THE APPLICATIONS OF CHIMÚ ADMINISTRATIVE ARCHITECTURE: AN ANALYSIS OF ARCHITECTURAL FORM AND FUNCTION IN THE MOCHE VALLEY, PERU.

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Abstract

Through the comparative analysis of the U-shaped structures called *audiencias* found at the Chimú capital city of Chan Chan in Peru and the contextual analysis of those structures to similar architectural forms and associative structures such as storage and burials, this paper discusses how particular architectural form can be related directly to the archaeological analysis of that architectures function. The standardized form of the *audiencia* is described as well as how it relates to the architecture of the large *ciudadelas*, or royal compounds, in which they reside. U-shaped structures across both temporal and spatial distances are discussed, especially those of the Late Chimú Period of occupation. The overall relationship between architectural form and the administration of people and resources is discussed with reference to the *audiencia* as an evolving tool for the administration of information, labor, and goods within the Peruvian coastal region. A final conclusion postulates the wide ranging uses of an architectural method as a primary analytical device that assists in cultural analysis.

Introduction

Architecture is no stranger to archaeology. We find features and ruins at almost every dig site in which human beings began to build sedentary structures. Even so, architecture has had very limited applications within the field of archaeology. Architecture is analyzed by archaeologists in three general ways (Moore 1992). One way is to view architectural style traditions as representative of a certain culture or cultural period. We see this when analyzing the pillar designs of the Greek classical period in which Doric, Ionic, and Corinthian are known to represent the early 6^{th}, late 6^{th}, and 4^{th} centuries B.C.E respectively. A second way is to view architecture as a mere backdrop to activities based on the artifact remains present with them. If we were to find adequate ritual artifacts within a structure, we would associate that building with a ceremonial structure. A final way to analyze architecture is by means of the amount of labor required to build the structure. Monumental architectures size and scope have a direct correlation with the wealth, power, or social cohesion of a civilization. All these common approaches to architecture are valid and useful. However, should we take the analysis of architecture to the next level? Can the applications of architectural data sets, in and of themselves, be useful as a primary tool for the analysis of archaeological data? By comparing and analyzing the archaeological data from two U-shaped structures, specifically a bureaucratic *audiencia* of *ciudadela* Rivero and another from *ciudadela* Tschudi within the Chimú capital city of Chan Chan on the western coast of Peru, relating them to other *audiencias* within the *ciudadelas,* and also correlating them to courtyards, hallways, and storage units within the royal compounds I will endeavor to show how the architectural forms of these two Chimú structures can be related directly to

the analysis of their function. In this case study the architectural form of the *audiencia* can be directly related to the function of an administrative structure with a more specific analysis depending upon the spatial context in which the structure resides. Although all U-shaped structures in the Moche Valley have similar traits throughout the Late Intermediate Period, I will focus on the Late Chimú Period of roughly 1350 C.E. to 1470 C.E. In this period there appears to be an economy base transition and a change in administration type which results in the standardization of the *audiencia.* More specifically I argue that the two *audiencias* at Chan Chan should be placed within an analogous category of architectural design which as a primary analytical tool can denote, with a degree of success, the administrative function to which they were intended. We can see evidence for this in four ways: 1. their standardized design 2. their close spatial arrangement 3. their restrictive access system 4. and their uniform niche design. No analytical method is without its variability but I believe the creation of a more specific architectural method is within our means. With the use of this architectural method of analysis I will also analyze the variability of functions of the Late Chimú Period *audiencias* when studied within the context of the surrounding architecture. Simple put, the function of an *audiencia* should, and I argue does, change depending on whether it is in spatial contact with another U-shaped structure, a storage unit, a lengthy hallway, or some other structure. The entire process is intended to narrow the analytical function of a structure with the architectural evidence alone. Chan Chan is an appropriate site to test the core of an architectural method as the predominant analysis of Chan Chan has been done through the use of its architecture. The lack of conclusive artifact evidence allows the creation of an architectural method in a relative void. In most archaeological context

this void would detract from an adequate analysis of a site. However, in the case of Chan Chan I believe there is enough logical supporting evidence in the way of spatial arrangement, sub-surface archaeological evidence, and architecture in itself for adequate analysis and the creation of a new method. My work will show that this new method is not only valid in the scope of the Chimú culture but may also have wide ranging uses in the archaeological method as a whole.

Background

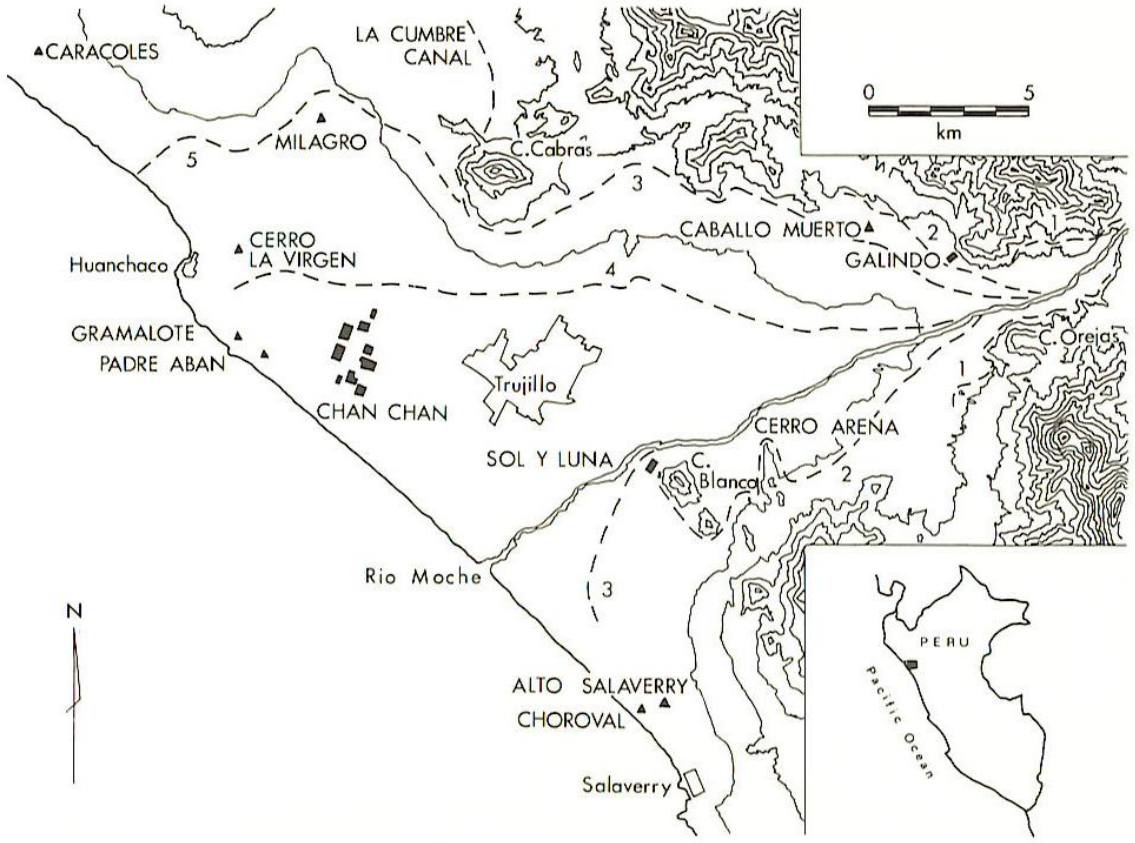

Figure 1. Location of Chan Chan, Moche Valley, Peru.

The Chimú civilization, or Kingdom of Chimor, existed in the later intermediate period from 900 – 1470 C.E., upon which time they were subjugated by the growing Inca Empire. Chan Chan, the capital city of the Chimú culture, was situated on the north

western coast of modern day Peru at the mouth of the Moche River valley overlooking the Pacific Ocean (Figure 1). The city of Chan Chan is believed to have housed between 20,000 and 40,000 people at its zenith in the Late Chimú Period between 1300 C.E. and 1470 C.E.

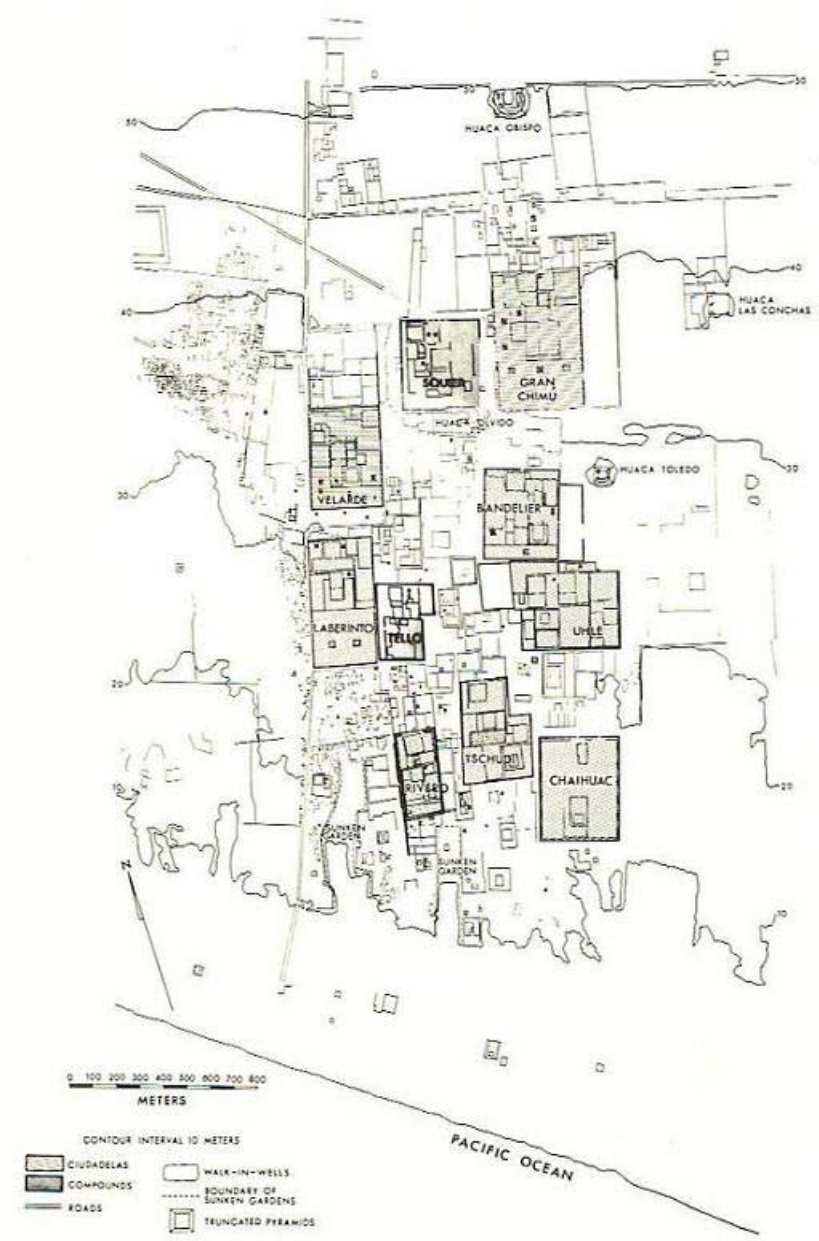

Figure 2. Plan map of central Chan Chan, Peru.

The remains of the city are laid out across the ocean terrace and are highlighted by its ten monumental compounds (Figure 2). Although these ten compounds are quite prominent, Chan Chan still displays three distinct architectural zones; slum, intermediate, and monumental (Andrews 1974). The slum architecture is represented primarily by small, irregular, agglutinated rooms (SIAR). These rooms have no clear delineation and are without surrounding walls. The intermediate architecture is represented by rectilinear enclosures that share many of the same attributes as the monumental architecture but at a much smaller scale. The intermediate architecture also does not display as much formal planning. The monumental architecture is represented by ten high walled royal compounds (*ciudadelas*) with single northern accesses and large dominating internal architectures. Within these *ciudadelas* we find a very structured and formal layout of buildings with storerooms, courtyards, U-shaped structures, and burial platform as well as many maze-like halls and passages connecting the different areas. The overall floor plan of a *ciudadelas* consisted of a north sector, central sector and in some cases a conchone or wing sector (Moseley and Day 1982). The north sectors commonly represented a majority of the courtyards and U-shaped structures in relation to the rest of the compound. The central sectors displayed a smaller number of U-shaped structures but exhibited a large contingent of storage units. Both north and central sectors are analogous in their representation of an assortment of architectural designs with the difference being in the even more stringent accessibility of the central sector. The conchone looked to be a living area for lower status personnel with access being granted via a long corridor from the north sector bypassing the central sector. This pattern of three sectors is known as internal tripartite division (Figure 3).

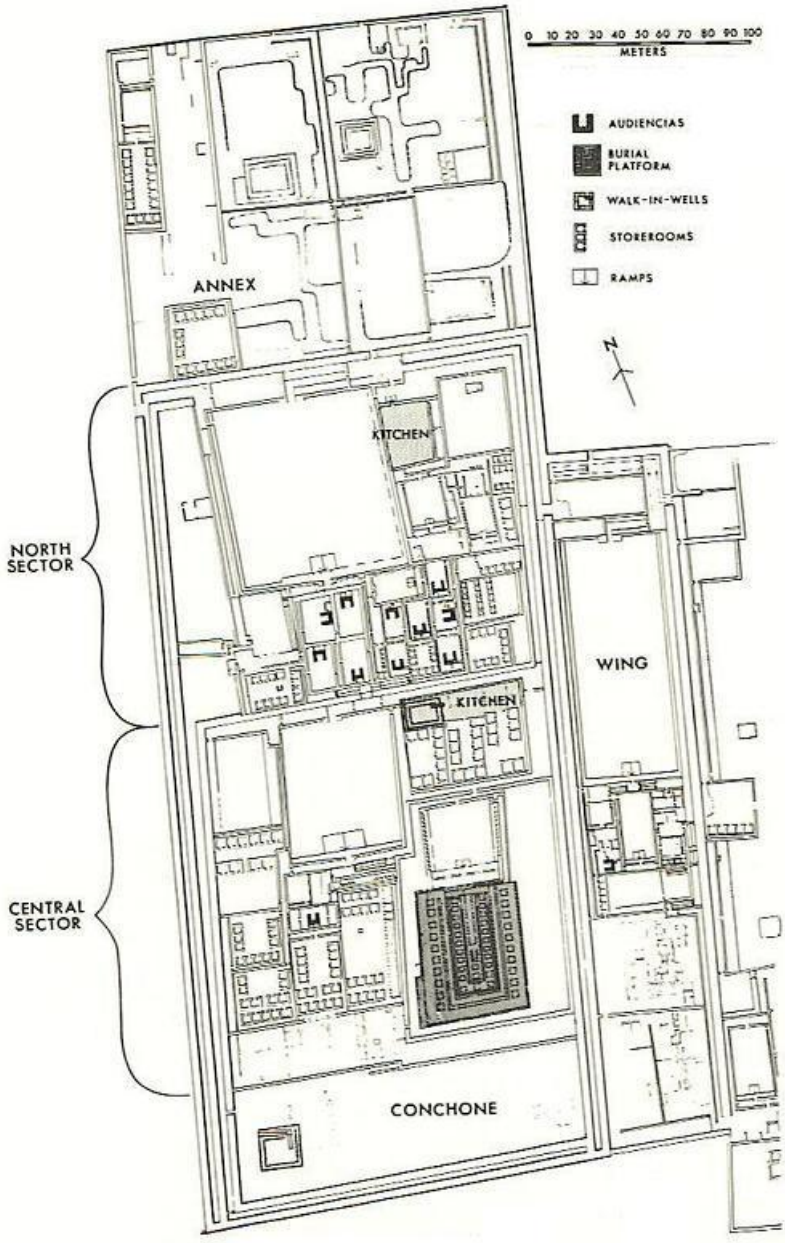

Figure 3. Tripartite division of *ciudadela* Rivero.

Ciudadelas Tschudi, Laberinto, Rivero, Velarde, Gran Chimú, and Bandelier are all dominated by the three sectors that are separated by high walls. *Ciudadelas* Uhle, Chayhuac, Tello and Squier are very similar to the first six but lack the internal tripartite division. It must be noted that Tello is referred to as a regular compound due to its' lack

of a burial platform as Squier is referred to as a regular compound due to it's lack of adequate shared features with the other *ciudadelas* (Andrews 1974).

Data or Materials

Chan Chan is an enigma in that there is very little supporting evidence, outside direct architectural evidence, to analyze the large enclosed monumental structures that dominate the city. Within these *ciudadelas* we find a situation in which the ceramics and other small artifact data is out of context and inconclusive. The four main causes for this inconsistent artifact data are; the mud brick or adobe building materials of the city which erodes into the occupation areas, the absence of reconstruction sediment layers leaving stratigraphic analysis hindered, the highly sanitary nature of the *ciudadelas* due to the removal of artifact debris, and a post-abandonment occupation of the central city that used a very similar pottery style to the Chimú.

All four of these issues resulted in a condition where the artifact remains, what ones there are, are intermingled and out of context. The overall clean nature of the Chimú within their royal compounds left little artifact evidence in context and the lack of high levels of reorganization and reconstruction within these compounds did not support adequate stratigraphic layering. The Chimú could be thought of as ancient world recyclers as they would remove artifact debris and use it as matrix filler in their construction of adobe bricks. They would also use this debris as chink in between bricks while constructing walls and structures. Over time the walls and materials that were built into them eroded down into the occupation floor areas and mixed in with any artifact remains that might have been present. If this was not enough there are large areas of disturbance at Chan Chan from agricultural use, modern roads, and a post-abandonment

occupation that was present in the center of the city. This occupation could have been the remains of the Chimú people once the city was abandoned. Evidence shows that this occupation possessed ceramic styles that were very similar to that of the Chimú. With the high level and accuracy of looting in the city I would argue that this post-abandonment group was very familiar with the city and possibly the remains of its people. After Incan subjugation it would be very likely that a struggling population of Chimor would remain here trying to eke out a living, bringing their ceramic styles with them, and looting for subsistence purposes.

Of significant interest to the analysis of Chan Chan would be the seriation of the *ciudadelas* in the city. The different construction periods of the royal compounds are important in the ability to compare contemporary architectural pieces such as those from *ciudadela* Tschudi to those from *ciudadela* Rivero.

Table 1. Monumental architecture seriation of Chan Chan (Topic 2003, Table 1).

Period	Kolata 1982	Topic and Moseley 1985	Approximate Date C.E.
		Squier?	
	Rivero	Tschudi	1470
LATE	Tschudi	Rivero	
	Bandelier	Bandelier	
	Velarde	Velarde	
		Squier?	
	Gran Chimú	Gran Chimú	1350
MIDDLE	Laberinto	Laberinto (North)	
		Uhle (Northwest)	
	Tello	Tello (Northeast)	
		Laberinto (Central)	
		Enclosure #2	1100
	Uhle (West)	Uhle (Southwest)	
EARLY		Tello (North)	
	Uhle (East)	Uhle (Northeast)	
	Chayhuac	Tello (South)	
		Enclosure #1	850

We can see common architectural designs across temporal periods. However, I have chosen to focus on the Late Chimú Period in order to study the most standardized architectural designs across the urban area of Chan Chan within the Moche Valley. Once these comparisons are made we could than extrapolate the function of other architectural pieces outside the focused scope of this paper such as the Early and Middle Chimú Period U-shaped structures. A comparison between the two most widely cited *ciudadela* seriations can be found in Table 1 (Topic 2003). In his seriation, Alan Kolata uses a chronology based on adobe brick types in conjunction with a chronology based on the changing architectural form of the U-shaped structures within each *ciudadela* (1982:67-85). Kolata denotes three major categories of adobe brick based on shape or proportionate dimension (Figure 4).

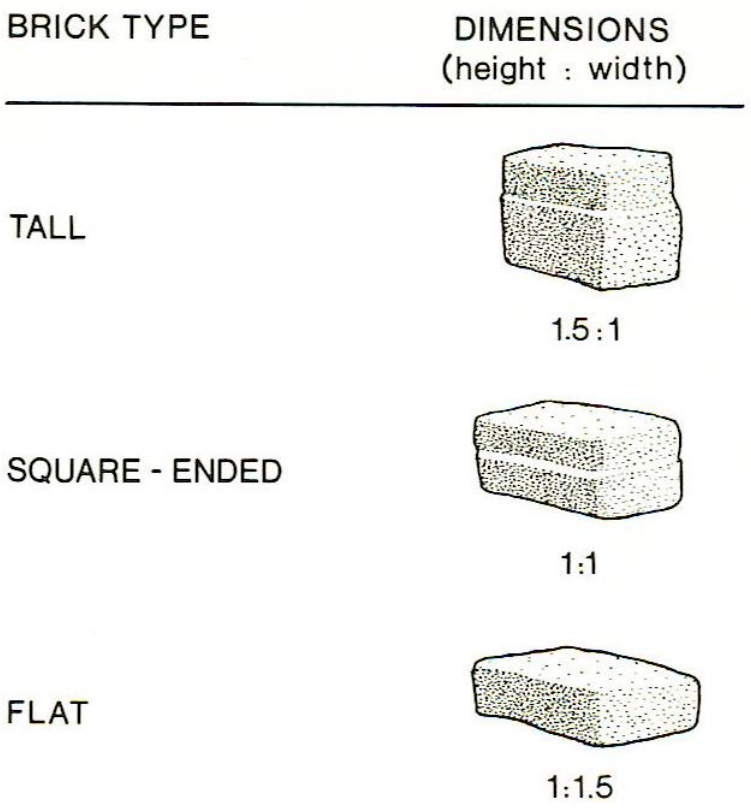

Figure 4. The three major brick types at Chan Chan (Kolata 1982, Figure 4.1).

The first are the "tall" bricks which are proportionately taller than they are wide. The next are the "square-ended" bricks which are proportionately as wide as they are tall. And last are the "flat" bricks which are proportionately wider than they are tall. In Kolata's seriation of *audiencias* within Chan Chan he uses his brick chronology as a confirmation of the direction of stylistic evolution (1982:73). We can see a steady progression of *audiencia* evolution which begins with an early rudimentary form of the U-shaped structure, with only two bins, and continues on until reaching what becomes the very standardized six niche design we see in both *ciudadela* Rivero and Tschudi (Figure 5).

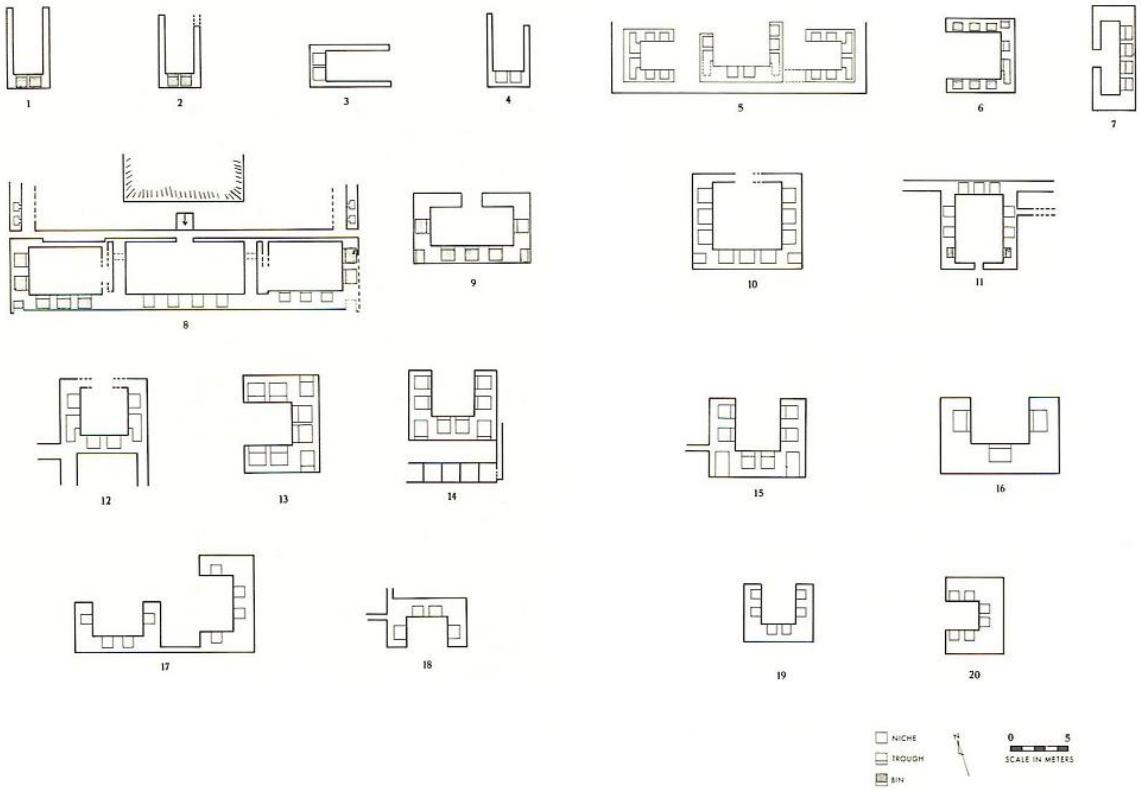

Figure 5. U-shaped structure seriation at Chan Chan (Kolata 1982:74-75).

John Topic and Michael Moseley used a ceramic and architectural chronology in order to seriate the architecture within Chan Chan (Topic and Moseley 1985). You

would think that with the limited availability of ceramics within the royal compounds at Chan Chan that supportive ceramic evidence would be unavailable. However, the context and stratigraphy of ceramic evidence in the SIAR architecture of Chan Chan is more conclusive. These districts of the lower class had a much higher level of turnover which attributed to an extensive degree of destruction and construction in those areas. Where the *ciudadelas* would have long gradually increasing and decreasing occupations with similar gradual change or no change, the SIAR's would have short dramatic occupations with abrupt changes. With this high level of abrupt change came a much more adequate stratigraphic signature that is not present in the royal complexes. In conjunction with destructive stratigraphy we also find a much more abundant ceramic assemblage. Using architectural patterns, stratigraphy, and the contextual ceramics assemblages Topic and Moseley were able to create their architectural chronology and correlate it into the monumental architectural seriation we see in Table 1.

Using the seriation of Chan Chan, the two most comparative royal compounds were *ciudadela* Rivero and *ciudadela* Tschudi. These compounds unanimously come in as the last two to be built before the subjugation of the Chimú. The architectural similarities of Rivero and Tschudi range from their tripartite division down to their U-shaped *audiencia* structures. These *audiencias* will encompass the primary focus of this thesis with an emphasis on two major areas. The first area is in the north sector of both *ciudadela* Rivero and Tschudi were we can observe a close spatial arrangement or cluster of several *audiencias* (Figure 6).

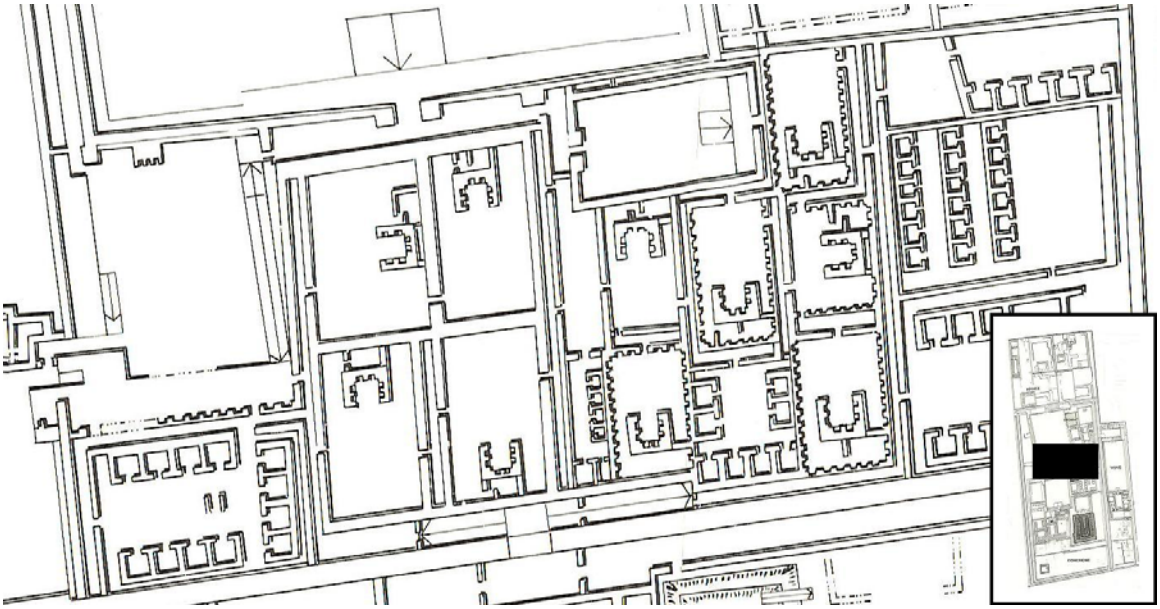

Figure 6. *Audiencia* cluster, *ciudadela* Rivero north sector.

It was illustrated in Figure 5 that there were a number of variations in the evolution of the U-shaped structures at Chan Chan and it must be noted at this point that the *audiencia* is not merely another term for the U-shaped structure but rather a design form that is represented by a specific niche pattern. Although there are *audiencia* variants I will be focusing on the standardized six niche *audiencia* (Figure 7). These six niche *audiencias* are representational of the Late Chimú Period standardization shift presented by John Topic in his article *From Stewards to Bureaucrats: Architecture and Information Flow at Chan Chan, Peru* (2003). Topic argues that there is a gradual temporal standardization of the U-shaped structure in response to an economic change from a primarily agrarian based society to a craft goods based society. With this shift came a need for a more specialized administrator. In this case, Topic argues, a bureaucrat arose who was in charge of the more complicated control over information and craft goods. That bureaucrat, and the complex system that was needed to control the economic ebb and flow, required a standardized structure in which to function efficiently.

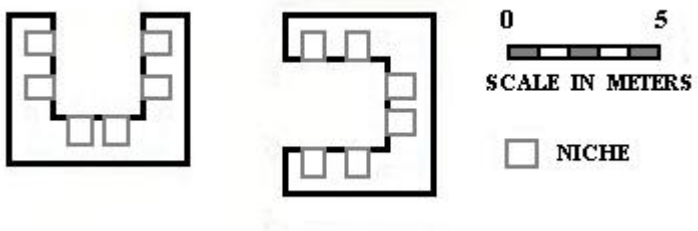

Figure 7. The Late Chimú Period six niche *audiencia.*

The second area to be studied is the central *audiencia* with its surrounding storage units that can be located within the central sectors of both *ciudadela* Rivero and Tschudi. There is a degree of variation in the spatial arrangement of the *audiencia* and its surrounding storage units especially between different *ciudadelas*. However, I believe the general placement of these structures still represents a centrally located administrative building with surrounding storage. An example of this variation can be seen in the comparison between my two primary compounds. In the central sector of *ciudadela* Rivero we see only one *audiencia* with its surrounding compliment of 81 almost identical storage units (Figure 8). While in the central sector of *ciudadela* Tschudi we find three *audiencias.* Two of these reside in the same room and share a central location among their compliment of 52 storage units. The third is located in the center of the remaining 24 storage units in the central sector. Even though there is variation among these central sector *audiencias* there is still a major difference between the spatial contexts of these structures versus their counterparts in the north sector.

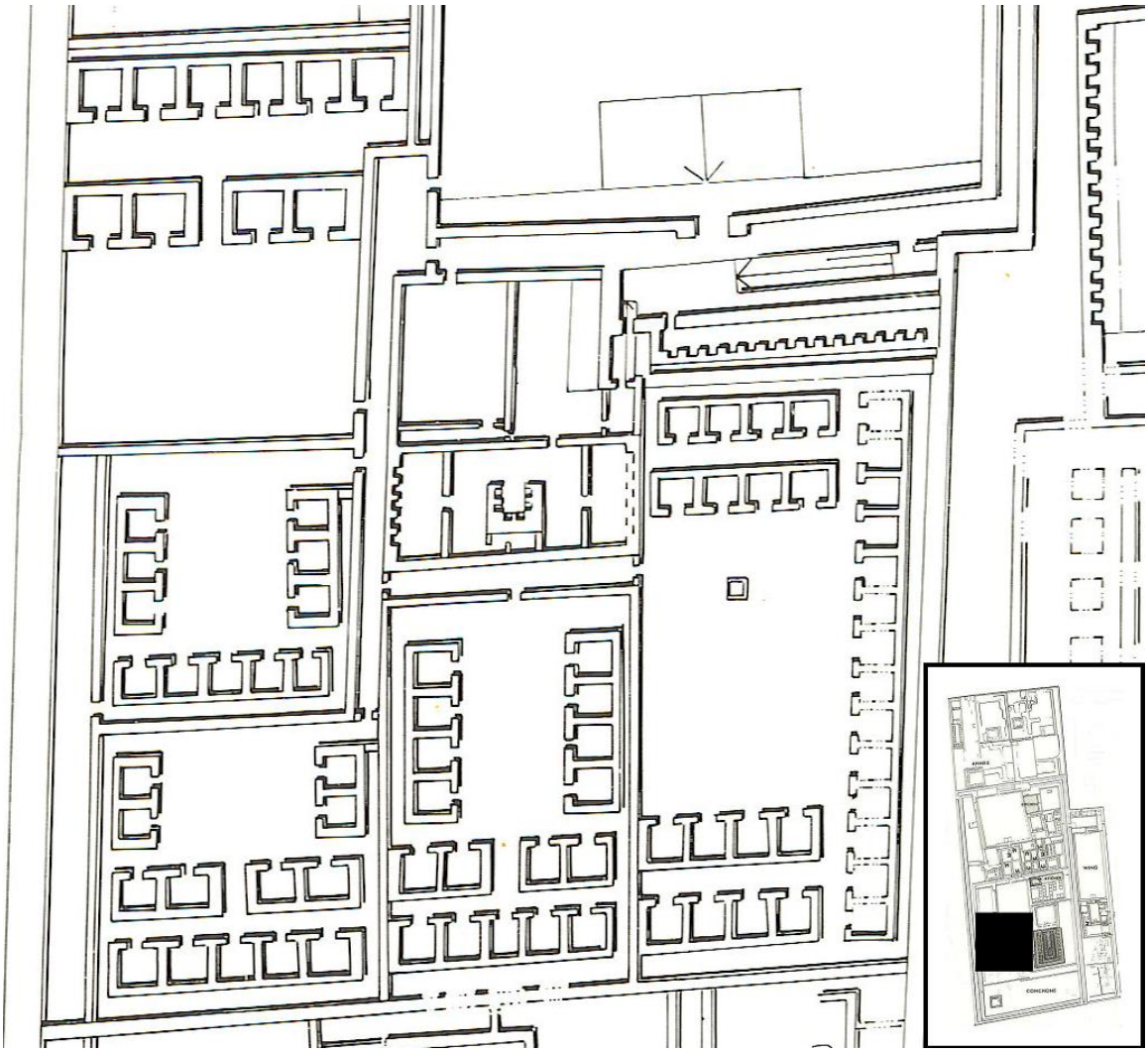

Figure 8. *Audiencia* with storage component, central sector *ciudadela* Rivero.

Although there has been very little analysis and excavations of burials in the *ciudadelas* at Chan Chan they do play a key role as supporting evidence for the high status of U-shaped structures. The data collected by Anthony Andrews during his excavations of Chan Chan shows that there is a correlation between U-shaped structures and sub-floor burials (1974). In his article Andrews states that in addition to his primary excavations at *ciudadela* Gran Chimú sub-floor burials appear in *ciudadelas* Bandelier, River, and Tschudi. These sub-floor burials seem to only occur within the monumental enclosures and not within the intermediate architecture, slums, or rural areas. Andrews

argues that these burials "…alone attest to the high status of the occupants of the U-shaped structures in the monumental enclosures." The sub-floor burials are located in the center of the U-shaped structures floors (Figure 9).

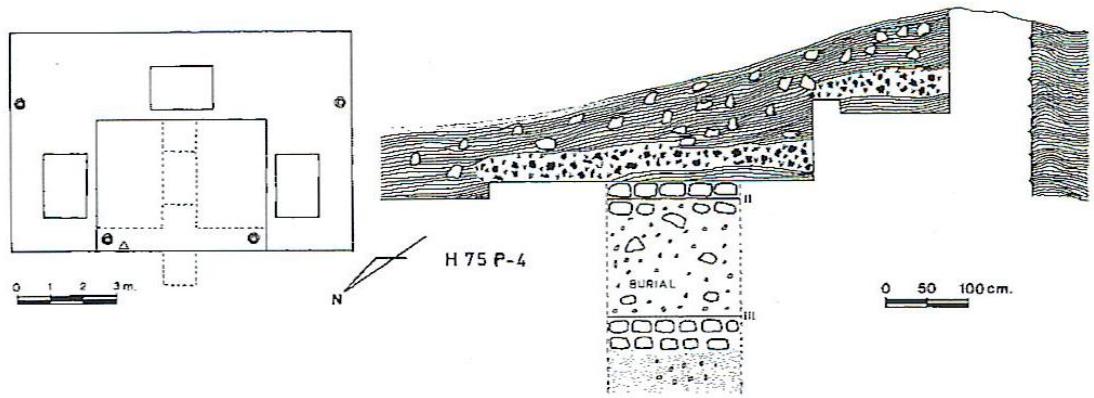

Figure 9. Plan and profile, *trocadero* with burial, *ciudadela* Gran Chimú.

Direct excavation data for the Late Chimú Period *ciudadelas* of my study and their associated burials are not available. This is due in part to the choice by archaeologists to focus on architectural relationships, as the best means to identify function, instead of burial data. However, the evidence collected from *ciudadela* Gran Chimú denotes burials of females between the ages of 16 and 21. According to Andrews, this reflects a situation that appears elsewhere at Chan Chan. The burial platform, *Huaca* Avispas, contained the remains of 93 female skeletons. 67% of the skeletons ranged from 17 to 24. I concur with Andrews, in that I believe these women were ritualistically placed within this burial platform as a symbol of the status of the primary individual interred in the main chamber. I also believe that this burial information can be extrapolated into the sub-floor burials within the U-shaped structures. More specifically, female sacrificial burials are synonymous with high status individuals, and the placement of sub-floor burials beneath U-shaped structures does, as Andrews states, attest to the high status of those administrators within such structures.

Methodology

I have used literature on the Chimú capital city of Chan Chan as well as studied the architectural maps of the city, from the Chan Chan-Moche valley Project, in order to formulate a hypothesis on the use of architecture as a primary source for archaeological analysis (Moseley and Mackey 1974). In my attempt to argue in favor of architectural patterns within the structures of the city of Chan Chan I focused on the U-shaped structure, which is one of the most ubiquitous structures in the Kingdom of Chimor. By dissecting the U-shaped architecture we find three distinct types of architecture. The *arcones* with its bins, the *trocaderos* with its troughs, and the *audiencias* with their niches are examined and placed within their coordinating major architectural landscapes. Spatially we find that the *arcones* are found within the SIAR (stand irregular agglutinated rooms) region or *barrios* of Chan Chan while the *audiencias* and *trocaderos* are found within the elite compounds or *ciudadelas*. The *audiencias* are also broke down into their distinct chronological seriations and a specific design was focused upon. I chose the Late Chimú Period *audiencia* as the specific design to be analyzed in relation to architectural analysis. This late period *audiencia* has a very standardized design that allows for comparison temporally. The standardization of this structure also eliminates any variability that could hinder the creation of a core theory on architectural method. As stated early, the core of my thesis emphasizes the use of architecture alone as a primary tool in the analysis of archaeological evidence. The standardized *audiencias* in the north sector of both *ciudadela* Rivero and Tschudi have not only similarities in form, as in the six niche design, but also in their spatial context with other *audiencias* and courtyards. This standardization and spatial arrangement is very similar to our own modern day

office arrangements, where many administrators all work within a given area to accomplish separate tasks individually while achieving a larger goal as a functioning unit. The *ciudadelas* were built as focal points and it only follows that the tasks of the individuals working within them would include the control of information, trade, labor, redistribution, and the facilitation of the ruler's governance. We must restate that this level of administration was a byproduct of the florescence of the Chimú society in its late period and also due to its shift to a craft based culture. The standard form of *audiencia* was required in order to allow the clear and consistent functionality between different administrators who may have had to relay common information. Imagine a modern government trying to function if the military, department of labor, state department, and department of agriculture all used a different computer system or other form of information storage and control. The higher the level of the society's progression the more standardized their administration systems must be and this is evident in the evolution of the U-shaped structure within the Kingdom of Chimor. The *audiencias* spatial context with courtyards is apparent and we can postulate that these areas were the primary dissemination areas for the resources that were controlled by the bureaucrats of the north sectors. Much like the *audiencias* themselves, many courtyard ramps also contained sub-floor burials that would attest to their status level. I argue that these areas would have been used for centralized trade and labor control areas. I also argue that the long dead end hallways that can be seen in association with these courtyards could have served as a queuing area for mit'a workers or even distance traders. The control of information would have been a bit more selective and could have taken place in the small open courtyards that house the *audiencias* themselves. I do believe that there was a

distinct difference between the *audiencias* of the north sector and the ones in the central sector. Although both share the similar standardized design, which I argue places the structures as a tool not just a building, the storage room context of the *audiencias* in the central sector allude to a more direct control over goods. I would place these administrators squarely in the column of stewards rather than bureaucrats. Their conspicuous location would allow them the ability to redistribute goods efficiently. These are not gatekeepers or guards of goods but rather the bean counters and the controllers of economy. Working together with the bureaucrats of the north sector the stewards could keep the compounds compliment of workers and even resident mit'a laborers feed and supplied. I would compare this area to the supply room of a functioning modern factory. While the north sector controls relations outside the compound the central sector can keep the complex running internally. The central sector courtyards are also present and suggest that some level of transference of storage goods must have occurred with outside elements. Although I argue it was likely the internal redistribution area.

All of this information supports our evaluation of *audiencias* as administrative structures. The standardized shaped can be placed within a general category that is administrative in nature. The niche design for the storage of information in itself and between other similar structures, the U-shape which sets it aside as a specialized structure, and the logical placement of these *audiencias* within the context of courtyards, other U-shaped buildings and storage units all supports *audiencias* as an administrative structure. Throughout I have used the architecture at Chan Chan to support itself as a tool for the analysis of the archaeological remains there. The supporting evidence of

burials and the status associated with them is a fortunate secondary method of narrowing down the purpose of these structures.

Results

Through the comparison of similar standardized *audiencia* forms between *ciudadela* Rivero and Tschudi we find that the late Chimú period U-shaped structures are synonymous with administrative architecture. Specifically, we can note that once the standardization of the *audiencia* becomes apparent during the later florescence of the Chimú state the structures themselves become the tool we need to analyze their purpose. The structures take on a spatial arrangement that is congruent with an administrative layout. In this I mean that we can see a clustering of U-shaped structures into patterns that emulate our modern cooperate layouts with gateway *audiencia* leading up to a head structure or CEO structures (Topic 2003). The standardization of these structures in and of itself are an indication that a uniform practice is needed and or desired in order to assist in the function of the structures between one another and other structures of the same type. Also, the ritualized practice of sub-floor burials is an indication that these structures are all of the same status level and purpose since sub-floor burials do not appear to be present in U-shaped structures outside the royal enclosures. All U-shaped structures still denote administrative purpose but burials place them at a different hierarchal level. The standardization is a key component in my argument for the use of architecture as a primary source of archaeological analysis. We can see the similar style changes of the Chimú both spatially and temporally. The specific *audiencias* of *ciudadela* Rivero and *ciudadela* Tschudi are undoubtedly similar in both form as well as function. The standard form is only seen in the Late Chimú Period and argues against a

mere stylistic commonality. The fact that they are structures with purpose and not just visual ornamentation also argues against mere style commonality. Similarly the temporal construction of these two compounds is sequential and not contemporary. The royal compounds were built for two different rulers in two different time periods and yet they still share the common U-shape. The use of structures both spatially separated and temporally separated lends weight to the argument for architectural analysis. With the knowledge that late period U-shaped structures at Chan Chan were most likely bureaucratic in nature we could than go back in chronology and claim that the older and more variable structures that resemble *audiencias* may have been used in the same manner. However, we must not forget that a steward/bureaucrat type administrator style seems to have been present even in this late period in association with storage units. What we are seeing here is the final evolution of administrative structures from what was a primarily agrarian society to one that is also craft based. Taking all of this into account we can than go back and analyze earlier U-shaped structures, in context with their surroundings, and perhaps follow the progression through time of the evolvement of the Chimú society from a farming community to a thriving state level society. None the less, similar architectural form does show similar function within the Chimú state and that association should have wider implications.

Conclusion

I believe that the evidence presented above shows that there is a direct correlation between the function of the late Chimú period *audiencias* at both *ciudadela* Rivero and *ciudadela* Tschudi as well as other late period standardized *audiencias.* This similarity in architectural form can be used to assist in the analysis of archaeological remains in

association with these structures. These structures can be said to be administrative in nature and subsequently we can categorize any other artifacts with them as having administrative qualities. In the case of the burials both they and their *audiencias* lend support to each other in the way of analysis. By using the architecture first, in order to group our evidence we can than utilize the remaining artifacts to further narrow our analysis of a site. With the use of the comparative analysis of *audiencias* at Chan Chan I believe we can also create a template for architecture that will assist in cultural analysis temporally throughout the Kingdom of Chimor and possibly outside the Chimú civilization. With further study of architecture in archaeology both inside and outside Chan Chan we can begin a new archaeological method that uses architecture as a primary tool instead of a backdrop for remains.

The subsistence patterns of human beings have changed dramatically over the last 1000 years. However, our core purpose is still to supply ourselves with the basic necessities of life. Those necessities include food, water, shelter, protection, and interaction with others. I believe that the way in which we process information and structure our surroundings, logically, has not truly altered to a great degree since we first evolved into a sedentary species. This includes the way in which we construct our architecture. The architectural form of a structure is the direct result of how the creator of that structure envisioned its' use. Form is not merely a random occurrence based on haphazard outside forces, but rather a very deliberate action by a logical human thought in the pursuit of basic human needs.

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