# *The Urban Concept of Chan Chan*

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## INTRODUCTION

THIS IS AN INQUIRY CONCERNING the determinants of city form and the evolution in form of one city in particular. Chan Chan was the royal capital of the Kingdom of Chimor, an expansive imperial power that incorporated into its realm most of the northern and central coasts of Peru between A.D. 1000 and 1450.

This essay will explore the urban concept of Chan Chan and the forces that underlay its transformations. By urban concept I mean that set of structural attributes pertaining to the morphology, function, and sociological meaning of the city, which is shaped by the interaction of its principal institutions. With respect to Chan Chan, I will be concerned here primarily with its fundamental political and economic structures. In order to understand Chan Chan and the sociological and symbolic meaning that the city held for the people of Chimor, we must first review the empirical data concerning the city's various architectural ensembles: their nature, functions, and patterns of growth.

## CHRONOLOGY AND ARCHITECTURAL SEQUENCE AT CHAN CHAN

### *Architectural Definitions*

The ancient city walls of Chan Chan encompass more than 20 km², with a 6 km² urban nucleus of monumental architecture dominated by large, high-walled enclosures built of adobe. Eleven of the twelve largest structures in Chan Chan are monumental enclosures with elaborate interior architectural features (Fig. 1). These enclosures, referred to here as *ciudadelas,* are interpreted as sequentially built palaces that housed the Chimor dynasty. This dynasty may have been structured by fundamental Andean moiety and *ayllu*-like lineage divisions (Netherly n.d., 1984, this volume). The monumental enclosures evolved from early compounds of variable form to six

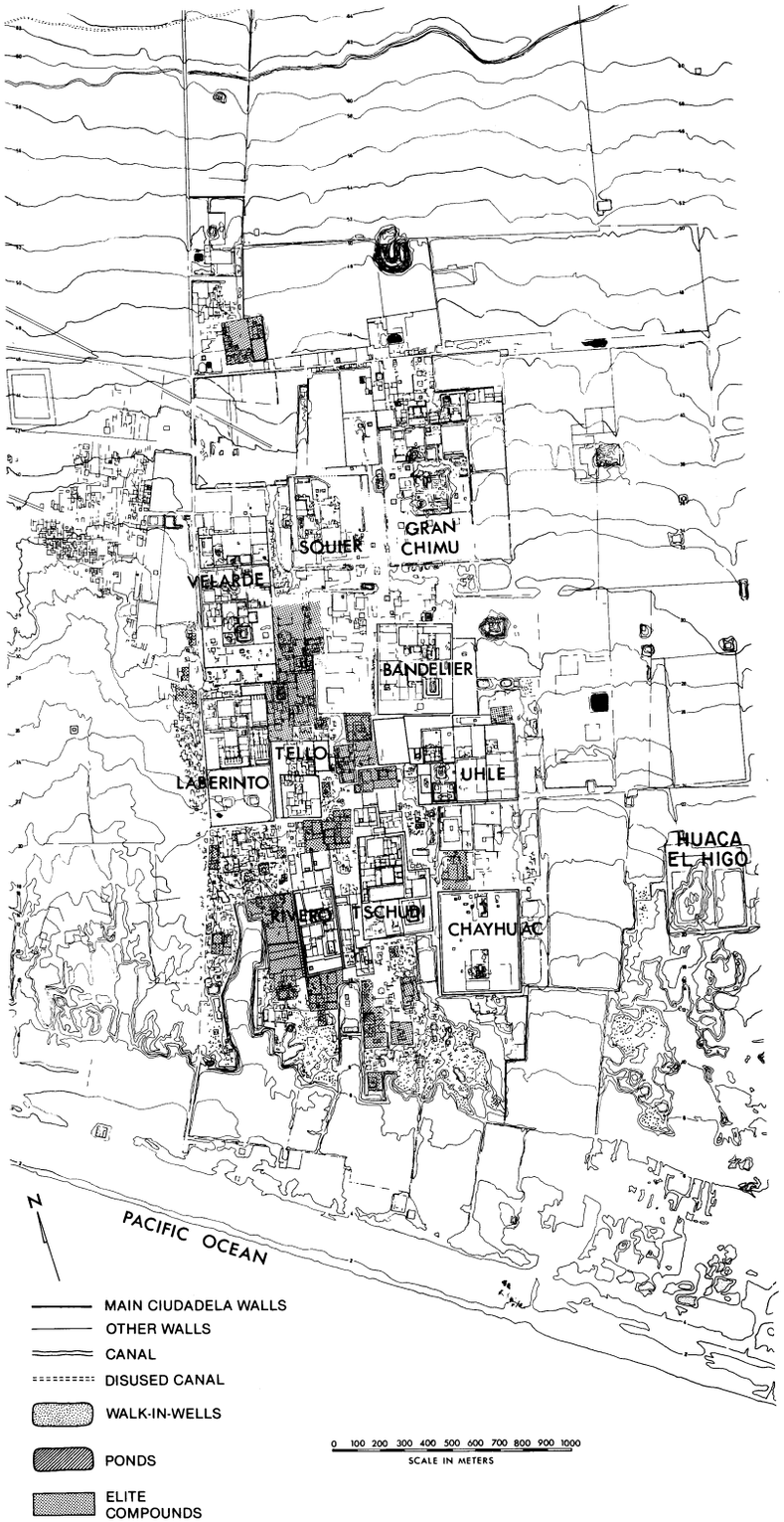



Fig. 1 General plan of Chan Chan.



late *ciudadelas* of relatively standardized layout with repetitive internal architecture (Kolata 1982; Conklin, this volume).

Nine palace enclosures contain three distinct types of interior structures analyzable in quantitative terms: (a) *audiencias,* representing elite administrative offices, (b) storerooms, which housed the portable wealth of the Chimor dynasty, and (c) walk-in wells, the sole source of potable water in the city. Each *ciudadela* is also associated with a royal burial platform.

Massive looting has largely destroyed the earlier burial structures. However, each platform constructed during and after *ciudadela* Bandelier retains remnants of a single, central, disproportionately large T-shaped tomb, surrounded by ranks of subsidiary cist tombs. The heavily looted burial structures in Velarde and Gran Chimu were probably of a similar character. This architectural pattern, which links each of the six late *ciudadelas* with one distinctively conceived burial platform, has been interpreted as direct evidence for a socio-political pattern that identified one king exclusively with one palace. This interpretation envisions the sequentially built *ciudadelas* as reflections of a succession of rulers who each built separate quarters that initially served as a palace administrative center and ultimately as a royal mausoleum maintained after the king's death by a kin-related corporate body (see Conrad n.d., 1982 for a full development of this hypothesis).

More irregular versions of *audiencias,* storerooms, and walk-in-wells, although not burial platforms, occur in smaller adobe-walled enclosures termed *intermediate architecture.* These smaller enclosures are interpreted as residences of the minor nobility and state functionaries of Chimor (Klymyshyn n.d., 1982). A third type of architecture, small irregular agglutinated rooms (SIAR), has neither *audiencias* nor storeroom complexes. Extensive areas of SIAR, with a combined minimum of 25,000 individual rooms, housed the majority of the urban population. Most SIAR inhabitants were engaged in elite craft production, particularly metallurgy, for the nobility of Chimor (J. Topic n.d., 1982, this volume; Topic and Moseley 1983).

### *Architectural History*

The architectural history of Chan Chan can be calibrated by quantitative analysis of mud brick dimensions, which changed systematically through time (Kolata n.d., 1982). Figure 2 correlates the palace sequence with my general relative and absolute phase chronology for Chan Chan. Figures 3–9 illustrate graphically the sequential development of the twelve largest structures within the city. SIAR architecture did not employ mud brick in significant, datable numbers. Therefore, cross-dating these structures to the palaces is somewhat conjectural, although inferences based on radiocarbon dates and physical associations can be drawn. These inferences on the growth of SIAR, drawn from the work of John Topic (n.d., this volume; Topic and Moseley 1983), are reflected in Figures 3–9.

| ABSOLUTE CHRONOLOGY | PHASE CHRONOLOGY | PALACE SEQUENCE |
|---|---|---|
| years A.D. 1400 - 1470 | Late Chimu 2 | Rivero<br>Tschudi |
| 1300 - 1400 | Late Chimu 1 | Bandelier<br>Velarde |
| 1200 - 1300 | Middle Chimu | Squier<br>Gran Chimu |
| 1100 - 1200 | Early Chimu 2 | Laberinto<br>Tello |
| 900 - 1100 | Early Chimu 1 | Uhle<br>Chayhuac |

Fig. 2 Relative and absolute phase chronology for Chan Chan. The dates and phases indicate primary occupancy.

Construction activity at Chan Chan began in the southeast sector of the city (Huaca Higo and *ciudadela* Chayhuac: Fig. 3). The city first expanded inland to the north (*ciudadela* Uhle east: Fig. 4; *ciudadela* Uhle west: Fig. 5), and then to the west (*ciudadelas* Tello and Laberinto: Fig. 6). After the construction of *ciudadela* Laberinto, the entire northern terminus of Chan Chan was delimited by the erection of *ciudadela* Gran Chimu (the largest palace enclosure) and its satellite architecture (Fig. 7). The city then grew back upon itself south and coastward in successive steps (*ciudadela* Squier, Velarde, Bandelier: Fig. 8; and then Tschudi and Rivero: Fig. 9). During the construction of the last two palaces, substantial portions of the old southern city core were razed to accommodate the new buildings.

## URBAN GROWTH AND HYDROLOGICAL REGIME[1]

Although in this essay I will focus principally on the social and institutional developments that shaped the city of Chan Chan through time, it is

[1] This segment of the essay was written in collaboration with Michael E. Moseley. It represents a joint effort to synthesize the data pertaining to the relationship between the evolution of Chan Chan's sustaining irrigation system/hydrological regime and changing architectural patterning in the city. The research underlying this interpretation was supported by National Science Foundation grants BNS76-25438 and BNS77-24901 to Michael E. Moseley, Principal Investigator. Additional support for aspects of the research was provided by a Thaw Fellowship from Harvard University to Alan L. Kolata.





Fig. 3–9 Phases of urban growth at Chan Chan (after Kolata 1983; Topic and Moseley 1983).

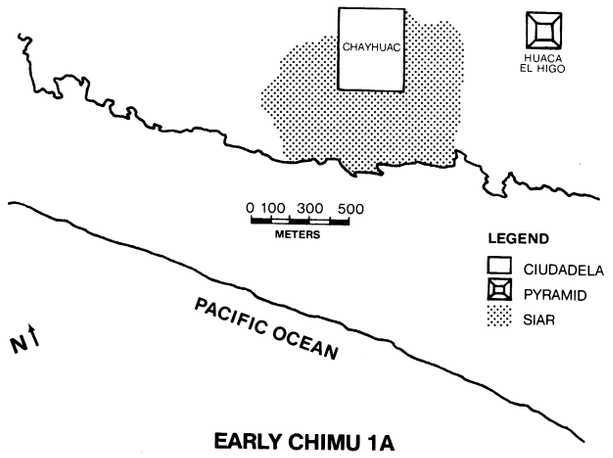



Fig. 3

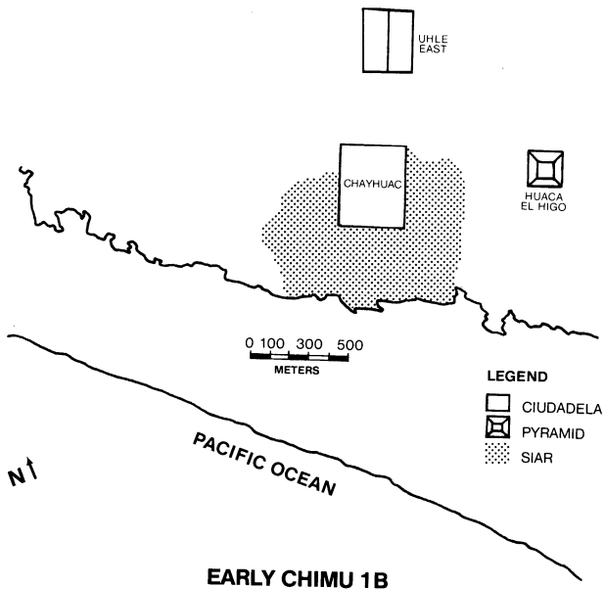



Fig. 4

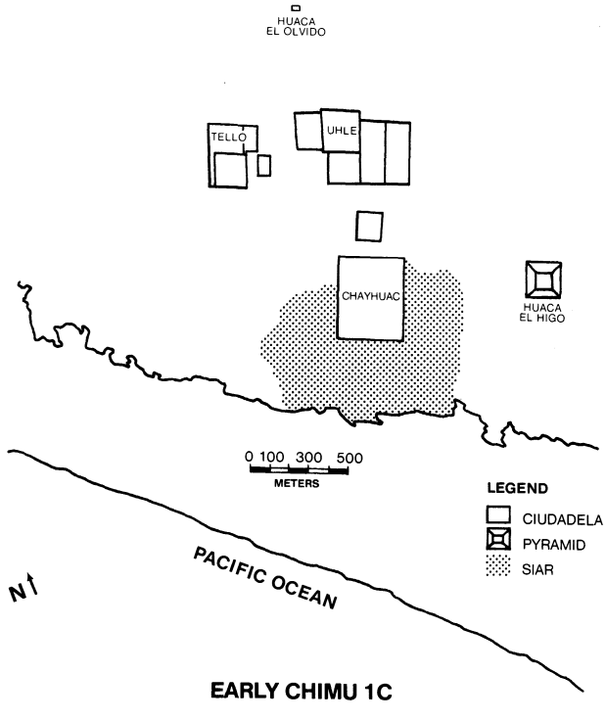



Fig. 5

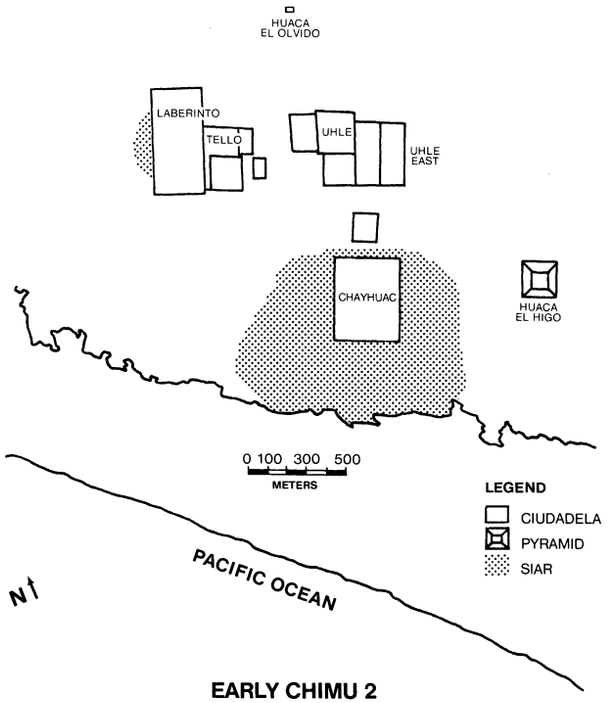



Fig. 6

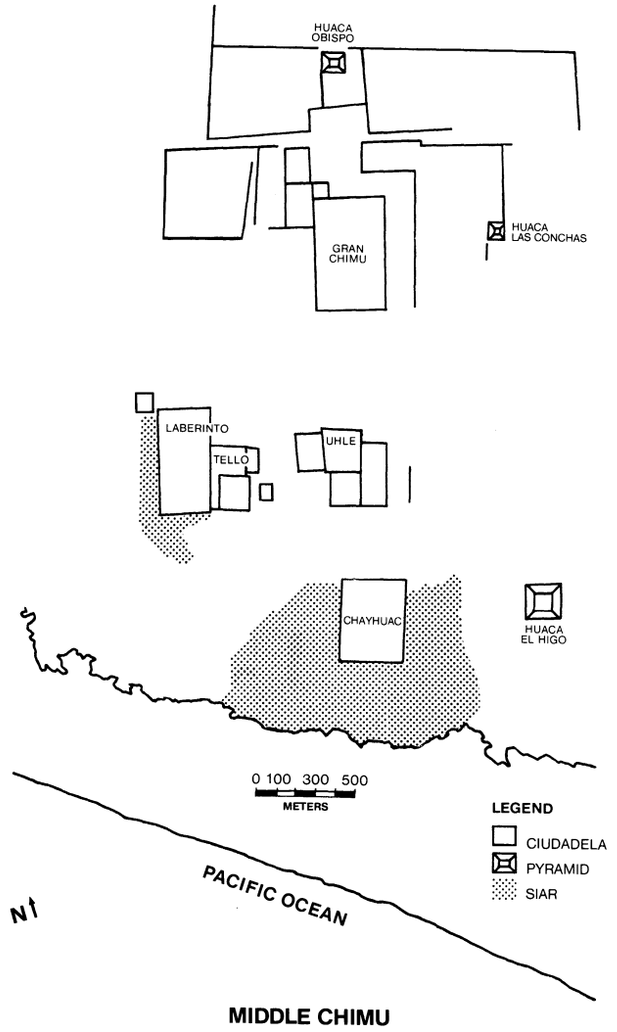



Fig. 7

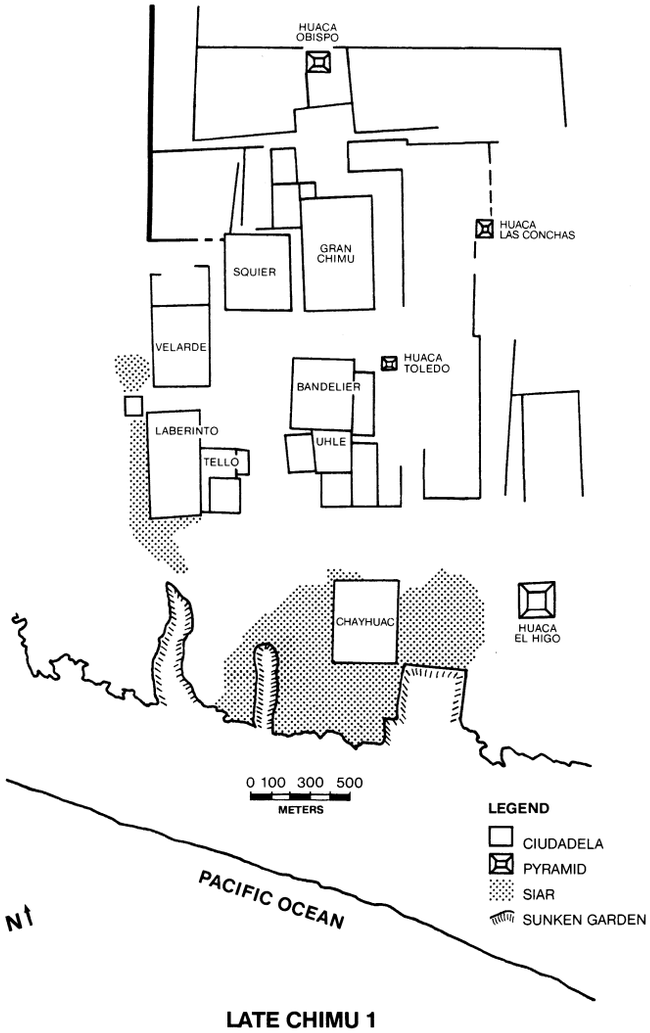
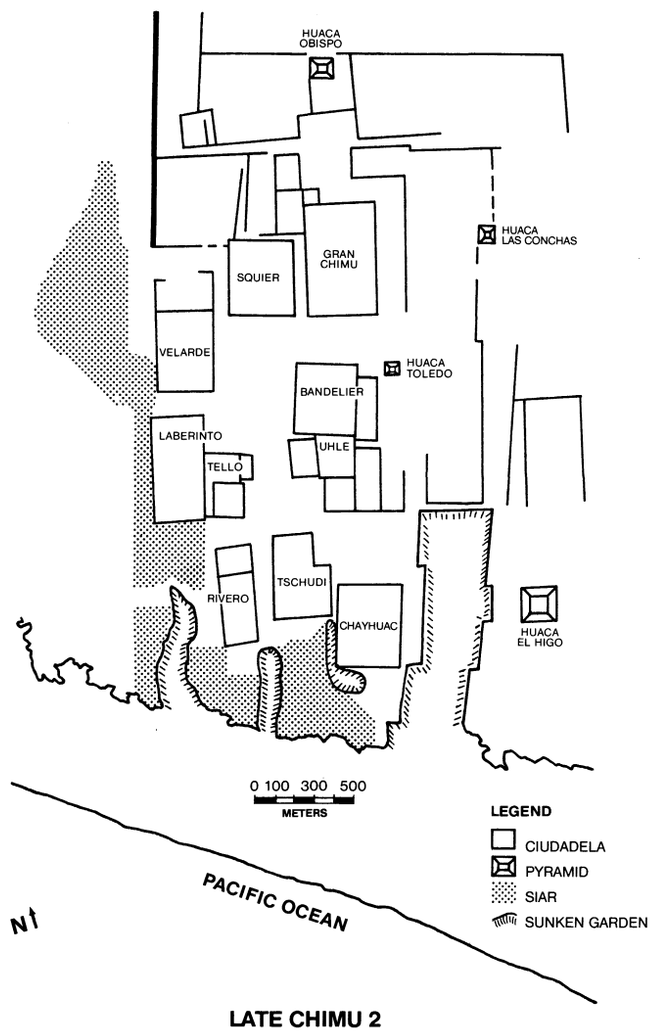

HUACA OBISPO
HUACA LAS CONCHAS
GRAN CHIMU
SQUIER
VELARDE
HUACA TOLEDO
BANDELIER
LABERINTO
UHLE
TELLO
CHAYHUAC
HUACA EL HIGO
0 100 300 500
METERS
LEGEND
CIUDADELA
PYRAMID
SIAR
SUNKEN GARDEN
PACIFIC OCEAN
N
LATE CHIMU 1

Fig. 8






HUACA OBISPO
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RIVERO
TSCHUDI
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Fig. 9

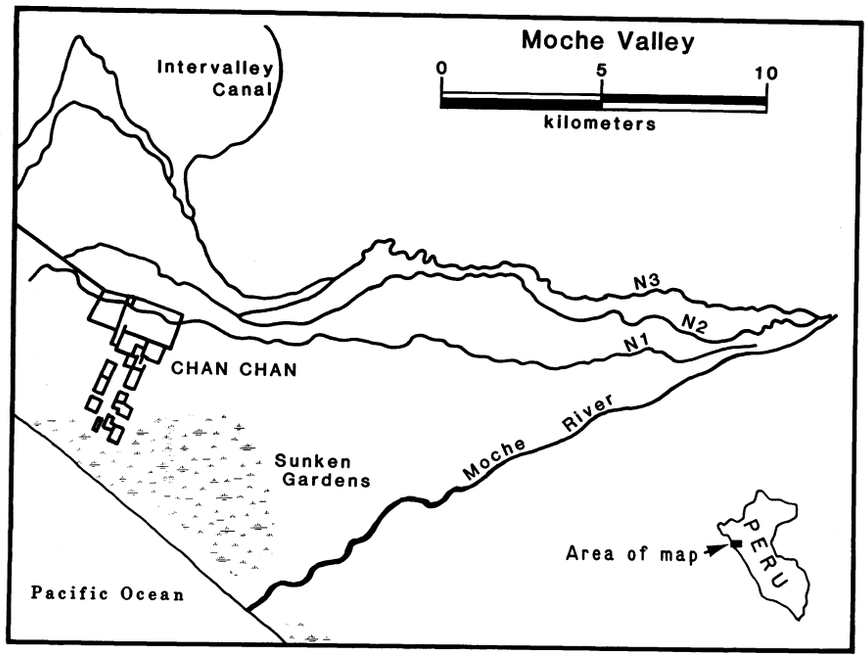



Fig. 10 Map of the north side of the Moche Valley illustrating the spatial relationship between Chan Chan and its principal irrigation canals.

essential to outline briefly the role of historical developments in the human-altered hydrological regime that directly affected the physical growth of Chan Chan.

*Hydrological History*

The first palace enclosures at Chan Chan were erected near the beach, behind a seacliff cut through coarse alluvium and interbedded sands that form a plain, Pampa Esperanza, extending inland for some 8 km. East of Huaca Higo, the ground surface, consisting of coarse sands, is lower, and is associated with high water table conditions that extend diagonally inland toward the Moche River, which lies 8 km southeast of the city.

The Moche River is fed by runoff from highland rains and is the only source of fresh water in the region. River flow is markedly seasonal, ranging from 10 to 34 $m^3$/sec. during January to May, but in subsequent months dropping to 0 to 4 $m^3$/sec. (Moseley and Deeds 1982; Ortloff et al. 1982: 587). The local water table, fed by the river, also has a seasonal high and low cycle, peaking between June and September, well after the river has crested. During eight months of the year, all river discharge is absorbed by intensive



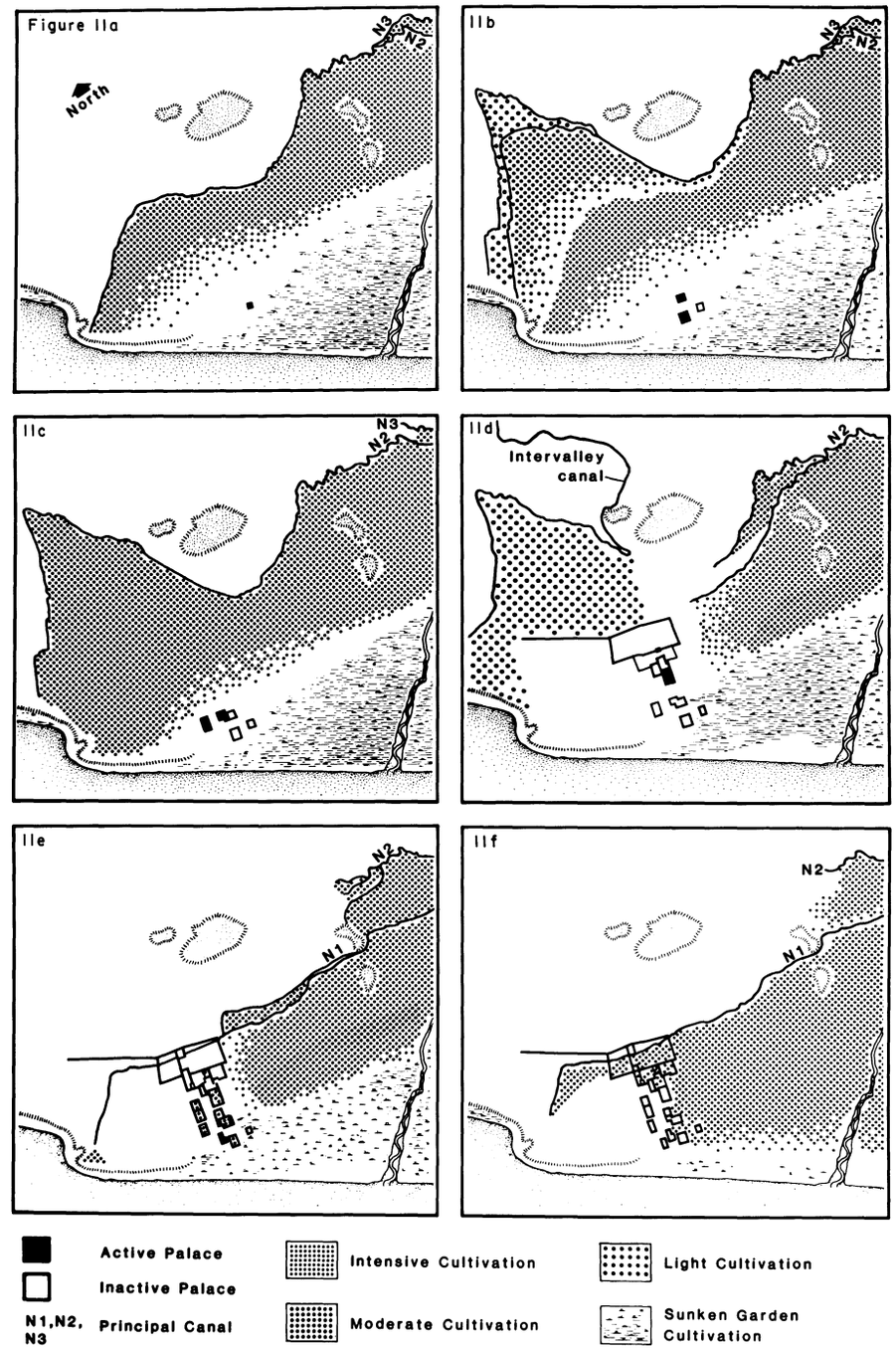



Fig. 11 The developmental history of irrigation in Chan Chan's hinterland correlated with architectural developments in the city.

irrigation agriculture, which, north of the river, was sustained at different times by three primary canals, designated N1, N2, and N3, respectively, from lowest to highest (Fig. 10).

When Chan Chan was founded, Pampa Esperanza was irrigated by an extension of the N3 canal (Fig. 11a). The irrigation system was expanded north and west in several stages before being destroyed by a cataclysmic episode of torrential rains and flash flooding spawned by a major El Niño event (Fig. 11b). This event has been dated by archaeological evidence (substantial water-borne destruction of architecture and canals; massive silt deposition) to around A.D. 1100 (Nials et al. 1979; Moseley et al. 1981; Moseley, this volume).

The reconstructed canal system, initiated contemporaneously with the western sector of *ciudadela* Uhle, was fed by the N2 primary canal (Fig. 11c). However, from its inception, this canal delivered little water to the western plain. Ultimately, atrophy of the N2 stimulated construction of an intervalley canal more than 70 km long that was designed to resupply the system with water from an adjacent valley to the north (Ortloff et al. 1982; Pozorski and Pozorski 1982; Farrington 1983).

Rather than channeling water via a relatively short course directly to the fields west of the city, the intervalley junction with the dry N2 canal was placed centrally above Chan Chan. This entailed the seemingly disproportionate cost of building a much longer canal (Fig. 11d; Ortloff et al. 1982: 574). While the intervalley canal was under construction and Pampa Esperanza left unirrigated, the city expanded inland. During the time of *ciudadela* Gran Chimu, vast tracts of formerly cultivated land were incorporated into the urban landscape with construction of Chan Chan's great north wall. North and west of the wall, feeder canals were laid out for supply by the intervalley canal. The atrophied N2, no longer able to supply Pampa Esperanza, was now intended to provide water only for fields east of the city (Fig. 11d).

However, the intervalley canal, planned as the keystone of the revitalized water distribution system, was never completed (Ortloff et al. 1982; Kus 1984). Irrigation resumed later, but in a largely symbolic fashion during, or shortly before, the time of *ciudadela* Tschudi (Fig. 11e) when the N1, built to replace the N2, was cut through the city wall in order to irrigate the interiors of several palace enclosures selectively, and one small area west of the city. Recut at slightly lower elevation than the prehistoric N1, the modern N1 continues to support farming in the northern portion of Chan Chan's ruins (Fig. 11f).

The development of sunken-garden farming, an option available to the farmer hampered by a lack of surface water, is known in less detail. Sunken gardens are created by excavating plant surfaces to a level at which natural ground moisture sustains plant growth (Parsons and Psuty 1975; Knapp



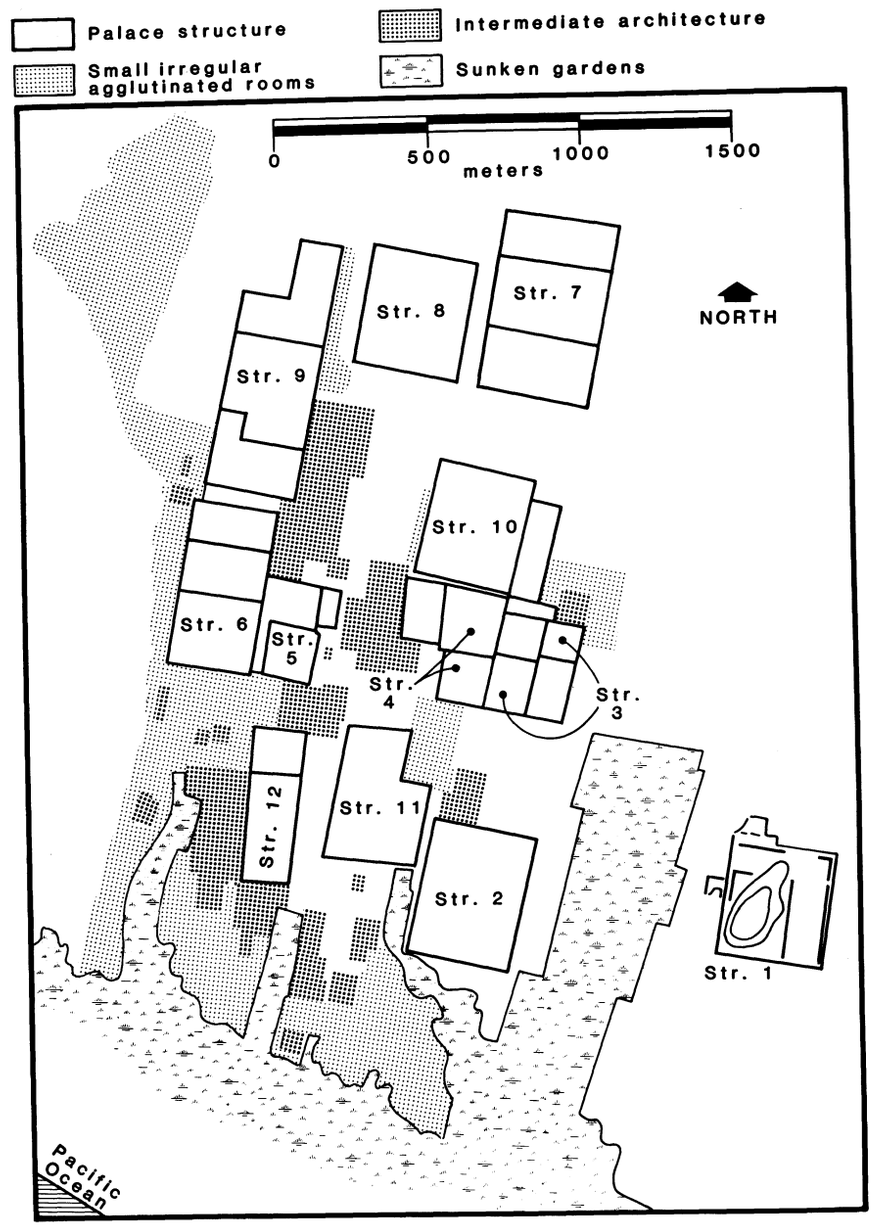



Fig. 12 Map of Chan Chan illustrating the spatial relationship of the city with massive sunken gardens.

1982; Smith 1983). When Chan Chan was founded, such gardens extended inland at least 4 km to the center of the valley. After flooding disrupted the canal systems, gardens began to intrude upon the southeast sector of the city in increasing numbers and size. By the time of *ciudadelas* Tschudi and Rivero, massive "royal gardens" were being cut through the thick alluvium behind the seacliff, representing vast labor expenditures (Fig. 12). Moseley and I interpret this emphasis upon labor-intensive gardens during the later stages of Chan Chan's occupation as an expectable response to the decreasing availability of irrigated land caused by the contracting canal system.

Michael Moseley et al. (1983) postulate that the contraction of irrigation, reflected in the progressively diminishing delivery capacity of the N2 canal and its replacement by the N1 canal, was a mechanical response to ongoing tectonic uplift of the coastal watershed. They argue that as the landscape undergoes vertical displacement, the river downcuts its course in equilibrium response, gradually choking off and eventually stranding canal intakes. Tectonic uplift also has the effect of lowering the water table with respect to the land surface. Early sunken-garden remnants, located 4 km inland in the Moche Valley, are today 10–12 m above the ground water level, and thus are completely nonfunctional. The vast royal gardens at Chan Chan are still farmed, but only by means of pump irrigation because, even adjacent to the coast, the water table is more than 1 m below its terminal Pre-Hispanic level.

### *Irrigation and Urban Growth*

The architectural growth of Chan Chan was linked to the hydrological regime of the coast by its wells. When the city was founded, the aquifer supplying fresh water to Chan Chan was charged by upslope irrigation on the Pampa Esperanza. Expansion of the irrigation system presumably maintained an artificially high water table and mitigated the water table's seasonal low cycle, allowing relatively shallow wells to support inland urban expansion.

When dwindling water supplies from the post-flood N2 canal prompted construction of the intervalley canal, a significant element of the design, as noted above, was placement of the channel juncture centrally above Chan Chan, requiring an exceptionally long canal to complete the linkage. We infer that this costly feature was incorporated into the new system so that runoff and seepage from irrigation would continue to recharge the city's aquifer. When intervalley water never materialized, the inland terrain enclosed by the great north wall during the time of *ciudadela* Gran Chimu could not sustain human settlement except by means of extremely deep wells. In Gran Chimu, these walk-in wells reached their maximum operable depth, estimated at greater than 15 m.

The subsequent decline in the water table generated by the combined





effects of lack of irrigation and general tectonic uplift halted inland urban expansion. More important, this worsening condition forced the city to grow successively back upon itself toward the coast where declining ground water was more accessible in shallow wells. The loss of high water table conditions was not without social cost: extensive areas of extant architecture had to be razed to accommodate new, near-coast buildings, such as *ciudadelas* Tschudi and Rivero.

In effect, the deterioration of a sensitive, human-altered hydrological regime forced the architects of Chan Chan to cannibalize their own city to accommodate new construction schemes. When the abandoned N2 canal was finally replaced by the N1, this new primary canal ran at too low an elevation and reached too little of Pampa Esperanza for reactivated irrigation to recharge the urban aquifer significantly. At this point several palace interiors were selectively irrigated by means of long canals with relatively low delivery capacity. The indigenous rationale for irrigating the palace interiors selectively at this time remains elusive. But this apparently symbolic use of water graphically illustrates the role of a changing hydrological regime in shaping the form of the city.

## ARCHITECTURAL TRENDS AT CHAN CHAN

Implicit in the foregoing account of patterning in the architectural history of Chan Chan are a number of developmental trends in the architecture at the settlement. The evolution of specific architectural elements in the city carries implied information about the social formations that conditioned that evolution. Specifically, the function of architecture is a product of particular economic and political institutions. If this is true, formal variation in the architecture at Chan Chan, when ordered in proper sequence, will yield valuable clues toward understanding changes in the economic and political organization of Chimu society.

### *Monumental Architecture*

There are six major attributes of the palaces at Chan Chan that exhibit systematic formal change throughout the history of the city: (a) the overall design of the *ciudadela* itself, (b) annexes, (c) access patterns, (d) *audiencias,* (e) storerooms, and (f) burial platforms. By systematic formal change I mean simply that these six architectural attributes did not vary randomly, independent of each other, but rather in concert in response to changes in the social formations of the Chimu state.

First I will document the nature of the formal change in each of these six attributes, as well as the concurrent and dependent configuration of intermediate and SIAR architecture as a whole. Then I will present a general model that explains the cause of these architectural changes in terms of the develop-

ment of specific historical events and soeial institutions in the organization of the Kingdom of Chimor.

### *Ciudadela Design and Annexes*

During what I have termed the Early Chimu 1 Phase of Chan Chan (ca. A.D. 900–1100; Fig.2), the design of the palace was noncomplex, consisting of a simple though exceptionally large rectangle (Chayhuac), or an apparently ad hoc collection of such rectangles (Uhle, Tello). In many respects, Burr Cartwright Brundage's (1967: 80) characterization of the imperial palaces of Cuzco also applies to these *ciudadelas:* "the palace proper generally resembled on an exaggerated scale its model, the traditional stone-walled Peruvian farm enclosure called the *cancha.*"

The architecture within these palaces exhibits no overall concern for internal ordering beyond a general north-south orientation. In both Chayhuac and Uhle, the bulk of the internal space is devoid of architecture although the structures that are present occur in dense, well-defined nodes (enclosed on at least three sides by substantial adobe walls). In Tello, on the other hand, the interior architecture is more evenly distributed, occupies a much higher percentage of internal space, and includes distinctive structures rarely found in Chayhuac or Uhle: relatively small, elevated platforms that at one time were probably surmounted by superstructures made of perishable materials. But this is not surprising for, as noted elsewhere, Tello was not functionally equivalent to the other *ciudadelas* of Chan Chan (Klymyshyn n.d.; Kolata n.d., 1982). This enclosure was probably intended as a residence of an expanding class of bureaucrats who were involved in managing the state. It is this heavily residential function that imparts a distinctive look to Tello.

Uhle and Tello were begun during the Early Chimu 1 Phase of Chan Chan: Uhle in 1B, Tello in 1C (Figs. 4,5). In this early phase, protracted occupation and reworking of these two enclosures is directly perceivable architecturally in that they were built in separate stages of construction: Uhle in perhaps as many as four separate stages, and Tello in at least two—north and south. It is at this time that the concept of *ciudadela* annexes first appears. Uhle possesses two annexes: a largely vacant enclosure appended to its west side and a partially destroyed northern annex, again consisting of an apparently vacant enclosure that extended more than 300 m to the north of Uhle's northern wall. Although not generally recognized, a northern annex that Tello also possesses controls access to its single entrance. But this annex is very small and, unlike Uhle's, contains a number of apparently residential structures (again, elevated platforms). Given the primary evidence for multiple stages of construction in Uhle and in its mortuary platform complexes, this palace enclosure may have had an occupation that spanned as much as two hundred years (ca. A.D. 1000–1200).





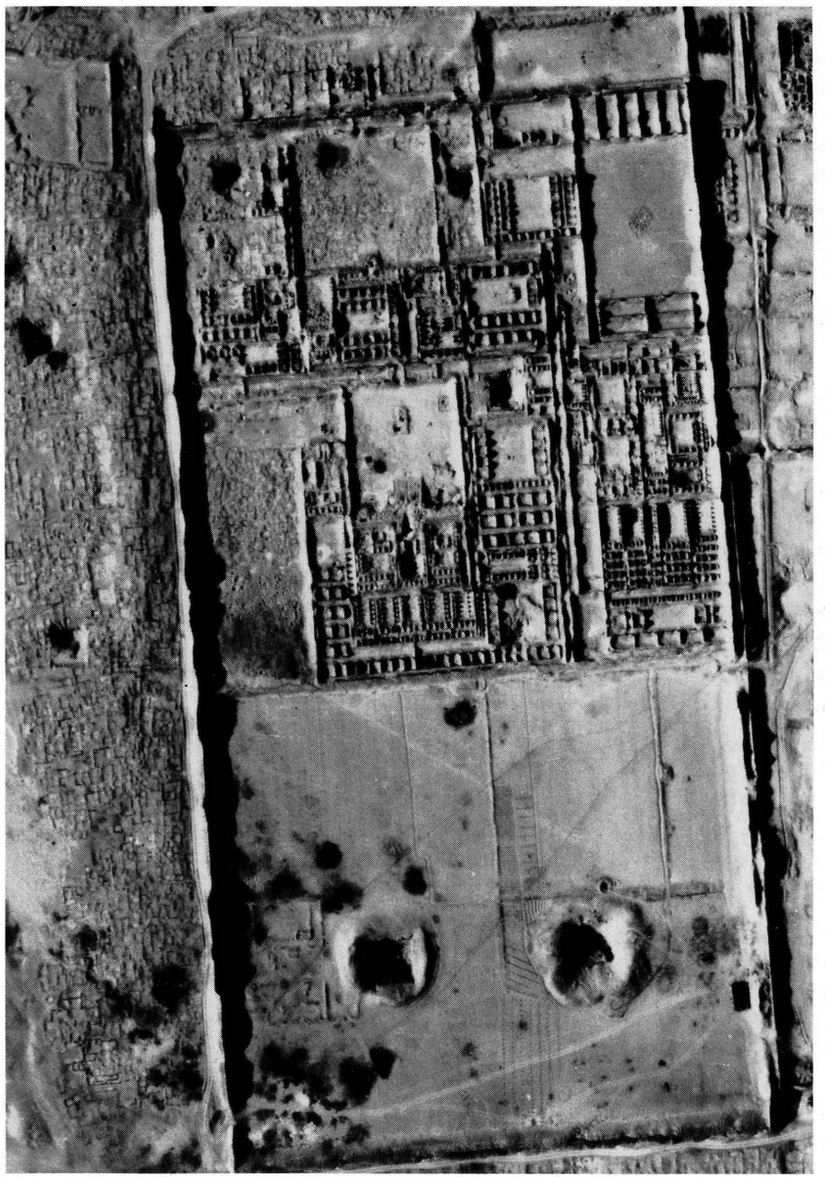


Fig. 13 Aerial photograph of the Laberinto palace compound at Chan Chan illustrating the standardized tripartite division of interior space characteristic of the later *ciudadelas.*

With the construction of Laberinto in the Early Chimu 2 Phase (ca. A.D. 1100–1200), the interior design of the *ciudadelas* was changed radically. From this time and throughout the subsequent history of the city, each *ciudadela* was organized with a tripartite distribution of internal space (Fig. 13): a northern sector, provided with a large entry court and smaller courts flanked by a variety of structures; a central sector, provided with a second entry court and similar smaller courts, flanking structures, and generally a burial platform; and a southern sector devoid of permanent adobe architecture, but frequently containing walk-in-wells and a congeries of domestic structures built of perishable materials.

One structural correlate of this change in the organization of interior architecture was that *audiencia* courts and banks of storerooms were now consistently linked in the overall design scheme, a development that was foreshadowed in the symmetrical array of storerooms and *audiencias* of Uhle's late southwestern sector. Specifically, from this time on, *audiencia* courts either contain storage facilities or are situated along access routes to storerooms. In addition, a secondary association of *audiencia* courts with other key circulation "break points" (placing *audiencias* near *ciudadela* entrances, or on access routes to burial platforms) also began to develop.

Moseley (1975: 222) notes that these "*audiencia* courts are frequently laid out in a hierarchical manner so that access to one U-shaped structure is controlled by other *audiencias*. This connotes a ranking of the structures, and, by inference, ranking of the occupying individuals and the functions they performed." The exact nature of the functions performed by the *audiencia* occupants remains uncertain, although the context of the structures suggests that they were involved in some type of administrative or supervisory activities.

After Laberinto, the subsequent six *ciudadelas* retain the tripartite organization and tight structural association between *audiencia* courts and storage units. In fact, the only subsequent change in overall enclosure design was an increasing emphasis on the construction of annexes. Gran Chimu (A.D. 1150–1300), the largest enclosure, illustrates this trend: it contains an extremely elaborate northern annex equipped with high-status architecture heavily decorated with friezes—*audiencia* structures, storerooms, spacious courts, huge elevated platforms—and several largely vacant western annexes.

The following palaces, although reduced in scale, continue to integrate well-planned northern annexes with substantial architecture into the overall design: Velarde, Bandelier, and Tschudi. Rivero, the final enclosure, reflects the culmination of this trend toward incorporation of structurally autonomous annexes into a preconceived plan; here, three annexes, north, south, and east, containing dense internal architecture, become subsidiary wings of the enclosure (Fig. 14).





Fig. 14 Aerial photograph of *ciudadela* Rivero, with its three formal annexes outlined for emphasis. Photograph courtesy of the Servicio Aeronautico Nacional, Peru.

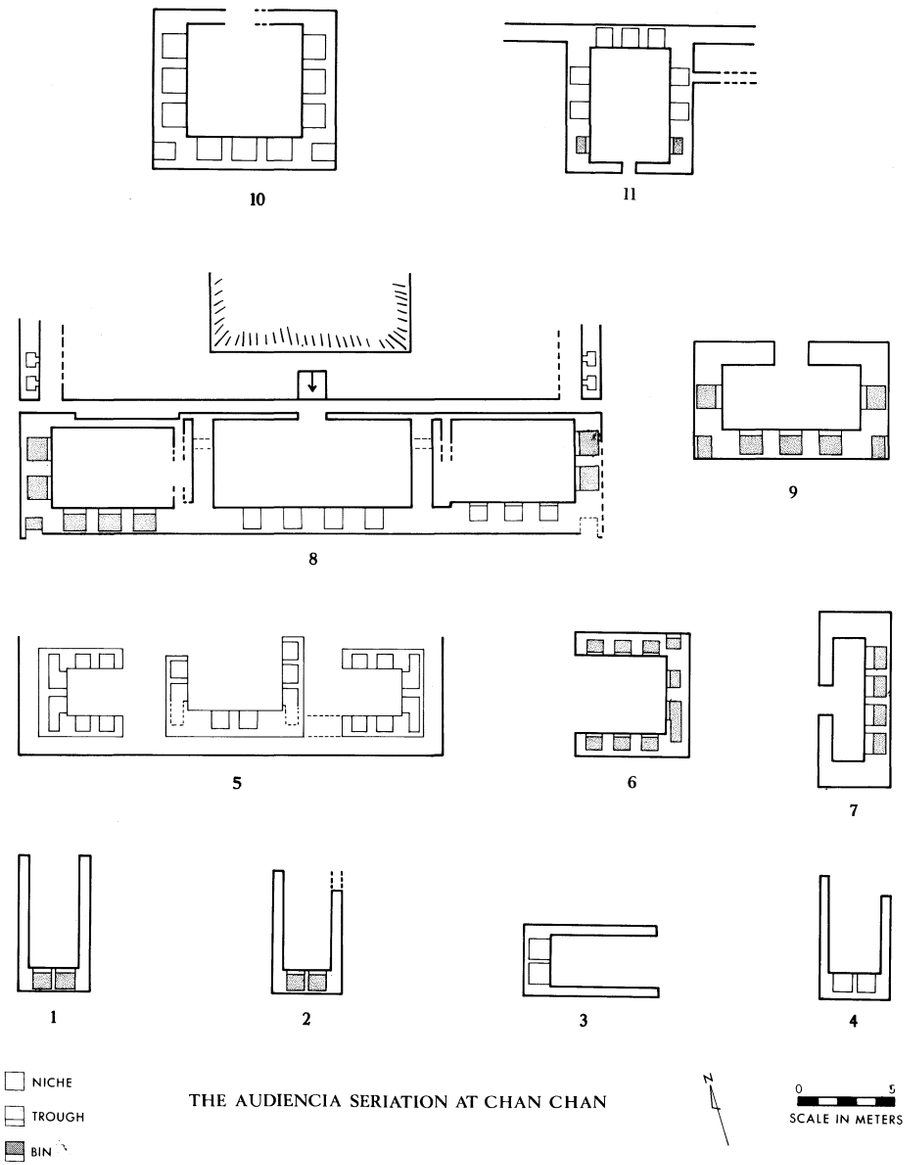
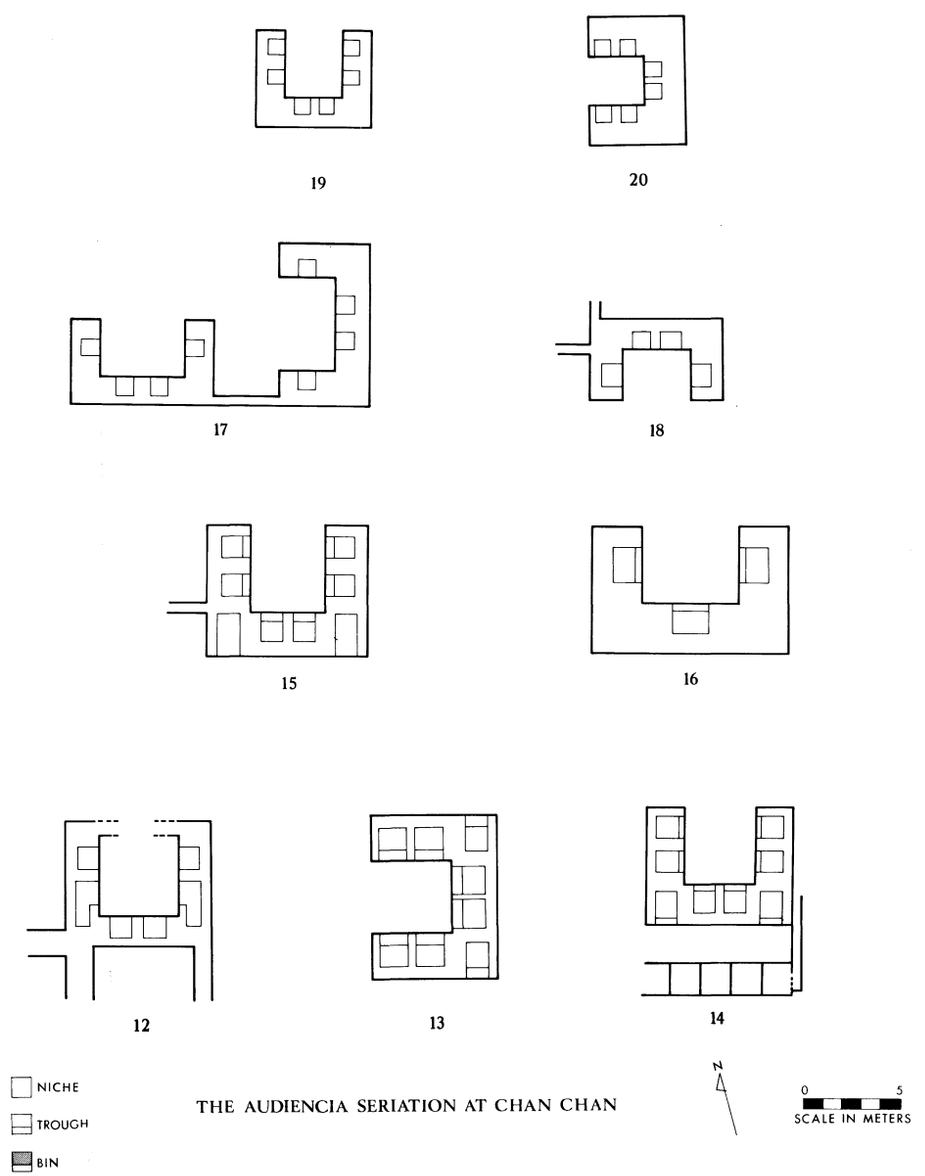



Fig. 15 *above and opposite* The *audiencia* seriation at Chan Chan. The association of *audiencias* to *ciudadelas* is: 1–4 = Uhle (East); 5–9 = Uhle (West); 10, 11 = Tello; 12–15 = Laberinto; 16 = Gran Chimu; 17, 18 = Velarde; 19, 20 = Bandelier, Tschudi, Rivero.







### Audiencia Form and Context

*Audiencias,* like *ciudadelas,* changed in form through time. And as it was for *ciudadelas,* this change was characterized by increasing standardization (Fig. 15). The earliest *audiencias* are found in Uhle in a variety of forms: only three of twenty-two structures are identical. Initially these *audiencias* were constructed only in *ciudadelas* or in state administrative sites in the surrounding rural hinterland and subject valleys. During Middle Chimu times, specifically at Gran Chimu, *audiencias* began to appear in the palace annexes. By Late Chimu 2 (A.D. 1400–1470), these structures occur not only in the enclosures themselves and their annexes (Tschudi and Rivero), but also in the more complex units of intermediate architecture (the "high" or "intermediate architecture" as defined by Klymyshyn n.d., 1982) that cluster around these two late palaces. The *audiencias* of this last politically independent phase of Chan Chan were exclusively of the "standard," six-niched variety.

Aside from increasing standardization in the form of *audiencias,* it is clear as well that the architectural context of *audiencias* varied through time. As noted above, the general context of *audiencias* in Chan Chan varied from being restricted to *ciudadelas* (Early Chimu 1–Early Chimu 2) to occurring in *ciudadelas* and their annexes (Middle Chimu) and finally to appearing in *ciudadelas,* annexes, and intermediate architecture (Late Chimu 2).

The specific context of *audiencias* within *ciudadelas* also changes through time. As we have seen, the close association between *audiencias* and storage facilities that developed in Laberinto represents one such change in specific architectural context. After Laberinto, this association is retained, but the distribution of *audiencias* between the two sectors of the *ciudadelas* containing these structures—north and central—begins to vary in a constant and uniform fashion.

Moseley (1975: 221–222) has suggested that

> [within] the compounds there are more U-shaped structures in the north than central sectors. The average ratio for the two areas is about 5:1, which implies the northern areas of the enclosures were the most active. . . . Yet there is an inverse relationship between numbers of *audiencias* in the north and central sectors of the compounds and numbers of storage facilities in these areas. This implies the U-shaped structures were more than simple accounting stations.

However, this statement is not accurate for the earlier *ciudadelas* and presents a misleading portrait of the relationship between *audiencias* and palace compounds. Tabulation of the data makes this abundantly clear.

As indicated in Table 1, it is only with Bandelier (after ca. A.D. 1350) that there are more *audiencias* in northern than central sectors. However, given





TABLE 1. AUDIENCIA DISTRIBUTION IN *CIUDADELAS*

| *Ciudadela* | Date Range (A.D.) | Units of Association in *Ciudadela* North | Central | North Annex |
|---|---|---|---|---|
| Rivero | 1450–1500 | 10 | 1 | 0 |
| Tschudi | 1400–1450 | 12 | 5 | 2 |
| Bandelier | 1350–1400 | 6 | 2 | 0 |
| Velarde | 1300–1350 | 2 | 4 | 6 |
| Gran Chimu | 1150–1300 | 0 | 8 | 1 |
| Laberinto | 1100–1200 | 5 | 8 | 1 |
| Uhle | 1000–1200 | Northeast: 8 | Northwest: 7 | South: 7 |

the large number of *audiencias* in Velarde's northern annex, I would argue that, if *audiencias* are viewed as the locus of administration, the shift toward a greater intensity of administrative activity in the northern sectors of palaces actually occurred at this time (the beginning of Late Chimu 1, ca. A.D. 1300). Prior to this time, the relationship between numbers of *audiencias* in north and central sectors and numbers of storerooms in these areas is not as neat (inverse) as Moseley portrayed it; although in the early enclosures there are more storerooms in the central than northern sectors (as in the late enclosures), there are also more *audiencias.*

In relative terms, the degree of administrative activity in palace sectors expressed as the ratio of *audiencias* to storerooms may be summarized as follows. In Uhle, the four preserved sectors have about an equal degree of activity, although the ratio of activity is somewhat more intense in the northwest sector (recall, however, that the four sectors of Uhle were built sequentially). In Laberinto, Gran Chimu, and Velarde, the use intensity of the central sectors is clearly greater than that of the nothern sectors (although, again, if Velarde's north annex *audiencias* are included, the measure of its use intensity reverses, and its northern area becomes the locus of greater administrative activity). In Bandelier and Tschudi, the transition to a greater use intensity in the northern sector is complete; in these two enclosures the ratio of activity of northern relative to central sectors is nearly equivalent. With Rivero, the locus of administrative action becomes almost exclusively centered in its northern sector.

Thus, the actual relationship between *audiencia* distribution and *ciudadela* sectors was one of flux. Through time, the locus of administrative activity within palaces shifted from an equal spatial distribution, to an initial emphasis on central sectors, to a clear preference and ultimately almost exclusive focus on the northern sectors.

Beginning with Late Chimu 1 (ca. A.D. 1300), there was a trend toward an inverse gradient of (administrative) use intensity in *ciudadela* design. That is, from this time, in spatial terms along a path from north to south in the

palace enclosures, the public activity of administration was directed away from the central sector toward the northern sector and annex. This implies that, through time, penetration of the central sector was being increasingly restricted and that, as access was reduced, this sector was becoming an exceptionally private space.

### *Storeroom Complexes*

Structures in Chan Chan have been identified functionally as storerooms "on the basis of form, high inconvenient thresholds and a lack of association with domestic debris of any kind" (Day n.d.: 254). Storerooms in palaces remained relatively uniform in morphology and context throughout the city's history (see Day n.d. for a detailed description). In the earliest enclosures—Chayhuac and Uhle—rows of adjacent storerooms cluster around the burial platforms and, in the case of Uhle, around the *audiencia* courts. In later palaces (from Laberinto on), repetitive banks of storerooms occur in well-defined contexts in both northern and central sectors, although a greater number of these rooms were constructed in the central sectors.

Many of the palace storerooms seem to be stamped from the same mold: they possessed gabled roofs, characteristic high thresholds, and a similar compact size (about 2 m × 2.5 m × 2 m). Yet there is considerable dimensional variation, particularly in the earlier *ciudadelas:* Uhle, Laberinto, Gran Chimu, and Velarde contain a wider range of storeroom sizes (including one much larger than the "standard size" cited above) than the subsequent enclosures, Bandelier, Tschudi, and Rivero. Like its architectural counterpart, the *audiencia,* it appears that the storerooms in Chan Chan were also subject to increasing standardization through time.

Unfortunately, there has not been an extensive program of testing and clearing storerooms in Chan Chan (Day, n.d., who excavated most of the storerooms in *ciudadelas,* concentrated his efforts on Rivero), and therefore the significance of dimensional variation in these structures is unknown. It is possible that storerooms of different sizes contained different kinds of valued goods. Given this lack of excavation information, I can document nonimpressionistically change in only one attribute of palace storerooms: gross quantity of storage space. The calculated combined floor space of storage areas ($m^2$) in each *ciudadela* is compiled in the graph in Figure 16.

From the patterning in this graph, it is immediately clear that there are two general orders of magnitude in storage area floor space: those enclosures with less than 3,000 $m^2$ and those with greater than 6,000 $m^2$. Specifically, the three earliest *ciudadelas* each contain storage facilities of essentially equal total area: Chayhuac has around 2,200 $m^2$, while in Uhle and Tello the figure rises to 3,000 $m^2$. In the three subsequent palaces, Laberinto, Gran





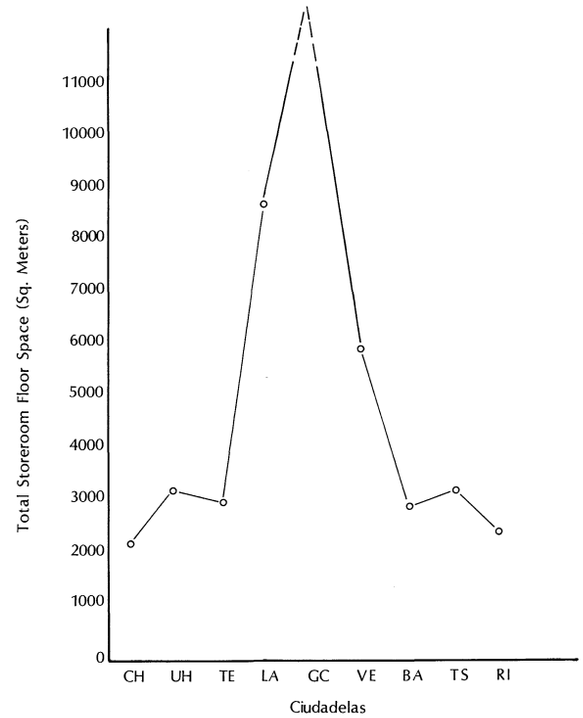



Fig. 16 Graph of storeroom floor space in palace enclosures of Chan Chan.

Chimu, and Velarde, storage area jumps to the second order of magnitude (greater than 6,000 $m^2$).

Laberinto witnessed the most precipitous increase in storage space: from 3,000 $m^2$ in Uhle to nearly 9,000 $m^2$, or a gain of 300 percent. It is interesting to note that this remarkable surge in space devoted to storage was accompanied by reorganization of the *ciudadela* into the tripartite interior design. In Gran Chimu the trend toward increased storage space continued. As indicated by the open-end on the graph, the total floor space of storerooms in Gran Chimu is unknown. The central sector of this enclosure is badly preserved, and many of its presumptive storerooms have been obliterated. However, measurements on the more intact northern sector revealed a storage area of 9,850 $m^2$ for this sector alone. Therefore I estimate conservatively that the total for Gran Chimu exceeded 11,000 $m^2$.

In Velarde there was a reversal of the trend. Here space tied up in storage plummets from the peak in Gran Chimu to about 6,000 $m^2$. Although this is still a considerable amount of space, it is a substantial reduction from the

levels attained earlier in either Laberinto or Gran Chimu. The final three palaces (Bandelier, Tschudi, Rivero) exhibit a continued reduction in storeroom floor space, reverting to the first order of magnitude (less than 3,000 $m^2$). In this final period of development in the city, the end of Late Chimu 1 through Late Chimu 2, the scale of the palace enclosure diminished considerably and steadily until Rivero, the last and smallest enclosure. In tandem with this reduction in the size of the palaces was a marked decline in the total storage space.

If gross storage space can be construed as an approximate indicator of wealth (that is, level of production), consecutive variations in that space shown by each palace enclosure can be used as a relative index of economic productivity. Change in this index then could be tied to, and perhaps explained by events in the political history of Chan Chan, events that determined changes in the quantity or kind of goods that were valued, produced, and stored. I will, in fact, use implication derived from this assumption as partial support for my general model of social change at Chan Chan.

*Burial Platforms*

Developmental trends in the form of the burial platforms and their enclosing courts have been discussed at some length by Geoffrey Conrad (n.d., 1982). Here I will point out only the most important aspects of these trends.

Burial platforms in monumental architecture occur throughout the history of Chan Chan. Conrad (n.d.) has convincingly demonstrated that these burial platforms served as the royal tombs of the kings of Chimor. In life, the *ciudadelas* were the palaces and administrative seats of these kings. In death, the burial platforms, the last structures built within the palace enclosures, became the focal point of the deceased kings' estate: a sacred sepulchre and monument to the divine ruler.

Conrad (1982: 103) argues that the death of the king occasioned "a series of complex funerary rituals extending over a considerable period of time." One of these rituals entailed construction of additions to the original platform in which parts of the king's burial ceremony were repeated: tomb chambers in the additions were equipped with offerings of gold and silver objects, lavish textiles, woodcarvings, and apparently a new set of sacrificial victims, presumably chosen from the royal house.

From this kind of physical evidence, employing analogy from the Inca state, Conrad goes on to suggest that the disposition of the deceased king's estate was governed by a principle of "split inheritance." In accordance with split inheritance, the principal heir acceded to the throne and state office, but the disposable wealth of the king's estate was bequeathed to a corporation consisting of his other consanguineal descendants. "These secondary heirs managed their ancestor's property in his memory . . . cared for his mummy





and maintained his cult. The new ruler was forced to acquire his own wealth by levying additional taxes in the existing provinces of the empire or by enlarging his domain through new conquests" (Conrad 1982: 107).

I agree with Conrad's functional interpretations of Chan Chan's burial platforms. His sophisticated reconstruction of the interlocking set of social institutions that underlay construction and maintenance of these royal tombs, however, remains speculative and will require independent confirmation. As Conrad (1982: 115) indicates, the complex social institutions governing access to the throne and disposition of the king's estate were "probably incompletely developed during the early part of Chan Chan's history" and became codified only gradually.

The two earliest burial platforms in the city (Chayhuac and Uhle) bear evidence of substantial remodeling (apart from the structural additions just discussed). They are contained in enclosures that were very likely the palaces of more than a single king. Laberinto lacks a burial platform altogether. I am not convinced that the small, isolated burial structure (Huaca Avispas) in proximity to this palace's northwest corner, which was built much later than the palace itself, represents a "retroactive memorial" to a long-deceased king who had once lived in Laberinto as suggested by Conrad (1982). Gran Chimu contains a burial platform, but here again there is direct evidence for protracted construction on both the palace enclosure and the burial platform itself (Kolata n.d.). I have estimated that the primary occupation of Gran Chimu spanned some one hundred fifty years, and in this time there was certainly more than a single king who ruled from and was buried in this *ciudadela*.

Beginning with Velarde, however, the remaining four palaces were each built and occupied over a period of approximately fifty years, or potentially within the lifetime of a single king. Each of these enclosures possesses a burial platform with well-defined structural additions but no evidence for repeated and extensive remodeling. Therefore, I believe that the full development of the pattern of royal succession (perhaps governed by split inheritance) occurred during the first half of Late Chimu 1 (A.D. 1300–1350) and was first made manifest archaeologically in the layout of *ciudadela* Velarde. For the last one hundred fifty years of the kingdom's history, then (A.D. 1350–1500), the palaces (Velarde, Bandelier, Tschudi, and Rivero) were expressly built for and occupied by a single king.

*Intermediate Architecture and SIAR*

The intermediate architecture and SIAR of Chan Chan developed as a result of specific social needs and grew in response to particular political events. Certainly both types of architecture (and the people who inhabited them) were present throughout the history of the city. The earliest units of

SIAR clustered to the east of *ciudadela* Chayhuac, while the earliest intermediate architecture appeared between Chayhuac and Uhle and immediately east of Tello, both developing early in the Early Chimu 1 Phase (A.D. 900–1100). A certain portion of this architecture evolved as a natural result of internal population growth. But, in great part, I have shown that the growth of intermediate architecture and SIAR was episodic, occurring in two temporally bounded bursts of construction activity: (a) during Early Chimu 2 (A.D. 1100–1200) and (b) from Late Chimu 1 through Late Chimu 2 (A.D. 1300–1470).

The evolution of intermediate architecture, in particular, was marked by periods of relative quietude punctuated by remarkable episodes exhibiting a greatly accelerated rate of construction. The prime example of this kind of architectural evolution is the arc of intermediate architecture to the south and west of Tschudi and Rivero. These units, forming a substantial percentage of the total universe of intermediate architecture, were built essentially all at once between about A.D. 1400 and 1470 (Late Chimu 2). The SIAR were also subject to this abrupt, episodic type of architectural evolution; however, SIAR seem to have been somewhat more stable than was intermediate architecture in that, during periods of expansion, their rate of growth generally was not as precipitous as the intermediate architecture.

Finally, it is crucial to note that the two episodes of frenetic construction activity in intermediate architecture and SIAR appear to have coincided with the two major episodes of Chimu military expansionism related by the oral traditions condensed in the Anonymous History of Trujillo: the first with Ñançenpinco's initial conquests from Santa to Zaña at sometime before A.D. 1200, and the second with the subjugation of the great Lambayeque Valley complex around A.D. 1350–1370. In this case, as I will make explicit, the coincidence of these two resulted from a causal rather than a casual relationship.

## ARCHITECTURAL CHANGE AND SOCIAL HISTORY

What were the causes of the architectural changes at Chan Chan, and what was their social significance for the people of Chimor? In general, how do we make sense out of these changes?

I have made the claim that the specific architectural attributes of the *ciudadelas,* as well as the intermediate architecture and SIAR as a whole, varied systematically (that is, in a dependent and interconnected fashion) in response to changes in social formations of the Chimu state. I am now prepared to maintain specifically that two closely related social phenomena were primarily responsible for these systematic architectural changes: (a) the economic consequences of institutionalized military expansionism and (b) the political consequences of increasing distance between the king and his





subjects, or, more generally, heightened status differentiation within the governing hierarchy.

The changes in the form of Chan Chan that I have documented can be explained most economically and completely by reference to these two phenomena. For the sake of analysis I will describe the particular effects of each of these phenomena on the form of the city separately, but because they were related features of the same process of social change in Chimor, I will also illustrate the connections between them. The results of this analysis will be a synthesis of the foregoing data on patterns of growth at Chan Chan and a general model of the political and economic forces that brought form to the city.

### *Military Expansionism*

The effects of military expansionism on the form of Chan Chan were most acutely registered in intermediate and SIAR architecture, and in the storage complexes of the *ciudadelas.* As we have seen, during the Early Chimu 1 Phase (A.D. 900–1100), small concentrations of SIAR, and to a lesser extent intermediate architecture, clustered around Chayhuac and to the south of Uhle. At this time, the economic emphasis of the state was placed on developing and expanding the local irrigation network into a viable life-support system for the city, presumably to a point well beyond simple autarchy. That is, agricultural surplus from the immediate hinterland formed the wealth of the nascent state.

However, at some point around A.D. 1100, Chan Chan and its productive rural hinterland experienced a catastrophic episode of El Niño-induced flooding that effectively destroyed the sustaining network of irrigation canals on the pampas to the north of the city (Moseley, this volume; Nials et al. 1979: 4–14). Not surprisingly, this disaster forced a reorientation of the state's extractive economy, and it is at this time that we see evidence for the first phase of Chimu military expansion recorded in the dynastic chronicles. (See Table 2 for a graphic representation of the suggested correlation of dynasties and conquest events on the North Coast of Peru implied here.)

We have identified this initial phase of conquest with the reign of Ñançenpinco, the third ruler of Chimor, which spanned the period between A.D. 1150 and 1200 (Moseley and Kolata n.d.). At this time, the prime source of economic stimulus shifted from parochial exploitation of local resources to a parasitic extraction of foreign resources. Extensive revenues in the form of taxes levied in the five valleys subjugated by Ñançenpinco flowed to the capital. This new wealth was directly reflected architecturally at Chan Chan in the construction of Tello and its annexes and various small units of intermediate architecture and, at a somewhat later date, in the

TABLE 2. A SUGGESTED CORRELATION OF DYNASTIES AND RECONSTRUCTED HISTORICAL EVENTS ON THE NORTH COAST OF PERU.

| A.D. | Major Regional Events | Lambayeque Valley Sequence: King List | Lambayeque Valley Sequence: Local Events/ Architecture | Jequetepeque Valley Sequence |
|---|---|---|---|---|
| | Spanish Conquest | Xecfuinpisan | Spanish Administration | Spanish Administration |
| 1500 | Inca Conquest of Coast | Fallenpisan<br>Cipromarca<br>Chullumpisan<br>Llempisan | Inca Administration | Inca Administration |
| | | Oxa | | |
| 1400 | | Palesmassa | | |
| | | Pongmassa | Chimu Conquest of Lambayeque | |
| 1300 | Phase II of Chimu Conquest | | Late Phase: Chornancap | |
| | | ? | | |
| 1200 | Phase I of Chimu Conquest | | | Farfan Established: Seat of Administration for Chimu Governor "General Pacatnamu" |
| 1100 | Great Chimu Flood | Fempellec | Flooding in Lambayeque: Batan Grande Complex | |
| | | Acunta | | |
| | | Lanipatcum | | |
| 1000 | | Llamecoll | | |
| | | Mulumuslan | | |
| | | Nofan-Nech | Middle Phase: Chotuna/Chornancap | |
| | | Allascunto | | |
| 900 | | Cuntipallec | | |
| | | Mascuy | | |
| | | Llapchilulli-Cala | | |
| 800 | | Cuntipullec-Nor-Escuñain | | |
| | | Cium and Zolsdon | Early Phase: Chotuna/Batan Grande | |
| 700 | | Naymlap and Ceterni | | |
| | | | Pampa Grande: Moche V Capital | |



| Chan Chan/Moche Valley: King List | Chan Chan/Moche Valley: Architectural Sequence | | Viru/Casma Valley Sequence | A.D. |
|---|---|---|---|---|
| | Effective Abandonment: Chan Chan | | Spanish Administration | |
| | Chiquitoy Viejo: Chicama | | Inca Administration | 1500 |
| | Rivero | | | |
| Minchançaman | Tschudi | | | |
| | Bandelier | | | 1400 |
| | Velarde | Huaca Dragon | | |
| ? | | | | |
| | | | Manchan Established: Casma Valley | 1300 |
| | Squier | | | |
| Ñançenpinco | Gran Chimu | Huaca Calavario | V-124A Established: Viru Valley | 1200 |
| | Laberinto | | | 1100 |
| | Tello | | | 1000 |
| Guaricuar | Uhle | | | |
| Tacaynamo | Chayhuac | | | 900 |
| | Huaca Higo | Huaca Tacaynamo | | |
| | | | | 800 |
| | | | | 700 |
| | Galindo (Moche V) | | | |

quantum leap in storage space allocated in *ciudadela* Laberinto. Tello and the less-imposing intermediate architecture were built to accommodate high-status members of the expanding bureaucracy that was formed to manage the economic and political affairs of the newly gained provinces. The impressive number of storerooms in Laberinto were built to accommodate the massive influx of portable wealth, probably in the form of high-status goods such as fancy textiles, precious metals, and the like, that was being extracted in tribute from the conquered provinces.

At the time Laberinto was occupied (ca. A.D. 1150–1200), the lords of Chimor were actively engaged in restoring Chan Chan's damaged local system of intensive irrigated agriculture. But, as has been demonstrated elsewhere (Ortloff et al. 1982), this attempt, which took the remarkable form of cutting the massive La Cumbre, or intervalley canal, ultimately ended in failure, and the irrigation system never again reached the peak of efficiency gained in Early Chimu 1 times. In fact, current evidence indicates that by about A.D. 1400 (Late Chimu 2), the local irrigation system had all but atrophied.

The second great campaign of military expansion, the conquest of Lambayeque, began between A.D. 1300 and 1370 (Late Chimu 1 phase). With the annexation of this great province, new wealth again began to flow to the capital, and again conquest triggered a new, even more vigorous program of construction activity in the city. In Late Chimu 1 (A.D. 1300–1400), Velarde and then Bandelier were built. But more important, for the second time, SIAR and intermediate architecture began to expand rapidly, particularly around the Velarde palace compound (J. Topic 1982, this volume). This expansion continued and intensified during Late Chimu 2. It was during this phase that the SIAR attained its maximum expanse (J. Topic n.d.), and more than 65 percent of all intermediate architecture was constructed (Klymyshyn n.d., 1982; Kolata n.d., 1982).

Unlike the first burst of construction activity after Early Chimu 2, the second surge, during Late Chimu 1–2, did not include a radical expansion of storage space in palaces. In fact, as indicated in Figure 16, the total area occupied by storerooms decreased. But this does not necessarily signal a massive decline in economic productivity.

First, it should be noted that there was a redistribution of storage space at this time. That is, the increase in intermediate architecture, much of which contained storeroom complexes, may have compensated for the decline in palace storage space. Moreover, I would suggest that after the annexation of Lambayeque, there was a reorientation of the state economy that involved a change in emphasis on the types of goods being stored in the palace enclosures. Specifically, after Late Chimu 1, the items stored in the *ciudadelas* were exclusively high-status goods: textiles, gold, silver, and the like—particularly those gained from the provinces of Lambayeque where metal-





working was a long and well-established tradition (J. Topic n.d., this volume; Topic and Moseley 1983; Shimada, this volume).

Prior to this time, as I have noted, palace storerooms show considerable dimensional variability. Although there is no direct evidence, I think it plausible that the contents of these storerooms also varied considerably. Before the conquest of Lambayeque, variation in storeroom size in the enclosures implies that some of the larger storerooms they contained were used for bulk storage, perhaps for agricultural produce, while the smaller storerooms were reserved for high-status goods. After this time (A.D. 1300–1350), palace storerooms became smaller and increasingly standardized in dimensions. By inference I would argue that the contents of these storerooms also became standardized; that these uniformly sized storerooms now contained exclusively precious, elite commodities.

As I see it, the economy of Early Chimu Chan Chan was based on exploitation of local agrarian resources. With the conquests of Early Chimu 2, a "dual economy" that drew revenue from both local and foreign sources was instituted. The wealth of this dual economy, consisting of both agricultural surplus and portable, elite items, was deposited in the newly expanded storage facilities of the great enclosures. However, by the Late Chimu 2 Phase, one aspect of that dual economy, the local irrigation system that had provided agricultural surplus, atrophied from the combined effects of severe local tectonic uplift and the early El Niño flooding (Moseley et al. 1983; Ortloff et al. 1982). It appears that after the failure of the intervalley canal to reactivate the destroyed network of irrigated fields, the Chimu made no further serious attempts to restore or expand permanently the local agricultural landscape. I would contend that the annexation of Lambayeque in Late Chimu 1 marked the beginning of a trend toward increased reliance on revenue extracted from foreign provinces—an economic reliance that came to be expressed architecturally in palace storeroom size, contents, and decreased variability.

In short, changes in the essential character and emphasis of the Chimu state economy were reflected in the architecture of Chan Chan. These changes, in turn, describe a trend that, in the light of specific historical events (the initiation of extra-valley conquest in Early Chimu 2, El Niño devastation, tectonic uplift of the agrarian landscape) makes eminent sense: initial dependence on the local agrarian economy, to initiation of the dual economy [a mixed agrarian and tribute-based economy], to ultimate reliance on economic stimulus through extraction of foreign resources. In a sense this progression, paralleled in the architecture of Chan Chan, is a compact paradigm for the social history of Chimor. At the focal point of this progressive change in state economy, a change that continuously altered the shape of the city, was an intensifying emphasis on military expansion as a prime source of revenue.

*Social Differentiation*

The second social force transforming the urban landscape through time was increasing status differentiation within the ruling hierarchy. Specifically, I believe it is possible to infer from certain modifications in the architecture of Chan Chan that there were two important and complementary changes in the political structure of Chimor: (a) the person of the king became increasingly distinguished in status and authority from the other members of the ruling elite and (b) the class of the ruling elite itself greatly expanded and became increasingly complex over time. These changes in status relationships, essentially a restructuring of the governing hierarchy, substantially altered the form of the monumental architecture: palaces and their annexes.

There were several modifications to the palace enclosure and its interior architecture (*audiencias,* storerooms, burial platforms, and patterns of access) that directly reflect heightened "social distance" between the king and his subjects. Perhaps the clearest of these is the change in the internal design of the palace to a sectorial, tripartite form, accompanied by the gradual redistribution of administrative structures within these sectors.

As we have seen, through time, the central sectors of the enclosures became increasingly insulated from the administrative activities associated with *audiencia* courts. As the public activity of administration was progressively removed to the northern sector and annex of the *ciudadelas,* the central sector became an increasingly private space, fitted only with one or two large *audiencia* courts, storerooms, and, ultimately, a burial platform. The central sector was almost certainly the specific locus of residence for the king and perhaps for principal court attendants and a harem as well. (An analogous identification of specific royal residence may be seen in Inca palaces where the king's quarters were located towards the "back of the enclosure" [Brundage 1967: 80].)

The increasingly physical isolation of the central section—the king's residence—from public activities was a direct spatial expression and symbol of increased social differentiation between the king and his subjects. In fact, the physical boundary that was being drawn between the central sector and the rest of the palace enclosure resulted from the evolution of a very specific institution: divine kingship.

We know that divine kingship was a prominent feature of Chimor on the eve of its conquest by the Inca (Rowe 1948). But when did this institution appear? Was it a characteristic of Chimu social organization from the beginning? I believe that the architectural evidence from Chan Chan shows that divine kingship was not a fixed and permanent feature of the political structure of Chimor, but rather only gradually evolved as the principal institution around which the political system came to be organized. Furthermore, this same evidence suggests that the concept of divine kingship crystallized





relatively late, at some point after the subjugation of Lambayeque around A.D. 1350–1370. It was at this time that access to the central sector was severely restricted. It finally had become inviolate to the public, it was the locus of the sacred. It was at this time that the pattern of "one king-one palace-one burial platform," perhaps reflecting the principle of royal succession by split inheritance, became manifest in the architecture.

Prior to the Lambayeque conquest, palaces were less standardized in overall design and interior architecture. Several appear to have housed more than one king and were occupied for a number of generations (Moseley and Kolata n.d.). All had administrative structures more evenly distributed throughout the enclosure. These patterns imply that effective political power was also more evenly distributed at this time, or at least had not yet been focused as sharply in the person of the king.

Expansion of the ruling hierarchy seems to have occurred episodically after major campaigns of imperial conquest. Clearly, annexation of foreign provinces opened up increasing numbers of managerial positions. Not surprisingly then, construction of residences for these new bureaucrats (the presumed tenants of intermediate architecture) also increased substantially after each episode of conquest.

In addition, the gradual development of elaborate northern annexes to the palaces, annexes incorporated as wings of *ciudadelas,* and the more imposing units of "high" intermediate architecture, all point to progressive status differentiation within this growing elite class of managers. The Chimu solution to this complexity was to develop a clearly articulated political hierarchy in which each position was ascribed distinct obligations, privileges, status, and authority. These positions were probably hereditary, and vertical movement in the hierarchy was rare. Likewise, these positions enjoyed specific rights of residence: in late Chan Chan, the nobles of highest rank and authority probably resided in the elaborate northern annexes of the palace enclosures (present in Gran Chimu, Velarde, Tschudi, and Rivero) and there engaged directly in the daily administrative duties most closely affecting the king. Nobles of lesser rank and with fewer responsibilities were housed in various kinds of intermediate architecture, again arranged in a hierarchy determined by ascribed position.

I think it now is clear that both military expansionism and heightened status differentiation were among the prime determinants of change in the form of Chan Chan; the former, in particular, was responsible for change in the configuration of SIAR and intermediate architecture, while the latter altered the form and distribution of activities in the palaces and their annexes. These two social phenomena were interrelated in that economic expansion brought on by military conquest created new positions of authority that were located in an increasingly complex hierarchy of political power.

Furthermore, the specific evolution of divine kingship, perhaps with the attendant principle of royal succession by split inheritance, was accompanied by an emerging ideology of conquest. That is, by the time the institution of divine kingship had fully developed in Late Chimu I, military conquest had become both a prerogative and an obligation of the king. Conquest itself was justified by appeal to religious ideology. It was a sacred function of the divine ruler. Although sanctioned by religion, the underlying impetus to military expansion was economic. By the time divine kingship had fully evolved, the local agrarian economy had contracted severely, never fully recovering from the devastating impact of tectonic uplift and El Niño flooding. The transition to emphasis on an extractive tribute economy was complete. It is perhaps not simple coincidence that the institution of divine kingship finally appeared at a time when significant growth in the state economy had become dependent upon annexation and taxing of foreign provinces.

### DEVELOPMENTAL TRENDS: AN OVERVIEW

The changes in the form of Chan Chan are an architectural document of the origins, expansion, and ultimate contraction of the Chimu state and the empire it controlled. Trends in the development of the architecture draw a portrait of bureaucratic state organization forming gradually, but becoming increasingly complex, and subject to episodic reformation through time. The principal force underlying growth in the size and complexity of the state was change in the economy, particularly that caused by military expansion.

The focal point of the state economy was the *ciudadela*. It was the residence of the royal dynasty, the seat of government, and the locus for the storage and redistribution of the kingdom's wealth. Through time, the *ciudadelas* and the structures they contained became increasingly standardized in form and function. This standardization was a reflection of the gradual growth in political and economic power vested in the king and his lineage that culminated in the emergence of the institution of divine kingship.

The development of intermediate architecture and SIAR was directly dependent on growth in the state economy; the varying economic and political fortunes of the kings of Chan Chan, ruling from their *ciudadelas,* determined the size and configuration of this architecture. The *ciudadela* and its supporting architecture were linked in a system of growth. This system was shaped primarily by forces in the political economy. Change in the state economy occasioned change in the political structure that managed this economy. Thus, through time, the urban concept of Chan Chan assumed different forms.





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