-elite houses and prehistoric contexts. Pauketat and Alt (2005) examine how villagers altered their house building practices in conjunction with the rise of the Cahokia polity, at the same time that the traditional building technique of post-setting was re-imagined on a monumental scale at the urban center. At Çatal Höyük, Love (2013) argues that different mudbrick recipes would have produced differently colored houses, visible only during the performance of construction and subsequently plastered over. These served to express a household's identity and distinguish them from neighbors. Additional works of relevance include van Gijseghem (2001), Westgate (2007), Rodning (2009), Hutson (2010), Love (2013), and to some extent, those that examine "House societies" (Lévi-Strauss, 1982[1972], e.g. Joyce and Gillespie, 2000; Beck, 2007). The following study adds to this corpus by taking advantage of the well-preserved, monumental houses of Chachapoya settlements with their unusual organization of public and private space.

Built environments of Chachapoya settlements

The archaeological region of Chachapoyas spans the modern *departamentos* of Amazonas, San Martín, and La Libertad in the extremely rugged, constantly wet, forested eastern slopes of the Andes Mountains in northern Peru (Fig. 2). Between approximately AD800–1500, this area was home to a dense population that resided in mountaintop villages of dozens to hundreds of stone structures (Schjellerup, 1997; Church and von Hagen, 2008). These groups shared overarching patterns of material culture, socio-political organization, and possibly a language distinct from those of neighboring regions (ibid., Taylor, 1989). Most contemporary scholars agree that political integration and some sense of ethnic identity characterized local sub-regions—for example, known groups include the Chillaos, Chilchos, Chachas, and Pacllas (Zevallos, 1995; Ruiz Estrada, 2011; Koschmieder, 2012), but there is no indication that these sub-regions were politically unified during this period (Espinoza, 1967; Lerche, 1995; Schjellerup, 1997).

Chachapoyans are well known in Andean history for their protracted, violent resistance to Inka conquest beginning around AD1470 (Espinoza, 1967; Lerche, 1995; Schjellerup, 1997). Culturally, they shared many social, economic, and ritual practices with Andean societies, but they probably also interacted regularly with neighbors in the Amazonian lowlands immediately to the east; indeed, it is likely that Chachapoyas was a hub of inter-regional exchange and movement (Church, 1996; Schjellerup, 1997; Church and von Hagen, 2008; Narváez, 2013). Unfortunately, this interstitial location between cultural macro-regions, combined with the difficulties of conducting research in this demanding natural environment, has consistently resulted in Chachapoyas—like other areas of the eastern Andean slopes—being marginalized in mainstream narratives of South American prehistory (Church, 1996; Kojan, 2002).

Fig. 2. Location of Chachapoyas in Peru.

Paradoxically, even though archaeological research in Chachapoyas has lagged behind other parts of the Andes, this region is well-known among scholars and the Peruvian public alike, with several of its sites even featured on national coinage circulated since 2011. Publicity especially increased following the 1996 discovery at the site of Laguna de los Cóndores of a cache of over two hundred Inka and Chachapoya mummy bundles (Guillén, 2000, von Hagen, 2002), along with the only Inka *khipu* (knotted string recording systems) found outside of the dry coast of Peru and Chile (Urton, 2007, p. 63). This find added to a previously known panoply of spectacular sites, such as the anthropomorphic clay sarcophagi of Karajía (Kauffman and Ligabue, 2003); the painted *chullpa*-like cliff tombs of Revash (Reichlen and Reichlen, 1950); the circular edifice at Gran Pajatén decorated with anthropomorphic and avian stone friezes (Bonavía, 1968); and the mountaintop settlement of Kuélap, built on 20 m-high platform walls that render it among the largest stone constructions in prehispanic South America (Narváez, 1996a,b, 2013; Ruiz Estrada, 2009).

But Chachapoya settlement architecture, which has received considerably less scholarly and popular attention, is just as important to understanding these societies. This is especially true since residential architecture is much more consistent across the region than ceramics (e.g. Reichlen and Reichlen, 1950; Koschmieder, 2012; Ruiz, 2009) or mortuary practices (Nystrom et al., 2010). Residential architecture also has the value of shedding light on daily practice and on socio-political landscapes within settlements, subjects about which exceedingly little is known. Moreover, even though the lush high-altitude-jungle vegetation that still shrouds many sites presents an obstacle to research, it has fortunately left them in an excellent state of preservation. Walls of residential buildings are occasionally preserved to heights of four meters or more (e.g. Koschmieder, 2012). The "Proyecto Arqueológico Pueblo Chachapoya" project (Guengerich, 2012) was carried out in response to this peculiar mix of scholarly lacunae and rich opportunities for investigation, and residential architecture was foregrounded in the research design. In the following overview of Chachapoya architecture, results from this project are integrated with data collected by researchers at other sites.

Chachapoya settlements are typically located on mountaintops or distributed in a linear fashion along ridge tops. They consist predominantly of stone circular buildings between 5–8 m in diameter, which are densely clustered and usually leave little open space between them (e.g. Muscutt et al., 1993; Narváez, 1996a,b; Schjellerup, 1997). Often, small terraces and stairs serve to level the terrain, creating flat surfaces for one or several structures, and in some cases, stone paths have been observed (e.g. Guillén, 2000). At the site of Kuélap, Narváez (1996b) has identified three kinds of groupings of circular structures—agglutinated, linear, and radial—but in general, Chachapoya settlements bear few commonly recognized markers of centralized planning (Bonavía, 1978; e.g. Smith, 2007). Some scholars, probably overly influenced by the prominent, massively-walled site of Kuélap, have claimed that most Chachapoya sites were walled, but in reality such sites constitute a minority (Lerche, 1995, p. 30; Church and von Hagen, 2008, p. 913).

Other kinds of corporate constructions, such as plazas, communal tombs, and monumental architecture, are also typically absent at most Chachapoya sites. Kuélap, where a variety of monumental and non-monumental constructions are, in fact, present (Narváez, 1996a,b, 2013) appears to be the exception that proves the rule. The only recorded example of a walled plaza at a Chachapoya site is at Monte Viudo (Guengerich, 2012). This is especially notable in light of the prominence of plazas in built environments throughout the prehispanic Andes (Moore, 1996a,b), including at other mountaintop sites where flat space was at a premium (e.g. DeMarrais,

2001). Rectilinear buildings of unknown function are present at many Chachapoya sites (e.g. Thompson, 1973; Schjellerup, 1997; Narváez, 2013), but these are never significantly larger than circular structures, and it furthermore is unclear whether these pre-dated Inka incursion into the region. Corporate above-ground tombs (*chullpas*) have not been identified within any Chachapoya settlement with the exception of Kuélap (Ruiz Estrada, 2011).

Instead, Chachapoya built environments consist of large, elaborate circular structures in abundance. Scholars and the general public alike have assumed that they were residences, based on a mixture of common sense and the "principle of abundance" (cf. Ashmore and Wilk, 1988, pp. 9–10), and this does appear to be true of most of these buildings. Excavations in circular structures throughout the region have revealed evidence of typical domestic activities, including hearths, sleeping platforms, storage chambers, mortars and grinding stones, bone weaving implements, lithic debris, faunal and botanical remains, and abundant utilitarian and fineware sherds (Thompson, 1973; Narváez, 1996a,b, 2013; Schjellerup, 1997; Guengerich, 2012; Koschmieder, 2012). But the interpretation of these buildings as houses cannot be taken for granted. At a number of sites, archaeologists have identified circular structures that appear to have occasionally or exclusively served non-domestic functions. Very large floor area, exceptional architectural elements, and the presence of unusual features or artifacts—for example *Spondylus* shell, quartz crystals, central platforms, and fossils or specially shaped stones—have led multiple researchers to suggest that some circular structures served as locations of rituals or of small-scale communal gatherings (e.g. Bonavía, 1968; Thompson, 1973; Lennon et al., 1989; Muscutt et al., 1993; Guengerich, 2012; Koschmieder, 2012).

Circular structures (Fig. 3)—both domestic and non-domestic alike—were built of masonry walls that were usually 50–60 cm thick and made of either field stone or cut stone, with or without mortar composed of clay and cultural debris (e.g. Deza, 1976; Thompson, 1976; Schjellerup, 1997; Fabre, 2006; Koschmieder, 2012). For all sites known, all buildings were built out of a single type of stone—most commonly limestone, as at Monte Viudo, or sometimes sandstone (e.g. Llaqtacocha [Guillén, 2000] and La Playa [Deza, 1976]). Decorative elements, though, were commonly crafted in sandstone, slate, or siltstone (e.g. Deza, 1976; Muscutt et al., 1993; Church, 1994; Narváez, 1996a,b). Masonry styles vary within and across sites, but the social, regional, or chronological significance of such variation has not yet been investigated. Inside buildings, niches (e.g. Schjellerup, 1997; Guengerich, 2012; Koschmieder, 2012) and deer antlers (e.g. Guengerich, 2012; Koschmieder, 2012) were common features that likely had simultaneously utilitarian, symbolic, and aesthetic aspects. Other common interior features include benches, sleeping platforms, bins, subfloor burials, canals, ovens, permanent grinding stones (*batanes*), a variety of hearth types, entrance stairs and stoops, offerings and interments, and subterranean chambers for storage or burials (e.g. Deza, 1976; Thompson, 1976; Narváez, 1996a,b; Narváez, 2013; Schjellerup, 1997; Guengerich, 2012; Koschmieder, 2012). Plaster and painted designs have been noted in some buildings (e.g. Langlois, 1940; Koschmieder, 2012), but it is not clear how common these were due to varying preservation.

What most distinguishes circular architecture of Chachapoyas from that of contemporaneous regions of the Andean highlands are three common features: *friezes, cornices*, and *platform-bases*. These elements do not always occur on all structures at a site—for example, friezes in particular often are present on only a minority of buildings—and in at least some cases, settlements appear to have lacked some or all of these features (e.g. Fabre, 2006); but typically at least one of these features is present at most sites. Platform-bases, the most common, were either free-standing or

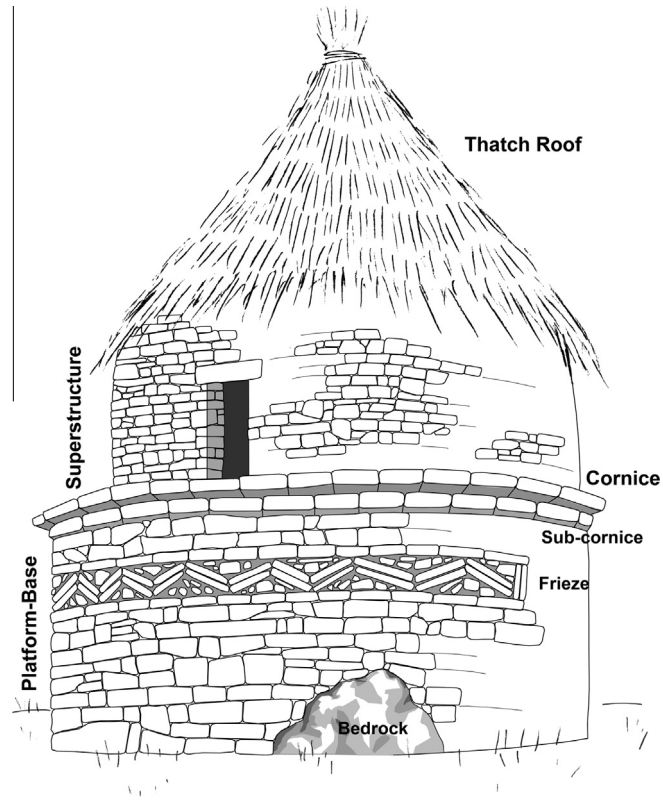

Fig. 3. Schematic representation of construction elements common in Chachapoya circular structures.

partially built into a slope, and did not comprise basements but rather earth-and-rubble-filled platforms that elevated the structure. Platform-bases often characterize the majority of structures at a site. Also widespread at most sites are cornices, a flaring ring of flat stones that project outward from a structure's walls like a halo. These are located at the horizontal juncture between the platform-base and the superstructure walls. Cornices enhanced a building's aesthetic appearance, but they probably also served to divert rainfall from a structure's foundation (Narváez, 1996a) and, in some cases, as walkways to the building's entrance, as was the case at Monte Viudo (Guengerich, 2012).

Friezes are perhaps the best-known feature of Chachapoya architecture, though they never characterize more than a minority of buildings at a given site. They are formed of mosaics of small stones built either into the platform-base or above the building's doorway in patterned bands of zigzags, checkerboards, concentric or single rhombuses, or volutes (*grecos*)[1] (Schjellerup, 1997; Church and von Hagen, 2008). There is not currently enough evidence to determine the social significance of friezes or of their distribution within sites or across the region, although they have been variously interpreted as markers of the residences of leaders (e.g. Schjellerup, 1997, p. 192), as symbols of cosmologically powerful animals (Lerche, 1995), and as emblems of regionally-based ethnic identity, a hypothesis which receives some confirmation in the fact that rhombus motifs tend to occur north of the town of Leymebamba, and volute motifs to the south[2] (Lerche, 1995; Schjellerup, 1997; Fabre, 2006). At the Inka administrative center of Purum Llacta de Cheto

[1] Although the avian and anthropomorphic friezes at Gran Pajatén are the most famous examples, these motifs are in fact not typical, but are limited to the immediate Abiseo region in far southern Chachapoyas. They may be related to the Late Horizon construction date or Inka presence at this site (Bonavía, 1968).

[2] Monte Viudo is only the second known site at which all three principal frieze motifs (zigzag, rhombus, volute) have been identified. The other known site is Congona, located just west of the modern city of Leymebamba (Ruiz Estrada, 1979).

in northern Chachapoyas, *kallanka*-type public buildings with friezes have been interpreted as an architectural fusion of indigenous and imperial foreign styles (Ruiz Estrada, 2004), and similar factors were apparently at work in the early colonial church at La Jalca, the exterior of which is decorated with a zigzag frieze.

Remains of house roofs have only been encountered at Kuélap in the form of carbonized fragments of thatch and cane armature (Narváez, 2013). But some idea of their appearance has been established by Davis (1996), who experimentally reconstructed a circular structure based on Wiener's (1884) and Langlois' (1939) descriptions and illustrations of the last such building inhabited in Chachapoyas. According to Davis, roofs were probably conical, thatched, and supported by several dozen tree trunks that rested on the structure walls, apparently without a central post (Davis, 1996; the lack of supports was confirmed at Monte Viudo by the absence of interior postholes [Guengerich, 2012]). Based on Wiener's description, Davis contends that roofs sloped at a 60° angle, which would have made an average-sized roof quite tall—four meters high for a 5 m-diameter building. This unusually steep angle may have contributed to the roof's longevity by facilitating the runoff of water in this rainy climate.

Residential and non-residential architecture at Monte Viudo

The settlement site of Monte Viudo exemplifies the previously described characteristics of Chachapoya architecture. This site lies between 3440–3510 m above sea level on a peak that overlooks the confluence of the upper Atuén and Tambillo (Tingo Grande) rivers, about halfway between the modern towns of Leymebamba and Chuquibamba (18M 0190352E 9246780S). It forms part of a regional complex of probably contemporaneous sites that also includes the cliff tombs of La Petaca and Diablo Wasi and the settlement sites of La Joya, Bóveda, Vaquería, Chinchipata, and Churru Churru (Schjellerup, 1997). Monte Viudo has been described by Savoy (1970) and Muscutt (1998), but the only archaeological research to date on pre-Inkaic sites in the surrounding Chuquibamba-Upper Atuén area consists of survey and restricted excavations carried out by Schjellerup (1997) and colleagues (Jakobsen et al., 1986–1987) in the 1980s–1990s.

Research design and site overview

Monte Viudo consists of approximately 300 circular stone structures, which stretch 250–350 m along four ridges that intersect in the basic form of an "X" (Fig. 4). The central and highest portion of the site, at the intersection of the four "arms," was a primarily non-residential sector that included several buildings used for ritual practices. The "Proyecto Arqueológico Pueblo Chachapoya" research project entailed architectural recording, the creation of a site map using a Leica TPS 1200 total station, and the excavation of sixteen units covering approximately 65 m^2 (Guengerich, 2012). Seven of these were located in residential structures, which were selected to represent each of the site's sectors and a range of masonry types and building sizes. The remaining excavation units were located in open areas, in the walled plaza, and in three non-residential structures. A suite of eighteen radiocarbon dates indicates that Monte Viudo was permanently occupied between approximately AD1225–1450 (the latter half of the Andean "Late Intermediate Period"), with earlier uses of an unclear nature occurring as early as 400BC (Table 1). Six of the excavated residential buildings were directly or indirectly dated to the Late Intermediate Period, while the seventh is associated with an earlier occupation date between AD775–975.

Evidence from excavation revealed a clear pattern of domestic activities associated with these seven circular structures. This included camelid (*Lama* sp.), potato (*Solanum tuberosum*), and possible *kiwicha* (e.g., *Amaranthus* sp.) consumption, stone-lined hearths, bone weaving implements, lithic debitage and expediently formed tools, and ceramic assemblages that consisted primarily of flaring-rimmed, brown-ware jars. The consistent repetition of this pattern suggests that the majority of circular structures were self-contained residences, rather than serving as storehouses or other annex buildings that formed part of multi-structure household complexes. These houses are densely packed with little open space between them, but with few exceptions, they are not organized around patios or open spaces, nor do they face each other or share walls or terraces. The spatial organization of residential buildings thus implies a degree of discreteness or autonomy of household corporate groups.

Circular residential structures make up the majority of Monte Viudo's built environment. Other than these, at the extreme periphery of Sector West is a 25 × 12 m walled plaza; toward the western end of Sector West is a large flat area onto which six probable houses face (the "East Plaza"), around which a wall was built sometime after the end of the site's occupation; and at the site's center and highest point, where the four ridges of residential sectors meet, is the Central Sector. This sector is partially enclosed by a freestanding wall. It contains several non-residential buildings as well as two superimposed platforms whose masonry retaining walls articulate with a natural prominence in the terrain. These are approached consecutively by a staircase and a ramp. On top of the upper platform is a 3.3 m-diameter, collapsed circular structure (Structure 93), underneath which was interred a multicomponent deposit that included *Spondylus* shell and the partial skeletal remains of four individuals. These were the only human remains excavated at this site. The floor of Structure 93 was associated with a large quantity of orange fineware bowl sherds, probably indicating that ritual commensalism occurred in or around this structure.

Excavation established that at least two other buildings located in the Central Sector were also associated with ritual practices. Structure 90, the only structure at Monte Viudo with two doorways, revealed evidence of burning events, consumption of plant but not animal foods, a circular hearth stylistically dissimilar to those found in houses, and deposits of intact fineware vessels. This structure is distinguished by an anthropomorphic face carved in low relief on one of the stones in its interior wall, and by an anthropomorphic tenon head that extends from the exterior wall. Apart from these features, though, this building strongly resembles any large house with fine masonry, and its diameter of 6.9 m is similar to that of the largest houses at the site.[3] The third non-residential building in the Central Sector is Structure 120, which consists of a low, staple-shaped wall about 1 m high, which was constructed on top of a semicircular platform-base. This structure is located immediately beneath a large limestone outcrop that was likely a *wak'a*, an animate landscape feature revered by many Andean groups (Salomon, 1991). Given its location beneath this outcrop, Structure 120 was evidently an associated shrine, an interpretation reinforced by the dense amount of charcoal and atypical lack of artifacts encountered in its excavation. The probable absence of a roof would have allowed those taking part in activities in this space to see the *wak'a* behind it.

The location of these ritual and non-domestic structures in the Central Sector, which is in turn partially bounded by a freestanding wall, argues that this was a special-purpose area within this settlement, and in fact this is the first time that a functionally distinct sector has been observed at a Chachapoya site outside of Kuélap. Yet these communal spaces and structures were distinguished from domestic structures more by the practices that occurred there, rather than their scale or form. In terms of their circular

[3] 3.4% ($n = 10$) of circular structures at Monte Viudo have a diameter $\geqslant$6.5 m.

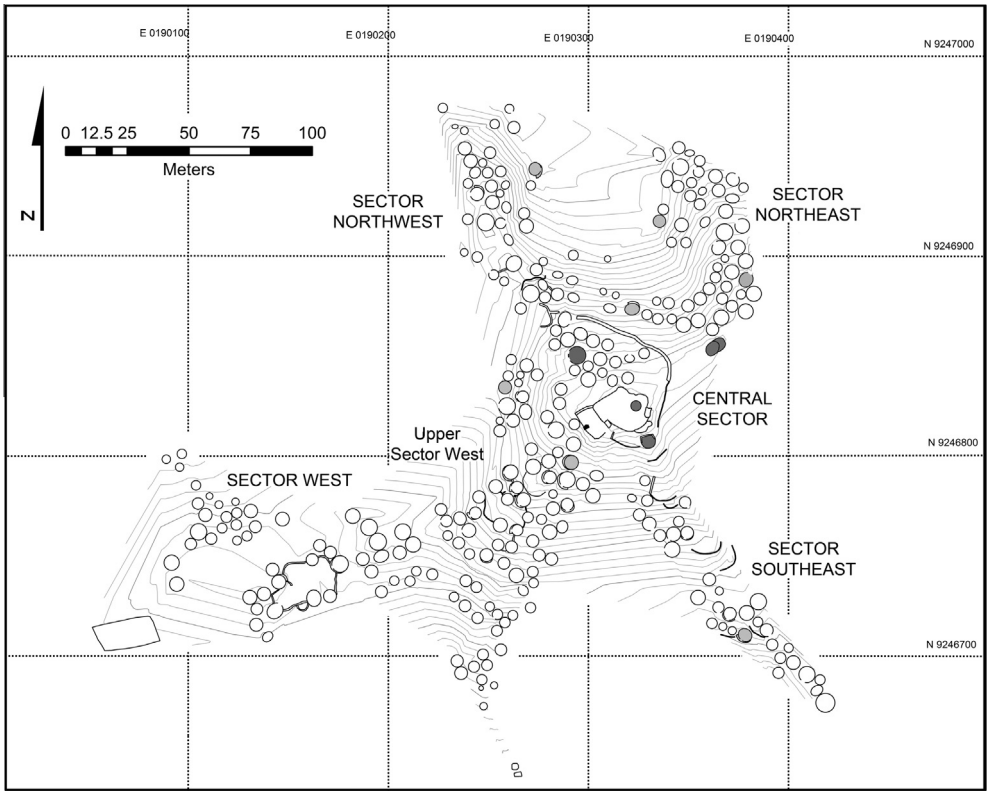

Fig. 4. Plan of Monte Viudo. Excavated houses are indicated in light gray and ritual structures are indicated in dark gray.

Table 1
Radiocarbon dates collected from Monte Viudo during 2011–2012 field season.

U. AZ AMS Lab control #	Material	Context	Uncalibrated RCYBP	δ^{13}C%	Calibrated date* (95.4%)
AA96863	Wood	Upper Sector West patio (U12-L9/10-Feature 1)	2261 ± 37	−22.7	cal 399–206 BC
AA101315	Carbonized potato	Upper Sector West patio (L7)	2074 ± 41	−25.0	cal 199 BC–AD 18
AA96864	Wood	Upper Sector West patio (L4)	2041 ± 38	−24.1	cal 167 BC–AD 50
AA986861	Wood	Structure 93 (U8/L7)	1637 ± 36	−26.3	cal AD 269–537
AA986853	Wood	Structure 90 (U9/L9/Feature 4)	1604 ± 36	−24.6	cal AD 385–546
AA986875	Charcoal	Structure 51 (U15/L5)	1162 ± 36	−24.5	cal AD 776–973
AA986862	Wood	Structure 120 (U7/L2)	659 ± 35	−25.2	cal AD 1275–1395
AA986858	Wood	Southeast Sector Terrace (U4/L11)	711 ± 35	−23.6	cal AD 1227–1388
AA986851	Wood	Southeast Sector Terrace (U4/L4)	615 ± 35	−25.1	cal AD 1291–1405
AA986860	Wood	Structure 61 (U16/L4)	682 ± 35	−23.8	cal AD 1266–1391
AA986859	Wood	Structure 61 (U16/L3)	685 ± 35	−24.2	cal AD 1264–1391
AA986855	Wood	Structure 61 (U16/L2)	727 ± 35	−25.4	cal AD 1222–1382
AA986852	Wood	Structure 29 (U2/L3/Feature 2)	567 ± 35	−25.4	cal AD 1301–1429
AA986854	Wood	Structure 102 (U5/L4)	563 ± 35	−22.5	cal AD 1303–1430
AA986856	Wood	Structure 190 (U11/L2/Feature 1)	490 ± 35	−23.6	cal AD 1329–1455
AA986857	Wood	Structure 90 (U9/L3)	523 ± 35	−24.1	cal AD 1318–1445
AA986850	Wood	East Plaza (U13/L1)	465 ± 34	−24.4	cal AD 1406–1475
AA101316	Wood	Structure 51 (U15-L3)	463 ± 39	−24.4	cal AD 1400–1612

* Calibrated using IntCal09.

form, features, and masonry, these buildings bear a strong resemblance to houses. All were relatively modest in scale, suggesting that they were not designed to accommodate large gatherings. The West Plaza, too, located at the far periphery of Sector West, would not have been large enough to contain the majority of the site's population at once. Most of the architectural energy expended in the creation of Monte Viudo's built environment was, in fact, invested in residential buildings, and while ritual buildings were used for non-domestic practices, their architecture was not necessarily designed to differentiate them from houses.

Residential architecture at Monte Viudo: exterior and interior features

Systematic architectural recording and excavation carried out during the 2011–2012 research project revealed patterned similarities and differences in the features of circular architecture. In addition to creating a map that includes structure walls, doorways, topography, and major natural features, we measured the interior diameters of structures and the heights of their platform-bases and of preserved walls; we described and measured internal and external features (e.g. antlers, cornices, niches); and we photographed the interiors and exteriors of all extant structures. For walls over 0.5 m high, we evaluated the following characteristics, which were used to establish six masonry types (Fig. 5): modification of stones' faces, shape of the stones, consistency of stone shape, size of stones, presence of mortar, presence of coursing, closeness of fit between stones, and flatness of the wall surface.[4]

[4] Apart from stone size, all characteristics were evaluated on a qualitative basis.

Fig. 5. Masonry types at Monte Viudo. (*Top row*, *left*) Type A, Structure 274; (*top row*, *right*) Type B, Structure 273; (*middle row*, *left*) Type C, Structure 97; (*middle row*, *right*) Type D, Structure 191; (*bottom row*, *left*) Type E, Structure 61; (*bottom row*, *right*) Type F, Structure 64.

In all cases where partial building collapse made it possible to view the cross-section of walls, it was evident that masonry was formed by a core-and-fill technique, with two vertical faces of stone sandwiching a central core of clay and cobbles.

Like other Chachapoya sites, Monte Viudo's houses[5] are characterized by an array of decorative embellishments and elaborate features (Figs. 6–8). Most[6] houses were built on platform-bases, which range from less than 0.5 m to almost 4 m in height depending on the steepness of the terrain. Other common features are cornices or ledges above the platform-base, which separate it from the walls of the superstructure.[7] Many features evidence variation in their execution, style, or the amount of labor entailed in their construction. Among these are niches, which are commonly[8] present on interior walls (Fig. 6); the form of doorways (Fig. 7); and the access-complexes that lead to residences, such as ramps (e.g. Structures 36, 184), stairs (e.g. Structure 199), or steps or sub-"cornices" below the interior threshold (e.g. Structures 85, 102, 164). Notably, most of these instances of variability in the realization of features were the result of the execution of their form, rather than of differences in the availability of material or labor, as would be the case, for example, in a modern household's decision to build a roof out of tin, tiles, or thatch.

Most features occur throughout the site and are associated with buildings of all masonry types. Friezes, however, are restricted to buildings with high quality, labor-intensive masonry, all but two of which are clustered in Upper Sector West, a probable high-status portion of the site immediately adjacent to the non-residential Central Sector. In one known case, a frieze is present on a non-residential, ritual building (Structure 90). Of the five preserved friezes at the site, three are zigzag motifs located on platform bases below the cornice (Structure 194, 274, 275), while the other two consist of a double-rhombus motif (Structure 72) and a volute (Structure 90; also see Muscutt, 1998), which are located above the doorway (Fig. 8). A sixth, volute-motif, frieze (Structure 199) is documented in Savoy (1970) but no longer preserved. It is possible that the variable placement of friezes on the platform-base versus the superstructure held particular significance, but this hypothesis cannot be evaluated given the

[5] Since the circular structures excavated in all sectors but the Central Sector did reveal evidence of exclusively domestic activities, I argue that circular buildings in these sectors were overwhelmingly, if not all, residences. Of course, the only certain means to establish each building's function would be to excavate each one at the site, and this was not feasible within the scope of the project. Thus, for purposes of clarification, when the term "house" is employed in the following discussion, it includes all circular buildings in Sectors West, Northwest, Northeast, and Southeast, and those in the Central Sector that were not expressly confirmed as ritual structures through excavation. Nevertheless, it is acknowledged that some of the circular structures included in the following descriptions and statistical tests may conceivably have not served as residences and may introduce a small element of error into qualitative or quantitative characterizations.

[6] 51.4% ($n = 150$) of houses have a platform-base. Given the partial or total collapse of many structures, especially in the deforested parts of the site, the original percentages of many features would have been much higher. This is especially true for cornices, which are more easily destroyed than platform-bases, and niches, which only preserve to the extent that structure walls do.

[7] 16.3% ($n = 48$) of houses have cornices.

[8] 9.4% ($n = 28$) of houses have niches.

Fig. 6. Niche variation at Monte Viudo: Structures 111 (*left*), 279 (*center*), 61 (*right*).

Fig. 7. Doorway variation at Monte Viudo: Structures 199 (*left*), 61 (*center*), and 90 (*right*).

Fig. 8. Frieze types at Monte Viudo: zigzags (Structure 194, *left*), concentric rhombuses (Structure 72, *right*).

limitations of existing datasets. The horizontal arrangement of stones above several doorways in Upper Sector West (e.g. Structure 190) indicates that more buildings originally had friezes, which have since collapsed.

Many features of houses are visible above the ground surface, while others were encountered only through excavation of their interiors. Antlers were found in four out of seven residences excavated, suggesting that these were fairly ubiquitous, and the discovery of another antler *in situ* projecting from an interior wall (Structure 206), demonstrates the manner in which they were originally affixed. Other interior features include permanent furniture like benches (Structures 14, 102), bins (Structures 29, 51, 102), and rectilinear structures abutting the back wall that may originally have contained temporary burials (Structures 197, 273, 275). Ritual deposits were another feature, hidden below residential floors. Of the seven houses excavated, two (Structure 61 and 275) revealed strikingly similar contexts in which the 30 cm-diameter flared neck of a large jar had been intentionally detached from the vessel body[9] and placed in an inverted position on the building's original floor, just prior to the construction of a second floor (Fig. 9). This event appears to have marked or modified the character of the residential space, probably accompanying some kind of change in the lives of its inhabitants or in the life cycle of the domestic group (e.g. Lucero, 2010).

Whereas all houses were made of the same materials—limestone for the walls and logs and straw (*ichu*) for the roof—they differed in the amount of labor that was required for their masonry. For example, bricklike, closely fitted, coursed stones (Type A) required significantly more labor than large, rough stones set with mortar (Type F). Since no evidence was encountered of plastering, variation in masonry styles would have been visible (cf. Love, 2013). Although it was possible to establish broad "types" of masonry, variation across types is continuous rather than discrete, and attributes—for example, regularity of stone shape and closeness of fit between stones—do not always co-vary. Nevertheless, the interior area of a structure is, in fact, correlated with the labor-intensiveness of its masonry in a statistically significant manner (ANOVA value for $F = 5.735$, $df = 5$, $p < 0.001$) (Fig. 10). The correlation of these two attributes, which are both commonly interpreted as indexes of a household's status (e.g. Hirth, 1993; DeMarrais, 2001; van Gijseghem, 2001), initially suggests that larger houses with more-labor intensive masonry may have been occupied by higher-status residents.

Archaeologists often observe that labor-intensive construction and larger interior area often co-occur with architectural features

[9] In the Jaén area north of Chachapoyas, Clasby and Meneses (2013, p. 311) also encountered intentionally detached necks of vessels that had been ritually buried in a house floor.

Fig. 9. Detached jar neck ritually placed in an inverted position on a decommissioned floor, Structure 61.

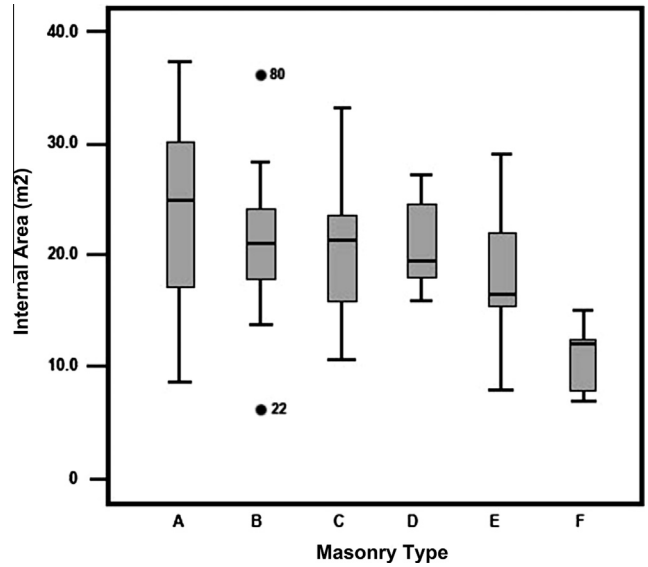

Fig. 10. Distribution of interior areas of buildings of each of the six masonry types.

that are decorative or not strictly utilitarian, but quantitative assessments suggest that this relationship was not straightforward at Monte Viudo. For example, houses with niches or cornices do tend to have larger interior areas. Those with niches have a mean interior area of 20.0 m^2, and those without niches 18.5 m^2; and houses with cornices have a mean interior area of 23.8 m^2 compared to 17.5 m^2 for those without. This correlation is statistically significant in the case of cornices (ANOVA value for $F = 33.821$, $df = 1$, $p < 0.001$), but not for niches (ANOVA value for $F = 1.016$, $df = 1$, $p = 0.315$). Despite these correlations, though, the range of interior areas of structures with and without these features overlaps substantially (Fig. 11), and both features are present on buildings of all types of masonry except for Type F (and in the case of cornices, Type D).

Friezes, in contrast, present a different situation. Houses with friezes have a mean interior area of 25.5 m^2 compared to 18.4 m^2 for those without, but notably, the range of their areas falls almost entirely above the upper quartile of houses without friezes (see Fig. 11). Although the sample size of buildings with friezes ($n = 7$) is too small to make statistically robust conclusions, this distribution is striking. Additionally, unlike cornices and niches, five out of seven friezes are located on buildings with labor-intensive Type A masonry, while the other two occur on buildings with Type B masonry. This suggests that, in contrast to niches, cornices, and other features such as antlers or platform-bases, the use of friezes may have been restricted to certain (higher-status) households who commanded the labor to construct larger houses with higher quality masonry. This conclusion is strongly reinforced by the fact that friezes are the only feature whose distribution is almost wholly restricted to a single portion of the site (Upper Sector West and the adjacent Central Sector), in contrast to cornices, niches, and platform-bases.

Residential architecture at Monte Viudo: labor and engineering

Monte Viudo's houses stand out not only for their decorative features, but also for the amount of effort required for their construction. In fact, it would hardly be an exaggeration to describe this site's residential architecture as monumental. All buildings, residential and non-residential alike, were made of limestone. No quarry was identified as the source of the stone, but the large amount of bedrock present near the ground surface suggests that it may have been quarried *in situ* at Monte Viudo. Even so, substantial input of labor would have been required to extract, shape, and assemble it. In terms of weight alone, an average-sized house—not including the platform-base—would have contained some 30,000 kg, or thirty metric tons, of stone.[10] Greater amounts of labor would have been required for buildings whose masonry was cut into rectilinear shapes or laid in courses. It is additionally possible that the technical expertise of "professionals" such as artisans, geomancers, or engineers (e.g. Blier, 1987; Rapoport, 1989; Marchand, 2006) was needed for particularly complex tasks, such as assembling the roof armature, modifying the terrain of the house site, or creating friezes.

Steep, thatched roofs also would have entailed a considerable amount of labor, especially for the felling and transportation of trees for the frame. Based on Davis' reconstruction in which supports rest at every 0.6 m of the building's diameter (1996), a 5 m-diameter house would have required twenty-six logs each five meters long. Since Chachapoyans did not use metal implements, trees would have been felled with stone axes. In order to reach the mountaintop on which the site is located, logs would have to have been transported nearly a vertical kilometer upward over terrain that in many areas approximates forty-five degrees in slope. Moreover, unlike structure walls, roofs would need to have been replaced multiple times over a house's lifespan due to rain and rot.

In addition to raw labor power, the challenges of this site's landscape would further have required a substantial knowledge of engineering. Bedrock is close to the surface, rocky outcrops are everywhere, and above all, the terrain is extremely steep. Nor are

[10] This calculation is estimated for a building with a diameter of 5 m and walls 0.5 m thick and 2 m high, using the average specific gravity of limestone (2.5 g/cm^3). Some estimated weight (5000 kg) is subtracted to account for buildings in which masonry was not tightly fitted.

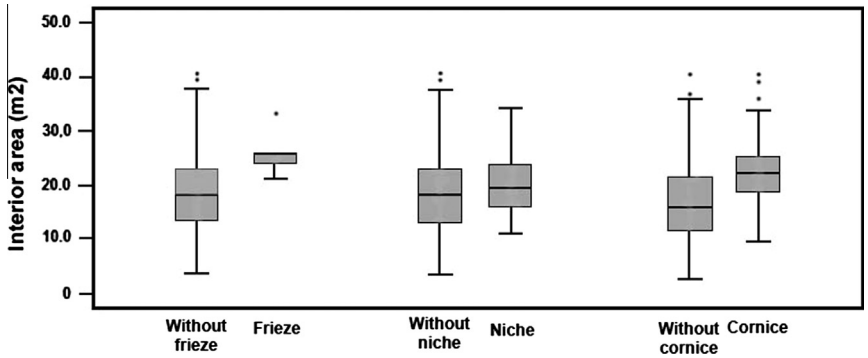

Fig. 11. Distribution of interior areas of circular structures with and without friezes, niches, and cornices.

these features uniformly present across the site, which would have necessitated the tailoring of individual solutions for each building location in order to achieve the same culturally and aesthetically acceptable standard of a circular, dual-level structure. In every building excavated, builders had leveled the underlying terrain, usually by laying down a gravelly layer of clay fill that reached up to the highest portions of the bedrock. In the only exception, a house in a particularly steep portion of the site (Structure 61), builders chose to level the bedrock itself. In this case, it merits stressing the amount of effort this would have entailed for a house whose peripheral location and irregular, less labor-intensive Type E masonry suggests that its occupants may have been of a relatively low status.

Some technical solutions to construction probably had social or cultural significance as well. For example, platform-bases were often a necessary technique for building on steep surfaces, but they also would have contributed to a sense of the structure's grandeur, especially in cases such as Upper Sector West (e.g. Structures 190, 195, 199) where bases are taller than functionally necessary. Similarly, in some buildings bedrock was incorporated into superstructure walls or platform-bases (see Fig. 3). While this undoubtedly served as an energy-effective construction shortcut, it may conceivably have rooted a household to a meaningful locale in the landscape; or, by incorporating the substance of the earth—living rock—this may have altered the ontological status of the house itself. And while limestone would have been an expedient construction material due to its durability, it is also possible that it had religious associations, given the frequent use of limestone cliff faces in Chachapoyas for burials and for red ochre petroglyphs (Muscutt, 1998; Kauffman and Ligabue, 2003; Ruiz Estrada, 2011).

House construction was a process that balanced considerations of engineering, aesthetics, social context, and cultural meaning. At the same time, organizing labor would have entailed the management of people, time, and the movement of materials. An examination of the material outlines of the construction process demonstrates that the creation of a traditional Chachapoya house was not an architectural default, but an architectural achievement that in fact evidenced a high degree of reflexivity and decision-making.

Discussion: Making houses at Monte Viudo

This detailed dataset enables us to begin tracing how individuals and household groups at Monte Viudo designed houses in the context of their particular social and cultural milieu, and how these actions in turn shaped this community in ways that were both anticipated and not.

To begin with, the physical attributes of houses at this site argue that a good deal of forethought was entailed in their creation. These buildings are massive, aesthetically finessed constructions that, in fact, exemplify all of the principal traits of monumental architecture as classically described by Trigger: "the ability to plan on a large scale, a high degree of engineering skill, the recruitment and direction of substantial labor forces, and a well-developed artistic standard" (1990, p. 121). As such, their construction would have been both complex—in the case of recruiting and allocating labor—and costly, in terms of work-hours. Even if the outcome was a structure that perfectly replicated existing house forms, its creation could hardly be adequately explained as a transmission of traditional templates. To the contrary, the construction of each building was an architectural accomplishment, the successful execution of which would have required a good deal of planning and a host of small and large decisions. The monumentality of these structures thus argues that—despite their shared overall form—their creation was the result of a great many other forces at work besides the quotidian processes of domestic reproduction represented by Bourdieu's theory of *habitus* (1977). Builders who would have had to carry out such extensive planning probably spent a good deal of time pondering possible or ideal outcomes of their efforts. What might such outcomes have been, and how did they attempt to achieve them?

One of the most common factors in interpretations of residential architecture is status. By now, archaeologists recognize that larger, more elaborate residences are generally associated with households of higher status who possess greater material wealth (e.g. Netting, 1982; Hirth, 1993; Blanton, 1994). DeMarrais' (2001) study of pre-Inka and Inka-period households in the Wanka region of central Peru provides a typical example. Especially large residential compounds at these sites could be linked to elite household groups on the basis of the greater labor investment in their masonry, the presence of exotic goods and of finewares or large ceramics indicative of feasting, and higher quantities of prestige foods such as maize or camelid meat.

I argue that status also constituted a major influence on house design at Monte Viudo. But, in contrast to classical examples such as DeMarrais' Wanka study, excavation revealed little evidence that household status was premised primarily on the accumulation of material wealth such as exotic goods or special foods. Larger interior areas and more labor-intensive masonry of houses were not associated with higher proportions of decorated vessels or of bowls, the principal serving vessel used at this site (Table 2). Neither were they associated with higher quantities of faunal remains per m^2, nor did they co-vary[11] with proportions of camelids or of hunted animals in the faunal assemblage. And no exotic goods at all were recovered from house interiors. Similarly, construction materials reflect a lack of differentiation: all houses were made of limestone, wood, and straw, so that differences lay in the ways these elements were assembled rather than in the materials used. In fact,

[11] The small number of excavated units ($N = 7$) did not permit tests to determine the statistical significance of their correlation or lack thereof, so only a qualitative indication of "co-variation" may be noted.

Table 2
Attributes of household assemblages: *(above)* organized by increasing labor intensity (i.e. masonry type) of the building in which they were recovered, and *(below)* organized by increasing interior floor area of the building in which they were recovered. (Note: U15 is excluded from the upper table since the masonry of this structure was too poorly preserved to establish its type.)

Excavation unit	Structure #	**Masonry type**	% Sherds decorated	Bowls as % of all rim sherds	Camelids as % of faunal assemblage	Fauna (g/m^2)
U11	190	**A**	4.8	0	83	11
U2	31	**B**	2.4	13	87	290
U3	275	**B**	1.5	13	68	156
U5	102	**C**	0.9	11	75	18
U16	61	**E**	5.0	0	81	17
U1	245	**E**	2.1	8	95	258
Excavation unit	Structure #	**Interior structure area (m^2)**	% Sherds decorated	Bowls as % of all rim sherds	Camelids as % of faunal assemblage	Fauna (g/m^2)
U5	102	**25.5**	0.9	11	75	18
U11	190	**25.5**	4.8	0	83	11
U15	51	**24.6**	6.5	16	100	8
U16	61	**22.1**	5.0	0	81	17
U2	31	**21.2**	2.4	13	87	290
U3	275	**21.2**	1.5	13	68	156
U1	245	**18.1**	2.1	8	95	258

Note: U15 is excluded from the upper table since its masonry is too little preserved to identify its type.

the qualities that differentiate masonry would primarily have resulted from the quantity of labor invested, which suggests that a primary component of status was social capital. Larger houses characterized by more labor-intensive masonry would have revealed the breadth of a household's social relationships and the number of people whose labor could be counted on for construction.

But it is important to not only identify architectural features that correlate with or reflect status, but also to consider the mechanics of these correlations—which brings us directly to the realm of materiality and of agency. We need to ask exactly *how* status was constituted through architecture: in other words, if builders sought to use their residences to communicate or consolidate social status, then why did they select the particular forms, sizes, qualities, materials, and so on, that they did?

One such process that has been frequently examined is conspicuous consumption, which Abrams (1989) and Trigger (1990) render as labor energetics in the case of monumental architecture. In the context of houses, many authors have argued that greater investments of labor, as expressed in size, materials (e.g. stone vs. wattle-and-daub), or finishing techniques (e.g. fieldstone vs. cut stone), either inherently index—or are expressly designed to communicate—the status of their builders and residents (e.g. Carmean, 1991; Blanton, 1994; DeMarrais, 2001; van Gijseghem, 2001; Lyons, 2007). This was probably the case at Monte Viudo, too, and it is best observed in differences in masonry style. Continuous rather than discrete variation suggests that builders apparently built up to the ceiling of their social and economic resources and were not constrained by sumptuary rules. The possibility that these differences simply reflect changes in aesthetic regimes over time is ruled out by the tightly clustered, contemporaneous radiocarbon dates of all residences excavated (see Table 1).

Builders also designed houses to convey status by accommodating their form to the ways in which they anticipated embodied individuals to experience them, or even by actually engineering the physical conditions under which they would be experienced. For example, houses in Upper Sector West were closely set and were built on platform-bases that were higher than functionally required by the ground's slope (e.g. Structures 190, 195, 199). This would have forced passersby to raise their gaze to view them and their inhabitants, thus bodily inculcating a sense of their importance[12] (see Fig. 1). We may also note that builders equally elaborated houses on their exteriors, adding features such as cornices and platform-bases, as on their interiors, for example with niches and antlers. This suggests that special features were equally intended to be observed by passersby and non-household members, as well as by household members and those privileged to enter. By way of contrast, other traditions of residential architecture restrict elaborate features and aesthetic embellishments to house interiors, where they are oriented toward household members or to privileged visitors, not to the general public (e.g. Fleisher and LaViolette, 2007; Westgate, 2007). Houses were also undoubtedly designed with temporality in mind, as the durability of their limestone construction assured that they would continue to be visible and present in the community for an extremely long time (cf. Joyce and Gillespie, 2000; Beck, 2007).

Friezes, in contrast, conveyed status not by means of embodied perception or as indexes of social capital, but as discursively legible symbols. While we can only speculate at their meanings, the presence of the same volute-motif frieze on Structure 90, a non-residential ritual building, as on Structure 199, a house, suggests that friezes may in some cases have signified a household's affiliation with a ritual space or cult in which only privileged community members were permitted to participate. Furthermore, as far as we can tell given conditions of preservation, friezes were restricted to residences in Upper Sector West and thus appear to have been the only architectural feature governed by some kind of sumptuary rules. Unlike niches or cornices, there are no lower-quality friezes that could have been created by households of lower status or with less access to construction expertise. Rather, friezes were apparently not a possible option for all community members.

Nevertheless, the general use of residential architecture to convey status and identity does not appear to have been restricted to upper-class households. To the contrary, even houses that reflect relatively lower inputs of labor, and hence their residents' lesser access to social capital, were still large and impressive constructions that demonstrate efforts to adhere to traditional aesthetic canons. For example, Structure 61, a house with irregular-cobble (Type E) masonry that was constructed on an steep and rocky slope on the site's periphery, was associated with the highest platform-base at Monte Viudo, nearly four meters high. Notably, differences in house masonry were apparently not the product of either-or decisions between discrete styles restricted to certain social groups, since variation is continuous and the six "types" are far from clear-cut. This suggests that the ability to realize a particular masonry style was conditioned not by communally recognized

[12] Cf. Higuchi's (1983) concept of the "isovista" and Moore's (1996a) discussion of *huaca* platforms on the Peruvian coast.

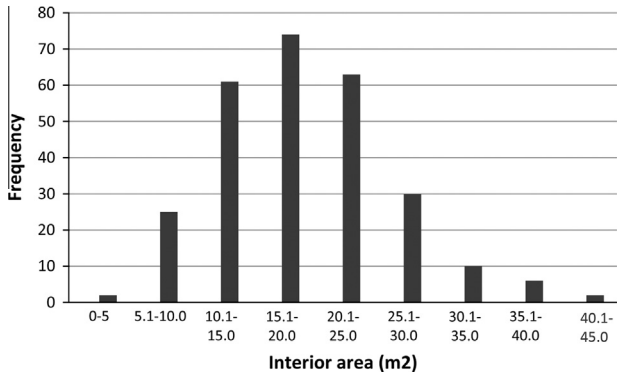

Fig. 12. Frequency distribution of interior areas (m^2) of all circular structures at Monte Viudo.

norms or sumptuary-type rules, but rather was limited only by the amount of labor a household could muster for construction. The same may be said of interior area of houses, the distribution of which is unimodal (Fig. 12). Friezes were the only attribute of residential architecture that was restricted exclusively to a limited set of houses. In contrast, cornices and especially niches, display variation in labor investment and elaboration that probably reflects the technical knowledge or labor access of builders (see Fig. 6). Furthermore, the identical deposits of *cántaro* necks in two widely separated buildings of different masonry quality (types "B" and "E") suggests that households of varying status not only shared ideas about the aesthetics and uses of residential architecture, but also about the proper manipulation of residential space and its ontological relationship to human residents.

These data suggest that households at Monte Viudo held common understandings of the function and proper form of houses and that they attempted to realize them in their residences to the extent possible given available labor and the physical demands of the particular construction site. In this light, less polished features such as blocky cornices and irregular niches should not be interpreted merely as poor imitations of high-status architecture by lower-status households. Rather, they should be seen as evidence of agency in that these households were, in fact, able to realize these shared architectural ideals even in the face of their more limited resources. Indeed, this offers an apposite example in which agency is exercised precisely *to* maintain structure.

It is important to recognize that most of the architectural features that expressed a household's status or identity were *designed* to do so. They did not follow automatically from greater social or economic capital at the builders' disposal, in an indexical sense, but rather were selected to achieve a desired effect, whether through their material properties or as a result of more or less discursively recognized meanings with which they were associated. Builders also designed houses with other community members in mind, in accordance with their understandings of their social and cultural milieu. The architectural decisions of builders deployed their knowledge of sanctioned parameters for the display of household status, their knowledge of culturally dominant ways in which people moved through and perceived the built environment, and their knowledge of canons of cultural symbols. While some architectural attributes of status—for example, larger size and greater elaboration (e.g. Blanton, 1994)—may be generalized cross-culturally to an extent, this only provides archaeologists a generic set of explanations, and the specificity of a given architectural landscape must be considered in detail.

Household groups, in sum, would have viewed their residence, at least on one level, as a means by which to consolidate, assert, or produce a particular status or identity within the community. But such efforts were undertaken in a structured social world that was also populated by other agentive subjects. Builders may have hoped to use their residences as a form of communication (cf. Rapoport, 1982; Blanton, 1994), and may have designed them according to their understanding of social structures, but they had no guarantee that those who "received" such messages would necessarily react as intended, or even understand them properly. Claims to status and identity would be subject to review, rejection, or at the very least, commentary and gossip, by other community members. For example, a household group's status and available social and economic capital was liable to change over generations, yet the stone construction of the house and its circular form would have made it difficult to renovate or to add onto accretionally (cf. David, 1971, p. 117). Indeed, houses at Monte Viudo revealed virtually no evidence of renovation. These physical characteristics would thus have held the potential to generate discrepancies between residents and residence that, over time, would increasingly open up space to manipulation or contestation of their meanings.

The aspirations of household groups in designing their houses would also have had to be negotiated directly through physical interactions with other community members during construction events. The labor required to amass and assemble these buildings indicates that numerous individuals took part in this process, almost certainly including non-household members. This is additionally suggested by comparison with rural villages of the modern Andes, including Chachapoyas (Brush, 1977; Malengreau, 2009), where house construction and especially roofing, was a collective endeavor (Gose, 1991; Arnold, 1998). Construction and roof (re-)thatching often took place in a festival-like atmosphere and were associated with elaborate symbolic associations, rituals, and, importantly, the generous outpouring of food and alcohol, typically provided by the household for those who contributed their labor.

Given the number of people involved, their variety of roles, the numerous decisions that would have to be made, and the many material tasks through which participants would have interacted—from transporting logs to serving food to flaking edges on a course of masonry—the process of house construction at Monte Viudo would have been a dynamic context in which community members re-negotiated existing social structures through face-to-face interactions with other individuals. Not insignificantly for a settlement without large communal spaces, this may in fact have constituted one of the principal forms of public gatherings. Construction events would have been multisensory, exuberant, and socially dense occasions, and therefore especially potent contexts in which to manipulate social affiliations and networks. For example, how many people could a household convince to contribute their labor to construction? Who had to agree where a new house could be located? In the future, would community members recall the construction event as an opulent good time, or as a meager, bare-bones affair reflecting poorly on the household's character or prestige?

A socially contextualized archaeology of residential architecture requires us to carefully trace patterns of variability and similarity in buildings' material features and to envision—to the extent possible—how they came into being through the actions of actual human beings operating in specific socio-political circumstances. For example, when someone placed a smooth, slightly orange-colored slab upright—rather than horizontally, as was more common—in the doorframe of Structure 199, why might this have mattered to him or her, to the building's future occupants, or to those who walked by it every day? What dispositions, aspirations, opinions, and events intertwined to produce this moment?—and what happened as a result? While we may presume that the uniqueness of this feature indicates some sort of reflexive thought process on

the part of its creator, who likely intended to highlight its distinctiveness, we have also seen in other cases that the reproduction of shared, familiar forms may equally have been the intent of builders. The creation of a traditional house was no easy goal to achieve at Monte Viudo, and in no case can it be entirely explained as a pre-reflective transmission of familiar ways of doing.

Conclusion

In the creation of Monte Viudo's built environment, the bulk of the community's energy and resources was invested in residential, rather than communal, spaces. As such, residential architecture must lie at the center of narratives of the socio-spatial production of this settlement. The crafting of houses and the selection of their material features was simultaneously a process of crafting the community. Decisions about their look and form were made within a pre-existing socio-political matrix, often with forethought to their resonance and repercussions. Houses' approximation of a shared, traditional form did not preclude variability in the details of their execution. And, rather than reflecting an absence of reflexivity, the accomplishment of this traditional form attests the successful navigation of the many social and material factors involved in construction.

This paper has highlighted the ways in which the intentional and unintentional choices of agentive individuals influence the form that residential buildings take. Admittedly, this analysis has prioritized the study of how subjects create houses, rather than attempting to model the full relationship by which subjects and houses create each other. But this has been with the intent of stressing that household practice does not consist solely of domestic activities occurring in and around the already-built house structure. Rather, house construction, too, should be considered a vital element of domestic practice.

Accounting for the exercise of agency in the creation of residential architecture at Monte Viudo enables us to construct a more detailed and insightful account of its role in the social and political landscape of this community. Importantly, it also breaks down the homogeneity with which houses and house-builders tend to be portrayed in archaeological literature, and by so doing, it peoples the creation process and reveals the "faces" involved (Tringham, 1991, 1994). To be sure, traditional practices, elite prerogatives, and *habitus* play important roles in the production of residential built environments; but it is important to put them in perspective as only some of many other factors at work in this process, and to stress that in all cases they are deployed by active, socially contextualized individuals. Traditions, dispositions, and structures do not create houses; *people* create houses.

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