THE THROAT OF THE CHAO VALLEY: LOCAL DECISION MAKING AND CHIMU HEGEMONY AT THE SANTA RITA ‘B’ COMPLEX

by

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ABSTRACT

Until only recently, archaeological research in the Andean area typically focused upon the core areas of the more well-known polities, with little attention upon rural administration. Even in those instances where peripheral studies occurred, they were informed by inadequate conceptual frameworks that minimized local autonomy and agency.

This thesis employs a modified World Systems perspective in the examination of the rural Santa Rita ‘B’ complex, located in the oft-overlooked Chao Valley on the North Coast of Peru. With some 2500 years of more or less continuous habitation, and its location at the ‘throat of the valley’, the site presents an ideal location for the study of crosscutting sociopolitical networks. Processes of exchange, interaction, complexity, and sociopolitical organization are examined relative to the built environment, with data gathered through a systematic surface survey.

This abstract accurately represents the content of the candidate’s thesis. I recommend its publication.

Signed

Tammy Stone
DEDICATION

This thesis is dedicated to my family. To my daughter Dineá, still shy of her one-year birthday, and just starting to walk. All smiles and laughs, and with brown eyes full of wonder. To my son Tucker, who tells me he is not interested in archaeology, but instead wants to be a paleontologist! Thank you both for all the play breaks! To my wife Michelle, ahéhee' nishshóní amá dóó asdzáán. Thanks for everything! To the mother of all mothers; my mother. I know how hard you toiled to give your children a chance like this. Thank you! To my Peruvian brothers and sisters, who shared their world with me and gave what little you had. I hope I can do the same for you someday. Lastly, this thesis is dedicated to the descendants of the ancient ones I have written about. I hope you will forgive my stumbles and know that I moved amongst your ancestors with the utmost care and respect.
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CHAPTER 1

RESEARCH OBJECTIVES

The objective of this research is to investigate a number of subjects of interest to the field of archaeology in general and the study of peripheral/rural locations in the Andean region in particular. Data for this thesis was collected during the summer of 2003 at the Prehispanic Santa Rita ‘B’ Complex (SRB), located in the Chao valley on the North Coast of Peru. This chapter begins by presenting the main research questions and their relevance to the discipline, followed by a brief overview of the site and the structure of the thesis.

Research Questions

This study examines questions relating to intersocietal exchange and interaction, along with complexity and sociopolitical organization, and as such, the assumptions associated with each are briefly considered, with a more thorough treatment to follow in Chapter 2 Theory. This thesis research repeatedly revolves around the concept of exchange and interaction, and while there is a definite materialist component to consider, it is recognized that exchange as a generalized term is embedded within the broader contexts of the communication of ideas, symbols, and class distinctions (Cherry 1986; Hodder 1982; Sabloff 1986). To increase the specificity of this study, both the material and intangible aspects of exchange are distinguished. Intersocietal exchange within the context of this research refers to the trafficking of goods between two or more social/political units, or rather the economic/material movement of wares.
Conversely, intersocietal *interaction* refers to the social/political exchange of information or ideas beyond material objects alone that may also occur when two or more distant societies engage or collaborate. Secondly, it is assumed here that complexity refers to the degree of centralization and organization of political power whose structure in turn affects resource acquisition, intersocietal exchange, and interaction. Lastly, the form of sociopolitical organization is understood within the context of this research to be the cumulative outcome of intersocietal exchange, interaction, and complexity. Where this is not an exhaustive listing of possible influences to organizational forms, it is argued that processes of intersocietal exchange, interaction, and internal complexity assume primacy in influencing social and political developmental trajectories.

This study is comparative in nature and employs multiple scales. It is maintained that the comparative analysis of societies at a large scale requires a consideration of various dimensions of internal organization such as complexity and intra-site settlement patterning at a smaller scale. In general, this study asks how SRB was organized socially and politically and how this was expressed comparably with other societies during the Late Intermediate Period (900-1479 CE). The presence and scale of this articulation are of interest as is the internal organization of the site itself. The primary assumption of this research is that no site can be viewed in complete isolation, nor do external forces wholly determine local form. Rather this thesis seeks a balance between both and as such employs multiple scales of analysis to answer both small (local) and large (intersocietal) questions, which in turn are informed by multiple scales of theory. The following are the specific research questions this study poses, each of which generates testable hypotheses.

This study considers the economic and material processes of intersocietal contact and asks whether the study area participated in exchange during the Late Intermediate Period. If non-local goods are present, are they culturally, geographically, or temporally diagnostic? In other words with whom, from where, and during what
timeframe did SRB participate in intersocietal exchange? Does one source dominate the material assemblage, or did exchange take place with a variety of cultures, and locations? What was the scale of this exchange? If peoples within the study area participated in intersocietal exchange, were the imported material goods preciosities, utilitarian, or both? Are intrasite patterns in the distribution of imported goods present, and is there a spatial organization of intersocietal exchange at the site? Did local production of material goods occur, and if so does its spatial patterning suggest the political nature of its control, or lack thereof? Lastly, is the material assemblage consistent with those seen at periphery nodes in the classic World Systems scenario, or does it fall somewhere else along a continuum of possible exchange organizational forms?

The second set of questions revolves around the concept of intersocietal interaction, or the social exchange of information or ideas. This information exchange, while more indefinite than portable material assemblages, may be reflected in a number of intrasite variables to be fully elaborated upon in Chapter 5 *Archaeological Indicators*. Many of the queries relative to exchange are interchangeable here. Do local interactional typologies exist, and if so do they conform to those expected at classic World Systems peripheral locations or fall somewhere else along the continuum between core control and local agency? If the latter is the case, can this positioning be established comparatively with other rural North Coast site locations?

The next series of queries consider the nature of complexity evident at the site. Were differences in status, rank and prestige present at SRB? Does the site reflect a high measure of centralization and organization of political power or was leadership more evenly distributed? In other words, are there spatial patterns of exchange or interaction associated with centralized or disbursed leadership? Is there evidence of previous historical developments (i.e. Middle Horizon material economic, ideational,
political manifestations, etc.) that may have influenced later trajectories of complexity and subsequent local sociopolitical organization?

Finally, this thesis concerns itself with the sociopolitical organization found within the study area. Based on the analysis of intersocietal exchange, interaction, and complexity what sociopolitical form(s) can be inferred for SRB during the Late Intermediate period at the height of Chimú hegemony along the North Coast? Was the rural study area relatively isolated from Highland and Coastal political, economic, and social processes, integrated within a classic World System, or situated somewhere along a continuum of possible sociopolitical forms? If evidence exists that it did take part in a larger sociopolitical system, was it dominant or subordinate, or did its placement again fall somewhere along a continuum of possibilities?

Implications of Study

Throughout the years, Andean archaeological research has garnered substantial insights into Peru’s Prehispanic cultures, covering broad chronological timeframes, and situated within multiple scales and conceptual frameworks. At least until fairly recently most research focused upon the perceived center of the more famous polities such as the Inca, and their immense architectural constructs. These core-centric tendencies are understandable within the context of shifting conceptual frameworks in the discipline of archaeology. The endogamous stress in terms of sociopolitical development was a reaction against earlier implausible exogamous migration and diffusion explanations, yet it is argued here to be a no less extreme dichotomous opposite. Local developments must be examined at least partly in terms of conditions of access to external sources of exchange and interaction while still acknowledging the role of internal dynamics and agency. This study employs multiple scales of analysis and eschews either-or explanatory frameworks, while seeking a more balanced approach.
While a great deal of peripheral research has been conducted relating to the Inca polity, the North Coast Chimú rural environs remain largely unexplored. Beyond the tendency to focus exclusively on the core, this also reflects the overall scarcity of ethnohistorical data concerning intersocietal exchange and interaction, complexity and sociopolitical organization prior to Inca control. In addition, archaeology has lacked adequate conceptual frameworks to address these particular types of issues. This thesis employs a modified World Systems or Core/Periphery relations theory as the overarching conceptual framework. The modified assumptions shift the focus to the periphery and in this case, a single community that may or may not have been part of a World System. In reality, this is not a World Systems project per se, but one that recognizes the value of its basic tenets in considering such neglected rural locations. The applicability of this modified approach for a single site is discussed more thoroughly in Chapter 2 Theory.

While one site provided the data presented here, this thesis is comparative and draws from other research on the North Coast and its rural locations. Notwithstanding Gordon Willey's pioneering settlement pattern analysis of the Virú valley, and a recent increase in North Coast rural/peripheral research, little is yet known about political control in the hinterlands, rural decision-making structures, or the mechanisms of exchange or interaction. This is a baseline study intended to further an understanding of these issues, to begin to fill in the sizable knowledge gaps, and to integrate the oft-neglected Chao Valley into a meaningful archaeological dialogue. The intention is to provide a foundation for future investigations of peripheral locations, and to compliment and further the existing work being carried out by Dr. Jonathan Kent and his ongoing project at SRB.
The Santa Rita ‘B’ Complex (SRB)

While a more detailed description of the study area and the work that has been conducted there is presented in Chapter 3 *Environmental, Historical, and Archaeological Background*, this section will briefly consider the factors that make SRB conducive to this type of research.

Aerial photographs, informal pedestrian reconnaissance, and Kent’s research suggest that the types of monumental architecture and urban centers characteristic of the lower valley and its neighbors are absent here. The Rio Chao is an ephemeral drainage, which does not appear to have attracted the imperialist ambitions of Middle Horizon, or Late Intermediate polities in the scale that the Viru, Santa, and Moche Valleys did. Despite its relative proximity to the Moche Valley and Late Intermediate core area (40 km.), it is relatively isolated and rural. Notwithstanding this lack of large-scale constructions, the favorable location of the site at “la garganta del valle” (the throat of the valley) is conspicuous in the sense that it may have played a role in Coastal/Highland exchange and interaction. Indeed, contemporary peoples pass from one environmental and cultural zone to the other there today. Additional ethnohistoric sources, while fairly limited when compared to later Inca (Late Horizon) periods, also provide insights into Late Intermediate Chimu sociopolitical organization, hinting at redistribution systems heavily reliant upon similar types of rural peripheral settlements to perform specific functions (Moseley and Day 1982; T. Topic 1990). Its favorable geographic setting may also have served in a strategic sense by delineating one polity or ethnic group from another. Therefore, at the very least, the site has the potential to shed light upon the internal organization of ancient Andean rural locales, as well as larger scale intersocietal exchange and interaction systems.

Despite the lack of visible large Prehispanic constructions in the upper and middle Chao Valley, there are a number of known sites in the valley. SRB itself has a
considerable distribution of surface architectural remains and material assemblages, some of which have been assigned to the Chimu polity. At the time of this research, no valley-wide survey, nor systematic evaluation of the built forms at SRB had been undertaken.

The Late Intermediate period militant expansionist Chimu polity, or the Kingdom of Chimor as it is referred to in ethnohistoric sources, administered and governed from its core of Chan Chan in the Moche Valley a territory covering over 1000 km along the North Pacific Coast of modern day Peru (Mackey 1987). The Chimu controlled the Coastal desert zone into which the Rio Chao drained, though it is unclear how far up in the valley they sustained their hegemony. This temporal setting was the focus of this study for a number of reasons. With a potentially long habitation span and associated palimpsest, it became necessary to consider the last indigenous occupation that influenced the study area as an initial step of research. Despite the nearby village of Santa Rita, contemporary people tend to build their small homes near viable agricultural land or water, neither of which is found within the material core area of SRB. Nor do there appear to be any identifiable remains of colonial period structures built by early Spanish conquerors here either, though their presence and/or influence has been inferred through the sporadic occurrence of colonial pottery sherds recorded in the local material assemblage (Kent 2001). Late Horizon Inca ceramic wares have been found here as well, and while this large polity undoubtedly administered and controlled the area to some extent following their conquest of Chan Chan (1460-1470 CE), no Incan architectural forms have been identified (Moseley 1990). For that matter there does not appear to be much evidence for a direct Inca occupation of the North Coast itself (Donnan and Mackey 1978). The prevailing consensus is that the local people of the upper northern valleys largely remained in place while the Incan empire administered from afar during its short-lived preeminence. This political arrangement allowed the inhabitants of SRB to continue building domestic Chimu-like structures (assuming Late Intermediate Chimu
hegemony), though monumental administrative architectural projects throughout the conquered territory ceased with the fall of the political center of the Chimu (Moseley 1982; Klymyshyn 1982; Donnan and Mackey 1978). Lastly, the majority of pottery sherds recorded by Kent and his colleagues have been assigned to the Late Intermediate period, and based on what is known of Chimu political control, it seems likely this polity influenced SRB in terms of construction and settlement patterns more directly than any later polity.

In 1571, the indigenous inhabitants of the site and the Chao Valley as a whole were forcibly removed to the Reducciones, which were concentrated settlements of the formerly dispersed populations established by the colonialists to facilitate control and exploit labor (Topic 1990). Thus, the architectural assemblage is decidedly advantageous to this study in that no further building episodes after the Late Intermediate Period have been confirmed at the time of this study. This does not imply the archaeological record here is frozen in time, but rather that the abrupt removal of the local populace from their homes and the cessation of any further building activities resulted in the excellent preservation of the architectural and material assemblages. In addition to fixed architecture, semi-fixed and non-fixed elements are generally assumed to be in the same locations in which they were used or deposited, though this is evaluated on a case-by-case basis and discussed in greater length later.

Lastly, this thesis posits that architecture constitutes the primary evidence for the organizational principles of ancient North Coast polities, and there is an abundance of archaeological data relating to Chimu architecture at core and periphery locations in neighboring valleys (Conklin 1990). Extensive survey and excavations have taken place at several peripheral sites and surrounding areas, as well as within the Chimu core capital of Chan Chan, and this allows for a comparative architectural analysis (Keatinge 1975; Moseley 1990). So too, recent Chao Valley research at the sites of Cerro Santa Rita, and Cerro La Cruz provides additional comparative data (Van
As a final point, the focused excavations by Kent and his project within certain Chimú architectural contexts, provides a ready source of accessible supporting data for this study.

Thesis Structure

The arrangement of this research follows the following format:

Chapter 2 Theory details the theoretical assumptions of this study. Following a more exhaustive discussion of the research questions, the World Systems theory and its proposed modifications and alternatives are reviewed, and a modified version appropriate for this research is advanced. An overview of the concept of complexity is then presented along with its relevance to sociopolitical organization and theoretical assumptions applicable for this research. Lastly, this study advances a working framework for SRB based on a review of assumptions regarding architecture as a primary means for understanding sociopolitical organization.

Chapter 3 Environmental, Historical, and Archaeological Background provides an overview of the site and the study area. This includes a discussion of the geographic and environmental context along with the history of archaeological investigations, both of which are considered in descending scale from the larger region to the site itself. The chapter concludes with an overview of the known chronological sequences of both the North Coast of Peru and the Chao Valley, the latter of which remains largely incomplete.

Chapter 4 Cultural Chronology advances the generalized Prehispanic chronological sequence that is to be used throughout this study, and discusses those polities that are thought to have affected the archaeological record during these periods. In this way, the site of SRB is placed within the context of regional Andean developments.
Chapter 5 *Archaeological Indicators* provides a discussion of the various classes of archaeological material and how they are used in this study to infer the presence and nature of intersocietal exchange, interaction, complexity, and sociopolitical organization.

Chapter 6 *Field Investigations* describes the field methods used to gather the data needed to address the research questions relevant to this project, and the manner in which each variable of interest was recorded.

Chapter 7 *Results* organizes all recorded variables into fixed, semi-fixed, and non-fixed data categories, which represent the three main types of material culture of concern in this study. In short, this presents the data in a way that permits the subsequent examination of context and association.

Chapter 8 *Analysis* illustrates the statistical manner in which the collected data was examined for its association to space and time, and advances interpretations of the results relative to the research questions that have been asked.

Chapter 9 *Conclusion* concludes the research and summarizes the main findings and implications of this study.
CHAPTER 2

THEORETICAL APPROACH

To gain an understanding of the nature of intersocietal interaction and exchange, complexity and sociopolitical organization at SRB, it is necessary to situate this research within a conceptual framework capable of addressing these issues. In addition to specifying the appropriate questions, this framework must encompass consistent and interrelated systems of assumptions that denote variables of consequence to the research, and set the standards for their interpretation (Kuhn 1970). At the most general level this research is guided by the assumption that either/or dichotomies, typically used to designate sites like SRB or processes like intersocietal exchange/interaction, obscure variable organizational forms by forcing them into rigid terminologies. Instead a continuum or spectrum of forms is conceptualized, and this allows for a more nuanced understanding of peripheral/rural locations such as SRB to emerge. Thus SRB as a 'type' relative to exchange, interaction, complexity, and sociopolitical organization can be derived, compared and contrasted to other archaeological sites, and a more clear picture of Prehispanic complex sociopolitical patterns becomes possible.

With this assumption in place, this thesis develops a modified World Systems theoretical approach for the study of this peripheral/rural locality, and exploration of important intersocietal themes. The assumptions and expectations associated with its components (core, periphery, semi-periphery) allow these elements of interest to be explored and tested. There are a number of assumptions, for example, relating to the exchange of material goods that are associated with the World System component locations, as there are for intersocietal interaction, complexity and sociopolitical
organization (see Chapter 5 *Archaeological Indicators*). These assumptions allow models to be used that elucidate specific expectations in the cultural assemblage found in this range of locales, which are then compared and tested against SRB. In this way, its placement on a continuum of possible organizational forms, roles, and responses to both internal and external influences can be derived.

The World Systems theory is defined here in its broadest sense, to be followed by an overview of several re-conceptualized approaches and alternatives to the traditional framework, and concluding with the modified version applicable to this research. Where SRB and other rural sites were traditionally homogenously labeled as the ‘periphery’ and largely ignored, the modified World Systems approach used here challenges these assumptions and provides the mechanisms whereby local agency and variability can be understood. Additionally it is also necessary to discuss the assumptions related to complexity at the local level, along with its links to intersocietal exchange and interaction, and cumulative sociopolitical organization. As previously stated, no society exists in isolation, yet none is shaped exclusively by external forces. This study considers both internal and external influences, and as such, internal complexity needs to be conceptualized for local agency to be considered. Lastly, the built environment, the primary analytical unit for this study, and the assumptions associated with it, are examined and a working framework for architectural understanding relative to intersocietal exchange and interaction, intrasite complexity, and sociopolitical organization advanced and made explicit.

**World Systems Theory**

The World Systems model, developed by Wallerstein and rooted in global political economy is often used to explain the emergence of capitalism and industrialization and the division of labor throughout the modern world (Wallerstein 1974). Nonetheless, archaeologists have used the model in the analysis of pre-
capitalist world systems, though many others remain critical of the practice (Amin 1980; Blanton et al. 1981; Chase-Dunn 1990; Chase-Dunn and Hall 1991; Ekholm and Friedman 1982; Frank and Gills 1990; Kohl 1989; Paynter 1985; Peregrine 1999; Renfrew and Shennan 1982; Wells 1999; Upham 1980; Urban and Schortman 1999). As a result, it has been variously modified from its original form, providing a range of diverse approaches to the study of intersocietal exchange and interaction (Aglaze 1993; Chase-Dunn and Hall 1991; Gottman 1980; Hedeager 1987; Rowlands et al. 1987; Schortman and Urban 1992).

The primary objective of World Systems theory is to examine interregional relations on a large scale to determine how the processes of the system affect the internal dynamics and social structures of its components, and how these changes in turn affect the entire system (Hall 1996). In other words, it seeks an understanding of the intersocietal connections that affect social evolution (Hall 1999). It is systemic in nature since events in one locality may have important consequences in the development, reproduction, or change in the sociopolitical organization of another. This system exhibits a division of labor that has a spatial/geographic component characterized by shifting boundaries, and where unequal exchange promotes core development and periphery underdevelopment (Hall 1996; Kohl 1989).

The world system is characterized by three hierarchal components of the division of labor: the core, the semi-periphery, and the periphery. It is assumed that the dynamic tension and competition between all components can cause change based on the relative position of each within the overriding network (Wallerstein 1974). The unit of change is the world system, not the individual society, providing the large scale milieu within which social relations are to be understood (Wallerstein 1974).

Proponents of this approach view the core as highly organized politically and administratively, with efficient high-tech industrialized production and distribution (Ratnagar 2001). By means of a strong military and bourgeoisie, entrenched elites, and a large and skilled working class, the core manufactures the raw material it
extracts from the periphery into finished products that it then sells back to the periphery at a profit (Schortman and Urban 1994). Core areas are politically and economically dominant, though the focus in World Systems theory tends to be manifest through aspects of economic control (Trigger 1989). Undeniably, the core serves as economic center or heartland of the world system, though it in turn may or may not be geographically centered.

Inhabitants of the periphery specialize in raw material extraction and the production of lower ranked goods. This production is low-tech, less efficient, and performed by a large unskilled working class and a small but strong bourgeoisie (Ratnagar 2001). These components are weak, poorly organized, and their exploitation by the core leads to a lasting state of underdevelopment (Ratnagar 2001). The periphery is on the fringe of the world system representing the furthest extent of the economic network, though here again it may or may not be positioned at a distance from the core, and might rather be on the political edge of the system.

Lastly, situated somewhere between these primary nodes is the semi-periphery. This area is treated by Wallerstein as almost an afterthought, and is ambiguous and poorly defined. The semi-periphery is transitional, and shares characteristics of both the periphery and the core, while continually striving to achieve core status (Hall 1996).

The relationship between these three components is characterized by interdependence, at least in theory, and the socioeconomic developments in all are constrained by their role within the larger world system (Trigger 1989). The exchange of bulk goods through variable means of production has important systemic effects, though preciosities are thought to be minor and not a source of potential change or development (Chase-Dunn and Hall 1993). Varying defensive and competitive strategies in response to core dominance fuels systemic change in the periphery. Conversely, change in the core is in response to periphery opposition, where the core actively invests in counter resistance, or when a population’s social
institutions change to meet fluid demands (Wallerstein 1974). All change is ecological as well, with the environment influencing both the ability to resist core dominance and to specialize to changing demand, and all are historical as past roles of resistance or submission influence the development and trajectories of institutional structures.

The traditional World Systems theoretical framework assumes that the political and economic boundaries of ancient empires coincided with core administrative control, which in turn was facilitated by tributary relations throughout an entire politically unified area (Schneider 1977). Intersocietal labor divisions are thus situated within a sole overarching centralized polity (Chase-Dunn and Hall 1993:854). On the other hand, modern world systems are viewed as a world-economy with intermittent political integration where the division of labor occurs within the context of multiple components of disparate and competing states (Schneider 1977). Further, it is assumed that the ancient world had relatively few bulk commodities, and the intersocietal exchange of preciosities was predicated upon social values and relations, whereas the modern world system is motivated rather by the maximization of net returns through regulated market structures (Ratnagar 2001).

Proponents of the World Systems approach argue it is a more useful conceptual framework for understanding intersocietal relationships than improbable culture area and unilineal evolutionary models. Neither of the latter are thought to be capable of addressing the social contexts under which groups established connections with one another, nor the potential structural/organizational impact of these interconnections (Blanton and Feinman 1984; Edens and Kohl 1993; Paynter 1985; Upham 1980). Early state formation must be seen as at least partly a product of differing levels of world economies at differing levels of development, rather than solely the result of internal processes of diffusion or social differentiation (Chase-Dunn and Hall 1993). Additionally, the World Systems shift to a historical emphasis is thought to provide a more realistic understanding of social interactions and systemic change. Supporters
further celebrate the move beyond the regional scale in the comparative analysis of polities, and the decreased emphasis on ecological factors as the sole effect upon sociopolitical development and organization (Blanton and Feinman 1984). The focus upon intersocietal connections at the world system level and not the individual society is thought to be more conducive in allowing the particular roles of the peripheries to emerge (Chase-Dunn and Hall 1993). Likewise, the study of ancient world system transformations through a comparative approach allows an understanding of the reproduction of basic structural features. Indeed, it is assumed that such structural continuities exist between the ancient and modern world, making the basic tenets of the World Systems model widely applicable.

Despite its appeal, several problematic aspects preclude its effectiveness.

1. It is core-centric in the sense that it assumes core dominance through a combination of military, technological, or organizational superiority; that a single core controls asymmetric relations with the periphery; and that change in the organization of long-distance exchange dominates all other aspects of the political economy of the periphery (Sahlins 1994; Stein 1998). It has been pointed out, however, that pre-capitalist polities often lacked the logistical mechanisms to dominate distant societies, and it is difficult to distinguish between a core’s true projection of power or control, and peripheral emulation (Lamberg and Karlovsky 1997; Schortman and Urban 1994). Additionally, a periphery may have multiple cores and be far from a passive recipient in exchange, setting the terms of interaction to its own advantage (Barfield 1990; Kohl 1989; Wolf 1982). Nor can it be assumed apriori that endogamous processes were primary to internal development and organization.

2. It is assumed that peripheries were less technologically advanced and produced lower ranked goods than the core (Stein 1998). Critical technologies, however, could have developed in peripheral zones based on the
abundance of necessary raw material, and thus a radical systemic restructuring of the world system could occur here as well.

3. It is implicit that clear-cut boundaries separating world systems were present in the periphery. Yet clearly defined peripheral boundaries are the exception in the archaeological record, not the norm (Wolf 1982). In the Andean region these appear occasionally, with well-defined walls observed in the Santa Valley (Kosok 1965; Proulx 1973; Topic and Topic 1978), with mortuary monuments in the highlands (Isbell 1997), or as mountains marking a group’s territory (D’altroy 2002; Hyslop 1990).

4. It is assumed that peripheries were exclusively located at the fringe of world system networks, or that they were completely incorporated and exploited by the core. The World Systems dichotomy between core/periphery and submission/resistance masks variability as the specific effects of interactions are mediated differently through local ideologies (Kohl 1989; Lightfoot and Martinez 1995; Ratnagar 2001; Schortman and Urban 1994; Stein 1998).

5. The exchange of luxury goods was not thought to be critical for sociopolitical change. It has, on the other hand, been argued convincingly that the calculated use of gift-giving served to control conflict and achieve political goals beyond that of status itself (Abu-Lughod 1989; Adams 1974; Kohl 1989; Sahlins 1972; Schneider 1977). As such, the exchange of prestige goods is evidence of the ability of local elites to monopolize preciosities that served both to stabilize and to change local power structures, and in turn affect the system as a whole in varying degrees. Their systemic importance is largely dependent on the type of world system present, and can be established comparatively (Chase-Dunn and Hall 1993). Additionally the movement and exchange of bulk goods was subject to transportation limitations in the ancient world, and if Wallerstein’s assertion that only this type of exchange was crucial is accepted, then it must be assumed that trade was of secondary
importance in pre-capitalist societies, which was obviously not the case (Wolf 1982).

6. Lastly, it is believed by proponents of a World Systems approach that more or less all societies, regardless of scale, were part of a world system. Here the indiscriminant use and application of World Systems theory to small-scale societies forces variable developmental forms into a single conceptual framework (Stein 1998). While many acknowledge that groups cannot be considered wholly in isolation, arguably there are limits to the scope and the scale of local and regional interactions that preclude the applicability of Wallerstein’s original model.

Historical and archaeological case studies have contradicted the World Systems theory on a number of fronts, and it is the position of this study that this conceptual framework cannot be used for pre-industrial societies in its current state.

World Systems Re-conceptualized

While a number of researchers agree that aspects of the World Systems theory in its original form are inadequate, they see in it the underpinnings of a comparative framework for social and historical development and change based on the assumed continuity of processes rooted in intersocietal relationships (Abu Lughod 1989; Beekman 2000; Chase-Dunn and Hall 1993; Kohl 1989; Lane 1976; Schneider 1977; Schortman and Urban 1994). These custom models tend to view World Systems theory as flexible enough to be applied to variable system types without presupposing that all operate alike, and usually entail a relaxing of some of the more problematic assumptions associated with the traditional model.

For example, some view the presumption of complete core control or unequal exchange as dubious, and while an asymmetrical relationship is still implicit in their modified frameworks, it is based upon quantitative differentiation between core and
periphery rather than outright core dominance (Beekman 2000; Kohl 1989; Blanton and Feinman 1984). These quantitative core advantages include access to greater resources, larger population size, and an increased level of sociopolitical organization, which all contribute to differential developmental trajectories. Despite these advantages, it is still recognized that no single homogenous relationship exists between components, and the periphery has its own agency and local elite competition (Beekman 2000). While the term interdependence is more appropriate in this context than domination, they do not assume complete equality or a level playing field. The rigid core/periphery dichotomy of the traditional model is also often relaxed in favor of a continuum that more accurately reflects variable dimensions of marginality and considers multiple dimensions within which core/periphery distinctions can be advanced (Schortman and Urban 1994). Additionally, many modifications recognize that core/periphery traits need not only be defined in an economic sense, but also politically and ideologically. Furthermore, these distinctive variables are not necessarily coincident, and it is thought that assuming so only serves to conceal variable complexity (Chase-Dunn and Hall 1993; Schortman and Urban 1994).

Finally, these revised models address many of the concerns and critiques leveled at the traditional World Systems approach, and in certain instances completely drop Wallerstein’s terminology itself in favor of core/periphery relations. In general, modification proponents assume:

1. The dichotomy between submission and resistance is false, as the periphery is more apt to exhibit a continuum of actions and responses,
2. Luxury goods were critical and relevant to sociopolitical organization and change,
3. The periphery may have more than one core,
4. Technology and innovation are not exclusively limited to core elites,
5. Economic interactions between poor and rich resource areas can transform
both social structures without a dominant core emerging.

World Systems Alternatives

A variety of alternatives to the World Systems theory have been proposed to gain an understanding of the nature of intersocietal exchange, interaction and the organization of pre-industrialized societies. Proponents of these alternatives believe both that the World Systems theory in its original form is deficient, and that modifications that remove many of the more problematic assumptions do so by also removing the specificity of the model as an explanatory construct (Stein 1998). Here critics argue that modified World Systems models become simply generalized interregional interaction systems devoid of analytical power, which still view external dynamics as the main structuring element of societies (Stein 1998). In general, the alternatives also consider the role of endogenous structural change, or are situated in an intermediary sense between both external and internal processes that might affect cultural trajectories and development.

Stein proposes an alternative to World Systems theory, and while recognizing the importance and influence of exchange, does not overemphasize the role of external power nor ignore internal dynamics in the periphery (Stein 1998). Here the reliance on the role of outside influences, including long-distance trade and core dominance, forms only a single modality in a wide range of potential economic relations. The author posits a balance between the assumption that exogamous factors are developmentally primary and that no single society can simply exist in isolation. The emphasis is upon organizational dynamics rather than systemic structures, though the cross-cultural applicability of the latter is not completely discounted. The focus, to a certain extent, is upon both, and Stein argues that asymmetrical relationships must be demonstrated rather than simply assumed (Stein 1998).
The Distance Parity model proposed by Stein recognizes several factors that work to structure interaction and interregional exchange at variable levels. These include the effects of distance on transportation (primary), ecological and demographic conditions, variability in regional access to necessary resources and technologies, and differential power distribution between polities (Stein 1998). Simply stated, this model assumes the core’s ability to exert power (military, economic, political) and to move goods, and suggests that instances of asymmetrical relationships diminish with the “tyranny of distance” (Bairoch 1988:11). As a result, core control over interregional exchange and interaction declines, leading to more balanced relations, local exchange, increased peripheral production, long-distance exchange in preciosities, and the motivation for core specialized export production decreases (D’Altroy and Earle 1985). The inability of the core to influence distant polities allows peripheral elites to exert more local influence, leading to a subsequent decline in the effects of interregional exchange and interaction on peripheral sociopolitical organization and development. Thus, the factor of increased distance places outlying peripheral locations on even ground (parity) with cores.

While the Distance-Parity model employs a large scale, the Trade Diaspora model is complimentary and directed towards the individual polities and internal dynamics of participating groups that are a part of the exchange and interaction network. Trade Diasporas are defined as:

“...interregional exchange networks composed of spatially dispersed specialized merchant groups which are culturally distinct, organizationally cohesive, and socially independent from their host communities while maintaining a high level of economic and social ties with related communities who define themselves in terms of the same general cultural identity” (Cohen 1971:266-267).

These specialized exchange groups, while isolated by distance in the periphery, are still able to control exchange under conditions of parity, without dominating any one polity in the relationship network (Curtin 1984). The advantage for the core is clear;
they have the ability to occupy a profitable and protected socioeconomic niche. The peripheral elites benefit as well by eliciting loyalty and dependence from the socially autonomous traders, who become closely tied to local politics (Yambert 1981). This small scale or bottom-up approach allows the endogenous processes of structural development and organization to emerge. Combined with the externally oriented Distance-Parity model, this multi-scale approach allows researchers to view the variability and organization of exchange and interaction markedly absent from the classic World Systems approach, and theoretically such variability is most often manifest in the periphery (Stein 1998).

A second example discussed here is Renfrew's Peer Polity interaction model. Here too, the model is situated somewhere between the assumptions that the main structuring elements of intersocietal interaction are either exogamous or endogenous. Renfrew also agrees that dichotomous, either/or terms obscure the dynamics of interactions among an assemblage of polities situated more or less upon equal political ground (Renfrew 1985). While acknowledgment of hierarchal dominance and exploitive relations are common enough within the archaeological record, advocates of Renfrew's model argue that these forms of intersocietal interaction have been applied uncritically and generally. The objective and value of the Peer Polity model is that it:

"designates the full range of interchanges taking place (imitation, emulation, competition, warfare, exchange of material goods and information) between autonomous sociopolitical units which are situated besides or close to each other within a single geographical region, or in some cases more widely" (Renfrew 1985:1).

There are several assumptions implicit in the Peer Polity political and social interaction model. Based primarily on early state modules and patterned after the Greek city-states, it is assumed the dynamics for change emerge from the interplay between groupings of politically autonomous centers that do not fall under the umbrella of a single unified rule. These centers are clustered, though not isolated,
and exhibit similar cultural traits despite their political autonomy. The cultural boundaries are wider than the political ones, though these tend to be shared symbols of local elites.

These two models represent just a fraction of the various alternatives to World Systems theory proposed and utilized by archaeologists throughout the world for equally diverse ancient interaction systems, though the objective here was not to review them all. They were included in this discussion to illustrate the interplay between endogamous and exogamous processes, a main focal point of this thesis and a perspective that provides a more realistic understanding of intersocietal exchange, interaction, complexity, and sociopolitical organization as opposed to those that embrace either internal or external polar extremes. The following section addresses this more fully and introduces a tailored intersocietal relationship framework for this study.

Modified perspective for SRB

It is the position here that many of the previously mentioned critiques of World Systems theory are persuasive, and that it cannot be applied in its original form to pre-capitalist societies. This thesis departs, however, from those who contend that the essential concepts of core/periphery relations extending from World Systems theory do not provide an adequate comparative framework for the analysis of ancient exchange and interaction and its effect on societal development and organization. Where Stein feels modifications that address problematic aspects of World Systems models lose their specificity as an explanatory construct, this thesis assumes that such generality rather allows the basic tenets of core/periphery relations to be applied to a variety of diverse systems without automatically assuming functional homogeneity. Furthermore, a sufficiently broad conceptual framework is required in this base-line study, with additional iterative tacking between theory and data to follow, leading to
increasingly specific models capable of addressing increasingly specific research questions.

Two fundamental questions emerge from a discussion of the applicability of World Systems theory, and its proposed modifications and alternatives. Are the characteristics and/or processes of modern intersocietal exchange and interaction analogous to those of the pre-capitalist world? Secondly, are processes of sociopolitical development and organization endogamous or exogamous?

Certainly the characteristics of ancient world systems are patently different from modern market and bulk-goods driven economies. Nonetheless the processes of core/periphery relations, embedded as they are within assumptions of asymmetrical intersocietal exchange, interaction and inequality, are appropriate for both the study of pre-capitalist societies in general and the North Coast of Peru in particular. This is not to deny the possibility that non-hierarchal, horizontally organized exchange and interaction systems may be present in the study area, but rather that such systems must be demonstrated archaeologically. Hierarchal intersocietal exchange and interaction systems are common in the study area and alternative forms should not merely be assumed. Despite presuming asymmetrical relationships, logical and consistent as they were with the known historical development trajectories of the North Coast region, and a view that best approximates current understandings of North Coast interrelations, this conceptual framework is not so rigid that it ignores variations to this theme. It is situated in the middle ground of the analogy debate where the notion of uniformitarianism, a prerequisite for generalized interaction models, is neither overriding (Binford 1980), nor inconsequential (Hodder 2000), but rather is ultimately based upon the research questions being asked.

In terms of the second question, this research assumes a systemic relationship exists among the parts of the whole. In other words, changes in one location can cause important organizational effects in another, though the extent of these effects is variable and dependent on certain factors that enable or inhibit their radiation outward
from their source. This approach does not assign primacy to either internal or external perturbations, but rather acknowledges the potential effects of both upon the processes of sociopolitical development and organization. Neither the view that systems are in a state of homeostasis and can only change through exogamous influences (Hill 1977; Saxe 1977), nor the view that endogamous processes are primary (Flannery 1972; Johnson 1982), fully capture true systems dynamics. Sociopolitical systems unmistakably do not exist in a perfect state of homeostasis, but are rather continually reacting and shifting to both internal and external perturbations (Wolf 1982). As such, this framework attaches importance to both in cultural development and seeks a balance between the impact of long-distance exchange and interaction and internal processes of complexity and sociopolitical organization.

The modified World Systems theory utilized here to conceptualize the research at SRB relaxes many of the more problematic assumptions associated with Wallerstein's original model. It is established that the exchange of preciosities can in fact produce important systemic changes in both the scale of local development and organization of individual societies and the larger exchange and interaction network(s) of which they are a part (Wolf 1982). As mentioned in earlier critiques of the original model, this is supported by archaeological data. Secondly, the initial rigid core/periphery dichotomy is abandoned in favor of a range of potential intersocietal relationships. It is assumed that no single, all encompassing relationship exists between the core and periphery, and the latter has its own agency and elite competition. The relationships are assumed to be neither exclusive, nor coincident, and while the exchange of material goods can produce important systemic effects, the materialist focus on economic factors is expanded to include political and ideological interactions as well. While an asymmetrical relationship is still assumed, it is based on quantitative core advantages (population, socio-political organization, etc.) rather than the qualitative relationships characteristic of Wallerstein's original model. In other words, a higher level of sociopolitical organization is assumed for the core that allows it to mobilize
and deploy resources more quickly, efficiently, and at a larger more sustainable scale than the periphery (Schortman 1989; Stein 1998).

This modified framework challenges the traditional notion of peripheries. In particular, the previous colonial driven model, with the assumption of clear-cut visible boundaries separating homogenous populations from others, is amended in favor of a perspective that views boundaries as dynamic zones of multiple, crosscutting cultural influences (Lightfoot and Martinez 1995; Wolf 1982). It is assumed here that such locales can provide a more accurate understanding of complexity and the dynamics of sociopolitical interactions that occurred in border areas than the study of core centers alone. The peripheries themselves are far more likely to reflect the relations of different social groups than the cores, and this approach allows their role as active agents to emerge (Donnan 1994; Sahlins 1990; Schortman et al. 1986).

In recognition of the potential variable sociopolitical relationship forms that may exist at any given time, the terminology of the traditional model is amended and expanded upon. For purposes of this research, the term empire is dropped in favor of polity. The latter refers to a culturally distinct political organization and does not presuppose the preexistence of a linear stage typology such as a state. In the context of the study area a polity is further defined in scale as that which extends beyond the level of kinship, ethnic ties, or the ayllu, the basic unit of Andean social organization, though it may not reach the state level as it is conventionally understood (Moseley 1992). Additionally the term periphery, while useful in a general sense, is expanded upon here to reflect the assumed variability of rural locations. More or less, a continuum of potential interaction network forms is recognized, and the introduction of frontiers, boundaries, and border zones establishes a typological baseline from which the archaeological record of rural sites can be compared and situated within and/or between. Frontiers are defined as the farthest extent of a polity’s territory, or the area beyond integrated sociopolitical control (De Blij 1973). This area may or
may not border another polity's territory and the nature of the delineation may be coincident (political, economic) or exclusive. Frontiers are dynamic and shift with changing political, social, and economic interactions. They are outer oriented with attention directed to unincorporated lands, and may function to separate emerging power cores. Boundaries on the other hand tend to be oriented inward and integrated with the core and developments therein, though the degree of core control may vary. This area can be thought of as a plane that divides emerging polities, though as previously mentioned they may only occasionally be clearly marked. Lastly, the term border zone refers to an area larger than boundaries themselves where two or more polities abut one another. This can be a buffer zone where clearly marked boundaries are absent (De Blij 1973).

In general, frontiers, boundaries, and border zones are characterized here as areas of low population density, consistent with the assumption of quantitative core advantages over the periphery. These areas are also more likely to exhibit fortifications and defensive features (walls, moats), though perhaps most importantly they are likely to show evidence of contact with outside groups, and thus the co-occurrence of various material cultures from multiple cultural influences. These are dynamic zones constantly shifting and renegotiated to serve a number of purposes. They can function as a line of defense or the limit of a polity's sovereignty, be boundaries of information/cultural or of luxury/bulk goods flow, or function in their own sense as an autonomous entity (Hall 1999). These locations are ideal for the study of crosscutting social networks and the effects of intersocietal interactions on cultural development and change (Lightfoot and Martinez 1995).

In addition to re-conceptualizing peripheries to include more diverse and dynamic forms that were hitherto masked by all-encompassing terminology, it is necessary to briefly discuss the assumptions associated with core control and power. With our knowledge of the core areas in the nearby Moche valley, it is logical to assume that some form of quantifiable advantages and influences were expressed and felt to a
certain extent in the nearby valleys at particular points in time. As previously stated, it is unwise to assume that the relationship between the core, and in a general sense the periphery, can be characterized as uniform throughout the dominant polity’s territory. While an asymmetrical relationship is still assumed based upon these quantifiable advantages, the nature of this control and power is variable and based upon a number of factors. Certainly one of the issues that cannot be ignored is the expansionist needs of the core (resources, populations, exchange routes, etc.), though in a departure from the traditional core-centric approaches other variables must be considered as well. These include specific environmental conditions that form barriers to complete incorporation. Stein’s Distance Parity model is useful in illustrating this context, but must be expanded beyond the diminishing effects of distance to more accurately consider the mitigating obstacle of terrain itself. In reality, few sites exist within a featureless landscape, and while they may be in closer overall proximity to the core, they are much farther in the sense of the greater energy expenditure required to reach and control them. A second important variable that enables or precludes the incorporation of a location into a world system is the form of the local sociopolitical organization already in place. Hedeager’s study of Roman peripheries provides a good example of this as the incorporation of Celtic lands was largely facilitated by their preexisting and relatively centralized decision-making structures, whereas the loosely organized Germanic sociopolitical structures provided a more effective barrier to Roman imperial expansion (Hedeager 1987). So too Wolf’s examination of Europe and the People Without History illustrates how European expansion was both enabled and constrained by groups with long histories and complex extant structures (Wolf 1982). Lastly, it is essential to consider the form and effects of intersocietal exchange and interaction from the perspective of local agency. The basic submission/resist dichotomy often projected upon traditional peripheral locations is simply not valid and obscures a potential variety of diverse forms of local sociopolitical organization. It should not be assumed that local groups
in the border zones only developed and organized themselves in *response* to the expansionist ambitions of emergent cores. Power and control are dynamic and ultimately a diachronic approach must be utilized to gain an understanding of the full range of variables that led to context specific socio-cultural development, organization, and subsequent trajectories. In other words, this research situates the theoretical approach to sociopolitical development and organization within both the larger contexts of history, power and core control and the micro-context of cultural specificity.

As previously mentioned this is not a World Systems project. The research questions and overall focus pertain to events at a single site during the Late Intermediate period. Despite this, it is recognized that SRB could not have existed in isolation, and the re-conceptualized World Systems theory as it is presented here provides a useful framework for this research. It denotes the specific intersocietal research questions that were presented in the introductory chapter, and as a model permits a comparative analysis and a basis upon which to test hypotheses. The examination of the assumptions associated with the components (core, semi-periphery, periphery) of the modified World Systems framework and their comparison to the archaeological record, allow the role of SRB and its placement on a continuum of potential sociopolitical forms during this time period to emerge. While it cannot provide an exhaustive array of possible relational structures, its modified form presents a clear improvement over the earlier overly expansive static components of World Systems theory, and further exposes local and intersocietal relational variability. It is hoped that the results of this necessarily generalized baseline study will stimulate increasingly specific, fine-grained future research.
As an overarching framework, the modified World Systems perspective and its assumptions specify the research questions presented in Chapter 1 Research Objectives. However, it is necessary to expand further upon issues relating to sociopolitical development and organization as it was manifested during the Late Intermediate period at SRB. The objective is to gain insight into the interplay between both local context-specific development and the effects of intersocietal contact with similar or diverse sociopolitical organizational forms, and this necessitates a multiple scale approach. As noted in the previous critique of World Systems theory, peripheral agency is neglected and the modified framework presented here addresses this by including a discussion of the assumptions associated with sociopolitical development and organization at the local level. This moves beyond Wallerstein’s strictly top-down approach by examining from the scale of local agency the motivations for and effects of both intersocietal relationships and internal development. Inherent within such discussions is the concept of complexity and the manner in which it enables or inhibits variable local societal development, organization, exchange, and interaction, and as such it must be defined and the assumptions associated with it made explicit.

The term complexity itself often resists definition. Archaeologists from differing theoretical camps view complexity through variable conceptual frameworks, and no clear consensus of its characteristics has emerged. In a general sense, complexity refers to the degree of centralization and organization of political power, and the effect this political structure has on resource acquisition and distribution. Political power in this context refers to the control of group level decision-making that affects the entire community. While it is recognized that complexity occurred throughout the world, it did not occur simultaneously, was not adopted by all cultures, nor did it
occur in the same manner or for the same reasons in different places (Mcintosh 1999; McGuire and Saitta 1996).

Some believe that all societies are complex, and the differences between simple and complex are strictly quantitative (McQuire and Saitta 1996). Here complexity refers to numerous internal relations, and social form resides within “a field of interconnected relationships” (McQuire and Saitta 1996:200). Others view complexity as a continuum, recognizing variation between and among societies of equal size (Blanton et al. 1996). Still others disagree, suggesting instead that the differences between simple and complex societies are not quantitative, and that social relationship structures of simple societies are instead replaced by entirely different forms (Binford 1983).

The concept of inequality has often been cited as a marker for complexity in social groups, and tied in with this idea is the assumption that such a condition always leads to a vertical control hierarchy. Evidence exists, however, of horizontal or sequential hierarchies within complex societies and, while still characterized by hierarchal decision-making, leadership is spread out and not just centralized and concentrated (Johnson 1982). Crumley argues for Heterarchy, where hierarchal decisions are still made, but by leaders of different groups with multiple routes to power and subsequent stratification (Crumley 1995). Steponaitis provides additional evidence in Mississippian societies of alternate, differential political trajectories despite their similar environmental contexts (Steponaitis 1991). Feinman further notes the presence in the American Southwest of both hierarchal and egalitarian social structures coexisting simultaneously (Feinman et al. 2000).

Often population size has been cited as an indicator for emergent complexity. Some see complexity as discontinuous, and have advanced arbitrary population figures needed to achieve divisional societal designations (Arnold 1992; Binford 1983). This assumes that surpassing a certain population threshold denotes arrival at a complex condition, and that cultural change is irregular, with new forms abruptly
appearing at designated levels, and subsequently advancing in a unilineal manner. There is archaeological evidence, however, for gradual shifts and modifications leading to social complexity rather than abrupt transformations (Curet 1996; Trigger 1989). While there is no denying that larger population size generally involves greater social complexity, a more realistic perspective views scale as a more relevant indicator (Johnson 1982). A greater number of social relationships need not necessarily equate to a greater number of societal members, and the scale of social organization is locally variable and should not be assumed constant based on an arbitrarily defined numerical threshold (Johnson 1982). Furthermore, the idea that change only occurs when a threshold is reached implies systems are in a state of homeostasis, which as previously mentioned, is an unrealistic assessment of the continual fluctuations and sub-system interplay characteristic of dynamic societal organizations.

Varying perspectives regarding the nature of complexity can be subsumed in a general sense within three categories of models most often used to elucidate the institutionalization of stratification, complexity, and sociopolitical form. These include Adaptationist, Political/Social, and Dependency approaches, which are reviewed in the following sections.

**Adaptationist Complexity Models**

Adaptationist models view the emergence of complexity as a result of extensive economic management by political elites. A need arises for central decision makers as a response to either stress or potential opportunities advantageous to the population group as a whole (Brumfiel and Earle 1987). Thus, the ability of emerging elites to establish and organize more efficient modes of subsistence acquisition and accumulation reifies and improves their differential social and political position. The emergence and establishment of stratification is therefore contingent upon the group
benefits derived from this social and political centralization shift (Wiessner 2002).

There are multiple versions of this model that alternately focus upon:

1. redistribution through specialization and exchange,
2. centralized leadership within high resource density environments,
3. the centralized management of production,
4. central leadership development in response to the organizational needs of long-distance exchange (Brumfiel and Earle 1987).

One variant suggests specialization and the redistribution of subsistence goods within diverse high resource density contexts is decidedly beneficial to the group as a whole, and to the up-and-coming leader who managed these activities. Specifically the central accumulation of large amounts of subsistence commodities by new elites, gathered from diverse local environments, could allow redistribution to settings where those types of resources are scarce or unavailable, which in turn leads to increased status for the emergent leader. Rathje suggests the development of complexity in Mesoamerican rainforests occurred along such a trajectory (Rathje 1972). There is, however, a conspicuous lack of archaeological evidence to support the redistribution of large quantities of subsistence goods across microenvironments in early complex economies, and this has caused redistribution model proponents to shift their focus instead to the redistribution of vital resources by centralized elites in times of scarcity and stress (Brumfiel and Earle 1987).

Another variation of the Adaptationist model suggests market exchange is enabled by the establishment of centralized leadership within areas of high resource diversity. Emerging elites maintain a collection of diverse specialized economies within a collective market system and intensify regional exchange (Brumfiel and Earle 1987). Conversely, this variation is supported by archaeological evidence of intensified regional exchange, though as Brumfiel and Earle point out, it is unclear what actually triggered this intensification (Brumfiel and Earle 1987:2).
Adaptationist proponents also focus on the control and management of production by emerging centralized elites that exceeds exchange alone. The key argument here is that centralized decision-making is vital in complex local economies in terms of labor allocation and land use (Brumfiel and Earle 1987). Furthermore such centralized decision-making is seen to be crucial in areas of resource scarcity where complex subsistence strategies are necessary for survival. Additionally it is proposed that long-distance trade, and its associated need for organization, provided further impetus for the development of centralized leadership in the form of emerging elites.

Arnold advocates an Adaptationist model and suggests that population/resource imbalances stimulated opportunistic behavior beneficial for the group as a whole (Arnold 1992). Binford, however, is particularly critical of redistributive models, though for him the weakness lies in their divergence from Darwinian tracts, which purport external stress as a necessity for change to occur (Binford 1983). This formerly pervasive idea that pressure triggers social/political complexity is at odds, however, with archaeological data, which demonstrates that complexity can, and often does appear within the contexts of resource abundance (Curet 1996; Wiessner 2002).

**Political/Social Complexity Models**

In response to the perceived deficiencies of the Adaptationist models, Political/Social model proponents suggest the motivation behind elite organization of specialization or exchange and the resultant complexity from their action is not meant to benefit the collective group as a whole, but rather the aggrandizers themselves (Wiessner 2002). Here aggrandizers, in order to create a condition of social inequality in their favor or to maintain existing positions of differential access and authority that benefit them, consciously manipulate specialization and exchange (Brumfiel and Earle 1987). The assumption is that ambitious individuals exist within
all societies, and their desire for prestige and differential access to resources and wealth causes the unintended consequences of institutional stratification, inequality, and subsequent complexity (Wiessner 2002). As Clark and Blake state, “the development of social inequality was neither a problem nor a solution. Rather it was a long term unexpected consequence of many individuals promoting their own aggrandizement” (Clark and Blake 1994:17). Furthermore, elites mobilize production, and their control of the finished product causes political development by creating new instruments of political control (Brumfiel and Earle 1987). The focus of elite mobilized production shifts from bulk subsistence goods to preciosities, and this transition is often discernible during initial periods of political development. The elite control of wealth/prestige goods through craft specialization or exchange, and the manipulation of the production of others through debt and leverage methods, create and/or solidify their positions of differential authority (Wiessner 2002).

As with the Adaptationist model, variations of the Political/Social model are numerous. Some view the monopolization of tools, weaponry, and subsistence production as the primary elite method of gaining coercive powers (Brumfiel and Earle 1987). Here an elite’s control is enhanced not only by reciprocity, but also by withholding access of those types of desired items to those they view as potential competitors. Another variant views the profits generated by external trade as the main source of power and prestige for emerging elites. Associated with this, the control of the distribution of wealth is an important element of increased complexity, especially again in the early transitory periods. The importation of prestige/symbolic materials or the transformation of existing symbols boosts the rank of the emerging elites who control this process, and this management of wealth and its careful distribution can forge new alliances or reinforce existing relationships. Enterprising elite must continually reinforce the manipulation and use of imported ideology and symbolism as a main source of power, and such gains are seen to be gradual rather than abrupt (Curet 1996). Many who utilize a Political Economy framework view the
control of knowledge and ritual associated with exchange as an important context in which political struggle occurs (Blanton et al., 1996). The management of the distribution of prestige goods is seen as the driving force behind the establishment and maintenance of vertical hierarchies, and when subsistence goods and finance are replaced with such items, centralized political control and complexity increases (Brumfiel and Earle 1987).

Proponents of the general Political/Social model consider the political self-serving strategies of rising elites and the conditions under which they succeed, as more realistic than the Adaptationist model and its associated assumed altruism. A common criticism of this type of model, though, is its lack of consideration for the tension between agency and structure. Simply stated it assumes aggrandizers are relatively unopposed by the "simple" extant egalitarian social structure (Wiessner 2002). Wiessner instead sees egalitarianism as a response and a resistance to aggrandizer strategies and not just as a passive, easily manipulated condition (Wiessner 2002). Clearly, there is the need to recognize the impact of prior local developments, and the historic context of emergent complexity.

Dependency Approaches

A third general approach views the local form of sociopolitical development and organization in relation to external contact with groups who exhibit a comparable or higher level of complexity. This approach is often employed by proponents of World Systems theory and core-periphery relations, which were both reviewed in some detail in the first part of this chapter. As such, their treatment here will be brief. As previously stated, it is ill advised to assume complete core dominance in terms of intersocietal exchange and interaction, and proponents of Dependency approaches view the rise of complexity and sociopolitical development and organization only in relation to external factors. In other words, the form of any given local sociopolitical
organization is directly inhibited or enabled by contact with outside groups. This removes all effective local agency from the discussion, thus limiting the usefulness of this approach.

Complexity Conceptualized for SRB

The view of McIntosh and others that power relations should be viewed as a continuum and not just in the context of elite/non-elite dichotomies is highly applicable to this research (McIntosh 1999). Power differentials are assumed here to exist in all societies, typically in the form of age, gender, decent, aptitude, and association. Inequality, be it vertical or horizontal hierarchy, or heterarchy, is seen as the impetus for institutional stratification and subsequent complexity. For purposes of this research, complexity can be defined as an increased degree of internal differentiation, and an increase in scale rather than simply an increase in population.

As discussed earlier, not all societies with the potential to do so achieve a state of complexity, and it is the view of this research that the neglected agency/structure tension accounts for this. A potential aggrandizer faces many, often insurmountable obstacles that discourage the quest for prestige and differential treatment. There are, however, certain conditions that counteract social impediments to unequal status. While population and resource imbalances undoubtedly change the structure of some circumscribed societies, little evidence exists for anything more than isolated archaeological occurrences. The most intensive innovations and social developments would be expected in contexts where stress was the greatest, and this unmistakably is not the case. Therefore, the Adaptationist model alone, in terms of this research, is of little overall practical value in the study of emerging social complexity.

Dependency approaches argue that the local sociopolitical form is a reaction to external forces. This top-down approach to intersocietal exchange and interaction is filled with problematic assumptions. This study seeks to ascertain the balance
between internal and external factors in the development of local sociopolitical organization, but Dependency models only consider half of the equation; therefore, this study does not employ this perspective.

While the Political/Social perspective lends itself more realistically to the study of complexity, it is incomplete and is expanded upon here to encompass the tension between agency and structure. In other words, the trajectories that individual societies follow to complexity are seen to exhibit great local variability. As Earle notes, a synthesis is better able to recognize the “extreme complexity and interdependence of the sources of power and control within society, and the forces of instability and division that constantly threaten to tear it apart” (Earle 1991:14). The strategies utilized are uneven and situational, based on many of the previously mentioned conditions of complexity in variable contexts. With such great variability, no single viewpoint truly captures the multifaceted process that might lead to complexity in its entirety. Nonetheless, the more convincing Political/Social perspective is advocated, with an emphasis on prior local developments and the historic context of emerging complexity, as a useful tool for understanding the nature of complexity and sociopolitical organization at SRB.

The Built Environment

For purposes of this research, architectural data represents the principal means for understanding intersocietal exchange, interaction, complexity, and sociopolitical organization. The built environment both shapes, and in turn is shaped by human events and perceptions (Bourdieu 1973). Its form, composition, size, space accessibility, and placement upon the landscape all communicate meaning, and it is within the context of architecture that the other variables of consequence for this research are examined and understood. While the built environment will receive considerable attention in Chapter 5 *Archaeological Indicators*, it is important to link
architecture to power and control at a general level. As such, it is conceptualized, and its associated assumptions are made explicit. This section concludes by linking architecture to the four research questions presented in Chapter 1 Research Objectives.

Archaeological research has often focused upon the built environment, and as such architecture has been viewed through the lens of numerous theoretical frameworks, some widely divergent and others complementary. While some see architecture as the need for shelter or as a technical adaptation (Martin and Plog 1973; Sanders and Price 1986), others view it as a reflection of the ideological or symbolic beliefs of the builders (Hodder 1982; Cunningham 1972), as the product of existing social relationships (S. Kent 1984; Lawrence and Low 1990), or as evidence of status differences or political power (Saitta 1991; McGuire and Schiffer 1983). One causal factor is very often mentioned and given primacy over others.

The built environment is defined here primarily as architecture and the space it encloses, but also to some extent the space immediately surrounding it. The approach to the study of long distance exchange, interaction, complexity, and sociopolitical organization at the site of SRB revolves around the concept of the built environment, which is assumed to both reflect and reinforce sociopolitical relationships within and between communities (Bourdieu 1973; Donley 1982; Rapoport 1994). The research here is mainly concerned with political power, though a number of other factors can impact both builders and users decisions. Truly, architecture is the outcome of a full range of social, political, and physical forces, and is characterized in this framework as the point of spatial articulation for the intersection of multiple forces of culture, economy, and environment (Lawrence and Low 1990, Rapoport 1969). The position of each architectural settlement within the modified core/periphery framework, and within the intrasite scale of SRB indicates the influence of each force.

Architecture at its simplest is the spatial organization or the ordering of qualities that distinguish one place from the next (Rapoport 1982). Its development involves
the physical alteration of the natural environment, and its forms include dwellings, temples, and meeting places meant to shelter, define, and protect activities (Lawrence and Low 1990). In addition to enclosing space, it can also serve to guide behavior through streets or paths, bound activities within plazas or walls, and designate important locations such as shrines, temples, or burials (Lawrence and Low 1990). Given the variability in form and function, this thesis posits that a theory of the built environment intended for such a baseline study should conceptualize the full typological spectrum of architecture. This includes the previously ignored and oft neglected household, or domestic architectural form. It is argued here that the analysis of domestic architecture is a necessary first step for understanding the basic unit of social organization at a small scale, which in turn lends itself to the elucidation of larger scales of integration within the sociopolitical whole. Households are often built by those who use them, and thus reflect and reify the user's needs, ideas, beliefs, and connectedness to larger societal scales. The inclusion of households is consistent with one of the main themes of this research, namely the shift of attention from core to periphery, and from monumental to domestic structures. Nonetheless, this study also includes public, ceremonial, administrative, and other classes of architecture. It is recognized that data regarding public structures can provide a means of comparison with domestic structures in terms of continuity of world vision, cosmology, and sociopolitical structure. For example, public buildings, whether built by specialists attached to the dominant polity, or by the local elite may or may not convey the same sort of meaning or reflect the same values as the rest of the culture. From this disparity, the local organizational forms may be comparatively derived and a relationship with the core (subjugated/autonomous continuum) advanced. With a more thorough treatment to follow later in this thesis, the goal here is to introduce an inclusive architectural framework capable of addressing these types of issues.

Builders use the fixed architectural elements of walls, floor surfaces, and doorways to define the organization of space (Saile 1977). The spatial organization
of these fixed elements, their size, location, sequence, and arrangement all communicate meaning, as do associated semi-fixed and non-fixed elements (Rapoport 1982). Not surprisingly fixed items are relatively immovable, where semi-fixed elements can be relocated with a modicum of effort, and may include furniture or other such items (Blanton 1978). Non-fixed elements refer to more portable cultural material such as lithic tools or ceramic vessels. All three architectural elements contribute to the meaning associated with the built form and subsequently are used in this study to address the research questions.

The communication of meaning in the architectural form can in general be categorized as either manifest or latent (Saile 1977). Manifest meanings are those which are plainly evident and usually associated with utilitarian architectural functions such as shelter from the environment. On the other hand, latent meanings involve the transmission of cultural concepts relating to appropriate and desired behavior and responsibility, space, structure, power, status, ideological, and cosmological beliefs (Sanders 1990). The communication of these less obvious meanings can be achieved in a number of ways. Members of a particular culture typically observe and understand the behavioral dictates of their associated architectural contexts. The setting is synonymous to an important grouping of related ideas that form a larger cultural category, or the cognitive domain of the participants (Romney 1988). Once the schemata are learned, the built environment acts as a mnemonic device reminding the inhabitants of the culturally appropriate behavior within these given settings (Wiessner 1983). The mnemonic device, or coded cultural memory, can inhibit, facilitate, or guide responses, and lock within the fixed architectural elements the categories, cognitive domains, or cultural conventions of the builders (Rapoport 1982). The effectiveness of mnemonic cues, or their ability to communicate, is dependent on the user’s capacity to decode the cues, which must be culturally comprehensible to the enculturated or acculturated participants (Rapoport 1982). Differences facilitate the mnemonic perception and redundancy reinforces it,
and all have meaning and draw attention to themselves through contrasts. Both perception and association together define culturally appropriate behavior and use within the architectural setting (Rapoport 1982).

Foucault saw architecture as a political technology that linked the control and power over individuals and groups through the spatial segregation of everyday life (Foucault 1975). Indeed the political economy of space through the use of architecture has been demonstrated in many cases; though for Foucault the actual built form was secondary to the space it enclosed (Foucault 1975; Kuper 1972). Urban planning as a mode of social reproduction is demonstrably critical to the dominant class’s political, economic, and social control (Foucault 1975). Architecture contributes to both large and small-scale institutional control of one group by another; however, this is context specific and based on the cultural history of domination and resistance, the position of a settlement on the continuum between these two dichotomies, and the ability of the institution to enforce the behavior suggested by the architecture. As both product and producer, the built environment may define workspace, maintain new economic, social, political, and cultural practices, and reflect changing social situations (King 1984). This research departs from Foucault by not assuming the built form determines behavior. Architecture and architectural mnemonics serve as cues which “take the remembering from the person and place the reminding in the environment” (Rapoport 1982:81). That a person will be reminded, remember, or choose to acknowledge these cues is not a given. However, political elites often manipulate meaning associated with the built environment, and indeed both the construction of architecture and the segregation of space are seen in the context of this research to be politically charged processes that in turn correspond to the cumulative sociopolitical structure (Kuper 1972).

Two levels of institutional control at the intrasite and intersite scale are considered here. There are context specific, local agency driven material manifestations dependent on the routinized daily practices of individuals or groups within the
individual site. But these do not exist in isolation. Despite the intrasite variability, it is assumed that a number of mnemonic cues in the material assemblage identify the occupants within larger cultural/political systems (e.g. kin, settlement, regional culture). Individual settlements may influence or be influenced by larger scales of sociopolitical development and organization, and the interplay between both, including the degree of exchange of material goods and nonmaterial interactions will shape the built form and its arrangement on the landscape. When the level of exchange and interaction is high, two or more settlements become a larger single economic, political, or ideological unit despite the variability of the parts, and the subsequent built environment form becomes context specific at a higher scale of interaction. The applicability of these larger scale generalizations is seen here as a matter of empirical investigations (Rapoport 1990).

This conceptualization of architecture neither accords primacy to regional systems or local agency, but rather views context specific placement on a continuum between the two. While the built form will express and promote, in certain cases, the interests of the dominant class according to specific modes of production and development, these particular forms may also denote resistance from the oppressed, or the history of sociopolitical structures that were once in place. Agents play an active role in the perception and interpretation of cues, and vary their willingness or unwillingness to act appropriately (Rapoport 1982). In some cases, the institution can enforce behavior, while in others the agent is relatively autonomous from larger structures of control, and able to observe, ignore, and assume authority in shaping the local built environment to their own needs. In other words, each setting must be evaluated at multiple scales, as the architecture at any given time will reflect the relationship between regional institutional forces and local agency.

Lastly, it is necessary here to explicitly detail the architectural assumptions as they relate to the research questions. The specifics of the archaeological indicators associated with intersocietal exchange, intersocietal interaction, complexity, and
sociopolitical organization are presented in Chapter 5 *Archaeological Indicators*, while the particular hypotheses or set of expectations based on the overarching modified core/periphery framework are presented and tested against the archaeological data of the site in Chapter 8 *Analysis*.

*Intersocietal Exchange*

This involves the exchange of portable or semi-portable material culture, both of which are categories within which architecture itself obviously does not fall. Despite this, architecture, the space it encloses, and to some extent the space immediately surrounding it provide the context within which portable (non-fixed) and semi-portable (semi-fixed) exchange items are to be understood. For example, the presence of exchanged material culture within certain architectural types and not within others may shed light on the local organization of intersocietal exchange as well as issues of complexity and sociopolitical form. In other words, the spatial patterning (or lack thereof) of exchange materials within specific architectural units, or mnemonic devices, is arguably no accident. Rather the architectural control of exchanged material culture is likely one of the necessary prerequisites for the success of entrepreneurial local elites, and is reflective of an organizational continuum of possible exchange forms (core control-periphery autonomy).

*Intersocietal Interaction*

This transcends the material dimension of exchange to consider the ideational realm. As mnemonic devices, built forms symbolically express or reaffirm social, political, and economic relationships between groups at multiple scales. At the local level architectural patterning, variability, and style may both reflect and reify relationships based on kinship, ethnicity, occupation, class, politics, and world-view,
to name just a few. Architecture encloses space and thus contains and constrains activities, which in turn enables or precludes local inter-group interactions. At a larger scale, these same architectural elements may imply an external comparative level of connectedness based on these relational characteristics, the strength of which in turn is based primarily on the degree of similarity or dissimilarity within a continuum of possible political interaction structures. It is also assumed that local entrepreneurial elites would seek to take advantage of architectural intersocietal connectedness to increase or maintain their own prestige, though the control of architecture and its meaning is seen to be variable and once again situated on a continuum.

Complexity

Architecture provides the primary means of understanding the nature of complexity as it was manifested at SRB during the Late Intermediate Period. As mentioned previously, complexity entails an increase in scale and degree of internal differentiation, and a more restricted quantity of administrative structures. Increased scale and diversity imply a wide range of activities to perform and duties to fulfill. Therefore, the analyses of the architectural elements at the site level allow the quantity of internal differentiation to emerge, and a comparative estimate of scale to be advanced. Additionally, it is assumed that economic and political stratification are linked to this differentiation or disparity in architectural units, though they need not be coincident. The size, shape, composition, scope of construction labor, orientation, placement, accessibility, function, and style of the built form both reflects and reinforces the existing decision making structure, be it hierarchal, egalitarian, or located on the continuum between the two.
Understanding the nature of the sociopolitical form at SRB as the cumulative outcome of intersocietal exchange, interaction, and complexity is necessary in order to understand its placement and role in the Late Intermediate Period North Coast region. Architecture thus provides the primary means of examining and understanding the first three types of research questions at multiple scales, and consequently is of paramount importance to the understanding of sociopolitical organization. The positioning of SRB through the analysis of architecture in relation to these research question categories is comparative and based both on Inca ethnohistoric sources and known Chimú strategies of incorporation and hegemony.

Summary

This chapter presented the concepts of the World Systems theory, its modified usage, and some of the alternatives proposed for it. A modified core/periphery framework applicable to this research was introduced which stressed peripheral dynamics and the interplay between local and regional scales. The assumptions associated with sociopolitical organization and the concepts of complexity were discussed and a modified Political/Social perspective, which includes the recognition of the interplay between agency and structure and a consideration of historic contexts, was advanced. Lastly, architecture, as the primary unit of analysis for this research, was defined and conceptualized in a holistic manner reflective of a plausible fluidity of power relations, and situated between traditional top-down and bottom-up approaches. The following chapter discusses the geographic context and archaeological background of the study area.
CHAPTER 3

ENVIRONMENTAL, HISTORICAL, AND ARCHAEOLOGICAL BACKGROUND

The objective of this chapter is to situate SRB within its environmental, geographical and historical/cultural context, to provide a discussion of previous and ongoing archaeological research in the study area, and to consider both the natural formation processes and the cultural practices which have affected in varying degrees the archaeological preservation of the site.

Environmental Context

The Andean area within which this research takes place is highly variable in terms of the environmental conditions Prehispanic peoples encountered, with much of this diversity related to the unique geographic conditions of the study area. This unevenness is seen vertically with numerous ecological niches related to elevation; horizontally with north/central/south irregularity; and temporally with conditions changing drastically over time in certain places (Burger 1995; Dillehay 2000; Moseley 1992; Wilson 1988). This section provides an overview of these conditions with both space and time as a consideration. The goal is to gain an understanding of the natural processes that influenced to some degree the cultural beginnings and developmental trajectories of the study area. This discussion begins at the scale of the Andean area and culminates with a detailed overview of SRB.
The Andean Area

The politically defined nation of Peru is located on the west side of South America, and abuts Ecuador and Colombia in the North, Chile to the South, and Brazil and Bolivia to the East and Southeast (Figure 3.1).

Figure 3.1 Geo-Political Map of Peru (Rand McNally 1999)

The dominant geographic feature is the Andean cordillera mountain range, which runs parallel to the coast. At an average elevation of over 3000 m above sea level, it presents a formidable barrier between the Pacific coast to the west, and the
Amazonian rainforest to the east (Bruhns 1994). With a multitude of ranges and extreme dissimilarity in elevation, Prehispanic peoples employed a variety of strategies and responses to the variable environmental conditions they encountered. This section will describe Andean environmental diversity as it relates to verticality beginning with the Pacific Ocean itself, and working eastward and upwards in elevation. Of course any overview of Andean vertical environmental zones is necessarily idealized as conditions in the north, central or south regions, or for that matter within individual river valleys, show great variability in terms of topography and rainfall.

The first zone considered here is the non-terrestrial cold, north-flowing Humboldt Current of the Pacific Ocean, which flows along the west coast of South America and exerts perhaps the greatest overall influence upon the Andean climate (Abbott et al. 1997). Arising to the surface from a depth of 275 m below sea level, the Humboldt Current sustains the densest concentrations of fish, bird, and sea mammals in the world. As such, the most resource rich of the Andean zones are the waters immediately off Peru's coast (Fiedel 1992). In addition, westerly winds blowing across the current pick up valuable nutrients, sustaining select niches at higher terrestrial elevations (Chauchat 1988).

While providing key marine resources to both past and present coastal peoples, the Humboldt Current is also primarily responsible for one of the world's driest regions, the Andean Desert Coast, the second environmental zone to be considered here (Craig and Psuty 1968). As the warm, moisture laden sea winds move across the cold Current, life-sustaining waters fall before reaching land (Fiedel 1992). Only further up in the cordillera do the winds once again gather moisture allowing seasonal rainfall in the mountain valleys. As a result, the narrow coastal strip between the Pacific Ocean and the Andes range receives virtually no precipitation, and consequently resources are extremely scarce. Surprisingly, nearly a hundred rivers originating in the highlands crosscut this arid region flowing more or less westward to
the Pacific Ocean (Bryan 1973). In stark contrast to the surrounding desert, these drainages provide a range of resources though only in close proximity to the rivers. Accordingly human populations succeeded in exploiting this environment for roughly twelve thousand years, although in the last three to four millennia this was largely facilitated by the establishment of complex irrigation works. This enabled viable agricultural practices beyond the scope of the immediate river vicinity capable of sustaining larger population groupings (Moseley 1975).

The coastal desert environmental system is far from stable, and at irregular intervals of roughly three to seven years El Niño-Southern Oscillation events (ENSO) profoundly affect this zone, particularly in the north (Burger 1995). These poorly understood episodic events lead to the warming of the ocean currents off the coast and heavy rainfall in the otherwise arid coastal dessert, which in turn often causes serious declines in fish yields and widespread flooding and destruction. While ENSO events tend to be localized in the North Coast area, particularly strong effects can also be felt further south before eventually tapering off. There is some evidence suggesting a concurrent and associated reduction in rainfall in the southern highlands during these events as well, though this is not conclusive (Schreiber 1992).

The coastal desert zone is typically dry away from the river drainages, but it is not barren per se. Where the upwelling, cold Humboldt Current meets the warm coastal land, it creates a thick fog known locally as La Guarúa (Kent et al. 1998). This condition is most prevalent during the southern hemisphere winter (June to November) when moisture and clouds are trapped under a layer of warm air. During these times precipitation is insubstantial, though a fine mist sustains Lomas vegetation comprised of aerophytic plants along with grasses and low-lying shrubs (Burger 1995). These plants in turn produce seeds and roots edible to humans, though they are not able to support more than small population groupings (Kowta 1987). During the summer the temperature inversion reverses and skies clear, though again very little precipitation falls.
As a whole the desert coast is not homogeneous but rather contains a number of unique microenvironments that necessitated different survival strategies amongst early Prehispanic peoples (Parsons 1970). This variability is seen in far northern Peru, where marine floors rose sharply during the last ice age to a height of more than 274 m and have since became carved by deep canyons and rivers (Richardson 1998). Further south the Sechura Desert presents a substantial barrier to population movement with its massive dunes and harsh climate. In the far south the coastal desert zone narrows to a thin strip before widening to form the Atacoma Desert, one of the driest places on the planet (Craig and Psuty 1968).

Directly above the desert coast is the Yunga zone, where La Guarúa fog continues to support Lomas vegetation and nurtures over a thousand types of plant species that once attracted deer, wild camelid, and the camelid-like Guanaco (Weir and Dering 1986). Situated between 500 m and 2800 m above sea level, this is a warm, dry region with deep canyons and plateaus that are more or less covered with thorny forests, columnar cactus, and algarroba trees. While tributaries to the coastal rivers are plentiful, they tend to be narrow and ephemeral, and as such, otherwise viable agricultural crops are held in check by the limited potential for irrigation (Weir and Dering 1986).

Between 2800 m and 3500 m is the Quechua high-altitude zone (Rick 1980). Here La Guarúa fog dissipates and seasonal rainfall once again descends to the ground surface, though this depends on the specific topography of river valleys within this elevation range. As with the desert coast, the sustainability of populations is dependent upon perennial river water for irrigation and terrace farming. Long valleys form from north flowing rivers, from which approximately two thirds of their waters volume drain eastward towards the Amazon region (Burger 1995). The valley floodplains produce a variety of transitional Andean crops including many species of potatoes and tubers, which have sustained Andean peoples for thousands of years (Raymond 1981).
Ranging from 3500-4000 m the next highest area is the Suni, marking the upper limits of feasible agriculture. Cut by deep canyons, this zone is home to the llama, alpaca, and guinea pig. In southern Peru and Bolivia, the Suni spreads into a wide undulating plateau surrounding Lake Titicaca, the highest navigable body of water in the world (Nunez et al. 2002). Here a variety of frost resistant tubers and potatoes grow, though late rains and early frosts make for uncertain yields (Burger 1995).

Lastly, the highest Andean environmental zone occupied by humans is the *Puna*. This is open land above the elevation limits of agriculture that is dominated by tall bunch grasses (Ichu), though a variety of resources can be found around perennial streams and shallow glacial lakes (Nunez et al. 2002). Undomesticated game such as White-Tailed and Huenal Deer are drawn to the water sources, as are the Vicuña or wild camelid, highly valued by Andean peoples for meat and wool. Edible flora includes tubers, rhizomes, nuts, berries, and soft leafy vegetables (Mayer-Oakes 1982). At its widest in the south, the Puna reaches a width of 200 km before gradually transitioning into the Atacamá Desert, while in the north it narrows and disappears almost entirely within the sharp mountain peaks (Bryan 1973). Micro-zones within the Puna include narrow riparian corridors with low trees, shrubs, and herbaceous growth; barren xerophytic areas in rain shadows away from streams; and greater concentrations of shrubbery and thorn forests at the lower zone elevations (Bryan 1973).

The parallel *Cordillera Negra* and *Cordillera Blanco*, which tower above the Puna, were not inhabited by human populations and are not considered here in any detail. Descending down the Andean range eastward is the *Montaña*, where the mountains drop off steeply into the Amazonian basin. Here rainfall is abundant and vegetation is thick, as the Amazonian drainage is the largest river system in the world (Burger 1995). Unfortunately, much of the Montaña and the Amazonian basin in particular are poorly understood archaeologically. This is a product of site destruction through the regular meanderings of the ubiquitous rivers and associated
alluvial deposition, but also of the limited archaeological research conducted in the region until fairly recently. For many years knowledge of Amazonian Prehispanic was shaped by the strong assertion of prominent scholars that the region ‘lacked complexity’ (Meggers 1948). However; evidence in the form of tropical basin cultigens and assorted bird fauna have been found within the context of early Peruvian coastal and highland sites suggestive of a greater Amazonian role in the early Andean Prehispanic (Burger 1995). Much of the new research in the Amazon basin itself is challenging many of these earlier assumptions (Stahl 2005- personal communication). Despite the shifting general consensus, it is omitted from further discussion here to allow a more detailed study of the SRB area.

The modern environment of Peru is far removed from that encountered by the first human arrivals that were present in South America by at least 12,000 BCE (Dillehay 2000). At that time the Puna zone was mostly uninhabitable, though by 10,000 BCE the Late Pleistocene glacial coverings were in full retreat, ushering in the Holocene and initiating the transition to modern environments that were largely in place by 3000 BCE (Sandweiss 2001). The Late Pleistocene climate of the coastal desert was more verdant than it is today, with greater amounts of precipitation supporting water and grass dependent animals (Abbot et al. 1997). These included mastodons, horses, wolves, giant ground sloth, saber toothed cats, and a variety of bird species that all benefited from annual monsoon-like rains which sustained savannas, forests, lakes and marshlands (Nunez et al. 2002). When the massive melting glaciers of the world released their water, sea levels rose approximately 125 m reclaiming some sixty km of continental landmass, and finally stabilizing at the present day coastline by around 5000 BCE. (Villalba 1994).
The North Coast

While much of the North Coastal area of Peru falls within the desert zone, aridity is actually variable with environmental conditions becoming drier from north to south. In its broadest sense, the North Coast encompasses the area between the Lambayeque valley in the north to the Casma valley in the south, and is distinguished from the greater Andean region both environmentally and culturally (Wilson 1988). Westward flowing rivers drain from the Andean range into the Pacific Ocean creating fertile valleys in an otherwise arid and treeless dessert coast (Figure 3.1).

The North Coast treatment will be brief here as the previous Andean area discussion covered most of the environmental details relevant for this study. An episode of erosion and deposition should be mentioned that occurred at the onset of the Middle Horizon (CE 600-1000) in the Moche Valley and almost certainly impacted the inhabitants of the study area. Some have implicated ENSO events, though it seems likely prior tectonic activity contributed in some degree to the resulting destruction (Moseley 1990). Regardless of the cause, the scale of flooding and deposition was striking, radically altering the landscape of the Moche valley, changing the patterning of archaeological preservation, and coinciding with a cultural shift away from Moche culture hegemony. Whether this shift in power can be directly attributable to this environmental degradation is debatable and left for another discussion. Given the systemic intersocietal focus of this thesis, changes in the core area undoubtedly were felt to some extent at SRB.

The Chao Valley

In the southern half of the North Coast area is the Valley of Chao, located between the Virú Valley to the north and the Santa Valley to the south.
Figure 3.2 North Coast Study Area
The Chao River begins at 4050 m above sea level in the Puna zone and converges with three major tributaries (Huamanzana, Chorobal, and Cerro Blanco) in the area between Cerro Huasaquito and the town of Chao (Onem 1973). In relation to other drainages along the North Coast, the Chao River is small, and the area encompassed by the valley itself is comparatively undersized (1558 km²) (Onem 1973). While it is narrow and irregular, in line with other North Coast river valleys, the environmental conditions seen at Chao are again a factor of elevation.

Contemporary populations are scattered throughout the valley though most reside in the town of Chao itself. With the construction of the CHAVIMOCCHIC canal system, and the crop sustaining water it brings to the valley, populations have risen and continue to increase dramatically, filling in what were formerly agriculturally marginal lands. Large corporations own much of the fertile valley land, and the farmers who labor here tend to be impoverished.

*The Santa Rita ‘B’ Complex (SRB)*

The complex of SRB (17f-14M-8) is located roughly 25 km east of the Pacific Ocean on the North Coast of Peru (8° 26’ S and 78° 32’ W) in the Chao valley, and is the focal point of this study (Kent et al. 1998). Situated at an average elevation of 384 m above sea level in the upper middle of the Chao valley near the small Village of Santa Rita, SRB receives some 17-50 mm of rainfall per year, though as mentioned earlier episodic El Nino events increase precipitation markedly (Kent et al. 1998). With such limited annual precipitation, intermountain vegetation tends to be sparse and includes several species of cacti (*Cereus macrostibas*), “huarango” trees (*Acacia macracantha*), “bichayo” (*Capparis ovalifolia*), “zapote” fruit-bearing bushes (*Capparis angulata*), “algarrobo” trees (*Prosopis iuliflora*), “molle” trees (*Schinus molle*), “huayabillo” vines (*Cryptocarpus sp.*), and scrub brush. Additionally, near the
Rio Huamanzana drainage “Carrizo” (*Arundo donax*) and “Caña Brava” (*Ginerium oleander*) reeds can be found, along with “sauce” (*Salix sp.*), all of which provide construction and tool materials to contemporary peoples much as they did in Prehispanic times (Vasquez and Rosales 1998). In terms of agricultural potential, the soil is characterized as average to poor, though contemporary practices such as flood irrigation and fertilization yield viable crops of maize, beans and bananas for local farmers (Onern 1973). The Rio Huamanzana provides the main source of water for the Village of Santa Rita, SRB, and the upper Chao valley, though the contemporary CHAVIMOCHIC canal system offers greater additional stability for resident cultivators.

SRB is in the major floodplain of the Chao valley, positioned between the banks of the Rio Huamansaña and the foothills of the Andes Mountain range. Alluvial and colluvial processes impacted the ground surface during the Quaternary geologic time period, and as such the valley floor of the complex is covered with a range of large and small boulders and stones (Onern 1973). Additionally, some very deep-cut and wide ravines or quebradas cross the site on a roughly east/west axis indicative of periodic flooding episodes.

**Historical Record**

This section provides an outline of various sources of knowledge regarding the ancient cultures of the Andes available to researchers, beginning with the earliest written post-conquest accounts. This is followed with an overview of the more notable archaeological scholars that have shaped our contemporary understanding of Andean Prehispanic, and both discussions proceed in a similar manner, from a large scale to the study area itself.
At the time of Spanish conquest, the Inca ruled the largest New World territory known, extending over 5,500 km of the Andean range and encompassing parts of the politically defined areas of northern Chile, upland Argentina, Bolivia, Peru, Ecuador, and southern Columbia (Zuidema 1990). The Inca did not use writing, but rather recorded their history with the *quipu*, a mnemonic device composed of cords and strings (Hemming 1970). Unfortunately with the invasion, the ability to read the quipú and indigenous record keeping in general ceased. The Spanish conquerors were mostly illiterate, and the few who could read and write seldom recorded the history of the Inca or their predecessors (Rowe 1946). As such, little was transcribed until well after their violent subjugation, and the veracity of these later accounts tends to be questionable.

While this is not the setting to discuss the many potential biases of the ethnohistoric record, it should be pointed out that such sources of knowledge can be problematic, and they must be approached judiciously and in conjunction with other types of data. For example, research into the *Historia del Nuevo Mundo* by Bernabé Cobo and the chronicles of Pedro Ceiza de León have proven invaluable in concurrence with an examination of the archaeological record in reconstructing and understanding Inca organization and administration (Moseley 1995). The ethnohistoric sources of knowledge for pre-Inca polities, however, are far more limited and even less reliable. They are often translated testimony from indigenous ‘witnesses’ far removed, in some cases by centuries, from the events they describe. There are just a handful of written documents pertaining to the kingdom of Chimor, whose time of North Coast control is the subject of this research (Conklin 1995). These include a fragmentary account of Chimor’s first wave of imperial military expansion, referred to in the *Anonymous History of Trujillo*, written around 1604 CE.
This early military expansion is also chronicled by Antonio de la Calancha in 1638 CE, and the story of Chimor’s origin can be found in *Miscellanea Antarctica*, written in 1586 CE by Miguel Cabello Balboa, and later in 1782 CE by Justo Modesto de Rubinos y Andrade (Moseley 1995). While largely incomplete, these sources, when matched to the archaeological record, have been instrumental in establishing the antiquity and political organization of the Chimu polity (Moseley and Cordy-Collins 1990). Additionally, colonial administrative and judiciary records kept on the North Coast provide further insights into local rule at the time of the Spanish arrival.

**History of Archaeological Research**

Alexander von Humboldt became the first to attempt a systematic overview of Peru’s monuments at the beginning of the 19th century with his work *Vues de Cordilleras et Monuments des Peuples Indigenes de l’Amerique* (Moseley 1992). His work inspired later investigations, such as those of E.G. Squier, who photographed and recorded sites in the Central Highlands during the 1860s. While this marked a very early stage of archaeological research, he nonetheless recognized and proposed different architectural typologies and published a travel narrative complete with detailed maps and descriptions of ancient ruins.

It was not until the late 19th and early 20th century, however, that the scientific method was introduced to Andean research and employed by Max Uhle in his archaeological investigations (Bruhns 1994). Indeed, many credit him with ushering in the practice of systematically cataloging archaeological remains, and for demonstrating the importance of interpretations that are based upon relative stratigraphic positioning (Bruhns 1994; Lumbereras 1974; Menzel 1977). His efforts led to many important discoveries and laid the chronological baseline for Peru’s Prehispanic past. A.L. Kroeber continued his work and recognized a number of extensive sequential time horizons interspersed with alternating local (non-highland)
intermediate traditions (Kroeber 1943). His work provides the chronological basis for Andean research. While there have been numerous revisions and updates to the horizon/intermediate sequential concept, these basic temporal building blocks remain relevant and will be discussed in greater detail in the next chapter.

Perhaps the most well-known early scholar was native born and Harvard-educated Julio C. Tello, who excavated many impressive sites such as Sechin Alto and others along the Pacific coast (Willey 1971). After working for some time within the littoral desert zone, however, he refocused his attentions to the highlands and to the early elements of Peruvian civilization that had eluded Uhle (Burger 1995). He discovered the Early Horizon site of Chavín de Huantar, believing it to be the ‘mother culture’ of all Andean complex societies (Tello 1943). Recent research in the North Coast valley of Supe at the site of Caral by Ruth Shady, however, suggests a much earlier Preceramic timeframe for monumental urbanism and complexity (Haas 2004; Shady 2005). Nonetheless, Tello inspired other indigenous scholars such as Luis E. Valcárcel, providing the discipline with a much-needed multivocality and local view of the Andean Prehispanic (Moseley 1992).

The last prominent figure to be mentioned here is Gordon Willey, which brings this discussion closer to the study area. During the 1940’s Willey, from the Bureau of American Ethnology of the Smithsonian Institution, organized a collaborative surface survey project focused in the Virú valley that included anthropological notables such as Wendell Bennett, Julian H. Steward, William Duncan Strong, Junius Bird, Donald Collier, and Clifford Evans, Jr. (Trigger 1989; Willey 1953). The importance of this project in terms of the study of settlement archaeology cannot be overstated. Moving beyond the ecological approach championed by Steward and others, Willey viewed settlement patterns as a reflection of the natural environment, but also in respect to the level of technology possessed by the builders, and importantly to the social or cultural factors that impacted the builders’ and users’ decisions (Moseley 1992; Trigger 1989; Wilson 1988). He recognized the potential contribution of settlement
pattern studies for understanding the economic, social and political organization of Prehispanic peoples (Willey 1953). Sociopolitical phenomena were seen as integrating mechanisms of a behavioral context linking other aspects of culture, with change as the focal process (Trigger 1989). This collaborative effort combined diverse elements of anthropology and other disciplines to focus on cultural adaptation over time in the relatively small Virú river valley. A large scale, systematic survey of the valley was undertaken, with over 300 sites recorded, and from this, patterns of cultural change were seen and a valley wide chronology advanced (Willey 1972).

The North Coast

As mentioned in the earlier environmental descriptions, there are some 100 river valleys flowing east to west from the Andean range to the Pacific Ocean. On the North Coast these river valleys either exhibit their own unique cultural evolution, or blend and blur their identities with other neighboring valleys. As such, a standard cultural chronology is tenuous, but one will be advanced in a generalized manner in the next chapter. Additionally, it is recognized that North Coast inhabitants utilized and exploited variable ecological zones within each river valley, beyond simply the coast itself. A great deal of archaeological research has been conducted here, and it is not the purpose of this thesis to review it all. Suffice to say that great inroads have been made through the research of many of the major North Coast Prehispanic centers, with peripheral/rural research lagging despite making recent headway.

The Chao Valley and Santa Rita ‘B’ (SRB)

While SRB has been known since at least 1942 when aerial photographs revealed its existence, it was largely ignored along with the small Chao valley and its minor drainage, with the monumental architecture in the nearby Virú, Santa and Moche
valleys garnering more scholarly attention (Kent et al. 1998). No valley-wide systematic pedestrian survey has taken place here as it has in the Virú (Willey 1953) or the Santa (Wilson 1988) valleys, and thus no uninterrupted settlement pattern data is available linking the valley sites to the populated coast and highland centers. Despite this, researchers have studied a handful of sites in the Chao valley beyond SRB itself.

In 1976, a group of archaeologists under the direction of Mercedes Cárdenas, conducted an archaeological study of the Chao valley. In the vicinity of the Village of Santa Rita, they located and designated the sites of San León (17f-14M-7), Cerro Santa Rita (17f-14M-5) and Santa Rita ‘B’ (17f-14M-8) and several others in the Chao Valley (Cárdenas 1976). Beyond actually documenting and registering the locations of the sites, the archaeological work itself was limited at best. Cárdenas and his group observed what they perceived to be “Tihanacoide” highland phase ceramic sherds at SRB, along with a large number of architectural forms materially assembled by the Prehispanic inhabitants with the readily available boulders and stones that covered the site (Cárdenas 1976). Moreover, some of the architectural structures were thought to be similar in appearance to other archaeologically known Andean examples of camelid corrals, and large amounts of coprolites found within these structures seemed to confirm camelid usage (Cárdenas 1976). This was the extent of research here and in the valley itself until 1990-93 when archaeological work was conducted in the lower and middle valley in preparation for the construction of the CHAVIMOCHIC canal system, though the upper valley and SRB were not evaluated at this time (Kent-personal communication 2002).

Finally, in 1997 Jonathan Kent, of the Metropolitan State College of Denver in association with the California Institute of Peruvian Studies, and the Centro De Investigaciones Arqueo-biológicas y Paleo-ecológicas Andinas, “Arqueobios” Universidad Nacional de Trujillo, began a long-term study of SRB projected to run through 2008. During a preliminary site analysis researchers observed a variety of
diverse architectural remains including a long wall of varying height and width, which crossed nearly the full extent of the site (Murralla Pircarda), structures, paths or roads, and what appeared to be architectural water control features (Kent et al. 1999). The presence of a far more varied ceramic assemblage than Cárdenas had initially suspected placed the tentative chronology and temporal range of SRB from around 1000 BCE to present, though the indigenous inhabitants were forcibly removed and relocated to Spanish missions in 1571 (Kent- personal communication 2002). Further, the presence of both Highland and Coastal ceramics and the impression of the highly favorable location of SRB at the “Garanta del Valle”, suggested to Kent and his associates that the site may have served to control the movement of people between both cultural and environmental highland/lowland zones (Kent et al. 1998). Assuming this to be the case, they established a series of research questions and goals:

1. Based on the perception of corral-like enclosures and associated camelid coprolites, the longevity of the site, and the suggested movement of human populations between the highlands and the coast, the research team advanced the hypothesis that SRB served as an important specialized location for the management and breeding of local camelid herds. The primary goal of the project, then, was to test this hypothesis and to add data to the knowledge base regarding Andean economic organization, animal domestication, and transportation (Kent 1998).

2. The second goal was to acquire an increased overall understanding of the ecological and cultural contexts of the site inhabitants. This knowledge, advocates hoped, would benefit the nearby Village of Santa Rita over time with a vision of economic development through eco-tourism. While both personal and humanitarian ties to the village have developed over the course of research (see Campa 1998-2002), it is hoped the influx of much needed funds will deter pervasive and highly destructive looting at SRB in the future (Kent
et al. 1998). SRB is believed to be remarkable for its excellent state of preservation and potential archaeological importance, and as such this goal represents an attempt to protect and preserve it both for the benefit of the local populace and to those scholars seeking to further an understanding of Andean Prehispanic peoples (Kent et al. 1998).

3. Lastly the architectural and farm technologies of the former Prehispanic inhabitants are of interest and seen as potentially applicable to contemporary systems. During a particularly strong ENSO event in 1997, many dwellings in the Village of Santa Rita were flooded and destroyed, and agricultural yields for the year were severely impacted. In addition to the humanitarian concerns, it had been argued that uncertainty in the local economic base due to such events leads to an increase in site looting. SRB itself suffered very little damage from the flooding, owing perhaps to the presence of what have been interpreted as water control features that appear to have been far more efficient than local contemporary technologies. The exploration of these features and their modern incorporation may alleviate the damage from such events, improve the knowledge base regarding such Prehispanic architectural features, and lessen the impact of looting. Following the construction of the CHAVIMOCHE canal system, the valley has seen a population increase and the cultivation of formerly marginal lands, including those along the edges of SRB. It is thought that a greater understanding of Prehispanic agricultural practices may produce greater benefits to the local community and yield a more viable alternative to the contemporary subsistence methods that encroach and threaten the site (Kent et al. 1998).

A ten-year research plan was devised that included several primary archaeological objectives. The goals included delimiting the full spatial extent of the site, mapping and detailing its diverse architectural elements and petroglyphs, and defining the chronology of the site and identifying possible functions that were carried out inside
of and within the context of different architectural types. Additionally, the project sought to carry out systematic archaeological excavations within various contexts to elucidate functional and chronological variation, to evaluate human-environmental interactions and changes over time, and to assess the camelid domestication and breeding model and the economic importance of camelids for the Prehispanic site occupants (Kent et al. 1998).

In order to achieve these objectives and thus address the research questions and broadly stated goals, Kent and his Californian and Peruvian associates established an annual archaeological field school for students and volunteers to collect data under their guidance and tutelage. These field school participants make up the bulk of the work force, though several local Peruvian archaeologists are typically hired each year. Recently the Chao Valley has received more scholarly attention through graduate research, with Melissa Vogel completing a dissertation at the site of Buena Vista, while Michelle Van Heukelem evaluated the nearby Cerro Santa Rita for a thesis project (Van Heukelem 2002; Vogel 2003). Currently several other graduate students are planning comparable projects at SRB as well. What was formerly referred to as the site of Santa Rita ‘B’ by Cárdenas and others, is now recognized as a complex that includes the valley floor, the hilltop of Cerro Santa Rita, the hillside of Cerro Pucarachico, and San León. This study collectively incorporates each within the designation of SRB. With its strategic location in the Middle Chao valley, this is an ideal location to explore the nature of intersocietal exchange, interaction, complexity and sociopolitical organization, and to examine assumptions associated with rural, peripheral location.

Archaeological Record

The preservation of the archaeological record in Peru in general, and at SRB in particular, is impacted by both cultural and environmental factors. This section
begins with an overview of the cultural factors that influence or threaten the Prehispanic material record followed by a discussion of the natural processes that affect the quality of its preservation.

Cultural Impact

During the Spanish conquest, large-scale looting operations sought to extract stores of precious metals from temples, tombs, and cemeteries. Perhaps the most well known such endeavor occurred in the Moche valley. Here the conquerors diverted the Rio (river) Moche into the large Huaca de la Sol (temple/pyramid of the sun), a monumental Early Intermediate Period construction of the Moche polity, effectively utilizing hydrologic mining to wash away the mud brick exterior to reach the potential rich tombs contained within (Moseley 1992). The overall size of the structure was reduced by an estimated two-thirds (Bruhns 1994). While such large-scale operations eventually tapered off in the colonial post-conquest period, group and individual looting has continued relatively unabated, and has been fueled particularly in the last century by the widespread commercial exploitation and consumption of antiquities by western nations, museums, and individual collectors.

Looting represents a reality that most Andean archaeologists are forced to deal with as countless archaeological sites have been compromised in this manner, with SRB being no exception. It was, however, spared the large scale of destruction seen in larger nearby valleys such as the Moche, probably due to the perception that it was a relatively unimportant site situated in a small valley drainage. Indeed it lacks the large platform mounds (Huacas) and the scale of monumental architecture seen in other areas. Nonetheless, the site is pockmarked with an abundance of small and large looter holes dug into human burial contexts, and as the contemporary population of the valley increases, and more impoverished peoples are pushed into marginal agricultural areas such as SRB, this destructive practice will undoubtedly continue.
Government resources to combat looting are stretched thin and mostly directed to the larger tourist draws that generate revenue in the aforementioned neighboring valleys (Tham and Sanchez - personal communication 2003). Faced with this inevitability, this research takes a position that is not without controversy; that is to derive as much data as possible from areas already disturbed by looters. Chapter 6 Field Investigations discusses the approach taken in this thesis to contend with such destruction, and the nature of the data extrapolated in this manner.

As mentioned, the construction of the CHAVIMOCHIC canal system has led to a steady increase in the population of the Chao valley. Prime agricultural tracts are owned by large corporations, but farmed by locals and new arrivals. Those who are not employed by these conglomerates must farm marginal areas where agricultural subsistence is tenuous at best. As a result, most of the arable land in the vicinity of the Village of Santa Rita, and the Rio Huamansaña, is under cultivation. This certainly impacts SRB, though only in the more agriculturally viable areas in close proximity to the river. The architectural core areas of the site, situated as they are upon and within an expanse of large and small deposited boulders on the valley floor, have thus largely been spared from agricultural encroachment. In turn contemporary structures are rare and usually located at the architectural boundaries, with only occasional modified windbreaks used in the architectural core to provide temporary shelter for travelers on foot. Cerro Pucarachico and Cerro Santa Rita, between which the architectural core area of the valley floor is located, have no contemporary structures, though both have not been spared looting. San León had not been evaluated by Kent’s project at the time of this research, and this is largely due to the impact local agricultural practices have had on it.

There is one additional local cultural practice that should be mentioned here beyond those of looting and agriculture. One of the central elements of this research involves intersocietal relationships and a hypothesis to be tested is that SRB participated in exchange and interaction with both the coast and the highlands.
Indeed contemporary peoples regularly pass through this transitional area, though probably not in the numbers of the Late Intermediate period. As such the site is crisscrossed by several foot paths, though the destruction associated with this traffic tends to be localized and minimal. Infrequently walls or elements of structures have been disassembled to allow for the passage of foot or animal traffic. The latter tend to be donkeys or mules, which are more destructive than humans on foot. Local herders graze their goats and sheep here as well, though generally the bottoms and sides of dry quebradas, with their relative abundance of vegetation, are the preferred location. Nonetheless, it is fortunate that this is not a widespread practice as these sharp hoofed domesticated animals are highly detrimental to the preservation of surface remains.

Lastly archaeological research itself can be destructive. Certainly excavation forever impacts the context of archaeological remains, and great care must be given to recording and preserving the research data for future research. Fortunately this has been the case with Kent’s investigations. A seemingly harmless pedestrian site survey, which represents the main methodology of this research, can have deleterious effects on the extant archaeological record as well. The local looters often followed in the steps of the survey team, hoping they would be lead to profitable material culture. To be sure, during the course of this research several fresh looter holes appeared in areas that had been recorded little more than a day or two earlier. This predictably ceased after several days though, as the focus of this research was not compatible with the goals of the looters. Namely, all architectural contexts were investigated, not just those of obvious elevated status that might yield profitable artifacts for the illegal antiquities market.
Environmental Impact

There are also a number of natural processes that affect the preservation of the archaeological record at SRB. Located as it is in the major floodplain of the Rio Huamansaña, it is appropriate to begin with the destruction associated with periodic ENSO events. It is reasonable to assume, based upon water damage and environmental data, that Prehispanic peoples had to contend with roughly the same sort of episodic flooding that the contemporary inhabitants of the Village of Santa Rita do. These earlier inhabitants, as mentioned, seem to have chosen a location more suited to withstand these inherently destructive events, and/or devised more efficient means of diverting flood waters away from architectural assemblages. The contemporary Village of Santa Rita is situated in close proximity to the Rio Huamansaña and is literally at the base of Cerro Santa Rita, placing it at risk for flooding and mudslides. In contrast, most of the architectural assemblage along the valley floor at SRB is located away from both the river and surrounding hillsides thus sparing it from such devastation. Additionally, evidence exists of water control features at the site such as the Muralla Pircarda, a wall of variable height which roughly crosses SRB and spans the valley floor between Cerro Pucarachico and the Rio Huamansaña (to receive a more in-depth treatment in Chapter 8 Analysis), as well as check dams and retaining walls (Kent et al. 1998).

Evidence of flooding is seen in numerous deep-cut quebradas which crisscross the site on a roughly east/west axis. In some instances the Murralla Pircada redirects the water flow to a path of least resistance leading into the natural low areas, though this is not always the case. It is assumed here that the scale of inundation seldom overcame the depth of these larger channels, in some cases up to 7 m deep, nor did flooding affect the site in a consistent manner. In other words catastrophic flooding,
the likes of which would have sorely impacted the preservation of architecture and material culture, has been largely absent here since at least the Late Intermediate period. Chapter 8 Analysis will expand upon the basis for this statement. Where the Village of Santa Rita was nearly obliterated by flooding associated with an ENSO event a few short years ago, the factors of settlement placement and irrigation control features prevented the same sort of widespread archaeological destruction at nearby SRB.

In terms of the impact of flooding on non-fixed material culture, such as ceramics, each architectural unit was evaluated to ascertain the context specific effects of such episodes, which will in turn be discussed in Chapter 6 Field Investigations. Where one specific location may exhibit deep alluvial deposition or wash-out, another may show little evidence of flooding, once again based on the mediating factors of Prehispanic settlement placement and irrigation control features.

SRB is also subject to Aeolian processes of deposition, though the effect is relatively minor compared to change wrought by water. This becomes more of a consideration in the northwest sector of the site, where the ground is fairly level, and where few natural or cultural windbreaks (architecture, walls, etc.) pose barriers to wind-borne deposition. In this area even the Muralla Picarda is low to the ground (25-50 cm), and wind has greater impact on archaeological preservation and detection.

In summation, it is noted that SRB is subject to several cultural and natural processes that influence the preservation and detection of its Prehispanic material record. It is mistaken, however, in the view of this research, to assume the entire complex is equally affected by the destructive factors that have been outlined above. Certain areas exhibit an excellent state of preservation, while material culture in others is almost completely obliterated by both cultural and natural processes. As such, each area and each architectural unit was evaluated, with a set of criteria detailed in Chapter 6 Field Investigations, to determine the effects of cultural and
natural processes on archaeological preservation, and thus the strength of inference of each unit of data.

Summary

Having established the environmental context of the study area, the context of knowledge production associated with this research in terms of historic and scholarly contributions, and the contemporary cultural factors and natural processes that impact SRB, the following chapter provides an overview of the known Prehispanic cultural influences that may have affected SRB in varying degrees over time.
CHAPTER 4

CHRONOLOGY AND CULTURE

A generalized chronological sequence of events as they have been interpreted and presented through Andean research is necessary for an understanding of the potential political and cultural influences that may have impacted SRB over time. This will allow a greater range and scale of events to emerge than is normally afforded for a single site of investigation, though this is consistent with a central assumption of this thesis. Namely, that a change in one area of the Andean ‘system’ can impact developments within another. This is especially true given the sophisticated exchange and interaction networks that existed at the time of Inca hegemony and Spanish conquest at the end of the Prehispanic sequence. Such networks did not simply materialize, however, but had antecedents from the past, as did complexity and the ‘distinct’ forms of sociopolitical organization that came to dominate the Andean region.

This section presents what is perhaps more appropriately and realistically deemed a generalized Peruvian chronological sequence. In particular, while modern nationalism is of no consequence when considering Prehispanic periods, the actual logistics of doing archaeological research in this region, often characterized as it were by long-standing and simmering disputes between the countries of Peru, Chile, Bolivia, Brazil, and Ecuador, make it next to impossible to freely move without difficulty across these political borders (Burger 1989). This can be viewed in both a literal sense with the physical movement of the researcher impeded, and in a figurative sense with limited scholarly/intellectual discourse across national lines. As such Peruvian chronologies differ from Bolivian chronologies and so forth in
terminology and content despite the recognized arbitrary nature of current political
demarcations (Isbell 1997).

There are a number of different methods that Andean scholars have used to define
Prehispanic chronological sequences. One technique divides timeframes into
evolutionary sequences, employing such terms as Formative, Classic, Florescent,
etc., in much the same manner that Mesoamerican chronologies are conceptualized
(see Bushnel 1963; Collier 1962; Kidder 1964; Mason 1957). Others make use of
functional categories such as Farmers, Expansionists, Imperialists, etc. (see Bennett
and Bird 1964; Steward and Faron 1959). Still others opt out completely from
overarching chronologies and utilize local sequences exclusively, further
complicating comprehension of larger scale processes (Bruhns 1994; Moseley 1992).
To avoid such linear developmental and functional connotations, and to advance a
generalized chronology that accommodates local variation and provide a basis of
comparison, this research utilizes a scheme similar to that developed by Rowe (1944)
originally based upon known ceramic sequences, though this approach is not without
its own problems (Bruhns 1994; Willey 1971).

The identification of distinctive pottery types and their spatial patterning has
helped archaeologists in the Andes and elsewhere to infer political or cultural
affiliation, in addition to relative chronologies. Architecture is viewed as the focal
point of analysis for this study, though multiple variables including ceramics also
inform the research questions. Generally ceramic styles are assigned to social and
political groupings, but their specific nature is not assumed apriori, nor are they
thought to represent bounded entities with clearly defined boundaries as discussed in
Chapter 2 Theory. Such terms as Inca, Chimu, and Moche, for example, are used in
this thesis as convenient referents for political groupings and for those who almost
certainly identified and associated themselves therein. These terms, however, are
only used in a very general sense.
Rowe divided Andean culture history into *Horizons*, originally meant to denote timeframes of relative social and political stability, and *Intermediate Periods* which were thought to reflect those of volatility, with many competing polities vying for political, economic, and social control (Keatinge 1988). The Horizons tend to coincide with highland cultural developmental ‘peaks’, whereas the irregular Periods reflect those times when such groups were less cohesive and more fragmented, with hegemony shifting to the littoral polities (Bruhns 1994). These terms reflect a schism between researchers, namely between competing highland and coastal research proponents, who argue for greater importance of their respective sites, study areas, and regions. Rowe’s highland bias certainly influenced development of this chronology, with seemingly little recognition of the coastal political integration that occurred at various scales during those periods of ‘fragmentation’. Thus, the applicability of this ordering has been the subject of well-founded criticisms with a revision undoubtedly warranted. Clearly nominally objective accounts of Prehispanic events are never truly unbiased. This is the case with Andean research which was shaped by competing political, economic and social interests, along with whatever particular bias the individual researcher brought along with them to the table (Isbell 1997:2).

Nonetheless, the usage of such terms as Horizons and Periods remains commonplace, and this approach to chronology will be adhered to with minor variation in order to provide a practical orientation for comparative purposes only. With this in mind, the following sequential ordering serves not as a marker of stable or unstable political manifestations, nor as an indicator of linear developmental or functional stages, but rather as a widely used mode of breaking down a large expanse of time into more or less manageable units, in order to place the study area within its larger chronological contexts. Kent estimates the site of SRB may have been more or less continuously populated for the last 3,500 years, though its tenure as both a
habitation and a route of travel may be longer. As such, this chronology begins with the Lithic Period to contextualize early patterns in the study area.

The Lithic Period (LP) (12000 - 3000 BCE)

The earliest dated hunter/gatherer (HG) sites in western South America have been found in the Central Highland Puna zone (Rick 1987). Here the ‘Central Andean hunting tradition’, as it has been dubbed, is characterized by distinctive willow-leaf and triangular shaped projectile points with rounded bases and tapered points. It is not, however, a uniform industry, but rather includes a variety of different adaptations likely from different groups of H/G’s exploiting both the Puna and nearby Sierra area (MacNeish et al. 1970). As previously mentioned, this is the highest habitable Andean zone, and where it is cool, moist, and windy today, it would have been even more so between 12000-5000 BCE. As such, no open sites with the exception of Guisqui Puncu have been located, with rock overhangs and caves such as Pachamachay affording the best solution for Lithic Period (LP) groups to the often inhospitable Puna climate (Rick 1980).

Quebrada Jaguay appears to be the earliest known maritime occupation of the Andean region and of South America as a whole (Lynch 1990). Located south of the Central Coast of Peru on the north bank of Jaguay canyon, the site is some 2 km from the modern shoreline and approximately 40 m above sea level (Parsons 1970). At around 9000 BCE, prior to the rise in sea level associated with glacial melting, the site would have been about 7-8 km from the coastline, and appreciably wetter than the arid coast of today (Abbott et al. 1997). Because the site’s location on the banks of the Río Quebrada offered easy access to the highlands, the seasonal nature of this drainage, and the sierra source for recovered in-situ obsidian flakes, it is likely the inhabitants were transhumant foragers who spent part of their time in the highlands and part on the resource rich marine coast (Lynch 1990; Sandweiss 2001). Later
coastal occupations were characterized by a lack of highland material and were probably occupied year-round with a fully maritime subsistence base (Sandweiss 2001).

On the North Coast, LP peoples encountered a rich and varied environment. From around 6500 BCE at least three concurrent lithic industries were present: the Unifacial, Paiján, and Fishtail (Mayer-Oakes 1992). Each industry employed a distinct functional technology and set of raw materials allowing mobile groups to adapt to the diverse conditions of the Andes (Moseley 1975). The nature of exchange and interaction, complexity and sociopolitical organization is unclear during this timeframe, because research is impeded by the ephemeral nature of transhumant subsistence practices (Burger 1989). Non-local items (i.e. obsidian, shell fish) were rare during the LP, and HG scholars tend to attribute their presence to transport via non-sedentary groups, rather than exchange (Scheinsohn 2003). Bands were small and mobile to semi-sedentary, exploiting a variety of ecological niches, and it is reasonable to assume that some interaction and exchange with other groups took place, though its exact nature is far from certain. None of the markers for complexity or inequality (Chapter 5 Archaeological Indicators) are to be found, and this absence suggests a more or less egalitarian social organization with non-persistent leadership emerging as needed within varying contexts (Haas 2004).

At the time of this research no LP material had been found at SRB, though it seems plausible that mobile bands passed through the Chao valley as they had at other drainages providing access to and from the highlands and coast. The Chao valley is especially conducive to vertical movement as it is the shortest east to west valley along the North Coast (Silva 1992).
Preceramic Period (PP) (3000-1800 BCE)

The Preceramic Period (PP) is distinguished from the earlier LP both environmentally, as post-Pleistocene conditions stabilized and came to resemble contemporary patterns, and in terms of subsistence strategies as mobile groups adjusted to changing conditions and became more sedentary. Some have attributed this shift to the disappearance of the formerly plentiful terrestrial megafauna, prompting subsistence based upon more abundant maritime resources (Moseley 1992). Indeed, the appearance of numerous PP coastal sites including Aspero in the Supe Valley, El Paraíso in the Chillón, Río Seco of the Chancay, Bandurria in the Huaura, and Salinas de Chao in the Chao, has prompted some to suggest a maritime origin for complex Andean societies (Alva 1986; Feldman 1980; Moseley 1975, 1992; Quilter 1985; Weir 1988). The argument states that the resource rich oceans promoted more growth of large population groupings than inland locations where agricultural and subsistence conditions became more tenuous. In particular, intensive cultivation that could sustain population growth was not possible in the desert coast interior without extensive irrigation, labor, and management. Rather PP peoples congregated first within close proximity of marine resources such as at the site of Paloma near the Chilca drainage, achieving a population level that necessitated diversified fishing technologies to ensure larger and more varied catches (Moseley 1975). This in turn made it necessary to exploit agriculture both along the coast and further inland to provide the necessary material and fiber for fishing equipment, such as nets and line, as well as clothing, shelter and cooking fuel (Moseley 1992:104-105). In short, the exploitation of wild plant resources, limited as they are in the dry coastal desert, could not keep pace with the growing coastal populations. Consequently, industrial cultigens were grown here to fuel the maritime exploitation, which was accessible only to population groupings capable of conducting large scale irrigation projects. Indeed, many distinguish the later PP by the widespread
domestication and adoption of cotton, referring to it instead as the *Cotton Preceramic Period* (Bruhns 1994; Lathrap 1977; Moseley 1992).

Recent research at the PP site of Caral by Ruth Shady has added an important new element to this timeframe, and calls into question this type of maritime-based argument. Located in the Supe valley, some 23 km from the ocean in the desert, Caral is by far the largest site in Peru or the New World that dates to this timeframe (Shady 2003). Covering an area of some 65 hectares and dwarfing the Aspero coastal site that was the inspiration for Moseley’s maritime hypothesis, it has been suggested by Shady along with American scholars Haas and Creamer, that this early site influenced the model of urban design for subsequent Andean materializations (Haas and Creamer 2004; Shady 2003). When the coastal site of Aspero, located at the mouth of the Supe valley, was first excavated by Gordon Willey in the 1940’s, the inland site of Caral was largely unknown. The same was true on his return visit in the early 1970’s accompanied by Moseley who largely based his arguments upon the early date and scale of Aspero (Haas 2004; Moseley and Willey 1973). Shady’s research, however, showed Caral to be older and much larger than Aspero with six major platform mounds and dozens of smaller constructions. Caral exhibits truly monumental architecture unlike any other seen this early in Peruvian Prehispanic times, and while evidence shows that the ocean provided an important source of subsistence, it is clear that the primary economy was based instead upon agricultural production (Shady 2005). Furthermore, where Moseley thought irrigation agriculture to be unlikely inland prior to the development of centralized leadership and management, the survey by Haas and Creamer of the relatively flat Supe Valley demonstrated that the construction of canals could have been achieved rather easily, and that sites in close proximity to the sea such as Aspero would actually have suffered from brackish marshy areas not conducive to the production of viable crops (Haas and Creamer 2004). While the debate between coast and highland proponents regarding the origin of Andean complexity continues, the consensus among scholars,
and Moseley as well, is that irrigation and the management of labor needed to construct canals may not have been the ‘trigger’ for subsequent complexity as had been argued (D’Altroy 1997; Damp et al. 1990; Moseley 1992; Stothert 1992).

Where a symbiotic relationship between coastal (maritime resources) and inland sites (cotton for fishing nets) was advanced by Moseley, several lines of evidence, including the sheer scale of Caral, suggest instead an inland locus of power and probable dominance during the PP (Shady 2005). Beyond scale and monumentality alone, Caral is of interest for a number of reasons and clearly deserves a great deal more attention than it receives here. It is now recognized as the oldest city on the South American continent, and many Andeanists are eagerly awaiting further data from Shady and her team. Ongoing research at Caral will surely contribute to the understanding of urbanization, sociopolitical complexity and the PP of Peru in general, though a regrettable ‘professional’ rift has developed between Shady and the American team that will undoubtedly affect future scholarly relations and fieldwork at the site and within the context of Andean archaeological research as a whole.

As mentioned earlier, there are a number of PP sites on both the coast and highlands beyond Aspero and Caral. Some were fairly large settlements such as Rio Seco which contained a cemetery population of at least 3000 individuals; however, towards the end of this period more moderately sized communities became prominent, spaced around 10 km apart from each other along the entire North Coast zone (Moseley 1992). Mortuary analysis reveals status differentiation during the PP, and it has been inferred that the creation of monumental structures seen between the Rio Chao and Rio Chillon and in the Supe Valley required at least some level of corporate organization (Pozorski and Pozorski 1993; Shady 1993). However, some scholars caution that at least some of the ubiquitous monumental mounds from this timeframe took centuries to construct, and could have been built without centralized corporate direction and labor mobilization (Burger and Salazar-Burger 1991).
In terms of architecture in general, while the highland zones saw the beginnings of the Kotosh one-room ceremonial building tradition during this period, the coast simultaneously witnessed the emergence of the widespread Aspero and Paraiso traditions (Burger and Burger 1980; Moseley 1992). The Aspero architectural typology, derived from the earlier mentioned Aspero type-site, is characterized by large platforms of variable form with flat-topped mounds ideal for the performance of public ritual and display, in contrast to the more privately oriented Kotosh forms. Caral has much the same design as Aspero, but at a much larger scale and overall size (Shady 2005). The end of the PP also saw the adoption of circular sunken and rectangular courts within the mound type, though beyond the mound platforms themselves this tradition does not exhibit many standardized features. Aspero PP traditions are seen at Bandurria, Bulebras, Huaynuna, and Rio Seco, where evidence suggests sizable local communities were available as labor for the corporate undertaking necessary for monumental construction (Bruhns 1994). At other locations, such as Caral, Los Morteros and Salinas de Chao, these large populations are not evident, so outside communities may have been appropriated in some manner for the monumental construction projects, perhaps as a precursor to later methods of widespread labor organization (Haas 2004; Moseley 1992; Patterson 1991; Shady 2005).

The Paraiso tradition, on the other hand, refers to the type-site of El Paraiso, which prior to the research at Caral was characterized as the largest PP structure in the Western Hemisphere (Moseley 1992). In use relatively late in the PP, and possibly enduring into later ceramic times, the site was probably built by an outside labor force with no local populace in evidence (Burger 1995). El Paraiso stands out as the only PP site to exhibit the characteristic U-Shaped architectural patterning prevalent in later times, though it does so in an uneven, multiple stage manner (Moseley 1992). As such it has been suggested that this tradition is transitional, and may indicate the starting point of future architectural trends (Moseley 1992).
The late PP witnessed the emergence of Salinas de Chao at the shoreline of the Chao valley, one of the largest coastal centers of this time (Burger 1995). Like Aspero, its raised platforms exhibited modeled and painted clay friezes, though these features only appeared on public buildings (Burger 1995:35; Moseley and Willey 1973). Architecturally defined rectangular open air plazas are common here as in other PP sites such as Piedra Parada, providing a public or group oriented setting probably for a variety of activities including ritual, feasting and performance. A wide range of architectural forms are found here, albeit in a “systematic but non-repetitive manner”, including a large wall 1.6 m high and 2.5 m thick that stretches some 800 m, controlling access to the shore (Burger 1995:38-39).

Most evidence suggests that the PP marked the beginnings of long-distance exchange, particularly between the coast and the highlands (Burger 1995). Some level of interaction is also implied, with similarities in architecture and settlement patterns emerging across great distances. Signs of marked differences in status, rank, and prestige appear here along with the emergence of the organizational capability for directing large groups of workers in the construction of communal monumental architecture (D’Altroy 1997). Yet political authority was neither fully defined nor unified, but rather may have been pluralistic along the coast. Openly inclusive public architecture was more common here than in the highlands, the latter of which is characterized by a more privately oriented architectural tradition (Burger 1995; Moseley 1975).

Undoubtedly Salinas de Chao, with its massive size, relative to any other settlement in the Chao Valley during the PP, exerted some sort of influence further up the valley at SRB. As mentioned earlier, however, no valley-wide survey has been completed in Chao, and PP sites lacking such monumentality may well have been ignored or overlooked in favor of those that contain more diagnostic ceramic era cultural expressions (Burger 1989). Certainly there are a number of small, relatively isolated structures at SRB, particularly in the eastern portion of the complex, that lack
ceramic surface material and utilize early architectural canons, though this will be
discussed in greater depth later in this thesis.

The Initial Period (IP) (1800-900 BCE)

Before Shady’s work at Caral, it was assumed that the Initial Period marked the
beginning of an era of powerful change, with intensive farming, the exploitation of
domesticated plants and animals, and the building of monumental architecture. Now
it seems that certain developments extend a great deal further back into the prior PP.
Nonetheless, the IP bears witness to widespread economic and social change and the
emergence of more powerful political groupings, though the origins and mechanisms
of the initial development of the latter remain disputed (Pozorski and Pozorski 1987).

Perhaps the single most important advance during this timeframe was the
introduction of agriculture into previously non-viable areas by means of large scale
irrigation practices (Moseley 1992). Where irrigation technologies were not unheard
of, it was during the IP that these practices became widespread and complex. No
longer were populations relegated to the fertile but narrow tracts of land bordering
river drainages in inland areas, or the maritime coastal zone itself. Irrigation canals
were constructed, some far ranging and extensive, that branched off from the main
rivers and permitted intensive farming in the otherwise arid desert coast region
(Bruhns 1994). The agricultural expansion into formerly inhospitable lands and the
associated greater yield of irrigated crops enabled inland population growth.

These irrigation innovations, however, were not spatially restricted to the desert
inland zone. Highland peoples terraced and irrigated arid mountain valleys that
lacked rainfall, facilitating their movement into lower elevation zones, although this
was not always a simple transition (Burger 1995). The construction of canal works in
the highlands would have demanded a far greater effort than that required at the
flatter Supe valley for example, and it has been argued that the success of such
projects required the cooperation of many laborers and necessitated an effective corporate organizing and motivating principle (Haas 1987; Moseley 1992). Thus, in line with Wittfogel and Steward’s functional hydraulic hypothesis, the managerial requirements of irrigation canal construction may have served as a catalyst for centralization of political authority. However, topical research suggests that such considerations were often secondary behind “warfare, highland-coastal interaction, and political control of irrigation systems...” (Billman 2002:393; Steward 1971; Wittfogel 1971).

In addition to the economic and demographic impact of irrigation agriculture on Andean populations, the IP is characterized by a fluorescence of ideological expression (Burger 1989). Monumental construction of ceremonial centers became widespread, both on the coast and in the highlands. With large numbers of IP ceremonial centers, many of which have yet to be examined, and great variability and overlap among the sites that have been studied, it is difficult to succinctly summarize the monumental architectural traditions of this time (Williams 1980). Nonetheless, it can be said that many of the PP construction types and traditions were continued, albeit in conjunction with modifications and new approaches to architecture, presumably reflective of new political formations. Along the North Coast between the Jequetepeque and La Leche valleys, low and wide rectangular platforms continued to be built, usually aligned with rectangular forecourts, though these were intermixed with the newer sunken courts and U-shaped complexes (Moseley 1992).

The U-shaped or Paraiso tradition, as it is sometimes called, which first appeared in the PP, needs to be emphasized here, not just because it is a prevalent IP architectural feature, but because its shape endured in the Andes for nearly four millennia. This tradition expanded on the coast during this time span between the Ríos Jequetepeque and Mala, but was more common between the Huaura and Lurin Valleys (Moseley 1992). The largest IP sites that exhibit U-shaped structures are Sechín Alto, Huaca Los Reyes, Garagay, and the Caballo Muerto complex though
there are just a few of many (Conklin 1985). There are at least fifty large U-shaped centers on the North Coast, some of which were originally mistakenly credited to the later Chavin phenomenon by Tello, but which subsequently were found to date to the earlier IP (Alva 1986; Burger 1991; Donnan 1985; Moseley 1992; Patterson 1985; Pozorski and Pozorski 1986). It has been argued that Chavin and its distinctive later style were influenced in no small part by the iconographic elements and polychrome friezes found on the exterior of such monumental IP U-shaped constructions, further exemplifying the form's importance to Andean developments as a whole (Burger 1989). While the Paraiso tradition shows great variability, it is distinguished beyond the U-shaped complexes alone by its repetitive orientation, spatial organization, and architectural ground plans (Moseley 1992). Indeed, following the completion of the type-site namesake El Paraiso, construction became more standardized, and the U-shaped complexes steadily decreased in size, though they remained important well into the Late Intermediate Period (Kolata 1990).

During this time period, the use of ceramics became common in the Andean region, though they tended to appear in diverse heterogeneous assemblages reflective, perhaps, of widespread experimentation and a strong developing sense of local identification (Pozorski and Pozorski 1979). Distinct pottery styles were associated with single river valleys or specific locations, though larger scale regional identities also influenced the choice of ceramic types (Burger 1995:60). While local autonomy exceeded that found in later periods, it seems that the foundations for larger political groupings were present and discernible in the emergence of regional ceramic types associated with the spread of U-shaped structures.

One such ceramic style is Casma, associated with the relatively small Casma drainage, as well as with monumental and labor intensive architecture at Sechin Alto and Pampa de Las Llamas-Moxeke (Burger 1989). The contradiction between the small Casma valley, which had the capacity to support only an estimated 7000 people at any one time, and the numerous monumental IP constructions found within, has
prompted some scholars to suggest that this was the location of an authoritative seat of power whose sphere of influence extended from the Rio Chao to Rio Huarmey (Moseley 1992; Pozorski and Pozorski 1987; Vogel 2003). Unfortunately very little is known about the origins or political nature of the Casma polity. Evidence on the North Coast suggests both active alliances between competing river valley polities and active warfare, as interpreted from the iconography of Cerro Sechín and elsewhere (Moseley 1992; Vogel 2003).

Towards the end of the IP, a second distinct ceramic typology emerged in an area near the Chicama valley on the North Coast that rose to prominence during the subsequent Early Horizon. While the IP ceramic assemblages in general can be characterized as heterogeneous, Casma notwithstanding, Cupisnique emerged here and exerted a greater influence than other local North Coast river valley groupings (Burger 1995). The actual nature of this influence is unclear, though Cupisnique pottery, architecture, and settlement patterns are found in an area of the North Coast between the Lambayeque valley to the north and the Viru valley to the south (Elera 1993). Stylistically, Cupisnique closely resembles material culture originating at Chavín de Huantar in the highlands, and indeed overlaps in many instances with Chavín cultural developments. While little is known about its developmental sequences, it is nonetheless antecedent to the Chavín style, and is suggestive of interregional relationships between coast and highlands (D’Altroy 1997).

According to Kent, SRB was first inhabited during the IP, though little is known about these early residents (Kent et al 1999). With the Chao valley in close proximity to Viru, it is likely Cupisnique played at least some role in the early development of the study area, and indeed Cupisnique style surface ceramics were documented at SRB, though the character of this influence is unclear (Kent et al 1999). Additionally, Casma style ceramics were noted on the nearby Cerro Pucarachico, although this adjacent site has not been evaluated chronologically or otherwise at the time of this research. The Casma polity does seem to have exerted some influence in
the Chao valley based on Vogel’s recent analysis at Cerro Santa Cruz, adjacent to the town of Buena Vista farther down in the valley. Most scholars, however, place this influence during the height of development later in the Middle Horizon (Vogel 2003).

The Early Horizon (EH) 900-200 BCE

The site of Chavín de Huantar and the Chavín phenomenon have been referred to as the ‘mother culture’ and basis of all subsequent Andean traditions, but a chronological reassessment yielded later dates than originally thought, placing it at the tail end of the IP and solidly within the Early Horizon (Pozorski and Pozorski 1997). This is not to suggest that the Chavín phenomena simply burst upon the Andean scene as it were, but rather followed antecedent shifts to ideologically-based complexity, such as seen in the IP Cupisnique tradition (D’Altroy 1997). Furthermore, it is now recognized that much of the earlier coastal sites (Caral, Salinas de Chao, etc.) mentioned in this chapter far surpassed Chavín de Huantar in terms of monumentality and scale. Chavín and the site of Chavín de Huantar, however, mark the florescence of many of these earlier developments into a highly influential, integrative, and cohesive cultural expression. While it was marked by the continuation of many traditions of the large ceremonial centers and ceramic industries that were synonymous with the preceding IP, new notable occurrences materialized (D’Altroy 1997). Specifically, new and changing political, economic, and social circumstances throughout the Andes led to the abandonment of sites such as El Paraíso and Huaca La Florida while earlier Highland sites such as Kotosh saw continued usage but no additional building episodes (Bruhns 1994).

The site of Chavín de Huantar, from which the Chavín style is understood, is located in the Mosna valley, which is part of the larger Marañón drainage that flows east into the Amazon region (Bruhns 1994). Strategically this location allowed control of traffic from the Callejón de Huaylas and the Amazonian tropics to the east.
(Burger 1995). Situated at an elevation of 3177 m, this northern highland ceremonial center is distinguished from the Kotosh tradition by monumental architecture that incorporates cut stone faced temples depicting relief carvings of bird, feline, snake, and human/shaman iconography (Bruhn 1994; Burger 1989). Additionally, a variety of media beyond architecture alone were used to express Chavín religious beliefs and practices, including ceramics, sea shells, small stone carvings, gold ornaments, snuff tablets, and textiles (Burger 1995). Indeed, such idiosyncratic styles are far ranging, and the actual nature of the Chavín polity has been more elusive to scholars.

It seems likely that Chavín exerted economic and administrative control over a number of highland valleys along with the nearby northern Puna zone, though it was Chavín ideology that had the most far reaching influence. This strong influence is seen in the architecture of Pacopampa north of the type-site, Caballo Muerto in the Moche Valley, Moxeque and Pampa de las Llamas in the Casma valley, and the site of Garagay on the central coast (Moseley 1992). Others such as Cerro Blanco in the Nepeña Valley (not the Moche capital), and Kotosh in the highlands contain only limited Chavín architectural motifs and construction techniques, though the site inventories include what were interpreted to be trade goods of unambiguous Chavín origin. The earlier discussed Cupisnique style shares much of this ideological content, including feline and spider motifs from Chavín, though again the nature of this relationship has been elusive (Shimada 1994). If Caral provided the basic Andean urban plan for later centers, it can certainly be said that Chavín with its planned settlement, drainage systems, large government storage facilities, and ideology, was widely copied by later groups as well.

Other sites appeared during this timeframe, particularly those in the southern Andean region, reworked Chavín motifs within their own distinct and seemingly independent styles. Paracas, centered at the necropolis of Paracas and visible in the southern coastal valleys of Ica, Nazca, and Pisco, is one such example where vessel forms defined in terms of technology and iconography are similar to those of Chavín,
and where such elements have no earlier precedence (Moseley 1992). Iconography of the Paracas culture in the EH, however, also marked the appearance of the *Oculate Being* deity who is associated with knives and trophy heads. This materialization in turn coincided with the caching of trophy heads within archaeological contexts, and this is thought to indicate a trend towards more widespread warfare (Bruhns 1994). The Paracas style is also seen in the southern highlands, albeit in a more generalized way, particularly in the Lake Titicaca Basin. Here two distinct corporate traditions, the Pukara, probably derived from the earlier Chiripa tradition, and the Tiwanaku also incorporated Chavín styles within their preexisting Yaya-Mama religious customs (Young-Sanchez 2004). Similarities shared by both are most often attributed to this earlier shared ideology, as both subsequently followed independent courses of development.

By the end of the EH, much of the Andean region was populated by sedentary, agricultural and maritime societies that possessed the beginnings of complex sociopolitical structures. Pottery was widespread and revolutionary techniques in metallurgy appeared in the southern highlands, while irrigation and monumental/ceremonial architecture were prevalent in both north and south highland and coast, and it seems clear that territorial warfare had begun in earnest (Moseley 1992). Large urban centers were common and involved sophisticated interaction and exchange systems that moved people, material goods, and ideas over great distances and through different environmental zones via early road systems (Bruhns 1994). Many argue that shared ideologies led to cohesion amongst these new systems of sociopolitical organization, complexity and interaction spheres (Burger 1992; Lumbreras 1989; D’Altroy 1997).

As mentioned, there is a Cupisnique influence defined at SRB based upon the identification of ceramics exhibiting this style, though none have been identified at the time of this research as belonging exclusively to Chavín (Kent 2001). With little known about the relationship between the two this is not surprising.
The Early Intermediate Period (EIP) 200 BCE- CE 600

At the onset of the Early Intermediate Period population growth led to a decline in exploitable land. Most viable ecological niches were occupied, and farming was only possible through the reclamation of marginal lands by means of increasingly intensive irrigation practices (Moseley 1992). As such, polities expanded and competition amongst them for territory increased prompting some scholars to refer to this as the Regional Developmental Period (Lumbreras 1974). At the beginning of the EIP, the unified Chavín phenomenon had broken down in the highlands, and its regional ideological influence had waned, though reactions against Chavín were hardly iconoclastic (Burger 1989). Nonetheless the EIP, relative to the EH, saw the emergence of more discrete ceramic and architectural traditions throughout the Andean area (Donnan 1978).

Stylistically and artistically, the EIP is remarkable for its diversity which prompted other Andean ‘foundational’ scholars to dub this a Classic or Florescent era (Lumbreras 1974). The EIP cultural diversification also included equally noteworthy advances in ceramic technology, production, and artistic expertise occasioning still others to label this as the Period of the Master Craftsmen (Bennett and Bird 1949). Indeed, increased skill level was associated with the widespread appearance of craft specialists, attached to emergent and competitive polities. The production and distribution of craft goods and the use of exotic preciosities for political legitimation during this time became increasingly important with increased concern with territorialization and the strengthening and defending of local identity and influence (Conklin and Moseley 1988). The use of domesticated camelids became widespread, not only as sources of wool and meat, but for use as pack animals enabling long distance exchange systems (Moseley 1992). It was also at this time that populations began to reside within progressively larger urban centers, at least along the North and South Coast areas, while the Central Coast experienced the abandonment of many of
its older ceremonial centers (Silverman and Proulx 2002). While many throughout
the Andean region still dwelled within undefended residential settlements, numerous
fortified sites and defensive features appeared and became a common architectural
form during the EIP (Moseley 1992).

Along the South Coast of Peru the Nazca culture emerged from Paracas
antecedents and came to influence an area between the Chincha and Acari valleys,
with its greatest expression in the Ica and Nazca drainages (Moseley 1992). The
widely known Nazca might easily have been characterized by early scholars as the
model of cultural 'florescence' with ceramics and iconography rich in symbolism and
craftsmanship, and with the unparalleled geoglyphs that have captured the attention of
science and the popular public in general. Settlement patterns of the urban capital of
Cahuachi suggest a political structure comparable to the Central Coast and less
centralized than the North Coast, and while this polity appears to have influenced a
sizable area in the south, Silverman has suggested an organization analogous to
Crumley's heterarchy, which was discussed in Chapter 2 Theory (Silverman 1993;
Crumley 1987).

In the Southern Highlands, however, the site of Tiwanaku emerged from earlier
Yaya-Mama religious traditions, the latter of which had materialized in concert with
Pucará in the Titicaca Basin between 200 BCE and 200 CE (Young-Sánchez 2004).
By 200 CE Pucará had fallen and Tiwanaku became the most populated highland site,
though it was not until the end of the EIP that it became the center of the largest
multi-regional polity of its time (Vranich 1999). Largely contemporaneous with
Tiwanaku, the Wari culture, centered at the site of Huari in the Central Highland
Ayacucho area, had firmly established antecedents by the end of the EIP (Isbell
1991). It would not be until the Middle Horizon, however, that both began to exert
expansive influence. As with Nazca, artisans working with ceramics, textiles and
sculpture achieved unprecedented skill levels in both locations, signifying the
presence of craft specialists “incorporated into the urban form of life that becomes clearly defined during this stage” (Lumbreas 1974:95).

The Lima culture, as it has been dubbed in the Rimac valley on the Central Coast, was characterized by monumental urban construction and a wide distribution of Lima-style ceramics, prompting earlier scholars to suggest its size and scale were comparable to its contemporary North Coast political neighbors (Willey 1971). This is not the case, however, as succeeding research, complicated by the modern, sprawling metropolis of Lima, has demonstrated the establishment of only loose political connections here during the EIP (Burger 1989; Moseley 1992). Furthermore, it appears that most of the population was dispersed in these valleys, perhaps indicative of a marked disengagement from once important Chavín influenced ideology.

During the EIP the Northern Highlands were by and large inhabited by rural groups, though the region was also home to several polities including one centered in the Cajamarca basin (Moseley 1992). The distinct Cajamarca white-wear ceramics exhibit both a vertical and horizontal range, occurring in the coastal drainages and as far south as the Cuzco basin (Moseley 1992). However there is little evidence of monumental architecture or other indicators of a strong centralized polity. The Recuay style appeared in the Callejón de Huaylas and in the highlands during the EIP, and the ceramic style spread to the coastal region of the Santa valley and to lesser extent adjacent valleys (Lumbreras 1974). There are several known Recuay centers, including Pashash near the modern town of Cabana, yet no known capital has been identified. The appearance of Recuay ceramics at Moche sites, and particularly within Moche elite contexts suggests an important relationship most likely existed between these contemporaneous cultures (Moseley 1992:201).

Finally, the North Coast region emerged during this timeframe as the loci of centralized and consolidated rule. At the beginning of the EIP, and following the decline of Chavín derived highland influence and the weakening of the coastal U-
shaped ceremonial centers, new groupings emerged on the North Coast including the Salinar and Gallinazo (Moseley 1992; Willey 1971). Salinar originated in the EH with the primary areas of its expression in the Chicama and Viru valleys, and culminated early in the EIP. It should be pointed out that the demise of Chavin de Huantar did not result in an abrupt cessation in Chavin ideology on the North Coast per se, rather many elements of iconographic symbolism and perhaps the associated meanings enjoyed a prolonged continuity, though one which incorporated new elements of local and developing social and political groupings. Salinar was certainly no exception, and its ceramic tradition reflects a transition between Cupisnique and later Moche expressions (Willey 1971).

The same can be said for the Gallinazo, a ceramic style similar to Salinar though with a greater range of distribution, which immediately followed it from around 50 BCE to CE 100 (Burger 1995). During this relatively short span of the EIP a proverbial explosion of monumental building activity occurred, especially associated with Gallinazo population growth within the Viru and Santa drainages, which in turn was facilitated in large part by the construction of vast irrigation canals (Lumbreras 1974). Architectural construction and settlement patterning reflects hierarchal sociopolitical organization, with elites opting for residential units of different material (adobe) and shape than non-elites, and large primary and secondary centers overshadowing villages and farm hamlets (Lumbreras 1974). While it appears that the Viru valley contains the greatest overall volume of Gallinazo architecture, this may instead be related to the amount of actual archaeological scrutiny the valley has received. The Chao valley study area has not been systematically surveyed as Willey (1974) did at Viru, and until comparable research occurs in other lesser known North Coast valleys it will be difficult to ascertain the inter-valley influence the Gallinazo culture exerted during the EIP. Nonetheless Gallinazo appears to have been a centralized polity that achieved consolidated political control, laying the groundwork for larger scale developments associated with the Moche.
Gallinazo has often been viewed as a precursor to the Moche polity on the North Coast; however, it appears that both existed as contemporaries, at least in some instances further to the north (Lumbreras 1974). Regardless, the Moche followed the Gallinazo centralization pattern in Viru, by taking control of Cerro Blanco in the Moche valley, which became the location for their capital. Here the previously mentioned Huaca del Sol and Huaca de Luna bear testament to the ability of the Moche to mobilize large amounts of workers to create enormous adobe-brick constructions. Despite the looting and environmental degradation, it is clear this was once a vast metropolis that served as the focal point of a regional imperial hierarchy. The EIP witnessed the organization of the Moche culture and polity by around 50 BCE, and its successive florescence and integration of all North Coast valleys (Bawden 1999).

Moche ceramics are perhaps the best known medium for the expression of iconography, the likes of which were highly standardized and reflective of the centralized political control of specialized artisans and the messages conveyed through their products (Moseley 1991). This corporate style included a three-dimensional realism and naturalism, absent in much of the earlier iconographies, which were used to express symbolic themes (Donnan 1978). From the presence of distinctive Moche ceramics, architecture, and settlement patterns, researchers have inferred an area of influence extending from the Vicus section of the central Piura drainage in the north, to the Huarmey valley to the south (Moseley 1991:181). Additionally, this maritime-based culture established a presence on numerous islands far south off the coast, mainly for the purpose of controlling and collecting bird-derived fertilizer. It does not seem, however, that far flung provinces experienced the sort of centralized rule characteristic of the North Coast valleys.

Based on iconographic and physical evidence of warfare, Moche probably extended its hegemony through conquest and violence throughout much of the North Coast. The Moche threat itself likely compelled local rulers of smaller polities to
comply without a fight and to be subsumed within the greater Moche whole (Lumbreras 1974). Within these incorporated valleys a Moche administrative center was often erected that employed standardized architectural canons seen at the capital at Cerro Blanco and also at the large centers of Huancaco in the Viru valley, Panamarca in Nepena, and Pampa de los Incas in the Santa (Moseley 1992:183).

The EIP saw an influx of ceramic cultural styles into and around SRB. From the highlands, Cajamarca and Recuay sherds have been recovered during investigations, albeit in low overall numbers (Kent et al. 2001). Gallinazo ceramics are more common at SRB, along with Moche, especially upon Cerro Santa Rita where they constitute the dominant assemblage (Van Heukelem 2003).

The Middle Horizon (MH) (CE 600-1000)

As mentioned earlier, environmental conditions deteriorated rapidly in certain areas of the Andean region at the end of the EIP and the beginning of the Middle Horizon (McClelland 1990). Some see this as the “trigger” for the dissolution of polities like the Moche, and the expansion and reorganization of others such as the Wari and Tiwanaku (Moseley 1992:209). There is certainly a great deal of environmental data suggestive of powerful natural events occurring over several decades, be it the result of ENSO or tectonically induced coastal uplift, and it seems reasonable to infer that it played no small role in altering sociopolitical fortunes and trajectories (Orloff, Feldman, and Moseley 1985; Thompson et al. 1985). Undeniably there appears to be a striking lack of centralized political control on the North Coast during this timeframe (Bawden 1996).

The Moche polity at the height of its political consolidation experienced a severe drought from CE 562-594 (Moseley 1992). Coupled with equally severe ENSOs the drought had extreme effects upon the Moche capital at Cerro Blanco. Large amounts of top soil were flooded away, with sand deposited in their stead, covering the urban
area between the edifices of Huaca de la Sol and Huaca de la Luna (Donnan and Mackey 1978). By Moche IV times the capital and many Moche settlements were abandoned, while Moche V saw the reorganization and population shift of the polity at the beginning of the MH further inland to Cerro Galindo (Bawden 1999; McClelland 1990). Galindo was a strategic, fortified location positioned well above the floodplain, consistent with the appearance of many such similar settlements of this time, and probably reflective of a North Coast power vacuum and resultant jockeying for position among formerly secondary polities (Bawden 1982). Moreover, the previous association of architecture with social status changed as few adobe corporate structures indicative of high status were built. Rather the architectural emphasis of the elites appears to have shifted to storage facilities meant to stockpile resources, reflective again perhaps of a period of increased uncertainty.

A new Moche capital was built at the inland site of Pampa Grande in the Lambayeque valley to the north during the MH, marking the abandonment of the Moche valley as the centralized seat of power for the first time in centuries (Bruhns 1994). Here the symbols of Moche corporate art continued to be displayed, yet it appears they were received less than enthusiastically in this time of shifting ideologies. The southern territorial regions were either abandoned or were inhabited by populations capable of resisting foreign control on their own when Moche became weakened, and thus this short lived Phase V was strictly a North Coast event (Shimada 1990). By about CE 700, Pampa Grande had been abandoned and razed by fire, but it is unclear what prompted this. It has been alternatively argued that this was facilitated by a continuation of environmental stress, with data pointing to devastating ENSO events here and at other inland Moche V sites, or part of the larger shift in ideology, as evidenced by an abandonment of the Moche terrestrial pantheon for one based on maritime themes, the latter of which were taken up by the succeeding Chimu polity (Moseley 1992).
With the collapse of the Pucará polity at around CE 200, the highland polity of Tiwanaku achieved preeminence with the integration of the Southern Andean sphere, coupled with a massive building episode in the Titicaca basin (Young-Sanchez 2004). The earlier religious traditions were incorporated into state-controlled ritual practice, with a battery of iconographic imagery and canons proliferating upon textiles, ceramics, statuary, and precious metals, and the site of Tiwanaku itself became a sacred center (Baur and Stanish 2001). At the height of its political development, the same drought that impacted the Moche polity apparently was felt here as well, yet it seems Tiwanaku was more resistant and its herding and raised-field agricultural economy around the shores of Lake Titicaca was not significantly disrupted as was Moche farming along the North Coast (Kolata 1986). Recent experimentation with raised agricultural fields around the lake has demonstrated consistently higher crop yields, and a greater resistance to high altitude frost than nearby contemporary plowed fields. The lake, while showing Prehispanic water level fluctuations, never went dry during human habitation of its basin (Kolata 1986). Therefore, Tiwanaku could have persevered by constructing more raised fields as the lake level fell, though this certainly would have been a labor intensive ongoing project (Moseley 1992).

Where the Moche capital was abandoned, Tiwanaku instead experienced a major rebuilding episode around CE 600, where older structures were destroyed and new buildings and shrines were erected (Young-Sanchez 2004). Tiwanaku strengthened and expanded not only its urban center, but also its political and economic influence beyond the valley and Lake Titicaca basin, to include much of the Southern Andean sphere. In two centuries it reached its height with a large population and a wide-ranging exchange system, the latter of which was made possible by llama caravans and well-established pre-Inca road systems (Kolata 1993). The Tiwanaku presence has been inferred through public architecture as far away as Bolivia and Northern Chile, with some evidence suggesting colonies were actively developed by the ruling polity (Goldstein 1993). The geographic distribution of non-fixed, portable material
culture was far wider, with the distinctive Tiwanaku iconography found throughout the Andean region. Specialized workshops for the production of preciosities that incorporated such state iconography were present at Tiwanaku, and their far ranging distribution to distant locales, and frequent recovery from elite burial contexts, attests to their importance (Young-Sanchez 2004).

Eventually, the end of the MH saw the dissolution of Tiwanaku, with its population rapidly abandoning the center and relocating to smaller villages within the Lake Titicaca basin. The cause of this collapse is unclear and complicated by later archaeological ‘restoration’ projects that mishandled a great deal of data and reconstructed an idealized version of the capital, as well as subsequent groups of people identified as the Aymara, Inca, and Spanish, who moved or appropriated stone building material from the site to fulfill their own construction needs (Vranich 2006). Some argue the control of labor for large scale projects like raised field agriculture, needed to counter the mitigating effects of drought, placed an undue strain upon the polity (Young-Sanchez 2004). Whatever the cause, the wealth emphasis shifted along with changing political fortunes, with llama herding assuming prominence over lake-derived agriculture for later population groupings.

A second stylistically distinct type of architecture and ceramics emerged and spread in a wide swath throughout the Andean area during this timeframe as well, appearing intrusively at a number of locations both in the Andean Highlands and along the Pacific Desert Coastal zone (Isbell 1997). The Wari culture originated at the huge 200-hectare central highland site of Huari, radiating outwards with the expansionistic ambitions of a militaristic polity (Isbell 1977; Lumbres 1960; McEwan 1985; Menzel 1968; Rowe 1963; Schaedel 1978). Early ‘foundational’ archaeologists assumed Wari ceramics belonged to the Tiwanaku group, and while it is true that certain similarities exist, it has become clear that Wari is a style unto itself and one that had a much greater geographic range than Tiwanaku (Rowe 1963; Isbell 1991). So too, Wari architecture is wholly distinct from Tiwanaku, with discrete two-
story compounds which adhere to an internally consistent grid which Isbell has
dubbed "orthogonal cellular" architecture, and which is likened to military style
barracks or prisons (Isbell 1991: 313, Schreiber 1992:81). While the nature of MH
political influence and the Andean-wide role of Wari are debatable, Isbell suggests
the capital of Huari was "administratively and militarily strong...that it developed
more or less parallel with an independent Tiwanaku polity on its southern border"
(Isbell 1991:7). Certainly neither can be considered without the other, and it has been
suggested that this time frame can be characterized as a Southern Andean co-tradition
of far ranging imperialism (Isbell and Silverman 2006). The relationship between
both centralized polities continues to be explored and debated, however, with some
favoring Tiwanaku dominance, and others expressing doubt of any single principal

Where stylistically a number of similarities in terms of iconography exist between
Wari and Tiwanaku, their methods of expansion and presumably administration of
territories differed markedly as well. As mentioned, it has been argued that Tiwanaku
established colonies, though with few exceptions these administrative apparatuses do
not exist outside of the capital’s heartland core (Isbell and Silverman 2006). Wari, on
the other hand, appear to have built far-flung, planned architectural compounds that
functioned as administrative complexes including Moquegua at Cerro Baul, Pikillacta
in Cuzco, Viracochampampa in Huamachuco, and Jincamocco in the Carhuarazo
valley, as well as a whole series of smaller centers (Glowacki 2002, Isbell and
imply a uniform approach to consolidation, but rather it seems that Wari employed
varying strategies based on the extant sociopolitical conditions in place locally. In
other words, in instances where no sociopolitical control apparatus existed in
conquered territory, Wari built one to achieve their objectives (Schriieber 1992).
Conversely, where such local structures already existed, the need for the managed
construction of administrative centers was minor, and the preexisting structures were
subsumed and utilized. Of course this was not an either/or prospect, but strategies selected from a continuum reflecting local sociopolitical variability. The Wari presence ranged from defensive and militant positions, which appeared to suggest a deep concern with local hostilities, to more open administrative centers consistent with more or less peaceful coexistence with local populations (Moseley 1992). This particular flexible strategy of adjusting to diverse local situations would be replicated often, and was used advantageously by the later Inca polity in its ambitious expansions.

Following the dissolution of the Moche polity, Wari began to influence northern coastal inhabitants to some extent, though this is debatable (McClelland 1990). The nature of this influence appears to have been ideological and perhaps economic, though probably not administrative, despite claims for a "great conquest" and North Coast occupation notwithstanding (Lumbreras 1974:165; Mackey 1982; Shady 1979). In particular, Wari ceramics have been found at various sites along the North Coast and within the context of elite burials, where the MH marks a time of significant change in settlement patterns comparable to those seen at highland Wari centers of urbanism (Schaedel 1951; Willey 1953). In addition some local North Coast assemblages, such as Moche V, display certain similarities with Wari ceramic styles and manufacturing techniques (McClelland 1990). It does not appear that Wari exerted the same sort of pressure on the North Coast as it did elsewhere, as no known administrative centers have been discovered, and the overall trajectory of North Coast artistic traditions seems unaffected and persists, albeit with modifications, from Moche to Chimu political hegemony (McClelland 1990; Moseley 2001; Shimada 1978).

It is thought that during this time at SRB and along the North Coast in general, MH ceramic assemblages characterized by local diversity are present, though again in fairly low numbers (Kent et al. 1999). This heterogeneous collection includes local valley types like Viru, and isolated highland sherds, some of which have been
identified as Wari. Notably absent are late Moche style ceramics, coincident perhaps with the initial Moche polity withdrawing from its southern territories, as discussed earlier. If this is the case, it suggests that a more gradual Moche dissolution than that argued by ecological disaster proponents was likely.

The Late Intermediate Period (LIP) (CE 1000-1470)

Following the decline and ultimate disappearance of highland powers such as the Tiwanaku and Wari, a North Coast power emerged during the Late Intermediate Period that became the largest polity known to South America, and whose territorial influence is surpassed only by the later Inca (Conklin 1990; Lumbreas 1974; Moseley 1990). The kingdom of Chimor, as it was referred to in the handful of fragmentary Spanish administrative accounts, conquered some 1000 km of coastland territory from the Tumbes valley in the north to the Chillón valley in the south, and is estimated to have controlled two thirds of all irrigated coastal land (Lumbreas 1974; Moseley 1992:248; J. Topic 1990; T. Topic 1990). Additionally politically affiliated highland areas included the Utcubamba valley, and the Cajamarca and Huamachuco regions, though Chimor was largely a coastal phenomenon with no evidence of actual physical expansion into the highlands (Lumbreas 1974:181; T. Topic 1990). Mentioned in these documentary texts are two dynasties; the first, Taycanamu, was located at the capital city of Chan Chan in the Moche valley just a few km from the EIP Moche capital and the seat of Chimor power, while the second was Naymlap or Sican in the Lambayeque region, which was eventually integrated into the expansive Chimor polity (McClelland 1990).

Chimu iconography, following both the dissolution of Moche and the cessation of highland Wari influence, built upon the past traditions of Moche V with a maritime emphasis (Conklin 1990; McEvedy 1990). While ceramics, woodworking, and textile manufacture were notable, Chimu craft specialists excelled at metal working,
achieving a level of expertise unknown in the past and unsurpassed by later groups (J. Topic 1990; Lumbreras 1974). Indeed, Chimu metal workers were in high demand in later Inca workshops (Diez Canseco 1990; Ramirez 1990). In general, the Chimu style also continued much of the realism of earlier Moche iconography, though it lacks much of its narrative characteristics, and incorporates a variety of geometric abstract motifs (Pillsbury 1997).

Preexisting architectural traditions were also appropriated and reinvigorated, with a return to U-shaped structures, albeit at a smaller scale and in the form of audiencias, which presumably served as noble offices of the ruling elite (Mackey 1982; Moseley 1992). Many of these are seen in the massive urban capital of Chan Chan, which covers an area of at least ten km² and is the largest adobe city in the New World (Keatinge 1982). This imperial Chimu type site was successively built in stages beginning around CE 850 and ending at the end of the LIP with its military defeat at the hands of the Inca (Kolata 1990). The most salient feature of Chan Chan’s architecture is the ciudadelas, or standardized compounds of the highest lords, which contained residences, gardens, storage units, and deep freshwater wells (Conrad 1982). All except one contain a burial platform and ancestral shrine that, despite extensive Spanish looting, still contained evidence of incredible amounts of preciosities such as Spondylus shells and other elite goods (Kolata 1990). The majority of occupants, however, resided in small, irregular, agglutinated rooms (SIAR’s) composed of perishable materials and located outside the walls of the massive compounds (Kolata 1982). Despite its impressive scale, Chan Chan does not appear to have been a unified capital per se, with no central plaza or street plan, and with architectural organizational disparities discernible between interior and exterior. Conklin, for instance, points out “the rigorously organized plans inside the compounds contrast radically with the patterns outside...indicating that those in power inside a compound did not control the outside, not even the entrance…” (Conklin 1990:64).
The establishment of the Chimu polity and consolidation of its territory took several generations and expansion phases, following in the footsteps of the earlier Moche polity and beginning first with the Moche valley itself (Kolata 1990; T. Topic 1990). It would have been advantageous to exert control further upstream in the valley from the coast area, in order to control important canal systems and to delineate and manage movement to and from the highlands (T. Topic 1990:187). Thereafter neighboring valleys were incorporated and administrative centers like Farfan in the Jequetepeque valley were constructed complete with scaled down duplicates of Chan Chan’s audiencias (Keatinge and Conrad 1983; T. Topic 1990). Such provincial centers changed over time, eventually ceasing to incorporate burial platforms, and where audiencias were still found, they were not identical but variants (Mackey and Klymyshyn 1990; Shimada 1990; T. Topic 1990).

It thus appears that local rulers were conquered, coerced, or co-opted into an administrative valley hierarchy, which in turn was subservient in varying levels to the capital of Chan Chan, and where some valleys such as Lambayeque had their political organization replaced by Chimor, there is evidence that a number of outlying areas retained their local distinctiveness (Mackey and Klymyshyn 1990; Richardson III et al. 1990). While some scholars advocate a unified view of empire based upon the wide distribution and character of Chimu artifacts, others point out the fragmented organization of Chan Chan itself and suggest instead a less cohesive overarching sociopolitical organization (Conklin 1990:70; Lumbreas 1974; Mackey and Klymyshyn 1990). The nature of relations between valley populations and between core and periphery remain unclear.

The LIP also witnessed the post-Huari dissolution, and reorganization into the antecedents of the Late Horizon Inca in the highlands. Specifically, ceramics localized to the Cuzco region emerged, which incorporated earlier elements and became the blueprint for the later corporate style of the Inca (Burger 1989; Willey 1971). It appears that consolidation of the Cuzco valley occurred fairly early, perhaps
sometime around CE 1400. According to documentary sources, the neighboring Chanca polity attacked Cuzco in CE 1438, but suffered a surprising setback at the hands of the emergent Inca (Bruhns 1994). Riding this groundswell of good fortune, the Inca attacked every Southern Highland polity they encountered thereafter, conquering and subsuming them within their own rapidly growing polity. The Southern Coast was soon to follow, and then the Titicaca basin, Cajamarca in the North Highlands, and Ecuador, with Chan Chan eventually succumbing to victorious Inca armies returning from their far north campaigns. Despite a purportedly drawn out struggle, Chimor fell, marking the end of the EIP, and the Inca ruled the largest political territorial grouping ever known to South America (Bruhns 1994).

Chimu ceramics are the most numerous of all recovered assemblages at SRB (Kent et al. 2001). In particular, the late Chimu style is especially pervasive, possibly suggesting an incorporation of the Chao valley or SRB later than originally thought. Indeed, evidence exists of fortified sites and an apparent Chimu siege of local inhabitants at the site of Cerro de la Cruz in the Chao valley, though the dates for this event remain uncertain (Cardenas 1979; Topic and Topic 1987).

The Late Horizon (LH) (CE 1470-1532)

Following the conquest of the last major Andean opposition to their rule, the Inca embarked upon the formidable task of administrating such a large territory, though smaller scale consolidation continued relatively unabated (Patterson 1991). As the domain of the Inca grew through conquest, new groups and different cultures were brought into the fold, and indeed the term ‘Inca’ itself becomes somewhat a misnomer when associated with the LH. ‘Inca’ rather referred to an ethnic group which numbered no more than 40,000 strong that resided in the Cuzco core area, and that were nonetheless able to exert control and become the ruling class of no less than ten million Andean subjects (Moseley 1992: 9).
The Inca faced many of the same administrative challenges that Chimor dealt with as well, though at a larger scale. It was of course no longer possible to simply duplicate the mechanisms of rule and order that were so effective in and around Cuzco (Patterson 1991). It was necessary rather, to integrate new heterogeneous populations within the collective whole, and it appears the Inca achieved this with mixed success by borrowing many of the previous administrative strategies utilized by the Chimu and Wari polities. So too, many of the traditional common elements of Andean culture, such as feasting prior to imperial labor service, were “incorporated into the dominant culture in an attempt to give historically grounded meaning to the new practices and interpretations” (Spalding 1984:83). It was a balancing act of sorts, where the new projection of Inca hegemony through art styles which on the surface seemed to lack clearly defined antecedents, owed its success to the integration of past practices (Shimada 1990). The revival of older Andean traditions on the one hand served the Inca need for legitimization and acceptance amongst newly subjected populations, yet on the other often fostered costly insurrection (Patterson 1991:71). To be sure, the territory was far from peaceful, as costly rebellions of conquered peoples and polities, such as Chimor under the rule of Chimu Capac, were a regular occurrence and had to be dealt with (Diez Canseco 1990).

The Inca polity approached the administration of each conquered group in a flexible manner, whereby those such as the powerful Chimu who were violently opposed to Inca expansion were dismantled, and divided into smaller entities more suitable for rule by loyal Inca-appointed leaders (Morris 1985; Salomon 1986). Others who had not resisted incorporation were treated more leniently and afforded more local autonomy. The logistics of managing such a large territory resulted in a gradient of control relating to distance (Salomon 1986: 187). In other words, those on the frontier generally retained more of their local sociopolitical structure under Inca rule than those closer to the core of Cuzco, though the threat of direct coercion still loomed, especially in those areas deemed economically or strategically important by
the Inca command (Bray 1992). For example, clearly discernible differences between
earlier local autonomy in the Central Highlands and the imposition of Inca rule is
generally absent in polities further to the north, save those considered vital enough by
the Inca to warrant greater attention (Costin and Earle 1989). Additionally, the effort
and resources necessary for frontier control or expansion were highly variable and
dependent on various considerations such as intersocietal exchange or interaction (D'Altroy et al. 2000; Ramirez 1990). Yet a small administrative investment in the
conquered frontier, while facilitating continued exchange and interaction, could and
sometimes did backfire and result in rebellion (Patterson 1991).

Inca architecture, like Inca ceramics, was highly standardized and designed and
manufactured by appointed craft specialists. Dressed stone with slightly convex outer
surfaces was used to create uniform structures of distinctive Inca appearance, while
ceramics were easily recognized by their vibrant painted black-white-and red surfaces
(Willey 1971:175-181). Inca settlements exhibited rural residential patterning,
despite the presence of numerous administrative and ceremonial centers in conquered
territory, and in contrast to the urban focus of many of the earlier larger polities that
have been discussed. Yet in provincial locations architectural form and material were
more variable, and largely dependent upon the specific strategy used for
administration, which in turn was principally based upon the historic conditions of
conquest and the perceived return on building investment (Farrington 1992; Shimada
1990). While there is solid evidence of diagnostic Inca administrative centers
modeled on the Cuzco form along the Central and Southern Coasts at sites such as
Pachacamac, Tambo Colorado, and Tambo de Jaqui, there is little evidence of Inca
investment along the North Coast (Wilson 1988). Indeed, no known Inca architecture
or implied presence beyond occasional ceramic sherds are seen there suggesting the
Inca conquerors effectively appropriated preexisting Chimu infrastructures to
facilitate control and maintenance, or perhaps were so effective in dismantling the
Chimu polity that an active investment to maintain power was unnecessary (Donnan
and Mackey 1978; Proulx 1978; J. Topic 1990; Wilson 1988). The switch then to Inca hegemony may well have been as uneventful and non-disrupting to local North Coast settlement and economic patterns as the earlier transition to Chimu hegemony, though this is of course highly situational and needs to be demonstrated on a case by case basis (Mackey and Klymyshyn 1990:221; Ramirez 1990).

Chimu/Inca ceramics, marking the transition to foreign hegemony, have been recovered at SRB, as have purely Inca type sherds as well (Kent et al. 2001; Shimada 1990). However neither type exceeds 1% of the total recovered ceramic assemblage suggesting a minimal administrative investment at the study area at best.

The Colonial Period (CP) (CE 1532-1826)

Following the conquest of the Inca by the Spanish, precipitated in large part by the effects of a protracted elite civil war and debilitating new European diseases, the Andean area underwent a radical transformation of indigenous traditions and sociopolitical structures (Moseley 1992). This was not a uniform process, however, and peripheral and rural areas that posed no threat to the new conquerors, or that had no resources deemed worth exploiting were left alone in most cases. This changed when the indigenous people themselves became the resources desired by the conquerors, and were removed through the policy of reducciones to labor camps at various locations throughout the colonized region (J. Topic 1990). Coupled with disease, the Andean area experienced a massive indigenous depopulation of an estimated two thirds or more, as did the New World as a whole (J. Topic 1990; Moseley 1992).

Colonial type ceramic sherds have been recovered at SRB in low numbers. As mentioned all indigenous activity ceased by CE 1571 with the reducciones (Kent-personal communication 2003). The Chao valley, and the middle valley study area would not be inhabited again to any great extent until the 20th century.
Summary

This chapter has presented a generalized chronological breakdown of the Andean region as a whole to elucidate potential Prehispanic cultural influences on the development and trajectory of SRB. Additionally, it has pinpointed those polities or cultures that may have exerted a greater influence on the study area at given times, effectively creating a set of expectations based upon known archaeological data. Where evidence of such groupings is detected at SRB during this research, they receive a more in-depth treatment in Chapter 8 Analysis. The following chapter presents those archaeological indicators used in the course of this research to explicate intersocietal exchange, interaction, complexity and sociopolitical organization at SRB.
CHAPTER 5

ARCHAEOLOGICAL INDICATORS

This chapter presents an overview of categories of archaeological data that have been used in Andean research and elsewhere to address issues of exchange, interaction, complexity, and sociopolitical organization. Although the classes of archaeological indicators presented here are separately addressed for organizational purposes within areas of research interest related to this thesis, it is recognized that there is considerable overlap between categories, and no single type of material culture, its disbursement across the landscape, or its relationship with other material categories can be used to completely define these processes in their entirety. Furthermore, archaeological groupings of material culture often have multiple meanings, and their use here to address the research questions is based upon both the general consensus of scholars and the theoretical framework in this study.

Exchange

To reiterate, this thesis considers questions of exchange, defined as the material or economic processes of intersocietal contact which occur mostly in the form of portable items. Specifically the goals are to determine whether exchange occurred during the LIP at SRB, and if so with whom the local residents were exchanging material culture, how extensive the exchange networks were, and when during the rather lengthy expanse of the LIP did this exchange occur. Also of interest are the types of exchanged material culture present, their spatial patterning at SRB, and evidence distinguishing between consumption and production. Lastly this research
questions whether SRB is comparable in terms of exchange to other periphery nodes (*Frontiers, Boundaries, and Border zones*) as defined by the modified World Systems framework presented in Chapter 2 *Theory*. By addressing these questions a greater understanding of the specifics of exchange at SRB will emerge, which in turn will contribute to the succeeding examination of issues relative to interaction, complexity, and sociopolitical organization. The following represent categories of archaeological indicators linked to processes of exchange as exemplified by the specific research questions being asked.

*Non-Local Indicators*

The first step in exploring issues of exchange at SRB is to determine its quantifiable occurrence or lack thereof. In particular, this research asks if the prehistoric assemblage at SRB is geographically, culturally, or temporally diagnostic in the sense that a non-local origin can be advanced, and thus exchange confirmed.

*Geographic Markers.*

The process of exchange that occurs between two or more polities is most clearly recognizable at its basic level when the items being transported do not occur naturally in the destination environment. Prehistoric peoples exchanged a variety of items in the Andean area, and with an environment characterized by vertical and horizontal diversity, material types often occur organically in one zone but not in another (Burger 1995; Dillehay 2000; Moseley 1992; Wilson 1988). Certain kinds of resources simply were not available to some groups locally, thus necessitating some form of exchange. This was particularly true following the transition from mobile to sedentary subsistence strategies in the early PP, and the later EIP where increased territorial competition further restricted the exploitation of resources in diverse environmental zones (Dillehay 2000). These naturally occurring items are useful
indicators of exchange and include food stuffs, raw materials, modified or otherwise, as well as items of cultural value.

As earlier chapters have illustrated, particular ecological niches sustain particular resources, and thus one generalized environmental zone such as the Desert Coast subsume vastly different resources at various locations (see last chapter). For example, the populations at the Supe valley PP sites of Aspero and Caral, which fall within the widely defined Desert Coast zone, relied predominately upon maritime sustenance, though they supplemented their diet with resources unavailable in their immediate environment (Moseley and Willey 1973). Archaeological research into the ‘Cotton Pre-Ceramic Period’ along the coast, as discussed earlier, uncovered evidence that inland resources like cotton were used to manufacture nets, gourd floats and fishing lines, as well as clothing. Furthermore, the presence of inland and highland staples such as squash, beans, chili peppers, sweet potatoes and manioc suggest contact and the exchange of supplementary subsistence resources (Burger 1995; Moseley 1992). Indeed the appearance in coastal middens of cui, the highland native Andean guinea pig, and camelids, which served as a source of meat, wool, transport, and ritual, suggests long distance exchange well before the LIP, though some evidence exists of coastal domestication of these highland staples during later times (Kent et al. 2002; Pozorski 1979; Shimada and Shimada 1985, Topic et. al. 1987). Even more expansive exchange networks are inferred through the presence of prestige and subsistence items of Amazonian origin within littoral contexts, including feathers and items of personal adornment as well as fruits and nuts (Burger 1995; Rowe 1984). Such data, nevertheless, tend to be the exception rather than the norm suggesting in turn that exchange networks of this magnitude were relatively rare as well. However this may be a product of the preservation factors in any given Andean microenvironment as the perishable archaeological record is underrepresented.

Conversely maritime goods have been recovered from inland and highland contexts signifying that active exchange networks were not unidirectional (Bandy
2005; Quilter and Stocker 1983). For instance, a variety of fish remains and sea shells have been found within non-littoral contexts, the latter of which were important in a number of ways beyond sustenance alone. *Strombus* and *Conus* shells served as musical trumpets of both the coastal Moche and highland Chavín cultures along with others, while *Spondylus* appears within elite contexts across a wide expanse of Andean groups and time periods (Bandy 2005; Burger 1995; Moore 2006). All of these shell types originated in warm waters off the coast of Ecuador and were found along the coastline, highlands, and as far south as the Atacama Desert, indicating a wide ranging exchange network of a prestige material (Paulsen 1974; Shimada 1994).

Other materials that may be useful as archaeological indicators of exchange are not as distinctive, and their origin may not be as visually identifiable as those already discussed. These include lithic material (olivine basalt, chert, etc.), the clay component of ceramics, and the composition of metallic objects (Bandy 2005; Renfrew and Bahn 2000). The presence of distinct stone, clay, or metal types in an area where none is known to exist naturally is certainly suggestive of exchange networks, yet this determination is contingent upon several variables. It is often necessary to employ laboratory techniques to identify the source of material that is common at the place of interest. In other words, imported and local samples of the same compound may not appear dissimilar under cursory inspection. As such, techniques including Thin Section, Neutron Activation, and X-Ray Fluorescence analyses have been employed successfully upon stone, ceramic or metal materials to determine the source of their component elements (Giauque et. al. 1993; Jennings and Glascock 2002; Shimada 1994; Rice et. al. 1985). These and other techniques can be very effective methods of identifying the origin of material deposited within archaeological contexts and often provide a better guide than visual identification or the artifact style of material origin, yet they tend to be cost prohibitive, and this in turn can result in an analysis that relies upon a statistically small volume of sourced material.
Culturally/Temporally Diagnostic.

A second type of exchanged item considered here is that which is manufactured or substantially modified which does not occur naturally in the environment and which is culturally or temporally diagnostic. Obviously, there is overlap between raw material and manufactured items. For example, where a certain type of raw material used in manufacture (stone, clay, cotton, wool) may occur within a given environment, the culturally mediated manipulation of this material into a desired form may be a diagnostic indicator of a certain group or polity (Pollock 1983; Willey 1953). The cultural identification of an exchange item is less reliable than that derived through the laboratory analysis of its component source material, and certainly further investigation into local aspects of production and consumption must be conducted before more definitive statements about the exchange of cultural items can be advanced (Renfrew and Bahn 2000). Nonetheless, the examination of culturally produced material assemblages provides an initial starting point in the exploration of the processes of intersocietal exchange, and is of particular relevance for this baseline study.

There are a number of markers of exchange including metal, textile, and stone, which can all be diagnostic of certain polities or general timeframes where specific techniques were utilized to create the material cultural (Shimada 2004). The category of ceramics, however, is arguably the most ubiquitous exchange indicator at SRB and the greater study area as a whole, and is the category of artifact most often used by archaeologists to illustrate intersocietal contact (Donnan 1978; Moseley 1992; Renfrew and Bahn 2000). The nature of archaeological research at SRB and the Chao valley, where no known local ceramic sequence has been defined through valley-wide survey to provide a comparative basis for imported wares, can be problematic (Cardenàs 1978; ONERN 1973). The approach here employs a general ceramic model of expectation for SRB based upon research at comparable sites, which are defined and selected based on physical proximity and similar cultural
development. In particular, extensive pedestrian surveys have been conducted at the neighboring Santa and Viru valleys (see Willey 1953; Wilson 1988), as well as at selected site locations in the Chao valley, though this receives a more detailed treatment in Chapter 8 Analysis. Ceramic spatial and temporal model expectations are also derived from research at several nodes along a continuum of site types (size, development, etc.) ranging from those traditionally defined as core or those as periphery. As argued earlier, this will allow for a more nuanced approach comparable with the modified World Systems framework utilized for this research. The purpose of this section, however, is to first briefly detail the assumptions associated with ceramic material culture, and its relationship to exchange. It is assumed that the morphology or form, manufacturing technique, and enhancement of ceramic items together can be culturally and/or temporally diagnostic.

*Morphology.*

Morphology as a variable tends to have a more uniform occurrence cross-culturally and across time than manufacturing technique or decoration (Donnan 1992; Shimada 1994). For example, variable forms including *Ollas, Canteros, Botellas,* and *Tinajas* all occur during the CP, LH, LIP and the MH timeframes and were used in common amongst wide ranging polities though in differing contexts (Willey 1971). Access to some forms became restricted at times to certain group members, and the shapes themselves became increasingly standardized in line with shifts to more overarching hierarchal control by polities (Clark and Blake 1994). Conversely, the waning or dissolution of influence of such polities resulted in a more equitable distribution of previously high status forms of ceramics and a decrease in the standardization of morphology (Moseley 1992).
Manufacturing Techniques.

Specific manufacturing techniques, on the other hand, tend to be more indicative than morphology of specific polities and timeframes, though overlap and sharing was not uncommon (Moseley 2002). For example, the LIP on the North Coast witnessed the wide distribution of black or grey-ware ceramics characteristic of the Chimu polity, which were created through the use of closed kiln firing (Donnan 1992; Wilson 1988). This manufacturing technique restricted oxygen, thus distinguishing the finished product from red, brown or white open air fired ceramics found elsewhere, especially in the highlands (Willey 1971).

Ceramic Enhancement.

Lastly, enhancement provides even greater specificity as polities distinguish themselves from or signal an association with others by utilizing recognizable pictorial themes, and employing explicit methods (pre- or post-firing application) of applying specific types of pigments (minerals-white kaolin, iron oxide-red/brown) (Bell 2002; Clark and Blake 1994). Further, molds were used for distinctive embellishment, as was appliqué (clay added before firing), incision (lines in pre-fired clay), smoothing (post-fire removal of excess clay), polishing (rubbing object upon pre-fire clay), and burnishing (submersion in clay wash/slip, rubbed to shine after firing). Variation in ceramic decoration has been used to establish a more accurate chronological assessment of material assemblages (Bruhns 1994). For example, recovered sherds that include specific enhancement may further refine the cultural distinction to that of a particular polity (i.e. Moche, Chimu, Inca) or sphere of influence (Donnan 1978; Goldstein 2000).

The non-local indicators of exchange are summarized in Table 5.1
Table 5.1 Non-local indicators of exchange

<table>
<thead>
<tr>
<th>geographic/Temporal</th>
<th>Subsistence Resources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Raw Material</td>
<td></td>
</tr>
<tr>
<td>Items of Cultural Value</td>
<td></td>
</tr>
<tr>
<td>Metal, Textile, Stone</td>
<td></td>
</tr>
</tbody>
</table>

Ceramics: Morphology
           Manufacturing Technique
           Enhancement

Network Indicators

If non-local materials are detected at SRB, this research also asks who the exchange partners were, and whether or not any single external source dominated the exchange, or if rather SRB participated in intersocietal exchange with a variety of groups, none of which assumed vertical primacy. This line of inquiry exposes variability typically subsumed within the traditional World System nodes of periphery, semi-periphery, or core. Exchange networks are determined in this study though the examination of the following variables associated with non-local assemblages.

Correspondence.

The identification of exchange networks is based upon similarity in the analyzed material assemblage that is diagnostic of, and can be traced to a certain location, culture, or timeframe (geographic/ cultural/ temporal) (Topic and Topic 1983). Such similarity can be effective, insignificant, or positioned somewhere in between, and this is based upon the cumulative correspondence or lack thereof between the geographic and cultural variables detailed above.
Quantity.

These material groupings are also distinguished by their prevalence in relation to other such arrangements. In other words, quantifiable disparities in the volume of identifiable material culture are assumed to relate to comparable dissimilarity in the role or scale of respective polities that participated in exchange at the site (Topic and Topic 1983). Thus the level of exchange associated with a particular area, polity, or timeframe is seen as a continuum at SRB, with its evidence ranging from little or none, to easily discernible large aggregates. Of course, statements made to this effect are strengthened by the inclusion of other variables such as scale and spatial patterning (see below), and through a careful examination of depositional processes that may have impacted the recovered volume of material culture associated with a particular time frame.

Scale/Spatial Patterning.

Scale can also be used to differentiate between specific items of exchange and thus provide a greater understanding of the characteristics of this process. In this case discrete spatial pockets of specific exchange items in volumes large or small relative to other exchange material at the site can provide insight into both the local organization and focus of exchange (Goldstein 2000). For example, a concentration of Spondylus shells that occurs at low ratios to other categories of exchange and within spatially discrete or restricted site sections, suggests a local investment in the long distance acquisition of such preciosities and a subsequent controlled social distribution among inhabitants. Control in this sense refers to the exercise of power based in inequality that limited who had access to exchange items or other specific element types (Clark and Blake 1994). Conversely, the widespread distribution of exchange material or element type would suggest less intrasite control of its organization. Likewise, a large scale site distribution in non-discrete pockets of culturally produced exchange items such as Chimu ceramics in relation to negligible
counterparts produced by polities such as Wari for example, suggests a more expansive sustained exchange engagement with the former that is more inclusive for the site inhabitants as a whole.

The comparative scale approach can also be employed beyond the individual components of exchanged items to cumulatively consider exchange processes at the site as a whole. For instance, the relative scale of exchange at a site can be compared quantitatively with other site types that fall within a continuum of exchange nodes characteristic of a modified World Systems model the likes of which is used here. The recognition then of the relational scale and intrasite spatial patterning of individual types of material items and exchange as a whole lends itself to a greater understanding of site complexity and subsequently sociopolitical organization, which is one of the goals of this research.

Network Indicators of Exchange are summarized in Table 5.2.

Table 5.2 Network indicators

<table>
<thead>
<tr>
<th>Correspondence</th>
<th>Geographic</th>
<th>Cultural</th>
<th>Temporal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>Local vs. Non-Local Material</td>
<td>Non-Local vs. Non-Local Material</td>
<td></td>
</tr>
<tr>
<td>Scale/Spatial Patterning</td>
<td>Discrete vs. Non-Discrete Context</td>
<td>Intersite Scale</td>
<td>Intrasite Scale</td>
</tr>
</tbody>
</table>

_Categorized Exchange Types_

To gain insight into the organization of exchange at SRB, which in turn lends itself to subsequent questions regarding interaction, complexity, and sociopolitical organization, this research is also concerned with the types of items being exchanged, and material assemblages may thus also be categorized as bulk, utilitarian, or
preciosity. With each category comes associated assumptions regarding the type of exchange that may have occurred.

_Bulk Material._

Where the modern World System is characterized by the long distance transportation of bulk material (Chapter 2 _Theory_), the ancient world in general lacked the technological mechanisms to move high quantities of desired goods. It seems then that the exchange of preciosities assumed paramount importance as many have argued, yet the movement of bulk material goods did occur, especially at those sites that lacked self-sufficiency with respect to subsistence. For example, the earlier mentioned maritime-focused Aspero site afforded access to a wide range of ocean resources, but the ability to harvest this bounty at a scale appropriate for larger population groupings was dependent upon inland cotton (Moseley 1992). The transportation of cotton, however, and other staples from inland sites to the coast, or for that matter throughout the Andean region, was limited by the mitigating factors of distance, terrain, and access to domesticated llama pack animals (Shimada 1985; Stein 1998). Additionally, at any given time the range of social, political, and economic relationships needed to sustain exchange might have necessitated an increased investment in those polities situated between the originating location and the destination, which may or may not have been open to the passage of material goods through their areas of influence. Andean polities contended with these limitations with varying degrees of success, culminating with the LH Inca who moved goods throughout the extent of their vast territory by means of wide-ranging road systems, and the control of large herds of laden llamas (Patterson 1991). Even so, the LH marked the florescence of transport technology and exchange management and not all earlier polities moved goods in such an effective manner.

As alluded to in the environmental context section of Chapter 3 _Environmental, Historical, and Archaeological Background_, environmental conditions and zones can
change fairly rapidly both vertically and horizontally, and throughout much of Andean prehistory resources that were not available in one zone may have been readily available in a neighboring one within relative close proximity, as the Aspero example illustrates. Bulk materials acquired in large quantities from greater distances necessary for subsistence or other purposes are assumed to incur a greater cost for the destination polity, thus requiring organizational involvement and administration, and some sort of intersocietal influence. In the latter sense Aspero flourished because it had access to maritime resources and undoubtedly other locations did as well, and this coupled with ideological and possibly military primacy assured a steady exchange of bulk cotton (Moseley 1992).

Utilitarian Material.

Utilitarian goods may well have been exchanged in bulk, though they are distinguished here from raw materials as those modified products that were utilized to perform some physical tasks. These are the material culture that were used in the day-to-day performance of ordinary activities, that do not possess the geographical, cultural, or temporal qualities of rarity, and that are not so visually conspicuous in relation to the local material assemblages as a whole (Lumbreras 1987; Morris 1995; T. Topic 1990). Nonetheless, utilitarian material culture can be culturally diagnostic, at least in a highly generalized manner. For example, some of the previously mentioned ceramic vessels have near pan-Andean qualities, although variation in shape, manufacturing techniques and enhancement can further distinguish more specific affiliations.

It is assumed that most sites possessed their own local material to produce the necessary utilitarian goods for daily subsistence and activities, though there are of course exceptions such as Aspero. The establishment of a settlement in a location that does not possess adequate local resources to fulfill everyday needs would therefore require a reliable and well organized exchange network to import required
items (Burger 1995; Kuznar 1996). As most such utilitarian items were made of ceramic, stone, or wood, the organizing polity would need to bear the cost of transporting heavy items, potentially in bulk form, across distance and terrain (Patterson 1991). Furthermore, this would also require a level of relationship beyond the primary exchange partner to include the territory through which the material could be transported. In the absence of other variables associated with local sociopolitical organization, or rather the correspondence of exchange, interaction, and complexity to be discussed in the last section of this chapter, it is assumed the site in question would lack local autonomy.

Preciosity Material.

Variously referred to as luxury, prestige, or status goods, this research employs the term preciosities to denote those exchange items that possess qualities of geographical, cultural or temporal rarity distinguished from the more commonplace utilitarian categories of material culture. Again Spondylus provides a good example that encompasses geographical rarity, in that it is only harvested in warm waters off the coast of contemporary Ecuador, and culturally, in that it was valued presumably for its infrequency (Paulson 1974). Material is also distinguished in this category by the cost incurred by its procurement. Spondylus is at once difficult to obtain from the deep waters within which it is found and difficult to transport in large volume over many kilometers of highly variable terrain. Thereafter the modification of the raw material into culturally desired forms (nose plugs, necklaces, earrings, beads, etc.), often requires both a specialized knowledge of ideology and iconography, and advanced artistic skill levels (Pozzi-Escot 1991; Rowe 1984; Topic 1990). Of course this can be extended to other types of material culture such as ceramics, metallurgy, statuary, and even architecture. Thus, preciosities are variously defined by their geographic rarity, cost of procurement and transportation, and quality and quantity of modification.
It should be pointed out that this category is not entirely mutually exclusive and may overlap with utilitarian classes. Furthermore, these categories are not fixed through time, but rather change along with shifts in what is defined as culturally valuable within the context of various sociopolitical expressions. As mentioned in Chapter 2 Theory, the modified World Systems perspective utilized for this research diverges from Wallerstein’s original conception by recognizing the importance of exchange in preciosities. Undeniably, the movement of luxury goods constituted the most important dimension of long distance exchange in the Prehispanic Andean region and in many other areas of the world as well, though as mentioned the establishment of large herds of llamas undoubtedly increased the range of material types exchanged (Burger 1995; Brumfiel and Earle 1987; Goldstein 2000). Furthermore, the accumulation of preciosities, or those rare goods that signaled association or affiliation with a specific polity (pottery, textiles, metal and stone crafts), allowed local elites or up-and-coming aggrandizers to legitimize their differential social and political status (Hayden 1995; Tschauner 2006).

Categorized exchange types relative to indicators of organizational type are summarized in Table 5.3.

Table 5.3 Categorized exchange types

<table>
<thead>
<tr>
<th>Bulk</th>
<th>Unmodified</th>
<th>Subsistence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Raw Material</td>
</tr>
<tr>
<td>Utilitarian</td>
<td>Modified</td>
<td>Morphology</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manufacturing Technique</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Enhancement</td>
</tr>
<tr>
<td>Preciosity</td>
<td>Rarity</td>
<td>Geographic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cultural</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temporal</td>
</tr>
</tbody>
</table>
Consumption vs. Production

A primary assumption of the theoretical framework used in this study is that peripheral nodes are potential producers and not simply passive consumers of core derived material culture. Nonetheless, with variability seen in peripheral nodes (Chapter 2 Theory) this assumption must be tested on a case by case basis. Local indicators of production are inferred through the presence of workshops, or evidence of multiple stages of material culture production, as well as the defined presence of local materials used in manufacture which only occur in or near the specific site (Tschauener 2006; Topic 1990). Conversely, it is assumed that the absence of evidence for work areas or workshops, little or no evidence of production with the possible exception of end-stage waste (exp. lithic reduction/sharpening flakes), and a defined foreign source for the material components of the specific assemblage types (stone, metal, ceramic, textile, etc.), is highly suggestive of site consumption rather than production, which in turn has implications for its position within the modified World Systems framework. Again designations are not mutually exclusive as some types of material culture may be produced locally, while others are imported through exchange.

Consumption and Production indicators are summarized in Table 5.4.

Exchange Site Types

Lastly, through the examination of the cumulative variables listed above this research asks where SRB falls upon a continuum of exchange organizational forms, as detailed in Chapter 2 Theory. The categories of frontiers, borders and boundary zones serve in this sense to achieve a greater understanding of the variability within any conceptualization of exchange processes, and situate the site on or near peripheral
nodes that in turn can be compared to other locations. Thus, the archaeological indicators of exchange associated with each need to be expounded here.

Table 5.4 Indicators of consumption vs. production

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Workshops</td>
<td>Work Shops</td>
</tr>
<tr>
<td>Limited End-Stage Production</td>
<td>All Stages of Production</td>
</tr>
<tr>
<td>Non-Local Material Source</td>
<td>Local Material Source</td>
</tr>
<tr>
<td>Similarity to other Localized Assemblages</td>
<td>Morphology</td>
</tr>
<tr>
<td></td>
<td>Manufacturing Technique</td>
</tr>
<tr>
<td></td>
<td>Enhancement</td>
</tr>
</tbody>
</table>

Frontier.

As previously mentioned, frontiers define the furthest extent of a polity's territory, or the area beyond integrated sociopolitical control (De Blij 1973). Again, the type of delineation may be political, economic or both and they are dynamic and shift with changing exchange conditions. Thus, in terms of exchanged material culture we would expect no dominant exchange assemblage to be present, at least not comparable to those expectations associated with the periphery in traditional World-System conceptualizations, though the distant polity would still be well represented and more defined than others further removed. The outward orientation of frontiers would lead to an expectation of multiple and diverse items comprising the overall exchange assemblage, reflective of the lack of sociopolitical integration with the core (Hall 1999; Lightfoot and Martinez 1994). Frontier locations will tend to have the greatest diversity of exchange items outside the core itself, seen through material, morphology, manufacturing techniques, and enhancement. It is assumed that locations beyond frontiers are themselves frontiers, boundaries, borders or core areas for different polities, and this is largely based on known LIP sociopolitical contexts.
where relatively autonomous groupings were rare and short-lived or subsumed within various World Systems.

**Border.**

Border zones, on the other hand, refer to areas larger than boundaries and are distinguished here from frontiers as locations where two or more polities abut one another. This can be a buffer zone where clearly marked boundaries are absent, and as such, exchange assemblages, while still diverse in the sense of those in frontier locations, tend to have representations from two core areas (De Blij 1973). Moreover, where a frontier location may achieve the closest approximation to autonomy thanks to its distance from the primary core, border locations are tenuously situated between two polities.

**Boundary.**

Boundaries can be thought of as planes that divide emerging polities, yet in contrast to border zones they tend to be oriented inward and integrated with the core and its internal developments (De Blij 1973). Here then, less diversity in exchanged material would be expected, with core-derived items dominating the assemblage. In fact, boundaries can be conceptualized most closely with the traditional peripheries, though again with the modifications advanced in Chapter 2 Theory.

Table 5.5 provides an overview of the indicators associated with the three primary exchange site types detailed here.

**Interaction**

Interaction is defined in this research as the social and political exchange of information or ideas beyond the economic realm of material objects alone. Based on this meaning a great deal of overlap between exchange and interaction exists, but the
latter tends to be more indistinct than portable exchange material where a foreign origin has been determined. Indeed, many scholars tend to treat both exchange and interaction together as one, but exchange can include information and ideas as well as material goods. Furthermore, as indicated in Chapter 1 Research Objectives, many of the same study questions directed towards the process of exchange are interchangeable with interaction here as well. Nonetheless, it is assumed that distinguishing between the two can increase the study’s specificity and provide a greater understanding of the role of SRB during the LIP.

Table 5.5 Exchange site type indicators

<table>
<thead>
<tr>
<th>Frontiers</th>
<th>No Dominant Assemblage</th>
<th>Relative to Traditional Periphery</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Diverse Assemblage</td>
<td>Quantifiable Advantages</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Still Possible</td>
</tr>
<tr>
<td>Borders</td>
<td>2 or more Core Assemblages</td>
<td>Less Autonomy than</td>
</tr>
<tr>
<td>Boundaries</td>
<td>1 Core Dominated Assemblage</td>
<td>Least Autonomy and</td>
</tr>
<tr>
<td></td>
<td>Least Diverse Assemblage</td>
<td>Most Dependence</td>
</tr>
</tbody>
</table>

This analysis of interaction proceeds with the assumption that measures of similarity between traditionally defined peripheral and rural locations, such as SRB and core locations like Chan Chan, imply levels of interaction. Implicit in this assumption is that style, as manifested through morphology, manufacturing technique, and enhancement of material culture, acts as a messenger of information. Where style is redundant between two sites, information signaling differences is absent suggesting a close relationship between the two that does not require divisional information transmittal (Pollock 1983; Wiessner 1983). Conversely, greater comparative variability in the stylistic material culture suggests less developed
intersocietal relations. Here differences are signaled that demonstrate each respective polity’s relative autonomy. This premise allows the placement of SRB upon a continuum of possible relational forms to the core and other locations of interest, and while this has most often been applied to the analysis of architecture (see Van Dyke 1999 for example), this research proceeds to include portable items of material culture as well within this framework. To be sure, information or ideas themselves are defined here as portable, though for purposes of defining archaeological indicators of interaction it is useful to distinguish between non-fixed and fixed items whereupon meaning can be inscribed via iconography or style.

*Portable Material Indicators*

All archaeological categories of material remains cited as indicators of exchange can also serve as conduits of information or ideas as well. In terms of those portable exchange items that are geographically diagnostic, detected similarities between their local context and placement and their comparable use at a larger or regional scale, would suggest that some sort of cultural knowledge is also being transported or rather shared along with, and sometimes in place of, the physical items of exchange.

There are numerous archaeological examples that illustrate this concept including the oft mentioned *Spondylus* shells. Evidence of *Spondylus* exchange takes the form of both raw material and finished goods, yet its usage appears consistently in elite contexts, particularly in high status burials (Bruhns 1994; Moseley 1992). Thus the desire for and acquisition of *Spondylus* must have been based upon something beyond its rarity as a preciosity alone. In other words, there is nothing inherently valuable about this material or any other non-utilitarian preciosity for that matter, but rather value is culturally defined and in this case so too is the context for its display or usage. The detection of *Spondylus*, therefore, within the same relative cultural contexts at sites otherwise unconnected by exchange, is indicative of intersocietal
interaction, albeit in a general sense. The strength or specificity of this connection is mitigated by local agency whereby the manipulation of such objects is an important factor in legitimizing emergent elites, though the incorporation of local elements also distinguishes polities at the intersite scale.

Other types of portable material, such as the previously mentioned culturally or temporally diagnostic items like metal, textile, lithics, and ceramics indicate interaction in much the same manner, but such evidence differs from geographically diagnostic material such as Spondylus in that they may be reflective of interaction but not exchange. Ceramics, for example, may be produced locally but incorporate morphological, manufacturing, or decorative elements indicative of intersocietal interaction. Again, the strength of this interaction is relative to the similarity in these variables between polities as well as comparable contexts for their display and usage.

Non-Portable Indicators

By far, the strongest indicators of intersocietal interaction occur within the category of archaeological material defined here as non-portable. That is to say that this category identifies those items that are not normally transported, but which nonetheless are purposely inscribed with inherently portable or mobile information or ideas. Petroglyphs or pictographs, for instance, often are applied to rock faces or boulders which are local in origin, yet the specific iconography (style, motifs), method of application (brush, pecking), material composition (red ocher/white kaolin), or other such cultural knowledge and ideas may have non-local origins or influences (Turpin 1988; Ventura and Quiros 2004). Of the non-portable indicators, however, architecture and the patterns with which it is dispersed across the landscape assume central importance in this study. As Chapter 2 Theory detailed, architecture communicates meaning at multiple scales, and where the spatial patterning of portable exchange material within the context of architecture lends itself to an
understanding of the organization of exchange, architecture and its placement upon the landscape can provide insight into both intrasocietal and intersocietal interaction (Abrams and Bolland 1999; Leach 1983; Trigger 1990).

Fixed architecture as an indicator of interaction may include a variety of diagnostic variables that can signal meaning, affiliation, or ideas that link the fixed architecture of a structure or a site to larger scale relationships (Rappoport 1994). Many of these variables are subsumed within the process of manufacture and include the shape, form, and size of the structure. Examples include the previously mentioned U-shaped structure or audiencias, primarily associated with the LIP Chimu polity though with antecedents as mentioned in Chapter 4 Chronology and Culture. Numerous scholars have advanced relationships between different locations based on the appearance of such structures or their corresponding variants (Shimada et. al. 2004). Baffled entrances within the context of restricted usage structures during the EIP provide another example that is an internal form diagnostic of the North Coast Gallinazo and Moche polities (Keatinge 1975, Moore 1996). Additionally, the material used in the construction of architectural units can be markers of intersocietal interaction (Rappoport 1982). For instance, the use of adobe brick inscribed with builders' symbols of identification in the construction of huacas during the EIP were indicative of Moche relationships, while the use of adobe itself for that matter in the constructing of architecture was reserved for North Coast elites during the LIP (Moseley 1990).

In addition to indicators of interaction associated with the manufacture of individual structures, as mentioned the purposive placement of architecture within distinctive patterns may be used to infer both intersocietal and local terms of interaction (Lawrence and Low 1990). While the latter will be covered in some detail in the next section, Complexity, the degree of intersocietal interaction considered is dependent in large part upon the perceived similarity or dissimilarity of respective local and non-local settlement patterning of the built environment. The strength of
the configurations as diagnostic indicators of intersocietal interaction ranges from general to specific. As a case in point, the distinction between elite and non-elite architectural patterning in terms of accessibility or the lack thereof is both geographically and temporally widespread (Moseley 1990). As such, this variable alone can only suggest in a very broad sense that the setting of interest accommodated large scale interaction, much like the previously mentioned Spondylus. Other variables, however, such as the placement of large walls to enclose compounds and separate elite from non-elite architectural groupings, as well as other layout specifications are more unambiguous and diagnostic of interaction, as in the case of the LIP Chimú core of Chan Chan. Additional variables include the cardinal position of individual structures, architectural groupings, or settlements as a whole, the relationship between the built environment and the natural surroundings, mortuary patterning relative to built forms, and other types of architecture including roads, walls, and irrigation features (Shimada et. al. 2004; Tilley 1996).

In general, and consistent with the theoretical framework of this study, all external and internal, visually discernible variables associated with architecture and its related material culture have the potential to convey meaning or act as mnemonic devices. It is of course impossible to incorporate all visual mnemonic cues that may have been discernible to SRB's inhabitants as the site is in ruins, and because modern researchers are embedded within quite different sociopolitical contexts and thus may simply miss what once was an easily recognizable cultural cue (Tilley 1990). With these limitations in mind, this study proceeds to select variables to answer the research questions (Chapter 6 Field Investigations) that are based upon research precedence. Additionally this study aims to move beyond other studies that focus more or less exclusively upon only a handful of categories to address interaction.

The indicators of interaction are summarized in Table 5.6.
Table 5.6 Indicators of interaction

<table>
<thead>
<tr>
<th>Portable Indicators</th>
<th>Less Clear than Non-Portable Indicators</th>
<th>Overlap with Portable Exchange Items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Through Context of Display/Usage</td>
<td>Comparatively between sites unconnected by Exchange</td>
</tr>
<tr>
<td>Petroglyphs/Pictographs</td>
<td>Style</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Motifs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Methods of Applications</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Material Composition of Appliqué</td>
<td></td>
</tr>
<tr>
<td>Non-Portable Indicators</td>
<td>Architecture</td>
<td>Shape/form</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Size</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Building Material</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Method of Construction</td>
</tr>
<tr>
<td></td>
<td>Spatial Patterning</td>
<td>Local Vs. Non-Local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Accessibility</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Segregation</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Groupings</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Landscape Relationship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cardinal Orient.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mortuary Patterns</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roads</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Walls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irrigation Features</td>
</tr>
</tbody>
</table>
Complexity

Complexity as it was defined in Chapter 2 Theory refers to the degree of centralization and organization of political power at various scales, which in turn affects intersocietal exchange and interaction. It is assumed that greater complexity entails an increase in scale and internal differentiation, consistent with more activities and duties to perform. With greater internal differentiation, economic or otherwise, often come associated differences in status, rank, and/or prestige (Paynter 1989). This is not to deny the possibility of less sharp social and political divisions within any population as already mentioned in the earlier theory chapter, but rather that such occurrences need to be demonstrated and not tacitly accepted. It is assumed instead, based on the prevalence of social divisions and inequity in Prehispanic Andean societies, particularly during the LIP, that the study area of SRB is comparable in this regard (Shimada et. al. 2004). Thus, the primary indicators for complexity are those archaeological categories that are indicative of uneven levels of rank or status.

Additionally, complexity is conceptualized in this study as the centralization of political power or group level decision-making and the indicators for this will be detailed in this section as well. Lastly, it is recognized that previous historical sociopolitical developments at SRB may have impacted its later complexity and organization during the LIP, and while preceding structures are not viewed as archaeological indicators of complexity as such, patterns through time may be used to model the conditions under which certain forms develop and others do not.

Inequality

As mentioned in Chapter 2 Theory, complexity associated with the centralized organization of exchange and specialization does not benefit the group as a collective whole, but is meant to create a condition of social inequality in the favor of
aggrandizers or to maintain existing positions of differential access and authority that benefit elites (Brumfiel and Earle 1987; Wiessner 2002). Again, this is highly contextual and based upon the agency/structure tension also detailed in the same chapter, though it is assumed that inequality within the temporal and spatial context of SRB is not uncommon. As such, the primary indicators of inequality used in this study are detailed here beginning with portable material items.

*Portable Material.*

The manipulation of exchange and specialization often indicates inequality relative to complexity, or rather the establishment or maintenance of positions of differential access and authority. The assumption is that ambitious individuals exist within all societies, and their desire for prestige and differential access to resources and wealth cause the unintended consequences of institutional stratification, inequality, and resultant complexity (Clark and Blake 1994: 17; Wiessner 2002). Thus, the appropriation and control of exchange, particularly preciosities, and their use as instruments of political control, can occasion political development (Brumfiel and Earle 1987). So too, the differential appropriation and control of ideologies manifested through interaction are also probable indicators of inequality. This ties into local production, and consistent with the Political/Social complexity model largely employed in this study, it is assumed that specialization and the manipulation of production creates indebtedness and social leverage, which may solidify positions of differential authority (Wiessner 2002).

As mentioned at the beginning of this chapter, many of the categories of material culture and the specific items that have been discussed denote multiple meanings. This is certainly the case here as portable materials, such as ceramics, metals, preciosities, and textiles, which were listed as indicators for exchange or interaction, also provide information relevant to the analysis of complexity. In terms of inequality, the appearance of culturally valued portable items in discrete spatial
pockets suggests control and appropriation, whereas the obverse is indicative of less control and less vertical rank differences. Furthermore, when a diversity of culturally valued portable items is found largely within a spatial context that exhibits other variables of centralized control (to be discussed); it implies that both vertical rank differences and central sociopolitical control characterize the setting. It is assumed the presence of inequality as seen in material culture, or rather the diversity of stratified social, economic, and/or political levels within a given site, reflects the greater organizational requirements associated with greater relative levels of complexity (Pollock 1983).

There are three categories of portable material culture used in this study as indicators of inequality relative to complexity. The first is that of geographic rarity, and those items procured over great distances that required an extractive effort and a certain level of exchange organization are indicators of status when found in discrete local contexts. These preciosities, even in raw form when not available locally (i.e. Spondylus), convey a sense of importance to the individual or group by demonstrating their ability to acquire and control a rare culturally valued item (Shimada 2004). Secondly, the acquisition and discrete control of items available locally or otherwise whose manufacture may have taken a high level of skill and specialized production also connotes status (Pollock 1983). There is a perceived cost to either commissioning skilled artisans or crafts people to create these items or in actively acquiring them through exchange, and this cost likely exceeds the means of the general populace. Lastly, the content of material culture may be used to infer inequality when it is found in discrete local contexts and rather than in widespread intersite context. For instance, items which bear certain iconography or morphology that distinguish them from everyday utilitarian objects denote a level of importance to the individual or group that controls them. In all three cases inequality and elements of local complexity are inferred through discrete spatial placement within the scale of the site; whereas a site that exhibits a non-discrete spread of such valued items is
more likely to be an extractive or administrative location that lacks local autonomy and is characterized by closer ties to the core.

The variety of forms seen in portable material culture also lends itself to an understanding of the types of activities performed within a given setting, and thus the associated type(s) of organization needed to carry out such tasks (Burger 1995; Pozorski and Pozorski 1993). For example, the recovery from archaeological contexts of ceramic remains that solely constitute fragments of platos would suggest that activities at the site were more limited than those at another where ceramic remains included canteros, botellas, ollas, or tinajas fragments. This in turn suggests those locations with less overall variability within their material assemblages had fewer actual activities that required the sort of extensive local bureaucratic organizational investment characteristic of complexity. Examples here might include extractive quarries or defensive sites, or those that serve a specific function beyond that of quotidian living. Additionally, however, this assumption has implications related to site autonomy or the lack thereof. For instance, a site exhibiting variety in its material assemblage that falls within this definition of complexity would tend to be relatively self-sufficient in the sense that it could accommodate general subsistence and was not exclusively reliant upon external sources. Whereas those with homogenous inferred activities would require some level of external involvement to fill those voids necessary for sustenance that might not otherwise be carried out by the site inhabitants. Thus, complexity or the lack thereof also serves to situate SRB at a point along a continuum of possible sociopolitical organizational forms.

The indicators for inequality relative to complexity as exemplified through portable material items are summarized in Table 5.7.
Table 5.7 Portable material indicators of inequality

<table>
<thead>
<tr>
<th>Material Type</th>
<th>Geographic Rarity</th>
<th>Labor or Skill Intensive</th>
<th>Specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Discrete Spatial Occurrences = Ideological Appropriation/ control</td>
<td></td>
<td>Production</td>
</tr>
<tr>
<td>Exchange</td>
<td>Ideological Content</td>
<td>All Categories-especially Preciosities</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>Ideological value</td>
<td>Ideological value</td>
<td></td>
</tr>
<tr>
<td>Local Production</td>
<td>Including specialization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centralization</td>
<td>Assemblage Diversity</td>
<td>Greater Diversity/ Complexity</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Less Diversity/ Complexity</td>
<td></td>
</tr>
</tbody>
</table>

Non-Portable Material.

Inequality can also be seen in semi-fixed or non-fixed material culture. Semi-fixed elements, such as petroglyphs or pictographs, are indicative of inequality when their occurrence coincides with other variables including fixed architecture. Architecture again assumes central importance here as intersite disparities in several variables associated with the built environment emerge as indicators of social stratification.

Dissimilarity in the size of structures is often used as one such variable, with the assumption that increased size entails greater labor requirements marking the transition from individual (family) construction of habitations to corporate building projects (Abrams and Bolland 1999; Trigger 1990). Size includes the horizontal area of a structure, the vertical height, the thickness of its walls, and its placement upon higher ground, all of which signal social, economic, or political disparities between the inhabitants or users of the structure and the rest of the populace (Trigger 1990).
Of course it is necessary to distinguish between categories or types of built forms, as Chapter 2 Theory illustrated. For example, a structure deemed to be administrative, with no evidence of domestic habitation, can not be compared in this sense to residential type structures. Rather within-type characterizations, complete with other qualitative variables are required to discern inequality based upon size alone. One such variable is the building material used to infer intersocietal interaction, such as adobe, whose presence or lack thereof is indicative of inhabitant status. Another variable is the intersite location of the structure, not only upon higher ground as cited above, but also in terms of advantageous, strategic, and ritual positioning (Moore 2006; Trigger 1990). Thus the higher status inhabitants tend to be privy to the locations with desirable features, such as a view of a valley access, or a river, agricultural land, a quarry, or landscape deemed to be sacred, to name just a few (Tilley 1996). Status can also be conveyed via the internal layout of a structure, or by the method of accessing it (Isbell and McEwan 1991). Baffled entrances, for example, are not only diagnostic of intersocietal interaction, but also indicate inequality because they restrict access to structures (Moore 1996).

Intersite planning of fixed architectural elements may also be a sign of intersite inequity (Rapoport 1982; Sanders 1990). For instance, certain areas of a site may contain well-defined roads or paths leading to structures that house various activities. Site inhabitants presumably accorded greater importance to these structures than those that lacked such an investiture of labor and by association those that dwelt in structures within these higher status 'neighborhoods' would have higher status than those that did not (Rapoport 1990). The same could be said for structures associated with areas characterized by built forms such as irrigation or water control features. The discrete occurrence of such fixed architecture, with other variables being more or less equal throughout the site (i.e. agricultural viability), would suggest the ability to mobilize labor resources in order to undertake a building project meant to service in an inequitable sense a particular spatial area at the expense of others. Furthermore,
the use of water control features to divert flooding from certain areas of a settlement, again with other variables being more or less equal (comparable flood patterns throughout), suggests those areas are imbued with greater importance than others. Where comparable architectural typologies such as domestic structures exist in both locations, it can be inferred that those who benefited from this protection had greater status. So too labor intensive irrigation features that favor a discrete space with water for agricultural purposes over others held similar status, and indeed, challenging cultivation is widely viewed in the Americas as a marker for increased sociopolitical complexity (Finucane et al. 2006). Finally, the combination of fixed architecture with other semi-fixed intersite elements such as petroglyphs or pictographs upon rocks or boulders reflects increased status. For example, the incorporation of rock art in the context of structures that house certain types of activities likely legitimated differential status or treatment. This can be true both when the rock art contains iconography that is recognizable and associated with a political power or ideology known to the site’s inhabitants, or where it is associated temporally with those that had assumed importance in the past.

Semi-fixed and fixed items reflective of inequity in relation to complexity are summarized in Table 5.8.

**Centralization**

To understand SRB’s degree of centralization relative to complexity, it is necessary to examine multiple scales. On the one hand, this study seeks to determine the nature of complexity at the site itself, while on the other hand, its intrasite relations within the context of the modified World Systems framework being employed are of interest as well. Overlap occurs between the indicators of inequality and those that mark centralization, though it should be distinguished here, albeit in an abbreviated fashion. Where inequality may exist within the scale of the local site, and
to be sure Chapter 2 Theory argued that all societies contain the potential for differential access to resources or variable status, centralization marks the success of aggrandizers who were able to emerge from a competitive field of positional jockeying (Rick 2005). This entails the appropriation and control of the various site activities associated with exchange and interaction, as well as local decision making (Haas et. al. 2005).

Table 5.8 Non-portable indicators of inequality

<table>
<thead>
<tr>
<th>Semi-Fixed</th>
<th>Petroglyphs/Pictographs</th>
<th>Contributing indicator in association with fixed elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Architecture</td>
<td></td>
<td>Height/Area/Mass</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Labor Investment</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High vs. Low Ground</td>
</tr>
<tr>
<td>Size-Within Type Comparisons</td>
<td></td>
<td>Perishable</td>
</tr>
<tr>
<td>Building Material</td>
<td></td>
<td>Non-Perishable</td>
</tr>
<tr>
<td>Structural Layout</td>
<td></td>
<td>Accessible vs. Inaccessible</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Visual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physical</td>
</tr>
<tr>
<td>Spatial Patterning</td>
<td></td>
<td>Strategic Needs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Defense</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Oversight</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Proximity to Resources</td>
</tr>
<tr>
<td>Discrete association with other Semi-fixed and Fixed Elements</td>
<td></td>
<td>Petroglyphs/Pictographs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High Labor Investment Areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Roads/Paths</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Irrigation Features</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Walls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>High Status Architecture - Culturally Determined</td>
</tr>
</tbody>
</table>

Conversely, at the other end of the spectrum local autonomy would be characterized by non-discrete evidence for such activities spatially dispersed
throughout the site, or even by a series of more or less comparable spatial activity groupings. This, in the latter sense, would be reflective of aggrandizers who had not emerged from a field of competing peers. Thus, where various categories (portable, non-portable, etc.) are used to infer inequality, the material indicators of centralization are the accumulation of these variables within discrete spatial groupings.

Centralization at the intrasite level can be inferred comparatively by defining larger scale boundaries. For example, SRB can be evaluated relative to sites in the upper, middle or lower Chao valley to situate it along a continuum of possible levels of complexity, or at larger scales including the valley as a whole or the North Coast region as it has been defined. Thus, where a site such as SRB may hypothetically exhibit centralization relative to complexity both at the local intersite scale, and the intrasite scale of the middle Chao valley (which includes several other sites), it may lack the scale and internal diversity characterized by larger geographic groupings. By examining both local and larger scales of centralization combined with other variables of complexity, SRB’s position in both processes can be established leading to a greater understanding of its role during the LIP.

Previous Developments

It is expected, based on the methodology used to gather data for this research (Chapter 6 Field Investigations), and the rather extensive temporal depth of site usage at SRB, that information relative to exchange, interaction, complexity, and sociopolitical organization will emerge for other time periods as well. The focal point is the LIP, yet an understanding of previous developments and organization may lend itself to the study of later periods. In particular, and as illustrated in Chapter 4 Chronology and Culture, the Inca polity successfully facilitated their territorial expansion and administration by understanding extant local structures (Farrington...
In other words, the preexisting exchange and/or interaction networks, and the nature of local complexity and sociopolitical organization, influenced subsequent forms of administration. The template, or model followed by the Inca, and presumably the Chimu polity of the LIP, suggests an active administrative investment and disruption of local preexisting structures, where such structures lacked intersocietal networks or centralized organization. Conversely, where such established structures already existed, less investment was required by the expansionist core, and local culture remained largely in place despite its appropriation into the world system (Donnan and Mackey 1978; Proulx 1978; J. Topic 1990; Wilson 1988). Thus, the examination of earlier development and organization through the analysis of many of the same variables listed above for exchange, interaction, and complexity, can (if accessible) lend itself to an understanding of the strategies of political control used in the focal LIP.

Sociopolitical Organization

Lastly, this research is concerned with issues relating to sociopolitical organization. Specifically of interest is the form SRB took during the LIP, and what type of relationship it had with highland and coastal core areas, as well as other nodes in the world system. In particular, the sociopolitical form(s) SRB assumed during the height of Chimu hegemony along the North Coast will be inferred based cumulatively upon the respective examinations of the processes of exchange, interaction, and complexity as they have been outlined above. Consequently, the sociopolitical organization of SRB is established for this time frame through multiple lines of inquiry and the assessment of the archaeological indicators presented in this chapter, and then comparatively situated along a continuum of organizational forms consistent with the modified world systems conceptualization of intra-societal relationships (Chapter 2 Theory).
Summary

This chapter provided the basic categories of archaeological indicators that are relevant for this examination of exchange, interaction, complexity, and sociopolitical organization. Their value and use here is largely informed by both research precedent and the theoretical position of this study. Chapter 6 Field Investigations will detail the specific methodologies employed to gather data within these categories, and to address the research questions advanced of this study.
CHAPTER 6

FIELD INVESTIGATIONS

This study employed a multi-phase research plan to collect the type of data (categorical and metric) detailed in Chapter 5 *Archaeological Indicators*, which in turn was used to address the specific research questions associated with interaction, exchange, complexity, and sociopolitical organization. Specifically the objective was to examine the construction and location of all architectural types represented at SRB, as well as the semi-fixed and non-fixed elements of material culture, in order to gain insight into these issues of research interest. Phase I involved informal pedestrian reconnaissance at SRB and the examination of aerial photographs, as well as an assessment of the archival materials associated with Kent’s ongoing project. Phase II employed a systematic and non-destructive site survey to acquire those archaeological indicators relevant to this research, along with the opportunistic examination of looter pits and the remnants of their presumed contents. This chapter provides an overview of the methodology associated with both phases, and is followed in Chapter 7 *Analysis* with the Phase III post-fieldwork examination of all collected data through statistical procedures and archival comparative research.

Phase I

During the summer of 2001, the author of this study attended Kent’s archaeological field school at SRB (Chapter 3 *Environmental, Historical, and Archaeological Background*) and at this time formulated the plan for this study. Preparation for the field school involved an overview of literature relating to Andean
archaeology as a whole, at a regional scale (North Coast), and within local contexts (Chao valley). In particular, cultural events and environmental conditions that may have influenced SRB’s development over time, changing organization, and eventual abandonment were reviewed in depth (Chapters 3 and 4). Additionally on-site field experience provided a basis for material culture identification (the built form, ceramics, petroglyphs, etc.), and an understanding of the site conditions that would influence subsequent field decisions relative to this thesis research. Above all, several informal pedestrian explorations allowed for both an appreciation and anticipation of the difficulty such rugged and variable terrain would present in the compilation of a database capable of addressing the research questions as they have been detailed to this point.

A systematic site survey and architectural typology had not been necessary for Kent’s project, though a field school participant had created a map that detailed the presence and location of 91 structures relative to local topography (Figure 6.1). Unfortunately, it quickly became apparent during informal explorations that this map included a number of spatial errors that limited its usefulness for the analysis of the intrasite patterning of the built form central to this research. This deficiency was visually confirmed during Phase II fieldwork in 2003. Additionally, the type of variables needed to address the research questions of interest to this thesis had not been systematically recorded, thus prompting the need for a more rigorous site examination that would strengthen interpretations relative to issues of exchange, interaction, complexity, and sociopolitical organization.

Satellite images and aerial photographs were employed during Phase I research to provide an enhanced understanding of the spatial patterning and extent of SRB, a necessity for establishing a workable database pertinent to the research questions of this theses, and for overcoming some of the obstacles experienced during informal pedestrian reconnaissance in 2001 (poor visibility, uneven elevations, vegetation, etc.). In the first instance, this low budget project benefited through the contribution
of Derek Hamilton, a Ph.D candidate at the University of Colorado at Boulder (2003-04).

Specifically, his research focus upon remote sensing allowed him to absorb the otherwise prohibitive cost of several Landsat TM satellite images of the site of SRB. Unfortunately, the large boulder field upon which the architectural core of SRB is more or less situated precluded the effective use of such imagery. It was impossible to distinguish between constructed linear walls, and the natural occurrence of the
ubiquitous rocks, and boulders that cover much of the site. Additionally, the limited operational budget excluded the possibility of incorporating current high-resolution aerial photographs, though more dated images used by Kent’s project were photocopied, enhanced, and utilized opportunistically (Figure 6.2).

Figure 6.2 Aerial Photograph Of Santa Rita ‘B’

Despite the low resolution and inopportune placement of the ruler on the image, several features emerged here that ultimately informed field investigations. The
Murralla Pircarda, or wall as described in Chapter 3 *Environmental, Historical, and Archaeological Background*, is visually apparent in the middle of the roughly 160 hectare complex area on a more or less northeast to southwest orientation. Towards the top or northeast extent of the wall, there is a nearly 45° turn to the east culminating with its termination at the base of Cerro Pucarachico. Several other less distinct wall remnants are also discernible to the west and northwest of the Muralla Pircarda, while one comparable to it can be seen running nearly north to south across the foothills of Cerro Pucarachico. Further to the west and northwest, an irregular dark line of vegetation marks the beginnings of agriculturally viable land under cultivation. The use of this otherwise marginal land is facilitated by the labor-intensive removal of the rocks and boulders that characterize SRB. This is testament to the earlier mentioned marginalization of local farmers, and their ability to adapt to changing and difficult situations. The area of SRB in and around the Murralla Pircarda in contrast, appears in these photographs to be relatively free of vegetation. Nonetheless, evidence of water flow is apparent with quebradas crisscrossing the site roughly southeast to northwest, and this is consistent with the location of the east to west flowing Rio Huamansana located just out of the frame to the South.

Hamilton assisted in enhancing and magnifying the aerial photographs to derive from them as much usable data as possible. Figure 6.3, of the same orientation as Figure 6.2, provided a much clearer image of the Muralla Pircarda, and while the wall was informally investigated during preliminary (Phase I) pedestrian reconnaissance, the photograph illustrates its uniformity and linearity. Such a construction is especially impressive when considering the ground level conditions (unevenness, poor visibility) that had to be overcome to accomplish such a large-scale endeavor. Additionally the wall system cutting through Cerro Pucarachico emerges here as well, though it disappears in steep areas, and its origin and termination are unknown. To the east of the Muralla Pircarda, the faint lines of an architectural cluster can be seen (in red box).
Further enhancement clearly shows this cluster in some detail along with other structures (Figure 6.4). Nonetheless, only a fraction of the estimated 350 architectural structures (Kent-personal communication 2002) emerged through such enhancements, and these were only the very large ones relative to the rest of the built forms at the site.

The value, however, in incorporating these aerial photographs into the pre-fieldwork phase of investigation is important for two reasons. Unmistakably, the modifying and potentially destructive nature of water flow from the periodic flooding of the Rio Huanmansana is apparent, and as such, ground level determinations of the
viability of surface artifactual assemblages could be evaluated in relation to the known patterns of flooding visible in the aerial photographs.

Figure 6.4 Enhanced Magnification Architectural Cluster

The encroachment of contemporary agricultural practices upon the site also necessitated a modification to the research strategy. In both cases, the aerial photographs illustrate what was not readily apparent at ground level during informal pedestrian reconnaissance, and thus provided a basis to proceeding with Phase II.

Phase II

Pedestrian survey was the primary method of gathering data relative to the research objectives and questions of this study, and this was chosen for a number of
reasons. First, no such systematic evaluation had yet taken place, and the spatial data that did exist was not usable (as mentioned above), and incomplete in the sense that the variables necessary to address the types of issues of interest for this study had not been expansively recorded. ‘Systematic’ in this sense is used to refer to the use of a patterned approach (transects) for the collection of data, while expansive in that numerous variables are collected to address multiple research questions.

Through an examination of pedestrian surveys conducted in the neighboring Virú (Wiley 1953), and Santa (Wilson 1988) valleys, it was determined that the type of approach utilized in these seminal works could be modified to the scale of a single site, albeit at the rather large 160 hectare SRB, and this would yield the sort of data needed for this research. Specifically the objectives were to record all fixed, semi-fixed, and non-fixed materials (as outlined in Chapter 5 Archaeological Indicators), and a survey methodology was deemed to be the most effective initial means of accomplishing this. Secondly, with Kent’s ongoing project at SRB, it was necessary to employ a non-destructive methodology to gather such data. This methodology ensured that data relevant to future studies was not disturbed, especially the correspondence between surface and sub-surface deposits. Lastly, this research employed a systematic and comprehensive survey deemed to be the most cost effective manner to derive usable data to address the research questions given the limited budget of the project. Additionally, in a pragmatic sense it was determined that all of the variables required for this baseline study could be recorded non-destructively while remaining in situ, thus avoiding time-consuming and costly curation and laboratory analysis without sacrificing the methodological rigor required of any study such as the one presented here.
Pre-Survey Considerations

During Wilson's extensive survey of the neighboring Santa Valley upwards of 23 individuals assisted the PI throughout the project duration, though only three to five were needed at any given time in the field (Wilson 1988). Specifically, Wilson determined this number was adequate to record the large study area through pedestrian survey, without being so large as to become unmanageable through variable terrain. Wilson's team successfully surveyed micro-zones within the Santa Valley comparable to those encountered at SRB, and thus three individuals were chosen for this thesis project. Renzo Ventura, a Peruvian archaeologist specializing in architectural typologies and the stylistic attributes of ceramics, and Tracy Hall, a GIS specialist, accompanied the author to the field.

Figure 6.5 Datum Points On Muralla Pircarda
Based on the knowledge gleaned from informal pedestrian survey and the aerial photographs, several cultural and natural landmarks provided the anchoring points for the establishment of a transect grid. In particular, the Muralla Pircarda, and its relationship to Cerro Pucarachico became a logical choice for orienting the project at ground level. The points whereby the wall intersects with Cerro Pucarachico and the abrupt near 45° turn provided datum points visible on both the aerial photographs (Figure 6.5) and the ground (Figure 6.6).

Figure 6.6 Datum 2 Viewed From Atop Datum 1

Thus, by recording the UTM coordinates at each point, measuring the physical distance between both, and recording the cardinal orientation of the wall where it diverges from a straight line, the data recorded corresponds to the aerial photograph
with far more accuracy than the earlier hand drawn map. At ground level, both datum points are easily located (Figure 6.6), with #2 converging with the foothill of Cerro Pucarachico as seen from a vantage point direction on top of datum #1. Here the variability in the Muralla Pircarda’s height and size can also be seen with this section being the most ephemeral, while the section to the southwest becomes progressively wider and taller. Figure 6.7 shows this view in the opposite direction, again from atop Datum 1.

![Figure 6.7 Muralla Pircarda From Datum 1](image)

With such easily identifiable landmarks visible from air and ground, it was possible to coordinate a comprehensive survey plan. This end of the Muralla Pircarda was also largely void of the challenging boulder fields, vegetation, and deep quebradas that begin appearing southwest of here, making it an advantageous starting
point. Spacing between survey personnel was contingent upon the varied conditions encountered, with a distance of 40m used in this area of the site, though this was reduced to as little as 5m in particularly difficult terrain as it was encountered. Beginning at Datum 2, the survey team moved in a north-northeastern direction, with Cerro Pucarachico serving as an eastern border, until it encountered heavy vegetation associated with modern irrigation canals and agricultural fields under cultivation.

The team then reversed, as illustrated by the arrows in Figure 6.8, and proceeded until the Muralla Pircarda was once again encountered. As a number of architectural
structures were thought to be on this west side of the wall it was chosen first to ensure a viable sample could be acquired within the limited time of this project. The objective was to work steadily to the southwest until the Rio Huamansana was encountered; however, thick vegetation, agricultural land, and contemporary habitation prevented the survey team from reaching its banks.

After recording all variables associated with the built form (to be discussed) relevant for this study on the northwest/west side of the Muralla Pircarda, the survey team repositioned itself at Datum 2, and systematically examined to the east of the wall. However, it quickly became apparent that far fewer architectural structures and material culture were present there. Additionally, there were no natural or cultural markers within which to bound the transects, save the foothills of the Andean range approximately 10 km to the east. As such, the survey team reversed direction back towards the Muralla Pircarda when architectural structures and material culture tapered off and became non-existent, or where further informal reconnaissance failed to yield more material culture. This approach was repeated as the team proceeded south-southwest until thick vegetation and contemporary cultural disturbances again presented obstacles to achieving this fully.

After the formal survey and collection of relevant variables within the roughly defined boundaries of the valley floor of SRB, pedestrian reconnaissance was conducted along the west banks of Cerro Pucarachico and both sides of Cerro Santa Rita. The same types of variables were recorded at these locations of the complex, albeit in an abbreviated fashion. There simply was not enough time to evaluate them as thoroughly as those upon the valley floor.

Fieldwork Logistics

Permission to work at SRB was granted by Jon Kent of the Metropolitan State College of Denver, the California Institute of Peruvian Studies, and Teresa E. Rosales
Tham of the Universidad Nacional de Trujillo. Fieldwork was scheduled for the months of June and part of July of 2003, a timeframe that coincided with the onset of the relatively cooler North Coast winter. Supplies and tools for fieldwork were either brought from the U.S. or borrowed from Kent’s ongoing project, though the most important items should be briefly mentioned here. Each was chosen based upon considerations of efficiency and accuracy, though also upon affordability.

The Global Positioning System is some two dozen orbiting satellites that transmit signals to GPS receivers, which in turn use triangulation to determine their ground positioning (Wheatley and Gillings 2002). Some receivers are extremely accurate to less than a meter, but tend to be cost prohibitive. As such, two less expensive handheld GPS units were selected to manage and record spatial data and to coordinate a systematic approach to survey. In particular, the use of such portable and lightweight instruments allowed the team to cover a large expanse of the site, record UTM coordinates to create a baseline map, and to maintain systematic transects with a minimum of overlap and redundancy. Several factors can limit their effectiveness including the number of satellites visible, ionosphere and troposphere delays, satellite ‘shading’, and signal multi-path interference. Accuracy is thus variable and dependent on the conditions under which the receivers are used. In general, horizontal accuracy ranges from 5-15 m, whereas vertical positioning is far more variable and less reliable (Wheatley and Gillings 2002). Thus, the handheld GPS units were selected for their horizontal capabilities as well as their affordability, and the specific methods used to minimize positional errors are discussed in some detail later in this chapter. The ‘footpath’ feature of each model was of particular value, and by positioning the two GPS units on each end of the survey line, the team was able to negotiate its way through often rugged terrain while maintaining systematic transect routes (Figure 6.9). It is recognized that the use of handheld GPS units is not a substitute for more expensive and accurate mapping tools, such as a Total Station. Rather their usage is pragmatic and conducive to the goals of this research, namely to
establish a baseline map of the site which in turn can be evaluated in more depth with higher degrees of accuracy during future research.

Two relatively inexpensive cameras were chosen to record all variables of interest, including fixed, semi-fixed, and portable items. Having a visual digital medium eliminated the need for costly film processing, and as such nearly one thousand digital photographs were taken as both a backup to written notes, and as visual confirmation of field interpretations. In particular, where field determinations were made relative to the examination of the variables associated with fixed, semi-fixed, and portable elements, digital photographs provided either a visual confirmation of these determinations or allowed for post-fieldwork comparative research to refine or in some cases refute them. Thus, digital photographs provided the potential to
transcend the limits of the field crew’s knowledge base by incorporating post-fieldwork expert opinions and allowing for follow-up research, and as such proved to be a valuable tool for this study.

Variables

This section details the specific variables that were collected relative to fixed, semi-fixed, and portable material culture.

Fixed Material Culture.

The primary objective of fieldwork was to locate, map, and evaluate variables associated with the built environment at SRB in order to address the research questions, and the pedestrian survey was structured to accommodate this. Beginning at Datum 2, the survey team advanced with variable spacing based on visibility until an element of the built environment was encountered. Of particular interest were architectural structures, assumed to provide the primary context for identifying where past behaviors relative to processes of interaction, exchange, complexity, and sociopolitical organization took place (Chapter 2 Theory). Overall, a variety of built form types were present at SRB, and as such, it was necessary to distinguish between them and to select appropriate methods to record such relevant data.

Walls.

Many walls were seen throughout SRB, though none were comparable to the Muralla Pircarda in terms of scale or continuity. Where architectural structures were the focal point for this study, the walls nonetheless had to be evaluated on a case-by-case basis and spatially recorded. Specifically, little was known about their function, nor their relationship to architectural structures or other fixed, semi-fixed, or non-fixed elements of interest, necessitating a flexible methodology. In particular, two
primary factors guided the collection and range of variables recorded for each wall respectively. The first involved the North Coast regional precedent for potential wall functions compiled through Phase I background research, including the use of walls as defensive, territorial delineations or boundaries, a means of spatial segregation relative to status (inter or intra site), irrigation or flood-control features, boundaries of paths/roads, or as elements of disturbed or destroyed architectural structures. Each wall ‘type’ in turn may have distinguishing features that lend insight to function, though these will be covered in some depth in Chapter 8 Analysis. The second factor guiding the types of variables collected were the theoretical assumptions of this study relative to the issues of interest (interaction, exchange, complexity, sociopolitical organization). Thus, certain types of walls were expected within certain types of sites, and this in turn applies to all the material culture of interest at SRB (fixed, semi-fixed, portable).

UTM coordinates were recorded with GPS handheld units along the length of each wall encountered in order to ascertain spatial positioning relative to other elements of the built environment at SRB. Specifically, the ends of each wall were sought and when found were spatially recorded. Thereafter, and depending on the overall length of the wall, numerous UTM readings were taken with the GPS handheld units, generally within 5-10 m increments, in order to minimize potential satellite or reception errors. In other words, the survey team did not rely on single readings, but rather constantly evaluated accuracy through redundancy. The assumption was that potential interference that may have diminished accuracy at one point on a wall might lessen in severity five, ten, or twenty meters farther down the line. Additional errors can resolve themselves (i.e. satellite alignment) through the passage of time, and this would allow the team to reevaluate anomalous readings later in the day or at some other time.

Following the initial spatial recording of the wall in question, the distance between both ends as recorded through the GPS handheld units was calculated and in
turn evaluated with a 60 m measuring tape. This allowed the team to evaluate the accuracy of the recorded UTM coordinates and correct for errors. Handheld compasses were used to establish the cardinal orientation of the wall, as well as to relate it to elements of the site visible from aerial photographs, such as the Muralla Pircarda. For example, if the Muralla Pircarda was visible from the wall in question, a direct line compass reading was taken relative to a point upon it. This point on the Muralla Pircarda was in turn measured relative to Datum 1 or 2, and in this way, the survey team was able to spatially position elements of the built form relative to known points. Additionally, each evaluated wall was both spatially measured with the tape, and oriented via compass to other nearby elements of the built environment, and as such, a reasonable level of confidence was achieved as potential mapping errors associated with this cost-effective approach had been minimized.

In terms of the width of each respective wall, tape measurements were taken at no more than 5 m increments to establish a range for the wall in general. Above all, these width readings were taken at the point of the wall foundation, though advanced deterioration sometimes necessitated estimations. So too, the height of each wall could reasonably be established in the absence of wall-fall, and where degradation was present, the height could sometimes be estimated through an evaluation of the fallen material at given points.

There were a number of variables that could potentially inform this research, and the material of which any given wall is made is one such diagnostic tool. This may seem illogical as the site is covered with an abundance of rock boulders, both large and small. On closer inspection, however, the spread of potential building material is more variable, with areas close to Cerro Pucarachico relatively barren (Figure 6.6), whereas areas closer to the Rio Huamansana in the south-southwest of the site have no such material shortages (Figure 6.8). The implications of these distinctions will be discussed in depth in Chapter 8 Analysis, though suffice to say the survey team recorded through notes and photographs the relationship between the material used to
construct a given wall, and the availability or lack thereof in the wall’s immediate context. Additionally, the team recorded in a similar fashion the relationship of each wall to other aspects of the built environment, as well as to arroyos and hillsides.

An archive of the methods utilized by various polities and societies to construct the built environment was compiled based on the precedence of such forms in the region of the North Coast over time. Thus, the survey team recorded the instance of such diagnostic variables as the chinking of walls with ceramics and other refuse, the use of two rows of cobbles framing a center of fill, and the application of adobe on the wall exterior. A full listing of these variables is included in Chapter 7 Results.

Lastly, the survey team recorded instances where the wall could be defined in its totality and those where it was only possible to record remnant elements. Walls can be partially destroyed by a later construction or remodeling, they can be partially disassembled and their material reused, they can be opened to facilitate movement through them, or natural processes such as flooding or landslide can degrade them. By evaluating the condition of the walls in this sense, the survey team was able to gauge the potential impacts of such processes upon other nearby built forms.

Architectural structures.

The second element of fixed material culture to be considered here is that of architectural structures, the focal point for this study. Generally, architectural structures can be distinguished from walls in a numerical manner. Specifically, they are defined in this research as a coincidence of no less than three connected walls, in the event the structure is linear, or as a single connected wall forming a non-linear or circular fixed form. The possibility that a damaged or perhaps deconstructed architectural structure could be encountered was recognized. The assumption was that an architectural structure that has sustained such natural or cultural damage to the extent that linear forms are restricted to two or less remaining walls, or where the integrity of non-linear or circular architectural types have been compromised, would
not be suitable for the sort of architectural analysis pursued in this study. In short, flooding events or other such natural phenomenon, and cultural deconstruction, modification, or destruction of the fixed forms, will thus have a negative impact upon the integrity of semi-fixed and non-fixed material culture as well. Conversely, those fixed architectural structures that retain their integrity are assumed to contain semi-fixed and non-fixed data that have not likely been compromised.

Having defined the basic distinction between walls and architecture, the survey team proceeded with the following methodologies to record the more numerous and informative variables associated with the latter. When a fixed element was encountered, and it was determined to be an architectural structure, the primary objective was to establish its global location relative to Datum 1 and 2, as well as the rest of the recorded material culture of the site. To do so, UTM coordinate points were recorded with both handheld GPS units redundantly at several points on each architectural structure. Figure 6.10 represents a hypothetical linear structure denoting the various redundant points where UTM coordinates were typically taken.

Figure 6.10 Hypothetical Linear Structure
From these numerous points, a mean UTM value was calculated for each GPS handheld unit. The ensuing figures for each unit were then compared to each other, and where discernible variation occurred, measurements were retaken at different times of the day and under different weather conditions to minimize the potential errors associated with GPS handheld units discussed earlier in this chapter. Where mean figures were relatively consistent between both units, a numerical center point for each structure was thus quantified. This approach was utilized for non-linear architectural types as well and a hypothetical example can be seen in Figure 6.11.

Figure 6.11 Hypothetical Non-Linear Structure

Again, a similar approach was employed with redundant readings, accuracy assessments, and the establishment of a mean UTM reading used to ascertain a center point for each architectural structure. Following the establishment of the linear and non-linear structures’ center points, physical measurements of the length and width of each wall were recorded via tape measure. In terms of linear structures, this length measurement proceeded from
recognizable corners for each discrete section of wall to a point where its relative uniformity was disrupted by a feature such as a doorway, or a discernible shift in wall direction. Two such hypothetical examples are presented in figure 6.12.

![Figure 6.12 Hypothetical Structures With Doorway/Direction Change](image)

Physical measurements were thus taken from one point to the next (represented by the red arrows in the diagram). In this manner, the accurate size of each linear structure was recorded, with non-linear architectural wall length recorded in a slightly different way. For those circular or semi-circular structures that by their very nature resist straight-line measurements, a linear cross-grid was superimposed allowing for a more accurate size assessment (Figure 6.13). In order to capture the proximal location of features (doorways, storage units, etc.), their cardinal orientation relative to the mean center point were recorded, and in this way the survey team was able to mitigate potential measurement errors associated with non-linear forms such as that in figure 6.13. Additionally, where internal walls or features were encountered within both linear and non-linear architectural structures, they were measured in a comparable manner though distinguished as internal to the structure. The points where such internal features made contact with the external walls of the structure were recorded with UTM coordinates, and their length and width ultimately calculated via tape
measure. In those situations where freestanding, unattached internal features were encountered, their position was triangulated as best as possible through multiple tape measurements and compass readings.

![Figure 6.13 Hypothetical Non-linear Structure With Measurement Grid](image)

In terms of wall thickness, measurements were systematically recorded relative to the overall size of the architectural structure (every 2m, 4m, etc.), or in those instances where clear differences in wall width were visually discernible. The assumption in distinguishing wall thickness is that mnemonic cues act upon both the external observer, and one who is granted access to a structure. Wall thickness alone probably conveyed little information, except in extreme examples such as Chan Chan, though in conjunction with other fixed element variables it served in a comparable manner to identify the type of architectural structure encountered.

The final step in establishing the spatial position of each architectural structure involved the use of a compass to quantify the orientation of each given unit. Compass readings were taken along linear structure walls, and cardinal orientations recorded. With non-linear architectural structures that lacked straight walls that could
be conveniently used as a line of sight to enable orientation, the following strategy was utilized.

![Figure 6.14 Hypothetical Non-Linear Structure To Establish Orientation](image)

Two visually discernible points were selected at opposite sides of each non-linear architectural structure that could be quantified equidistantly (figure 6.14). In other words, center points A and B were selected along arbitrarily established sides (1 and 2). This allowed a straight line of sight between A and B, which in turn permitted the calculation of a cardinal orientation. Of course, structures lacking an actual linear referent were not thought to correspond to a specific cardinal orientation. In other words, the builders of such structures did not incorporate these considerations into their creation. Nonetheless, the value of employing this method is that it allowed non-linear structures to be spatially placed relative to the architectural milieu within which each was found.

In addition to recording the various global, spatial, and cardinal values in specially designed field forms, each architectural structure was hand sketched in the field, and all such measurements redundantly included within each drawing.
Furthermore, the relationship of each architectural structure to its surroundings was recorded wherever possible via direct tape measurements (i.e. from corner of structure to neighboring built or natural forms), through written documentation based on compass orientation (i.e. “…at 30-ms due 240° from point ‘A’, there exists a comparable structure…”), and through a series of photographs directed at both the architectural structures and the full 360° view-shed. In regards to the latter, this was particularly important in conjunction with written notes to establish the relative height of the architectural structure of interest. Variation and error associated with altitude readings from the GPS handheld units precluded their effectiveness in this sense, though through careful observation the relative position of each structure in terms of elevation was advanced, if not actually quantified.

Along with determining the global and relative position of each architectural structure, the objectives of this research included recording a number of variables assumed to function in some sense as mnemonic cues. These cues, and the interpretive assumptions associated with each (Chapter 8 Analysis), were derived through an examination of North Coast cultural and material manifestations. These include wall thickness as mentioned, as well as the specific method of construction utilized by the builders. With a known precedence for the use of adobe to cover walls, there is certainly the possibility that nuanced construction methods would be obscured from view, and thus not function as mnemonic cues. Yet the built form is assumed to reflect differences in status, with some employing high status adobe and others reliant upon different construction methods. Furthermore, even those design elements of the built form that could not actually be viewed by Prehispanic inhabitants, are now exposed (i.e. adobe washed away), thus providing insight into builders choices. Based upon research precedence, a list of such building methods was compiled and included on field forms, though enough room was left on each to note variations or unknown types.
Additionally, wall height was calculated where possible, though several implicit assumptions associated with this need to be explicated. It is assumed, consistent with North Coast architectural canons, that structures were covered by perishable roofs, which were supported in turn by torte cane or the external rock walls themselves. Moreover, it is assumed that a 3-m high rock wall conveyed a different sort of mnemonic cue than that of a perishable .5-m exterior, and these differences in turn may be underscored by the coincidence of other mnemonic variables (wall thickness, construction type, orientation, etc.) though this will receive a more in-depth treatment in Chapter 8 Analysis. Despite this, wall height is far more problematic to calculate than wall thickness. In the latter case, the wall foundation can generally be discerned allowing a quantifying measurement despite the presence of rubble that may have fallen from higher wall elements. Additionally the method of construction can usually be inferred through an examination of the wall foundation, or even from the remnants of just one or two rock levels. Establishing wall height, conversely, entails the difficult estimation of total wall-fall volume, and as such some structures resisted quantification in this sense.

Semi-Fixed.

To reiterate, semi-fixed items refer to those elements of a site that are not portable, but can be moved short distances with some effort usually beyond the capabilities of a single individual. Such items include Batáns, or grinding surfaces used to process vegetal or animal resources, and petroglyphs whose cultural value may be multiple and variable. In general, such semi-fixed elements as Batáns are assumed to be in the same spatial context within or closely associated with architectural structures as they were when the site was abandoned or the behavior associated with their usage ceased. This assumption is based on the weight and size of such material culture, which resists natural and cultural repositioning during phases of post-occupation, and the finality of the previously mentioned Reductiones policies,
which entailed the quick and permanent removal of indigenous peoples from their homes. In terms of the semi-fixed petroglyphs, they tend to be positioned upon rocks or boulders that have visually conducive flat surfaces or panels, which in general require the sustained effort of more than one individual to move. It is assumed that along with the mnemonic markings associated with the petroglyphs themselves, their positioning relative to architectural structures can yield information relative to issues of complexity and inequality. Furthermore, the spatial patterning of the semi-fixed petroglyphs may also yield data relative to site function. Both aspects will be expanded upon in Chapter 8 Analysis

To record the semi-fixed variables, their spatial placement was calculated both globally (UTM coordinates) and physically (tape measure and compass) relative to other architectural structures or fixed features, they were physically measured, described thoroughly in notes, and photographed. Specifically, spatial patterning was recorded in a manner comparable to the other fixed elements mentioned earlier. UTM coordinates were taken redundantly with handheld GPS units to situate semi-fixed elements globally, and physical tape measurements and compass readings taken connecting this category of material culture to other fixed or semi-fixed elements of the site. Notes and digital photographs were particularly valuable, especially in the examination of the more ephemeral petroglyph features. This will be discussed more in the post-fieldwork section to follow.

Non-Fixed.

Having established the spatial placement of both fixed and semi-fixed material culture at SRB, and having recorded the variables associated with each necessary to address the research questions of this study, the focus shifted to non-fixed portable material culture. This material category included lithics, metal, fabric, organics, and most importantly, ceramics. The objective was to record all such non-fixed material directly associated with fixed and semi-fixed elements. This includes all non-fixed
material culture found upon the surface within architectural structures, within its walls, or externally where an association could be reasonably inferred. Of course, single semi-fixed elements such as Batáns or petroglyphs do not enclose a spatial expanse comparable to architectural structures, though where clusters of non-fixed material culture were seen in direct association with them, they were recorded. Thus, when the survey team encountered either, red flags were used to situate each non-fixed element within its spatial context, patterning, or to denote the lack thereof. This allowed for the evaluation of the visual spatial association between the different elements of material culture (fixed, semi-fixed, non-fixed) within the field. Due to the limited duration and funding of this baseline study little time was devoted to individually plotting each non-fixed element within its spatial context. Rather the decision was made to record patterns of surface deposition when they occurred as zones associated with fixed or semi-fixed elements.

Despite the focus on more generalized patterns as opposed to individual spatial plotting, it was recognized that each element of non-fixed material culture could be highly diagnostic (especially ceramics), and as such individual variables were recorded and categorized into types. In particular, non-fixed variables were used to explore relationships between the material culture in question within the context of SRB’s built environment, and North Coast politics, relevant to interaction, exchange, complexity, and sociopolitical organization. The specific variables recorded for each class of non-fixed artifact are detailed in Chapter 7 Results, and where possible field identifications were made based on the examination of such attributes. Such identifications were initially made through a familiarity with North Coast research relative to non-fixed material culture, but were reevaluated at the end of each field day through the examination of archival comparative material. Additionally, digital photographs were taken of each non-fixed diagnostic element permitting further post-fieldwork research and consultation with experts such as Jon Kent. Thus, the project gathered a variety of data without compromising the archaeological record through
collection, and these non-destructive methods allowed the identification of such material with a high degree of confidence.

The portable nature of non-fixed material culture required a more critical evaluation of the surface deposition than was warranted with fixed or semi-fixed material culture. In particular, the context where non-fixed material culture patterns were found was evaluated for signs of natural or cultural disturbances. For example, an architectural structure that exhibited damage or modification consistent with flooding would likely contain equally disturbed non-fixed surface depositions and thus was not included in the analysis. So too, cultural disturbances that included contemporary pathways or agricultural modifications precluded the incorporation of non-fixed material cultural data into the analysis.

The damage caused by looter activities presents a somewhat different scenario. Typically, this pattern included looter pits dug into human burials that were within or outside of architectural structures, and often the pit remained open with the dirt fill mixed with broken burial goods piled in close association. Despite the unmistakable destruction, a variety of data was recorded from looter pits opportunistically. Specifically, the broken ceramics of the fill often permitted the socio-political identification of those interred. Thus, in a general sense the survey project achieved insight into the relationship between the three categories of material culture available on the surface, and to an extent that which occurred below ground. This data, in conjunction with Kent’s excavations throughout SRB, allowed evaluation of the nature of the surface deposition and the validity of this methodological approach.

Summary

This chapter detailed the various methods used to collect data from the three primary categories of material culture (fixed, semi-fixed, non-fixed), and their relevance to the research questions of this study. Chapter 7 Results discusses the
outcome of fieldwork, setting the stage for the interpretation of the recorded data in Chapter 8 Analysis.
CHAPTER 7

FIELDWORK RESULTS

Given all variables relevant to this research as recorded in Phase II of fieldwork, this chapter describes their occurrence within associated spatial contexts.

Fixed Elements

This section details both the numerical and spatial distribution of fixed element architectural structures across SRB, along with the fixed element variables associated with each.

Spatial Distribution

The first objective in examining the utilization of space at SRB was to create a visual medium whereby relationships at a basic level between the assorted collected variables were to be inferred. Using only hand-held GPS units and compasses during fieldwork, this baseline study did not attempt a three dimensional map of the site. Rather the common, inexpensive, and relatively easy to use *Microsoft Excel* served to create a visual medium appropriate for this research. Excel’s scatter plot feature provided an initial assessment of fixed element spacing at SRB (Figure 7.1). Here a Northing/vertical and Easting/horizontal UTM graph was constructed, and the fixed element coordinate data (Chapter 6 *Field Investigations*) compiled in the Excel worksheet was used to indicate the location of the architectural structures relative to each other and to some of the surrounding features that were observed in aerial
photographs. One hundred and six architectural units were defined based on the criteria established in Chapter 6 *Field Investigations*. Thus only about 1/3 of the structures estimated by Kent and his colleagues to be at SRB were located, though it should be pointed out the team encountered a large number of ruins that could not definitively be assigned to this category in the absence of actual excavations.

![Diagram](image_url)

**Figure 7.1 Fixed Elements**

Other fixed elements depicted in 7.1 include the Muralla Pircarda, and *la Pared de la Montaña*, or the wall seen in aerial photographs (Figure 6.2) separating Cerro Pucarachico from the valley floor below. Also apparent are several architectural
clusters that are partitioned into eight zones to facilitate an examination of spatial relationships (Figure 7.2).

Figure 7.2 Spatial Zones

This served to provide a simple spatial referent when discussing areas within the complex, and to evaluate these visual impressions more fully through statistical means in Chapter 8 Analysis. Per Figure 7.2, Zones 1, 2, and 3 more or less coincide to architectural spatial clusters west of the Muralla Pircarda along with Zone 8, which represents the three architectural structures that were sampled and evaluated on Cerro Santa Rita. Zones 4, 5, and 6 are drawn to the east of the Muralla Pircarda though Zone 4 includes just a single isolated architectural structure and Zone 6 lacks the
cohesive clustering of some of the others. Zone 7 includes the single architectural structure sampled and evaluated at Cerro Pucarachico. Despite the visual clustering of structures and their positioning relative to the Muralla Pircarda that largely informed the segregation of SRB into zones, it should be stressed that such divisions are largely arbitrary and are not indicative of type membership or function. Chapter 8 Analysis deals with this more.

Beyond the methods used to spatially situate each architectural structure as discussed in Chapter 6 Field Investigations, all other elements included in figures 7.1 and 7.2 were spatially derived through a series of recorded ‘waypoints’ beyond the initial datum points. In other words, the UTM coordinates of nearly 500 additional features besides the fixed, semi-fixed, and non-fixed focal points of this study were recorded, allowing for the incorporation of such features into these basic maps.

Along with the 106 architectural units recorded by the survey team, twenty freestanding fixed element units were spatially recorded, though they did fall outside the criteria established for architectural structures. In short, these probable structures lacked a requisite number of walls or measurable variables due to cultural or natural destructive processes. Furthermore, nineteen of the architectural units were the only definable structures situated within expansive complexes or groupings of architectural units. Thus, five to twenty-five additional architectural structures may be associated with each of the nineteen respectively, though in the absence of excavation this is only an estimate. It can, however, be definitively stated that all probable structures and complexes fell within the defined zones. It should be pointed out that the use of the term complex here is distinguished from the designation of SRB as a complex only in scale. At the largest scale SRB is a complex in that it includes a grouping of sites (the valley floor, Cerro Santa Rita, Cerro Pucarachico, San Leon), while at the scale of spatial zones; clustered groups of architectural units are also referred to as complexes. Along with the ruins of presumed architectural units and complexes, the survey team also encountered many paths, roads, and bridges as well as dams, walls,
rock piles, and cleared areas that simply were beyond the scope of this research to fully record (time, money, personnel, equipment, etc.). Rather the association of these fixed elements to architectural structures was noted, and will be discussed later in this chapter.

The frequency and distribution of all recorded architectural structures by zone can be summarized as follows. Zone 3 has the most structures with forty-two, followed closely by Zone 1 with thirty-one. Thereafter Zones 5 had fourteen, 6 had eight, 2 include six, and 8 had just three. Only a single structure was located in Zone 4, and while only one was evaluated in Zone 7 (Cerro Pucarachico), this hillside contained numerous structures, and was only sampled for comparative purposes.

The rest of this section expands upon all variables related to fixed element architecture and categorizes them according to size, positioning, shape, access types, construction methods, and interior features. In a sense, an individual approaching SRB during the LIP would visually be exposed to mnemonic cues that progressively become more detailed as the distance is closed. This is not to suggest visual mnemonic cues were discerned in any particular order, rather they are organized by group to maintain a workable database.

Architectural Size

It is assumed, based on numerous studies from leading Andean scholars, that the size of architecture during the North Coast LIP provides an important, though not exclusive basis for determining cultural affiliation. For example, Carol Mackey established a size hierarchy for Chimu architecture based on total enclosed structure area in combination with distinct architectural feature types (Mackey 1987). These feature types include niches, u-shaped openings, burial platforms, wall height, wall thickness, the presence of compounds, and others. This type of approach has been utilized extensively to explore questions relating to Chimu hegemony and/or
influence outside the core area of Chan Chan (Kolata 1990; Moore 1996; Moseley 1990; Pillsbury and Leonard 1998; Topic 1990). Based on the predominance of architectural size in these studies, it is presented here first.

The three size variables include structure area, wall height, and wall thickness. To achieve a value for the area enclosed by architecture at SRB, each external wall was measured in metric units, and then the length of the structure was multiplied by its width. Structure area ranged from 10-5,450 m, with more than half of all falling between 10 m and 250 m. The distribution of wall height is also skewed to the left of the mean at SRB, though large outliers are not as common here as with structure area. Wall height ranges between 30 cm and 240 cm, though most values fall within the 50 cm to 62.5 cm range. Wall thickness exhibits the least skewed distribution, with just two large value outlier structures, and a range between 28 cm and 150 cm.

Table 7.1 provides a summary of the three size variables relative to their spatial association to Zones 1-8, and this template is used throughout the chapter with minor variations. The first column indicates the variable, and below it are ascending numbers which designate each respective range (i.e. 1=1-50m). The third column indicates both the frequency and ratio of occurrence of the variable type relative to the full architectural population (N=106). The remaining columns specify the distributional frequencies and ratios by type across the eight defined spatial zones, whose respective architectural populations are noted in the table heading.

The diagnostic architectural features mentioned earlier, the likes of which are all found at the LIP Chimu center of Chan Chan in the Moche valley (J. Topic 1990; Moseley and Day 1982), and encountered in a piecemeal fashion at sites such as Farfan of Jequetepeque (Conrad 1990; Keatinge and Conrad 1983), Manchan in the Casma valley (Klymyshyn 1987; Mackey and Klymyshyn 1981), and Pampa de Mocan of the Chicama (Mackey 1987), are largely absent from the fixed assemblage at SRB.
Table 7.1 Size frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq. of N</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
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<td>1/.13</td>
<td>1/1</td>
<td>2/.67</td>
</tr>
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<td>2/.33</td>
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<td>2/1.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>2/.06</td>
<td>1/.17</td>
<td>5/.12</td>
<td>0</td>
<td>3/21</td>
<td>1/13</td>
<td>0</td>
<td>0</td>
</tr>
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<td>1/.07</td>
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</tr>
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<td>1/13</td>
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<td>1/1</td>
<td>2/67</td>
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<td>2/06</td>
<td>1/17</td>
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<td>0</td>
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<td>14/45</td>
<td>3/5</td>
<td>17/41</td>
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<td>2/67</td>
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<td>10/32</td>
<td>1/17</td>
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<td>8/57</td>
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<td>0</td>
<td>1/33</td>
</tr>
<tr>
<td>4</td>
<td>81-100</td>
<td>12/11</td>
<td>5/16</td>
<td>1/17</td>
<td>3/07</td>
<td>0</td>
<td>1/07</td>
<td>2/25</td>
<td>0</td>
<td>0</td>
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<tr>
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<td>101+</td>
<td>2/02</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2/14</td>
<td>0</td>
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</tbody>
</table>
The U-shaped structures that have such a time-depth on the North Coast and are commonly viewed as Chimu administrative hallmarks (Chapter 4 Cultural Chronology) were not detected through pedestrian survey. Where some architectural structures contained somewhat suggestive U-shapes, they lacked other important associated features including niches. Only one possible niche was detected, though it was not in proximity to a U-shaped form (structure #19/Zone 3). Indeed, this is a pattern repeated at SRB where occasional diagnostic architectural canons occur that are suggestive of LIP themes, but they seldom are seen in combination with other diagnostic elements. This in itself is not surprising, as the full range of formal architectural characteristics of the Chimu polity is not found outside of Chan Chan. Even the provincial sites mentioned above lack the full range of formal architectural canons seen at Chan Chan, and smaller sites (tiers 3 and 4) contain even fewer diagnostic elements (Mackey 1987).

In the absence of such political and temporal architectural markers, this research sought to establish whether a core set of fixed element forms or features were utilized repetitively within certain contexts, thus creating a pattern recognizable as a mnemonic cue. These mnemonic cues in turn may have conveyed information to the site inhabitants relative to social or political association, status, or societal function. In the following fixed variable groupings, and subsequent semi-fixed and non-fixed element discussions, where a variable has a known political or temporal diagnostic precedent it will be noted. Otherwise, it can be assumed the variable was included in this study to explore the possibility of systematic repetition as it is described above.

*Architectural Positioning and Context*

This second grouping of fixed element variables includes the cardinal orientation of the architectural structure, its placement within the contexts of an architectural complex, compound, or plaza, and its spatial association with roads or paths. Table
7.2 provides an overview of the frequency and ratios of cardinal direction by type across space, which is defined in 30-degree increments.

Table 7.2 Positional and context frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq. of N</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
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<td></td>
<td></td>
<td></td>
<td>31</td>
<td>6</td>
<td>42</td>
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<td>14</td>
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<td>3</td>
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</tr>
<tr>
<td>3</td>
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<td>2/.33</td>
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<td>9/.64</td>
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While this might not appear to be a particularly fine-tuned approach to cardinal orientation, within-range variability will be explored more fully in Chapter 8 Analysis. Thus, it can be said that the majority of all architectural structures (49) fall within the cardinal orientation range of 271-300 degrees, or just off the east/west axis. This position is represented with a hypothetical structure drawn in red within a 360-degree circle in Figure 7.3. The next most common type structure is non-linear (NL in Table 7.2), and as such these eighteen structures do not have an axis aligned to a cardinal direction.
A second positional/context variable considered here is complex, which when positively flagged indicates the positioning of an architectural structure within a cluster of others. As mentioned earlier, ruins of complexes were encountered during fieldwork, and it was necessary to distinguish between those structures contained in these groupings that were measurable, from those from without that might otherwise be comparable in various regards. In other words, structures attached to one another are viewed as separate architectural types from those that stand alone, notwithstanding otherwise similar features (i.e. method of construction, wall height, etc.). Nineteen architectural structures associated with fifteen complex ruins were encountered during fieldwork, and per Table 7.2 most were located in Zone 3.

The third variable considered here is that of compound, which is defined as a group of attached or unattached architectural structures enclosed within an external wall that is either continuous or with openings. Additionally, this external wall may be part of a structure in those instances where several architectural units are clustered and aligned in such a way that the gap between them constitutes an entryway(s) into the compound. Both types are illustrated in Figure 7.4.
The compound variable at SRB should not be confused in any way with Chan Chan’s compounds or *Ciudadelas*, enclosures that fall within Mackey’s tier 1 architectural hierarchy, or for that matter within any defined Chimu compound type (Mackey 1987). The compounds at SRB lack the scale of other Chimu centers, though it is useful to distinguish them here to more fully understand the site’s range of architectural variability. Table 7.2 illustrates a comparable distribution of compound-type structures in Zones 1 and 3, though the ratio of such is highest in Zone 1.

A plaza is defined as an open space that is organized to accommodate groups. These spaces were utilized for political or ceremonial purposes, as well as for trade in open-air markets. Architectural structures found in close context are assumed to have played some role in plaza functions, and subsequently to be defined as special activity buildings. Six such structures were identified within close context of possible plazas, five of which occurred in Zone 1 (Table 7.2).

Lastly, those architectural structures found to be in close proximity to roads and/or paths are assumed to have served different functions than those that did not benefit from ease of access (i.e. exchange, defensive monitoring, etc.). Thus, such structures were recorded to enable a more in-depth examination of them in conjunction with other variables. In eighteen instances, architectural structures were positioned within these contexts, with the overwhelming majority located in Zone 3 (Table 7.2).
Architectural Shape

The first and most obvious variable relating to shape is architectural linearity, or the lack thereof. Linear and non-linear building shapes are seldom concomitant; and rather both types have perceived functional differences or express dissimilar sociopolitical influences (Isbell and McEwan 1991). Thus, when a structure exhibits both characteristics it is assumed to be an older form that was appropriated and modified by newer inhabitants, who in turn expressed their ideology through different types of mnemonic cues. The fact that the architectural structure was not completely razed; however, implies this new ideology was not completely disparate from the old. Based on these assumptions, the shape of each architectural structure was recorded, though in the absence of excavation it was not possible to discern earlier or later construction episodes. Table 7.3 shows the frequency and ratio of non-linear, linear, and mixed shaped architectural structures across space at SRB. The linear and mixed linear/non-linear type structures tend to dominate the assemblage at SRB with only eighteen non-linear structures. Table 7.3 further illustrates the distribution across spatial zones by type, with an almost equal allocation of linear and mixed linear/non-linear types occurring in Zones 1 and 3.

The second variable that influences the shape of an architectural structure is the number of walls used to define it. A single-wall structure, for example, is also a non-linear (circular) one, while a four-wall structure is usually square or rectangular. Per Table 7.3, most architectural structures at SRB fell within the 5-7 wall category with 4-wall structures close behind.

Multiple room structures may have the same basic shape and number of exterior walls as those with single rooms, as in the case of some compounds, enclosed as they are within an external wall. Nonetheless, multiple room structures tend to be larger, and in the absence of a compound wall will have different shapes. Per Table 7.3,
multiple room architectural structures were recorded in 63 instances, with most concentrated within Zone 3.

Table 7.3 Shape frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq. of N</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Linear</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Non-linear</td>
<td>18/.17 4/.13</td>
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<td>6/.14</td>
<td>1/1</td>
<td>1/.07</td>
<td>2/.25</td>
<td>0</td>
<td>1/.33</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>linear</td>
<td>43/.41 14/.45</td>
<td>2/.33</td>
<td>17/.4</td>
<td>0</td>
<td>5/.36</td>
<td>2/.25</td>
<td>1/1</td>
<td>2/.67</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>mixed</td>
<td>45/.42 13/.42</td>
<td>1/.17</td>
<td>19/.45</td>
<td>0</td>
<td>8/.57</td>
<td>4/.5</td>
<td>0</td>
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<td></td>
</tr>
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<td>1</td>
<td>5/.05 0</td>
<td>1/.17</td>
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<td>1/.07</td>
<td>0</td>
<td>0</td>
<td>1/.33</td>
<td></td>
</tr>
<tr>
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<td>1/1</td>
<td>3/.21</td>
<td>3/.38</td>
<td>1/1</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5-7</td>
<td>35/.33 9/.29</td>
<td>3/.5</td>
<td>15/.36</td>
<td>0</td>
<td>5/.36</td>
<td>1/.13</td>
<td>0</td>
<td>2/.67</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>8-10</td>
<td>22/.21 6/.19</td>
<td>2/.33</td>
<td>9/.21</td>
<td>0</td>
<td>2/.14</td>
<td>3/.38</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>11-15</td>
<td>11/.10 3/.10</td>
<td>0</td>
<td>7/.17</td>
<td>0</td>
<td>1/.07</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>20+</td>
<td>2/.02 0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1/.07</td>
<td>1/.13</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mult. Rooms</td>
<td>63/.59 17/.55</td>
<td>3/.5</td>
<td>29/.69</td>
<td>0</td>
<td>8/.57</td>
<td>5/.63</td>
<td>0</td>
<td>1/.33</td>
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</tr>
<tr>
<td>Patio</td>
<td>11/.10 6/.19</td>
<td>1/.17</td>
<td>4/.09</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

Lastly, patios are considered here due to their prevalence in LIP administrative architecture. Patios are defined here as open spaces within architectural structures, complexes, or compounds, though they are more privately oriented than plazas. Specifically, patios may only be accessed by entering a structure, complex or compound, whereas plazas are more overtly oriented in the sense that access to the former is not a requisite. The incorporation of patios within architectural structures or groupings creates a different spatial pattern from those without, and the objective was to determine if these patterns were comparatively similar to known LIP administrative architecture, or if they were repeated systematically. Per Table 7.3,
eleven architectural structures appeared within the context of potential patios, though the patios themselves lacked any formal diagnostic features that might suggest relationships with LIP Chimu administrative centers.

Access Features

The fourth grouping of fixed element variables includes those related to structural access. Access features have long been thought to provide diagnostic clues relating to interaction, complexity, and sociopolitical organization. Some well-known examples of this in the Andean area include the Gate of the Sun at the site of Tiwanaku, the ramps at Huaca de Luna, and the winding entryways at Chan Chan. While nothing of comparable scale exists at SRB, it is assumed that the presence of doors, their width, their manner of access via steps, gates, walled paths, and baffled entry all serve as mnemonic cues relating to architectural type and function.

Field investigations followed this assumption by first determining the presence or absence of doors used both to access each architectural structure, and to move within those that contained multiple rooms. Table 7.4 shows the variety of door types that were recorded based on their presence or absence, their position on the outside or inside of the structure, and their numerical value for each respectively. Twenty-nine structures contained no evidence of access doors, while those with one or two external doors were the most common types. Notable in the spatial distribution of door type by zone is the high ratio (.71) of type 1 single external doors that occur in Zone 5.

The related variable of door width, both interior and exterior, was assumed to be a possible mnemonic device, or diagnostic based upon repetition; however, field investigations were unable to accurately assess the often ephemeral interior door measurements, and as such only external door lengths were recorded. Again with twenty nine structures lacking access doors, the next most common types relative to
door width were those that measured 51-75 cm (type 2), and those at 76-100 cm (type 3), with both including twenty five structures respectively (Table 7.4).

Table 7.4 Access frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq. of N</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>none</td>
<td>29/.27</td>
<td>10/.32</td>
<td>3/.50</td>
<td>3/.07</td>
<td>1/1</td>
<td>4/.29</td>
<td>4/.50</td>
<td>1/1</td>
<td>3/1</td>
</tr>
<tr>
<td>1</td>
<td>1 ext</td>
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<td>7/.17</td>
<td>0</td>
<td>10/.71</td>
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<td>0</td>
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<td>1 int</td>
<td>1/.01</td>
<td>0</td>
<td>0</td>
<td>1/02</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>3</td>
<td>1 int</td>
<td>7/.07</td>
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<td>0</td>
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<td>2/.06</td>
<td>1/.17</td>
<td>12/.29</td>
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<td>0</td>
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</tr>
<tr>
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<td>2+ ext</td>
<td></td>
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<tr>
<td>6</td>
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<td>1/.01</td>
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<tr>
<td>7</td>
<td>2+ ext</td>
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<td>2/.06</td>
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<tr>
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<td>Door Width</td>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>26-50 cm</td>
<td>8/.07</td>
<td>2/.06</td>
<td>0</td>
<td>6/.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>51-75</td>
<td>25/.24</td>
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<td>1/.17</td>
<td>14/.33</td>
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<td>4/.29</td>
<td>2/.25</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>76-100</td>
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<td>11/.35</td>
<td>2/.33</td>
<td>9/.21</td>
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<td>1/13</td>
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<td>0</td>
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<td>0</td>
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<td>0</td>
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<td>1/13</td>
<td>0</td>
<td>0</td>
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<td>126-50</td>
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<td>1/.03</td>
<td>0</td>
<td>4/.09</td>
<td>0</td>
<td>1/.07</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>151-75</td>
<td>2/.02</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2/.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
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<td>201-25</td>
<td>2/.02</td>
<td>1/.03</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1/07</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
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<td>8</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1/07</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td></td>
<td>Steps</td>
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<td>2/.06</td>
<td>0</td>
<td>1/.02</td>
<td>0</td>
<td>1/07</td>
<td>1/13</td>
<td>0</td>
<td>0</td>
</tr>
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<td>Gates</td>
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<td>5/.16</td>
<td>1/.17</td>
<td>7/.17</td>
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<td>2/.14</td>
<td>1/13</td>
<td>0</td>
<td>0</td>
</tr>
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<td></td>
<td>Walled path</td>
<td>27/.25</td>
<td>5/.16</td>
<td>2/.33</td>
<td>15/.36</td>
<td>0</td>
<td>1/07</td>
<td>4/5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Baffle</td>
<td>3/.28</td>
<td>0</td>
<td>0</td>
<td>2/.05</td>
<td>0</td>
<td>1/07</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

186
The last four variables in this grouping include stepped access, gates that are distinguished from doorways by large angular or semi-angular stones buried on end which frame the opening, walled paths which direct movement to an access point, and baffles which are also walled paths though that differ in that they direct the visitor through a tortuous controlled entryway. Stepped access was recorded at five structures, gates were found at sixteen, walled paths were the most common and recorded at twenty-seven structures, and baffles were seen in only three. Walled paths were largely found in Zone 3.

Construction Methods

The specific choices made by builders or other decision makers to construct architecture are viewed here as important diagnostic tools in the exploration of issues relating to interaction, complexity, and sociopolitical organization. The choices considered here include the material component and arrangement used in internal and external walls, the means used to seal the walls or the lack thereof, and the methods used to finish the walls through facing and/or stone or ceramic chinking. A variety of material choice arrangements for the construction of architectural walls were encountered at SRB and these are summarized in Table 7.5.

The most prevalent technique involved the construction of walls with two parallel rows of mixed cobble, semi-angular, and angular rocks (not buried on end), while the space in between was filled with mixed rubble and dirt. This entails a greater investment of labor than simply laying mixed stone in a single row as a foundational base, though it can certainly be completed without the use of corporate labor (dependent on size and scale of construction endeavor), and it serves as an effective method of both solidifying the base and providing some protection against the transformative processes of wind and water. Both Wiley and Wilson regularly encountered this technique in their Viru and Santa Valley surveys (Willey 1953;
Wilson 1988). Notwithstanding this, it is the diversity of techniques used in terms of material choice (cobble, semi-angular, angular shaped rocks, rubble), and wall arrangement (single, double, mixed rows) that are notable. Indeed, the second largest type category included those architectural structures that employed three or more of these techniques within a single structure.

Table 7.5 Wall types

<table>
<thead>
<tr>
<th>Wall Type</th>
<th>Description</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
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<tr>
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<td>single row angular</td>
<td>3</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
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<tr>
<td>2</td>
<td>single row cobble</td>
<td>1</td>
<td>.9</td>
<td>.9</td>
<td>3.8</td>
</tr>
<tr>
<td>3</td>
<td>single row mixed rock</td>
<td>10</td>
<td>9.4</td>
<td>9.4</td>
<td>13.2</td>
</tr>
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<td>4</td>
<td>single row angular buried on end</td>
<td>2</td>
<td>1.9</td>
<td>1.9</td>
<td>15.1</td>
</tr>
<tr>
<td>5</td>
<td>double row angular</td>
<td>2</td>
<td>1.9</td>
<td>1.9</td>
<td>17.0</td>
</tr>
<tr>
<td>6</td>
<td>double row cobble</td>
<td>1</td>
<td>.9</td>
<td>.9</td>
<td>17.9</td>
</tr>
<tr>
<td>7</td>
<td>double row mixed</td>
<td>15</td>
<td>14.2</td>
<td>14.2</td>
<td>32.1</td>
</tr>
<tr>
<td>8</td>
<td>double row cobble + angular buried on end, single and double row mixed</td>
<td>11</td>
<td>10.4</td>
<td>10.4</td>
<td>42.5</td>
</tr>
<tr>
<td>9</td>
<td>double row mixed and chamber and fill</td>
<td>23</td>
<td>21.7</td>
<td>21.7</td>
<td>64.2</td>
</tr>
<tr>
<td>10</td>
<td>double row cobble, angular buried on end, chamber and fill mixed</td>
<td>11</td>
<td>10.4</td>
<td>10.4</td>
<td>74.5</td>
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<tr>
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<td>single row mixed, angular buried on end single row</td>
<td>2</td>
<td>1.9</td>
<td>1.9</td>
<td>76.4</td>
</tr>
<tr>
<td>12</td>
<td>double row cobble, chamber and fill mixed</td>
<td>2</td>
<td>1.9</td>
<td>1.9</td>
<td>78.3</td>
</tr>
<tr>
<td>13</td>
<td>single and double row mixed</td>
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<td>3.8</td>
<td>82.1</td>
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<tr>
<td>14</td>
<td>double row cobble and mixed</td>
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<td>.9</td>
<td>.9</td>
<td>83.0</td>
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<tr>
<td>15</td>
<td>3 or more mixed techniques</td>
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<tr>
<td></td>
<td></td>
<td>106</td>
<td>100.0</td>
<td>100.0</td>
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</tr>
</tbody>
</table>
Select measurements of the length and width of stones used in wall construction were recorded during fieldwork, but omitted, as there was no way to ensure a completely random sample had been taken. While these measurements could not be quantified, it was the team's impression that most of the stones used in the construction of foundational walls were equivalent in size to those that occurred in the immediate natural surroundings. This suggests the choices of architectural construction were motivated by opportunism, with no clear evidence of different building materials begin transported over any distance. This contrasts to structures above the valley floor at Cerro Santa Rita, where in certain instances river cobbles from lower elevations were employed as construction material (Van Heukelem 2003).

The three structures recorded at Cerro Santa Rita during this research, however, where characterized by angular stone used in wall construction, the likes of which are common on this hilltop. Table 7.6 summarizes the spatial distribution of wall types by spatial zone, along with other variables relating to construction methods.

The use of adobe bricks over stone foundations requires an increased labor investment and specialized skill. Typically, on the North Coast the use of adobe is reserved for architectural structures that house important activities or high status occupants (Moseley 1990). Adobe bricks with maker's marks have been identified with corporate groups and are thought to have provided the labor necessary for the construction of elite buildings such as those of Huaca de Sol and Huaca de Luna (Donnan and Mackey 1978). In the absence of adobe bricks, stone foundations were sometimes plastered with adobe, or the stones were set with mortar or mud. Neither adobe bricks nor evidence of adobe plaster was detected during this study, though there was trace evidence of mud used to set the stone in the walls of thirty-two structures, with most occurring in Zones 1 and 3 (Table 7.6).

Another method used in wall construction is chinking, or the adding of small rocks or pieces of broken pottery to gaps between larger stones. This practice facilitates the even application of adobe plaster to a stone wall, and in the event the
latter was not used, it served to block the gaps where rubble and dirt from chamber and fill type walls might leak through.

Table 7.6 Construction methods, frequencies, and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq. of N</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
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<td>7/.17</td>
<td>0</td>
<td>1/.07</td>
<td>2/.25</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Mud setting</td>
<td></td>
<td>32/.30</td>
<td>16/.52</td>
<td>3/.50</td>
<td>12/.29</td>
<td>0</td>
<td>1/.07</td>
<td>0</td>
<td>0</td>
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</tr>
</tbody>
</table>

Chinking

| | rock | 21/.20 | 12/.39 | 1/.17 | 7/.17 | 0 | 0 | 1/.13 | 0 | 0 |
| 2 | sherd | 14/.13 | 6/.19 | 2/.33 | 6/.14 | 0 | 0 | 0 | 0 | 0 |

Facing

| | Int. | 18/.17 | 5/.16 | 2/.33 | 6/.14 | 0 | 3/.21 | 1/.13 | 1/1 | 0 |
| 2 | Ext. | 2/.02 | 0 | 0 | 0 | 0 | 5/.36 | 0 | 0 | 0 |
| 3 | both | 21/.20 | 9/.29 | 1/.17 | 6/.14 | 0 | 1/.07 | 1/.13 | 0 | 3/1 |

Furthermore, such a practice necessitated a greater investment than that of simple piled rock walls. The incorporation of broken ceramic sherds as chinking is also a
LIP, largely Chimú phenomenon (Tham- personal communication 2002, Ventura 2004). Per Table 7.6, rock chinking was found in twenty-one architectural structures, while only fourteen contained ceramic chinking.

In the absence of more formal high status architecture that would include adobe bricks and plaster, the fitting and alignment of faced stone may be the high status rural equivalent to more well-known urban administrative centers. This research distinguished wall facing that occurred on both the inside and outside of a structure, as well as those instances where both were present. Per Table 7.6, most structures did not have facing, though in those that did, they tended to be either on the interior wall exclusively, or both interior and exterior walls.

**Interior Features**

A variety of features were recorded largely within the confines of architectural structures including burials, mounds, storage units, benches, circular hearth-like shapes, and multiple interior levels, and they are discussed here.

The burial of human remains typically takes place within individual architectural structures, within burial complexes, cemeteries, or in isolated graves. In every instance where burials were found during this study, they were either within or in close context to architectural structures. As with most archaeological sites in Peru, the burials at SRB have not been spared destruction by looters. On a few occasions, the team of archaeologists was approached in the villages of Santa Rita and Chao by looters who sought ‘expert’ appraisals of the items they had collected. Where the standpoint of archaeology is clear on the issue of looting, the approach taken by the team avoided the typical lectures on moral behavior or the preservation of an essential national or world heritage. The position taken here is that such recriminations ring hollow to local peoples struggling with severe poverty, especially when those condemning their actions have not reflexively examined their own positions within a
discipline that has historically exploited them. Instead this was viewed as an opportunity to engage in a dialogue about such issues, and to gain insight into the actual practice of looting. What emerged from these conversations was an appreciation for the shared knowledge base that allowed them to expediently and efficiently locate graves and remove any goods of value contained therein. Furthermore, they often know what types of architectural structures contain specific types of non-fixed grave goods. Arguably, this knowledge base rivals or even surpasses that of non-resident archaeologists, and as a result it seems likely that most if not all of the architectural structures at SRB which contain burials have been found and disturbed by both local and non-local teams of professional looters. As such, burials were easy to locate at SRB within the context of thirty-five architectural structures, most of which were distributed in Zone 1 (Table 7.7).

In thirteen instances mounds of mixed dirt, rock, and rubble were recorded within the interior of architectural structures as well (Table 7.7). Unlike mounds associated with burials, no human remains or obvious grave goods were found, though in numerous cases looters had in fact dug into these features. In the process of looting a grave, human bones and ceramics broken upon extraction, are deemed worthless and simply piled or scattered nearby. Of course, there are a number of natural processes that could also re-deposit or affect bone visibility (i.e. aeolian, rodents/scavengers, etc.), so it cannot be stated definitively that these were not burial mounds. Nonetheless, if these mounds were burials they are distinguished here from other inhumations within architectural structures by their raised elevation.

The absence or presence of storage facilities has connotations relating to subsistence, exchange, and the control of production and distribution. Those sites or structures that lack storage are thought to be susceptible and at risk to changes in their primary subsistence base, and this makes them dependent on those who do. Conversely, those that do possess moderate storage capabilities are thought to enjoy a degree of self-sufficiency and relative autonomy.
Table 7.7 Interior features, frequencies, and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq. of N</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
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<td>19/.61</td>
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<td>7/.17</td>
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<td>5/.36</td>
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<td>Mound</td>
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<td>1/.07</td>
<td>1/.13</td>
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</tr>
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</tr>
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</tr>
<tr>
<td>5</td>
<td>Cir/ sqa. int/. ext.</td>
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<td>2/.06</td>
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<td>1/.02</td>
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<td>0</td>
<td>0</td>
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<td>3/.21</td>
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Circular Features

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<td>18/.43</td>
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<td>3/.21</td>
<td>1/.13</td>
<td>0</td>
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</tr>
</tbody>
</table>

Those, however, that possess large storage potential are assumed to control the distribution of both subsistence and preciosity goods, as has been argued for Chan Chan (Moseley 1992; Topic 1990). Per Table 7.7, where most architectural structures lacked identified storage facilities, the twenty-six that did were mostly circular in shape and located in the interior of buildings.

Benches are raised square or rectangular areas within structures that lack both the size of elevated rooms and doorways and which can serve a number of functions. They may have been used for seating, sleeping, or domestic activities, though they may also have served in higher status structures as a sort of rural audiencia, or place upon which important individuals sat and received visitors or goods. Thirty-one
architectural structures included at least one bench with the majority of them located in Zone 3 (Table 7.7).

The presence of hearths within architectural structures can lend itself to an understanding of its functional role at the site. No fire-cracked-rock or charcoal, however, was detected during fieldwork, though twenty-six structures contained circular flat features defined by a single row of small stones. These were distinguished from storage features in that they lacked the depth of the latter, showed no real expenditure of labor for construction, and tended to be ‘floating’ in architectural structures unattached to walls. In the absence of excavation, the term ‘hearth’ is not employed here, but rather ‘circular feature’ designates this variable. As Table 7.7 shows, most architectural structures lacked circular features, and when they did occur they were largely contained with the walls of the structure, and spatially clustered within Zone 3.

Lastly, the floor level(s) contained within each architectural unit were recorded with respect to single level flat versus multiple level surfaces. The assumption here is that such variations may be specific to certain groups, or for certain architectural types. Per Table 7.7, twenty-two architectural structures contained multiple floor levels, most of which were found in Zones 1 and 3.

Semi-Fixed Element Relationships

The two primary semi-fixed elements encountered during fieldwork were petroglyphs and batanes or tabular grinding stones. In the first instance, thirty-four semi-fixed stones/boulders that contained petroglyphs panels were recorded. The difficulty, however, in recognizing often-ephemeral petroglyphs in variable light/shadow conditions, suggests more may, in fact, be present at SRB. The time of day and angle of the panel undoubtedly impacted the team’s ability to detect the more faded ones (Figures 7.5), and the primary objective to locate and record all
architectural structures within a limited timeframe did not allow for additional survey, especially in those areas that lacked such structural remains.

Despite these difficulties, three more petroglyphs were recorded that were enclosed within the walls of architectural structures and actually used in wall construction, and eighteen were recorded within proximal range of structures. Figure 7.6 visually illustrates the distribution of petroglyphs across space at SRB in relation to fixed element architectural structures. The majorities of the petroglyphs clearly occurs west of the Muralla Pircarda and are grouped around the lone architectural cluster (Zone 5) on that side of the wall. Additionally, the petroglyphs in this linear cluster closely correspond to an east/west architectural array, bordered by several relatively deep east/west quebradas. As with most natural water features at SRB, the quebradas run parallel to the Rio Huamansana. An examination of the petroglyphs’ contents revealed a variety of common North Coast themes including abstract animals, geometric designs, anthropomorphic figures, and feet.
Figure 7.6 Semi-Fixed Petroglyphs

Most architectural structures neither contained petroglyphs within their walls nor within their immediate context (Table 7.8). Sixteen structures had petroglyphs within close proximity, with most of these occurring in Zone 5. As mentioned, in three instances petroglyphs were used in wall construction, one in Zone 3 and two in Zone 5, the latter portraying the outlines of human feet. Lastly, two boulders were discovered that exhibited carved cupules over flat surfaces. Jon Kent’s project refers to the one they found as a ‘Marker rock’, and where the meaning or function is unknown, excavations by his project around it uncovered pipes and other such
material culture suggesting that it served in some sort of ritual capacity (Kent et al. 2002). It is unknown if the potential second marker rock relates in any way to this as it has not been evaluated at the time of this study.

Table 7.8 Semi-fixed frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq.</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
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<td>of N</td>
<td>31</td>
<td>6</td>
<td>42</td>
<td>1</td>
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<td>0</td>
<td>3/.07</td>
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<td>12/.86</td>
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<td>0</td>
</tr>
<tr>
<td>2</td>
<td>In structure</td>
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<td>0</td>
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<td>2/.14</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>3</td>
<td>Marker rock</td>
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<td>1/.03</td>
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<td>1/.02</td>
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<td></td>
<td>14/.13</td>
<td>3/.1</td>
<td>2/.33</td>
<td>8/.19</td>
<td>0</td>
<td>1/.07</td>
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</tbody>
</table>

Figure 7.7 Batanes And Grinding Stones
Fourteen batanes were detected and recorded during fieldwork, comprising the second category of semi-fixed elements. These tabular stones, sometimes referred to as metates, exhibit smoothing and use-wear associated with the grinding of vegetal and animal foodstuffs, the remnants of which are sometimes found at their base (Figure 7.7). The majority of batanes were coupled with handheld crushing or rolling stones referred to as chungos or manos, which were found directly upon the surface of the batán or on the ground nearby. All batanes were located within the context of architectural structures most of which were within Zone 3 as Table 7.8 illustrates.

Non-Fixed Element Relationships

The primary categories of non-fixed elements considered here include lithics and ceramics, though a miscellaneous category of organics, metal, fabric, and other types of material that turned up in negligible amounts were considered as well.

Lithics

Forty-eight individual pieces of lithic material were recorded from the context of thirty-two architectural structures during fieldwork. This material was composed of a variety of different types of stone, and forms included flakes, scraper tools, knives, and grinding stones (handheld). The distribution of lithic material and form across space largely coincides with individual architectural structures or clusters, though with the primary non-fixed element focus upon ceramics, it is possible that lithic material outside of identified structures could have been missed during survey. This research distinguished between the absence or presence of lithic material, and whether the element was utilitarian, preciousity, or both (see Table 7.9). Twenty-nine architectural structures contained utilitarian lithic material, with most localized within
Zone 3. In one instance, a single structure contained a highly polished piece of stone jar deemed high status or preciosity, while another structure contained both.

Table 7.9 Lithic and ceramic frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq.</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>of N</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
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<tr>
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<td>42</td>
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<td>14</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Util.</td>
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<td>4/.67</td>
<td>15/.36</td>
<td>0</td>
<td>0</td>
<td>2/.25</td>
<td>1/1</td>
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</tr>
<tr>
<td>2</td>
<td>Prec.</td>
<td>1/.01</td>
<td>1/.03</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>3</td>
<td>Both</td>
<td>1/.01</td>
<td>1/.03</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>Ceramics</td>
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<td>13/.93</td>
<td>5/.63</td>
<td>1/1</td>
<td>1/33</td>
<td></td>
</tr>
</tbody>
</table>

**Ceramics**

The non-fixed category of ceramics made up the largest dataset recorded at SRB during this study. Over 1600 sherds were located, though only a fraction of these were diagnostic in the sense of morphology, manufacturing technique, and/or ceramic enhancement (Chapter 5 *Archaeological Indicators*). Most sherds were recorded within direct proximity of architectural structures, and those found in isolation tended to be deteriorated beyond categorical identification. Per Table 7.9, eighty-three structures contained some quantity of ceramic sherds, with most occurring within Zone 3, though higher ratios of ceramics to structures are seen in Zones 1 and 5. The full spatial distribution of all ceramic sherds is illustrated in Figure 7.8, with the lone structure in Zone 4 containing no ceramic evidence.

Numerically some architectural structures contained no more than a single sherd, while a few contained upwards of one hundred. Range categories were thus established (i.e. 1-5, 6-10, 11-15 sherds) by ceramic type to achieve a greater understanding of this variability. So too, top-end categories (i.e. 30+ sherds) were established per type, as it was simply too time-consuming in certain instances to
record each individual sherd. For example, the team would stop recording Chimu sherds within a single structure when the numerical count exceeded thirty, though it should be pointed out that all remaining sherds were visually examined to determine if other types were present. Thus, the establishment of numerical categories and thresholds served to enable a baseline examination of site ceramic surface distributions within a necessarily limited duration of fieldwork, and to observe within-structure variability that would otherwise be obscured through only absence/presence categories.

Figure 7.8 Non-Fixed Ceramics
In this latter sense, structures that contain only a single sherd of a single type, are distinguished from those that contain more than thirty sherds of the same ceramic type.

Field identifications of ceramic sherds into type were based on morphology, manufacturing technique, and enhancement (Chapter 5 Archaeological Indicators), and were based on knowledge of prior archaeological investigations at SRB, the Chao and neighboring valleys, the North Coast, and the Andean area in general. The ideal objective was to categorize sherds within types diagnostic of polities (Chimu, Moche, etc.) or periods (LIP, LH, etc.), and this was possible in a number of instances. Experts including Theresa Rosales Tham were consulted during fieldwork to assess the validity of the team’s assignment of sherds into such categorical groupings. Additionally, all ceramic sherds were digitally photographed and those that defied initial field identification were subjected to a combination of further visual examination, archival research, and expert evaluation (i.e. Jon Kent, William Isbell). The following is a breakdown of all political or temporal ceramic types identified and recorded at SRB, with photographs of each included within Appendix A.

_Casma._

Sherds identified as Casma were recorded in only three locations, with only single sherds found within the context of two Zone 1 architectural structures. The third location was at the sole evaluated structure in Zone 7 (Cerro Pucarachico), where literally hundreds of incised style Casma sherds cover much of the site. It is notable that such a high volume of sherds is not more evenly dispersed throughout the complex, or at the very least directly below within Zones 3 or 4.
Chimu.

LIP Chimu type ceramic sherds were recorded in forty-four architectural structures, making them the predominant assemblage at SRB much as Kent’s project has demonstrated thus far (Chapter 4 Chronology). Per Table 7.10, by far the majority of all Chimu sherds were found within the architectural structures of Zone 1, and it was here that the highest ratio of Chimu sherds to structures occurred (71%). So too, Zone 1 also contained those structures that had the most Chimu sherds within them. This ceramic type is widely spread, with only Zone 4 (single a-ceramic structure) showing no evidence, though as Table 7.10 illustrates, the distribution of this type is not uniform with only a single sherd found in one Zone 6 and just one Zone 8 structure.

Table 7.10 Chimu frequencies and ratios

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<th>Z4</th>
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</table>
**Gallinazo.**

Two architectural structures at SRB contained just a single sherd each that were identified as Gallinazo, and were located in Zones 3 and 6 respectively. This is noteworthy considering the prevalence of Gallinazo sherds at Cerro Santa Rita (Zone 8), where they were found to be the second most common assemblage after Moche (Van Heukelem 2003).

**Inca.**

Only negligible numbers of Inca ceramic sherds were found at two architectural structures both of which were located in Zone 1.

**Late Cajamarca.**

Zone 1 contained two structures within which Late Cajamarca sherds were recorded, and these were the same structures where Inca material was encountered as well. While the identification of this type as Late Cajamarca may be subject to debate, it is nonetheless distinguishable from both non-highland material culture (Chimu, Gallinazo, Moche), and other highland material as well (Inca, Requay, Wari), and is used here only as a named referent.

**Moche.**

The second most common ceramic type behind Chimu was Moche, occurring within the context of twenty-one architectural structures, of which over 1/3 contained only a single sherd (Table 7.11). Most Moche sherds were found in Zone 1, though Zone 3 included nearly as many. The prevalence of the former was expected, with Zone 1 spatially situated closest to the architectural quarter of Cerro Santa Rita, within which Moche sherds make up the dominant assemblage, though the quick numerical drop-off in the rest of the SRB zones is notable.
Table 7.11 Moche frequencies and ratios

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</table>

Requay.

Negligible amounts of Requay highland sherds were recorded on the surfaces of just four architectural structures, all of which were spatially situated within Zone 1.

Wari.

Highland Wari sherds were also recorded in only negligible amounts at just five architectural structures, again all of which were located in Zone 1.

Other.

In the absence of clear political or temporal diagnostic markers seen in morphology, manufacturing techniques, and ceramic enhancements, a large number of sherds nonetheless exhibited certain characteristics that were noteworthy for their systematic repetition. Where morphology and ceramic enhancement were largely absent, differences in manufacturing technique were discerned. Specifically, variations in the amount of oxygen used in the firing process are reflected in the color of the ceramic sherds, with black indicative of low amounts, and red a characteristic of high oxygen content. Grey and brown types were also recognized in the
assemblage at SRB and are systematically repeated within certain architectural contexts.

Table 7.12 Color sherd frequencies and ratios

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Redware was frequently encountered at SRB, and recorded within the context of eighty architectural structures, with blackware, brownware, and greyware found less often (Table 7.12).

In certain instances, the morphology of ceramic sherds was inferred, especially in Zone 8 (Cerro Santa Rita), and Zone 7 (Cerro Pucarachico), where large pieces were plentiful. The categorization of sherds into known North Coast and Andean area precedents, utilized established terminology, and was subjected to the same sort of scrutiny given for the earlier political and temporal classifications.

Table 7.13 provides a summary of the five main ceramic forms (Tinaja, Olla, Cantero, Bottle, Plate) recorded at SRB. Tinajas were the most common morphological type encountered, occurring within the context of thirty-three architectural structures.

Table 7.13 Morphology frequencies and ratios

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<td>Tinaja</td>
<td>33/.31</td>
<td>9/.29</td>
<td>1/.16</td>
<td>14/.33</td>
<td>0</td>
<td>7/.5</td>
<td>1/.12</td>
<td>1/1</td>
<td>0</td>
</tr>
<tr>
<td>Olla</td>
<td>13/.12</td>
<td>4/.13</td>
<td>0</td>
<td>5/.12</td>
<td>0</td>
<td>3/.21</td>
<td>0</td>
<td>1/1</td>
<td>0</td>
</tr>
<tr>
<td>Cantero</td>
<td>8/.07</td>
<td>3/.1</td>
<td>1/.16</td>
<td>1/.02</td>
<td>0</td>
<td>1/.07</td>
<td>1/.12</td>
<td>1/1</td>
<td>0</td>
</tr>
<tr>
<td>Bottle</td>
<td>16/.15</td>
<td>5/.16</td>
<td>0</td>
<td>7/.17</td>
<td>0</td>
<td>1/.07</td>
<td>1/.12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Plate</td>
<td>7/.07</td>
<td>6/.19</td>
<td>0</td>
<td>1/.02</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

This study also distinguished between ceramic sherds that were viewed as either utilitarian or as non-utilitarian. All political, temporal, and morphological variants mentioned thus far are known to encompass both varieties, and at SRB forty-three architectural structures contained one or both types (see Table 7.14). Specifically, ten structures contained only ceramic types that were construed as utilitarian, whereas thirty-four included both utilitarian and non-utilitarian. No structures had non-utilitarian ceramics exclusively.
Table 7.14 Utilitarian vs. non-utilitarian frequencies and ratios

<table>
<thead>
<tr>
<th>Var.</th>
<th>Range</th>
<th>Freq.</th>
<th>Z1</th>
<th>Z2</th>
<th>Z3</th>
<th>Z4</th>
<th>Z5</th>
<th>Z6</th>
<th>Z7</th>
<th>Z8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utilitarian</td>
<td>1- util.</td>
<td>10/.09</td>
<td>1/03</td>
<td>0</td>
<td>4/.1</td>
<td>0</td>
<td>4/.29</td>
<td>1/12</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Vs. Preciosity</td>
<td>2- both</td>
<td>34/.32</td>
<td>16/.52</td>
<td>2/.33</td>
<td>10/.24</td>
<td>0</td>
<td>3/21</td>
<td>1/12</td>
<td>1/1</td>
<td>1/.33</td>
</tr>
</tbody>
</table>

**Other**

Lastly, organic material was observed within architectural contexts at SRB, though with the recognition that bones are subject to scavengers, and shells and coprolites often lack the density of sherds that might prevent aeolian or alluvial re-deposition. Thus, these types of non-fixed elements are only suggestive at a general site level, and lack the specificity of spatial context that other material culture is argued to possess. Organic materials included both those of terrestrial and marine origins, including the bones and coprolites of both llama and Cui, snail shells, and Donax seashells. In two instances, heavily corroded sheet copper was observed in the immediate vicinity of large looted graves. In addition, probable grave goods were seen in association with looted burials and included red ochre, scraps of textile, a single turquoise bead, and a highland spindle whorl.

**Summary**

This chapter has provided an overview of the results of field investigations. The following chapter examines these results for the types of diagnostic markers identified in Chapter 5 *Archaeological Indicators*, and interprets them relative to the research questions put forth in Chapter 1 *Research Objectives*. 

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CHAPTER 8

ANALYSIS

With the outcome of fieldwork presented in Chapter 7 Results, this chapter first examines the architectural database as the primary means for understanding the processes of exchange, interaction, complexity, and cumulative sociopolitical organization. Architectural types are quantified through the concurrence of similar groupings of fixed element variables/mnemonic cues, the characteristics of each type are revealed, and their spatial associations are examined. Additionally, the patterns or lack thereof of all fixed, semi-fixed and non-fixed elements are examined in relation to architecture. Secondly, this chapter examines the recorded database in general and the architectural types in particular for the various markers of exchange, interaction, and complexity as outlined in Chapter 5 Archaeological Indicators. Lastly, the presence or absence of such markers is used to address the research questions that have driven this study, and to identify the sociopolitical organizational form that SRB assumed during the LIP.

Architectural Typology

Architecture, as stated, provides the context within which exchange is examined, and plays a central role in understanding the processes of interaction, complexity, and sociopolitical organization. As such, it was first necessary to establish what types of architecture were present at SRB, and this was based upon the concurrence of grouped variables recorded during fieldwork. To reiterate, many of the North Coast diagnostic features, such as U-Shaped audiencias and the use of adobe brick in the
construction of architecture, were absent from the archaeological record. Despite this, and consistent with the theoretical framework employed in this study, it is assumed that rural locations had distinct and diverse types of architecture. As stated in Chapter 2 Theory, architecture is composed of mnemonic cues that can relay a host of information, can enable or constrain within or between group interactions, and can reify or reflect relationships based on kinship, ethnicity, or politics, to name just a few. In the absence of such clear architectural markers, and without an understanding of past rural meaning, it is nonetheless assumed that mnemonic cues can be recognized through their systematic repetition within particular contexts. The recurrence of such cues implies similar information is being conveyed, and this is thought to be a hallmark of architectural types.

*Cluster Analysis*

Cluster analysis, a multivariate procedure, was employed with SPSS statistics software to establish hierarchical groupings of architectural structures based upon similar traits/variables (Kachigan 1986). In particular, Wards method was chosen because it uses an analysis of variance to evaluate distances and because it produces efficient results that tend towards smaller clusters which do not subsume as much variability as traditional World Systems approaches (Aldenderfer and Bashfield 1984). Additionally, Squared Euclidean distance measurements were chosen in conjunction placing greater weight on objects farther from the centroid of a cluster, which results in tighter and less generalized groupings. It is recognized that types derived through hierarchical cluster analyses are in certain ways constructions of the researcher, who determines the number of groupings that are most appropriate for the study. So too, some cases are expected to resist classification and fall outside the cluster types as they have been defined. Furthermore, such types may or may not have corresponded to indigenous notions of architectural categories. The
applicability of this approach ultimately rests upon the ability to demonstrate a relationship between architectural types and other qualitative variables.

This study has broken down the media upon which mnemonic cues act into fixed, semi-fixed, and non-fixed material culture with fixed architecture argued to be the most important. A Hierarchical Cluster Analysis was performed to educe comparable architectural groupings based upon the following fixed variables: area, wall height, wall thickness, cardinal orientation, plaza, shape, # of walls, # of doors, storage, benches, burials, mounds, wall chinking, levels, gates, walled paths, and # of rooms. Additionally wall facing (Table 7.6) and wall type (Table 7.5) were included in the analysis, though the specificity of these categories ‘collapsed’ as low values spread across numerous sub-categories precluded pattern recognition. Other fixed element variables were completely removed, as ambiguity associated with each would unduly affect cluster membership, though they still constituted suggestive aspects of the analysis. For example, complex was excluded as in certain instances it was difficult to say with certainty whether a spatial grouping of deteriorated walls within the many ruins of SRB represented a concentration of architectural structures, or some other unknown fixed elements (i.e. check dams, irrigation control). Compound was also left out as determining if a wall marked the perimeter of a compound, or whether it instead belonged to an indeterminate ruin was sometimes tenuous and subject to interpretation error. In the absence of excavation to resolve such uncertainty, other variables were omitted including patios (distinction between patio and room problematic), roads/paths (Prehispanic vs. contemporary usage indeterminate), door width (often impacted by wall fall), mud setting (purposive vs. incidental from flooding), circular features (ephemeral), and baffles/steps (recorded in only negligible amounts).

The hierarchical cluster analysis of fixed elements was stopped at the three-cluster solution (types 1, 2, 3) as a two-fold increase in the stress of coefficient was observed for the next stage. Additionally, architectural subtypes (1a, 1b, 2, 3a, 3b, 3c) were
defined based on the more specific six-cluster solution in order to achieve a more nuanced understanding of site variability. All told, Type 1 is composed of fifty-four structures which in turn are broken down into subtypes 1a (17) and 1b (37), Type 2 (19) has no additional subtypes, and Type 3 (33) is distributed across subtypes 3a (7), 3b (7), and 3c (19).

**Discriminant Analysis**

To confirm the validity of the cluster types, the boundaries between cases defined relative to the fixed element variables, are examined through Discriminant analysis. This approach allows the errors of classification into type to be evaluated, and in turn, a determination made regarding the relative soundness of each. Figure 8.1 provides an overview of the three-cluster solution.

![Figure 8.1 Canonical Discriminant Functions For Architectural Type](image)
The classification results of the three architectural types indicate 93.4% of the original grouped cases were correctly categorized, as were 90.6% of cross-validated cases. The latter tempers the more optimistic results by removing the analysis of a case to itself, though even here the results are above the level (85%) generally viewed as necessary for valid types. In terms of subtypes, 98.1% of all groups are classified correctly, with an 87.7% accuracy of cross-validated cases. Here again the subtypes are found to be legitimate (Figure 8.2).

Figure 8.2 Canonical Discriminant Functions for Architectural Sub-Type

*Measures of Association between Type and Space*

Architectural Type 1 is found in all zones, Type 2 is more spatially restricted and absent from Zone #’s 2, 4, and 7, while Type 3 is not found in Zone #’s 4, 7, and 8. The objective was to determine if the distribution of architectural types differ significantly from those that might be expected through a non-purposive random
distribution of structures across the space of the site. The SPSS Crosstabs application was chosen to accomplish this, as well as to measure the associations between variables of interest throughout the rest of this chapter, to both type and space. The *chi-squared* statistic is particularly useful as a measure of association; though it can be problematic as low sample sizes (cell values of less than five) can adversely affect interpretations (Kachigan 1986:343). In certain instances here and elsewhere variables were collapsed to increase cell values allowing for an assessment of association based on the chi-squared statistic, though this was kept to a minimum, as the goal again was to expose variability rather than mask it. Instead, *Cramers V* and *Contingency Coefficients* were used to measure the strength of association between the nominal categories of data being considered, when chi-square was not tenable. Additionally, the directional measures of *Lamda, Goodman and Kruskal’s Tau*, and the *Uncertainty Coefficient* were used in a comparable manner. Specifically, Crosstabs produces a table of observed values versus those that would be expected through a purely random distribution. The nominal symmetric measures indicate both the strength and significance of the relationship between the row and column variables, and the directional measures allow one variable to be predicted based on knowledge of the other. Lastly, in those cases where no statistical association could be determined through any of these measures of association, the residual values indicated within the Crosstab tables were examined for such evidence. Positive or negative residual values quantify the degree to which an association between variables deviates from the expected random frequency, with higher quantities indicating greater non-random relationships. In the absence of actual statistical associations, however, slightly higher or lower residual values can only be attributed to the vagaries of sampling. Nonetheless, the coincidence of several values above or below expected amounts in this research are considered suggestive. Collectively all of these methods for determining association are utilized throughout this analysis.
The examination of the association between type and space proceeded at a general level. With the majority of architectural structures at SRB found west of the Muralla Pircarda, especially within Zones 1 and 3, of interest was whether specific types of structures occurred within definite spatial milieus. The three architectural types were considered relative to spatial zones, the latter of which were collapsed into those found east of the Muralla Pircarda (4, 5, 6, 7), and those to the west (1, 2, 3, 8). The null hypothesis states that there is no significant association between architectural type and spatial location as they are defined here, with structures randomly distributed across the site. By collapsing the variables, only one cell contained a value of less than five, and this allowed the use of the chi-square statistic to test the supposition that the rows and columns of the crosstabulation were independent (Table 8.1).

Table 8.1 Measures of association—architectural type to muralla pircarda

<table>
<thead>
<tr>
<th>Type</th>
<th>n</th>
<th>Chi²</th>
<th>Cramers V</th>
<th>Contingency Coefficient</th>
<th>Lambda</th>
<th>Goodman &amp; Krustals</th>
<th>Uncertainty Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td>W</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>15</td>
<td>39</td>
<td>.387</td>
<td>.387</td>
<td>--</td>
<td>.298</td>
<td>.375</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>15</td>
<td>.387</td>
<td>.387</td>
<td>--</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>5</td>
<td>28</td>
<td>.387</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results indicate the chi-square value does not exceed that necessary to reject the null hypothesis at a significance level of .05. So too, symmetric measures exhibit high significance values indicating no relationship between the variables. Had there been a relationship the value of the statistic would indicate the relative strength of association, and this study uses the terminology weak, moderate, and strong. Directional measures also display high significance values demonstrating no relationship between the variables and no proportional reduction in error in predicting...
the value of one variable based on the knowledge of the other. Lastly, the examination of the residuals suggests slightly more Type 1 structures were found east of the Muralla Pircarda and more Type 3 to the west, with Type 2 occurring more or less at expected numbers on either side. Despite this, there is no evidence to suggest these patterns are due to anything other than the vagaries of sampling, with no significant association between the architectural types and spatial positioning west or east of the Muralla Pircarda.

A second test examined the association of subtypes to space east and west of the Muralla Pircarda in order to achieve a more nuanced assessment (Table 8.2).

Table 8.2 Measures of association-architectural sub-type to muralla pircarda

<table>
<thead>
<tr>
<th>Sub-Type</th>
<th>n</th>
<th>Chi²</th>
<th>Cramers V</th>
<th>Contingency Coefficient</th>
<th>Lambda</th>
<th>Goodman &amp; Krustals</th>
<th>Uncertainty Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1a</td>
<td>4</td>
<td>.272</td>
<td>.272</td>
<td>.272</td>
<td>--</td>
<td>.331</td>
<td>.161</td>
</tr>
<tr>
<td>1b</td>
<td>11</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3c</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As with the first test, the chi-squared value does not fall below the .05 significance level, though with most of the cells containing values of five or less, more interpretive weight was given to symmetric and directional measures of association. Nonetheless, no statistical association is apparent between the six architectural subtypes and their positioning east or west of the wall. The consideration of residuals shows more Type 1b were found east of the wall along with Type 3b to a lesser extent, with Type 3c and 3a found more often to the west, though again this is only suggestive.

Lastly, the six architectural subtypes are crosstabulated against the full range of eight spatial zones (Table 8.3). Low cell values once more make the chi-squared
statistic tenuous, and of the symmetric and directional measures of association only Lambda of the latter indicates a low enough significance value to suggest a relationship, yet the proportional reduction in error in predicting spatial zone by architectural type or vice versa is only 7.5%.

Table 8.3 Measures of association- architectural sub-type to spatial zones

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1a</td>
<td>4 3 4 1 1 2 0 2</td>
<td>.225</td>
<td>.225</td>
<td>.037</td>
<td>.159</td>
<td>.136</td>
<td></td>
</tr>
<tr>
<td>1b</td>
<td>10 1 15 0 8 2 1 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4 0 10 0 1 3 0 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a</td>
<td>3 0 4 0 0 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b</td>
<td>4 0 0 0 2 1 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3c</td>
<td>6 2 9 0 2 0 0 0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At a suggestive level, 1a exhibits a positive residual for Zones 2 and 8, 1b for Zones 5 and 6, Type 2 for Zones 3 and 6, 3a for Zones 3 and 1, 3b for Zones 1 and 5, and 3c with Zone 3. This largely corresponds to the spatial assessment of subtype by residuals of the last test, though yet again this pattern may be coincidental.

Based on the results of these tests there is no significant statistical relationship apparent between architectural type and space at SRB, or to state this another way, there is no association between the collective fixed elements used to determine cluster membership and zones defined according to architectural spatial groupings. This is hardly surprising, as individually only some of the fixed elements used to define the architectural typology exhibit significant associations with spatial zones. For example, the same tests run on the variables of cardinal orientation, door, burial, plaza and wall chinking indicate a statistical association with Zone 1, though the significance of this association is only of moderate strength. No other fixed variable used to determine architectural type shows any significant association to space.
Type Characteristics

In order to address the research questions of this study, particularly those that revolve around the concurrence of certain types of material culture with architectural types or space, the analysis proceeds by comparing the rest of the recorded variables (fixed, semi-fixed, non-fixed) to both the architectural typologies and the spatial zones. The same basic format is followed, with chi-squared tests used where possible, symmetric and directional measures of association employed where they are not, and residual patterns used in only a suggestive sense. Importantly, these architectural types are derived through mnemonic fixed element cues, and are not to be confused with those based upon function. Site survey as a method is not sufficient to arrive at the latter, though it serves well in a baseline study (Willey 1974). In certain instances function is inferred through the concurrence of select types of mnemonic cues as well as previous work done by Kent’s project, though statements that are more definitive in this regard require additional fieldwork. The rest of the measures of association of architectural type to the variables used in this study are presented in Appendix B.

Type 1.

Architectural Type 1 contains the smallest structures relative to the size variables, with 98% falling under 300 m in area, 81% under 80 cm in height, and 91% have walls of less than 80 cm in thickness. In terms of cardinal orientation, non-linear structures that cannot be measured are the dominate form within this architectural type, with 83% of all known at SRB occurring within 1a. Linear shaped architecture occurs at numbers lower than what might be expected through a purely random distribution, yet mixed linear/non-linear shapes are found here 58% of the time, exclusively within 1a. Typically, Type 1 structures have four walls enclosing a single room, with either no doors (1a) or just a single one (1b). Other fixed element
variables used to determine architectural types are either completely absent (i.e. plazas) or occur in only negligible amounts (i.e. wall chinking). Broadly speaking the smallest structures of Type 1 tend to have simple single or double rowed walls unlike the more labor intensive and efficient chamber-and-fill construction techniques found in other architectural types.

Of the fixed element variables that were omitted from the cluster analysis both the variables of complex and roads/paths are more common here than within Types 2 or 3, though as mentioned in the last chapter both only occur at SRB in negligible amounts (Table 7.2). So too, circular features are found here more often than in Type 2, though less so than Type 3. Lastly, mud as plaster is rare here, more so than in all other types, and this is also the case with baffled entries, while compounds, patios and steps are completely absent.

The association between semi-fixed elements and Type 1 architecture is mixed. For instance, the largest percent of all batanes (29%) at SRB occur within 1a, though the within-type ratio is lower than that of that of 3a. Petroglyphs on the other hand occur most often (63%) within Type 1, in particular with 56% of all recorded at SRB found in association with 1b. Neither Kent’s Marker Rock, nor the potential one found during this project appear within the obvious context of any single architectural structure, and as such are not considered here in greater detail (Kent et al 2001).

Non-fixed elements such as lithics occur in lower than expected amounts in Type 1 architecture, particularly within 1b. Conversely, slightly more than half of all structures within this type contain ceramic evidence, though this number also falls well below expectations. Indeed 65% of all architectural structures within 1a appear to be non-ceramic. Coastal ceramics are mostly absent and highland sherds are rare, with both exhibiting negative residuals. For instance, Chimu sherds occur less often than anticipated in 1b, and are entirely absent from 1a. The same pattern repeats itself relative to Casma and Gallinazo ceramics, and there is just a single 1a structure that contains Moche sherds. Conversely, Inca, Late Cajamarca, and Wari sherds were
recorded for Type 1b only within the context of structure #49, with Requay entirely absent. In terms of the recorded color-defined sherds, Greyware, Redware, Brownware, and Blackware all occurred less often than expected within both subtypes, with the latter two completely absent from 1a. This last pattern extends to morphology, where not a single identified vessel form was recorded within 1a, and when found in 1b, they occurred less frequently than would be seen with a random distribution. So too, 1a contained no ceramics identified as either utilitarian or preciosity, while 1b had roughly the anticipated number of utilitarian sherds, though less preciosities than expected.

Based upon the distribution of all recorded variables within this type, some general observations are made. With the coincidence of circular features and batanes within 1a, it appears that basic household subsistence processing takes place more often here than in 1b, though this is mitigated by an overall low incidence of lithic material. Conversely, 1b may have assumed a different role relative to its strong spatial association to petroglyphs, though it is unknown at this time what this might have been. Interestingly, 1a has no Chimu sherds, and where ceramics were found within this subtype they tended to be deteriorated beyond the point of even basic color identifications. In conjunction with the ephemeral nature of the fixed element variables, this suggests 1a may predate the LIP, and thus was not in use during the time of Chimu coastal dominance. Alternatively, if they were occupied during the LIP, the inhabitants did not utilize Chimu ceramics. This could be due to sharp status differentiation, or the separation between local and non-local groups expected at intrusive settlements. Subtype 1b tends to be less ephemeral than 1a and includes more features such as burials, mounds, and benches, though here again the lack of lithic material and batanes, assumed necessary for the household processing of resources, suggests an alternative function. So too, Chimu sherds are apparent, albeit at lower than expected numbers (27% of structures), signifying at least some were in use during the LIP. Possibly the association of 1b architecture with petroglyphs and
the minor Chimú presence are related. For example, other sites characterized by earlier habitations including Huaca de Sol and Gallindo, indicate a later Chimú pattern of appropriation of spaces that held important past meaning (Uceda 1997).

*Type 2.*

Architectural Type 2 follows as the next largest size category relative to Type 1. Most structures here are between 451-600 m in area, and where wall thickness exceeds 1a, it is no more than comparable to that of 1b. Wall height on the other hand exhibits less of the elevated range seen within Type 1, though this can be attributed mostly to the type of wall construction used. In particular, Type 1 contains angular stones buried on end in greater numbers, and these produce larger values for height than do the chamber-and-fill/mixed techniques that are more typical for Type 2. First detected at Moche V sites, the chamber-and-fill method requires less work than adobe brick walls, though relative to the building methods found at SRB, it marks an increased investment (Shimada 1994). Greater labor investments are also reflected here in a proportional increase in the occurrence of both faced stone and wall chinking, though neither are dominant characteristics of this type. The prevailing cardinal orientation is 271-300°, though this is the case for most of the linear structures on the valley floor. This orientation range more or less places the long axis of a structure parallel to the various quebradas that cross SRB. Unmistakably, linear and mixed linear/non-linear shapes are more common here than in Type 1, with more external walls (5-7) that typically enclose two or more rooms accessible through two or more external access features. The rest of the fixed element variables used to determine cluster membership (plaza, storage, bench, burial, mound, levels, and gates) all followed the same pattern within this architectural type. Usually they were absent, though when they did occur it was at higher percentages than in Type 1.
Of the fixed elements not used in the cluster analysis, most were found in comparable percentages to Type 1, with circular features, steps, and patios in neither. Others, however, including baffles and mud setting were recorded at higher ratios here, and this is consistent with the larger overall size, diversity (more walls, rooms, doors) and labor investment associated with this type. In contrast to Type 1, nearly half of all architectural structures contained compounds, though as mentioned their definitive identification was problematic. If the fixed elements that appear to surround these structures were not the walls of compounds, then at the very least the pattern of architectural agglutination is different here than that found within Type 1.

Batanes occur less often than they do within Type 1 suggesting the processing of subsistence resources largely was not accomplished within the context of this architectural type. So too, petroglyphs were only recorded in negligible amounts.

As was the case with Type 1, lithics are mostly absent occurring in less than expected numbers, though this is not as marked here as in 1b. Ceramics are found within 89% of all structures, exceeding expectations associated with a random distribution. Of these, 47% contain those identified as coastal in origin, whereas not a single highland sherd was recorded. Coastal Chimu sherds were discovered in slightly higher than expected numbers, and at higher ratios than Type 1. Moche sherds did not exceed expectations associated with a random distribution, though still occurred more so here than in Type 1. Gallinazo were rare as they were throughout the site and Casma were completely absent from this architectural type. Redware was documented in greater than expected numbers and was found within a higher ratio of structures than Type 1. Blackware were present only in numbers comparable to a random distribution though again at greater ratios than Type 1. Greyware and Brownware, on the other hand, were recorded less often than expected though at slightly higher ratios than Type 1. Ceramic vessels were underrepresented here, tinajas and plates exhibited little difference from Type 1 with the latter completely absent in the assemblage, and ollas, canteros, and bottles were recorded at higher
ratios than Type 1. The mixed occurrence of vessel forms also come about at less than expected numbers, though more so than Type 1. Lastly, sherds defined as utilitarian are found in slightly higher than expected numbers, with preciosities showing no deviation from that of a random distribution. Both in turn occur at higher rates than within Type 1.

Type 3.

Within Type 3, size based on area and wall thickness is noticeably greater than other types, and where wall height is less conclusive there are still more structures with higher walls here than elsewhere. The method of wall construction varies across subtypes, with chamber and fill at SRB found in the highest ratio of structures in 3a, the highest ratio of mixed methods found in 3c, and the most diverse methods (five) within 3b. Both wall chinking with rocks and ceramics occurs within 100% of all 3a structures, and 57% and 58% of all 3b and 3c subtypes respectively. Separately this type exhibits higher ratios of each than other types. So too, the highest ratios of structures with wall facing occur within 3a and 3b, and while 3c has a lower ratio than Type 2, it exceeds that of Type 1. With 271-300° the most common cardinal orientation at SRB, it nonetheless is systematically repeated at higher ratios within this type, and this indicates greater uniformity. Additionally, nearly half of all linear structures are found here, with 3a and 3c exhibiting the highest ratios, whereas 3b contains the highest ratio of mixed linear/non-linear forms at SRB. These structures typically have more walls than all other types, which enclose multiple rooms, especially within 3a (100%) and 3c (95%). All structures within 3a and 3c have access doors, though only 57% of 3b contain them, of which all are external. Further, all plazas at SRB occur within this type, and others including storage, benches, burials, mounds, levels, and gates all have higher ratios here than within other architectural types. To break it down further, all 3a structures exhibit storage features, and have the highest overall ratios relative to benches, burials, and gates,
while 3b has no storage and a lower percentage of benches than Type 2, yet the highest ratios of mounds and levels.

Other fixed elements not used in the cluster analysis mostly followed the pattern for this type, with circular features and mud setting found in higher ratios of 3a and 3c structures than anywhere else. Patios are only found in this type, with steps and compounds discovered in higher than expected numbers within 3b and 3a (100%) respectively. Absent, however, is evidence for baffled entryways, while complex and roads/paths occur in lower ratios than in Type 1 though at ratios comparable to Type 2.

Batanes appear at the highest ratio to structures within this type, though this is largely localized to 3a. None are found in 3b, with negligible numbers and a low ratio comparable to Type 2 seen in 3c. Petroglyphs are found here only in low numbers, though two of the three structures that incorporate these elements in wall construction are 3a and 3b.

All non-fixed elements that were recorded during this study occur within this type at higher ratios than at other types, with the one exception of Casma ceramic sherds. Nonetheless, the three subtypes do show variation that should be mentioned. For example, lithic material was recorded within all 3a structures and 63% of 3c but was negligible within 3b. All structures within this type contained ceramic evidence, with coastal sherds found in the majority of all subtypes, and the overall negligible numbers of highland sherds found at higher ratios within 3a and 3b. The coastal Chimu group was well represented with sherds found in 100% of 3a structures and within most of 3b and 3c, while Moche sherds were recorded at the highest site ratios within 3a and 3b, with 3c being more comparable to Type 2. Gallinazo was completely absent and as mentioned Casma sherds were found in just one structure. The highland sherds associated with Inca and Late Cajamarca were recorded at the highest site ratio within 3a, though were absent in 3b and 3c. Both Requay and Wari were also found largely within 3a and 3b, albeit in negligible overall amounts.
Redware was on hand in all but one structure within this type, with Blackware more dominant within 3a, though well represented in 3b and 3c as well. Greyware occurred less than half of the time within 3a and 3c structures and was completely missing from 3b, and Brownware was found in over half of all 3a structures though less so in 3b and 3c. Ollas were most often found in 3a, Tinajas were recorded in over half of all structures within this type, plates were not dominant though were found at the highest site ratios within 3b, as were bottles in 3a and 3b. Canteros were more prevalent here than elsewhere, though only in small volumes. Mixed forms within structures were also recorded at higher ratios here than elsewhere, especially within 3a. Utilitarian ceramics were found at high rates across the subtypes, as were preciosities, though the greatest prevalence was discovered within 3a.

Exchange

In accordance with Chapter 5 *Archaeological Indicators*, the analysis of exchange at SRB begins by determining which markers suggestive of exchange were recorded.

*Geographic*

Exchange items that are geographically diagnostic in the sense that they cannot be produced locally are broken down into the three categories of subsistence resources, raw material, and items of cultural value.

*Organic Material.*

As mentioned, the category of organic material was found to be problematic and prone to re-deposition (i.e. wind, water, rodents). Nonetheless, where its specific context could not be confidently determined, at a more general sense the presence alone of non-local organic material constitutes evidence of exchange. For instance,
the marine shell *Donax obesulus* is only harvested from the ocean, yet the survey team noted its presence, and it was also recorded through excavations on the valley floor and at Cerro Santa Rita (Kent el. al. 2001; Van Heuklem 2002).

The oft-mentioned *Spondylus* was not encountered during survey, though beads made of this material were documented by Kent’s project, and excavations that took place after the conclusion of this study’s fieldwork phase, uncovered a cache of both modified and unmodified shells associated with a workshop dating back to the LIP or earlier (Kent et al. 2001; Kent-personal communication 2006). Together this is strong evidence that SRB was part of a long distance exchange network during the LIP.

Camelid and cui bones, along with their coprolites, were observed often during the survey, consistent with the results of excavations upon both the valley floor and Cerro Santa Rita. Despite this, the herding and breeding of camelids was known to take place at lower coastal locations, and at SRB dietary and skeletal data indicates the animals consumed local flora and were present during all major life stages between infancy and maturity (Kent et al. 1999; Pozorski 1979; Shimada and Shimada 1985; Topic et. al. 1987). The occurrence of cui ‘hutches’ suggests these valued guinea pigs were probably being bred with a minimum of effort here as well (Donnan 1976). As a result, neither confirms SRB’s participation in exchange with the highlands.

*Cultural/Temporal*

*Metal, Textile, Stone.*

The negligible amounts of copper recorded in the context of looted burials did not contain any diagnostic attributes that permitted more specific identifications. With copper mines thought to exist within the immediate area of SRB, the presence of trace amounts is not indicative of exchange (Brooks 2000). The scraps of textile, on the other hand, were from a burial wrap that exhibited the diagnostic 2 by 1 Chimu
weave, where two warp strands cross one weft during each pass (Rowe 1980). Unfortunately, nothing else appeared diagnostic and it was not possible to determine if the material was wool or cotton. With local herds of breeding camelids, and spindle whorls recorded during this survey and other excavations, it is tempting to assume local production took place. Yet, where it is possible to breed and maintain camelid herds on the coast, the dry hard pastures of the lowlands adversely affect the prized high-quality wool of alpacas, and as such, this material is assumed to mostly originate in the highlands (J. Topic 1990; Topic et al. 1987). If the fabric were cotton, however, then this material would have been available locally, and combined with the evidence for local production (spindle whorls), it is conceivable that a Chimu style burial wrap could be produced at, or nearby SRB. The textile must therefore remain inconclusive relative to exchange. Lastly, with no known database of local lithic materials available and no diagnostic attributes recorded that could link lithic material politically or temporally to outside groups, it was not possible to demonstrate whether the exchange of this material took place at SRB.

Ceramics.

As mentioned in Chapter 7 Results, a number of non-fixed element ceramics were identified diagnostically and linked both culturally and temporally. Morphology as an attribute of ceramics yielded such types of data, though as expected it only provided generalized knowledge relative to exchange. In short, types such as Blackware Plates, which first appeared on the North Coast during the LIP and were utilized largely by the Chimu polity, could be produced locally depending upon the level of interaction with the core (Donnan 1976). Furthermore, such evidence for local production does in fact exist, and will be discussed shortly. Thus, in the absence of technical analysis, no specific form, or manufacturing technique support exchange.

By far the most informative ceramic attribute at SRB was enhancement, alone or as a compliment to manufacturing technique. This in itself, however, is not evidence
for exchange, especially where substantiation of local production is evident. Enhancement, though, associated with Requay sherds and recorded during surface survey and earlier excavations, does provide substantiation (Kent et al. 2001; Van Heuklem 2002). In particular, where it was once assumed that the white kaolin used to produce the paint applied as enhancement to Requay ceramics was only found in the highlands, the recovery of the pigment during 2001 field school shed doubt on this. Nonetheless, where white kaolin may have been used as body paint in coastal areas, there is no evidence that it was applied to coastal type ceramics (Gutierrez-personal communication 2001). Additionally, the highland types of ceramic sherds identified through attributes of enhancement, including Wari, Requay, and Late Cajamarca, are not known to have been produced anywhere on the Andean coast. Thus, their presence at SRB is evidence of exchange.

Network Indicators

With some exchange items confirmed at SRB, this study asks with whom, at what volume, and under what type of control exchange took place. The examination of three network indicators, per Chapter 5 Archaeological Indicators, including correspondence, quantity, and scale/spatial patterning provide the means to address these questions.

Correspondence.

The correspondence associated with geographically diagnostic elements, especially those items including Donax obesulus from the ocean and ceramics with white Kaolin paint from the highlands, as well as the beads and cache of Spondylus shells Kent’s project unearthed, can be viewed as effective. In other words, such items cannot occur locally, and thus could only have been brought into SRB through some mechanism of exchange with coastal groups. The correspondence associated
with culturally/temporally diagnostic elements, particularly those of highland derived ceramics is equally effective. It is stated unequivocally that highland type sherds, with the exception of those of the Inca polity, have no known precedence as local products on the North Coast, and must have arrived through some form of exchange. This involved ceramics associated with the Wari, Requay, and Cajamarca polities, and were largely exchanged during the MH, the EIP, and the early LIP respectively (Isbell and McEwan 1991; Lau 2006). The Requay style exhibited continuity into the early LIP, and may have been exchanged at SRB during this period, though this requires further research (Gutierrez personal communication 2001).

The correspondence, however, between elements diagnostic of coastal groups, is less than effective, though not insignificant. Where the site survey found no evidence for local production, ceramic molds were recovered during Kent’s project, and an actual ceramic workshop excavated alongside the Spondylus workshop in structure #19 of Zone 3 (Kent- personal communication 2006). Incidentally, this architectural structure was mentioned in the last chapter as the only one at SRB that contained a feature that might be construed as a possible niche, the likes of which were thought to hold sacred objects and were associated with audiencias (Moseley 2001). At any rate, the presence of a ceramic workshop that produced LIP Chimu-type ceramics at SRB means that at least some of the Chimu assemblage was produced locally.

Despite this, there is evidence at intrusive provincial centers, like Manchan in the Casma Valley, that local production above the level of the household occurred along with the exchange of high quality goods from Chan Chan (Mackey and Klymyshyn 1990). Further, the quantitative advantage of the large storage rooms at Chan Chan relative to the small non-repetitive storage units at SRB, can not be denied, nor can the overwhelming evidence that specialized craft production was occurring at high volumes in the Chimu core (Mackey and Klymyshyn 1990). Such crafts seem to radiate outward from Chan Chan, and with the Chao valley representing the shortest west/east distance to the highlands in the region, and with evidence of other
exchanged items at SRB as they have been described, it is reasonable to assume that coast exchange occurred in conjunction with local production. Moreover, it is also unlikely that a single local workshop could produce the overall quantity of Chimu sherds found at SRB. Lastly, and most importantly, a maker’s mark was recorded upon a rim sherd during survey that closely resembled the ‘comma/squiggle’ mark found upon a sherd excavated by Kent’s project (Kent et. al. 2001). It has been argued that such maker marks are not necessary where production is strictly local, and thus presents further evidence for exchange (Bawden 1996). Interestingly, research at the nearby site of Cerro la Cruz recorded a similar mark upon a sherd as well, providing a tantalizing glimpse of what may have been an organized Chao Valley exchange network (Vogel 2003).

The study of the Moche/Gallinazo occupation of Cerro Santa Rita, however, has yielded no data on ceramic workshops, nor has any Moche occupational level on the valley floor at SRB been associated with such at the time of this thesis research. Thus, it is assumed that Moche ceramics arrived via exchange, or were brought along by groups who established intrusive Moche settlements. The same applies to Cerro Pucarachico, which has been argued to be an intrusive Casma MH settlement (Vogel 2003), though which had not yet been evaluated at the time of this study.

Quantity.

The implications of confirmed local production of ceramics during the LIP is that at least some of the most common cultural/temporal diagnostic category of material culture recorded during this study were not exchanged, though some probably were. Furthermore, with local production of Chimu ceramics there is no reason to think that other equally diagnostic non-fixed elements, including the previously mentioned Chimu fabric, were not also produced at SRB as well. With no known local Moche or Casma production, these culturally/temporally diagnostic elements are suggestive of exchange, though they lack the effective correspondence of highland sherds for
reasons already stated. So too, the ceramic categories that lack cultural or temporal diagnostic attributes, but which occur in large numbers at SRB (grey, red, brown, and black), are not dissimilar to those recorded by both Willey (1953) and Wilson (1988) in the neighboring Viru and Santa Valleys, which both interpreted as local assemblages. Consequently, the three primary indicators of exchange are *Donax obesulus*, *Spondylus*, and Highland ceramics, with the latter two occurring in negligible amounts. *Donax obesulus*, however, was apparently consumed regularly both on the valley floor of SRB and Cerro Santa Rita, and as such provides a strong exchange link with coastal polities.

**Scale/Spatial Patterning.**

The spatial distribution of organic materials like *Donax obesulus* appeared to coincide with Zones 1 and 3, though as mentioned earlier it is impossible to state this with any certainty. *Spondylus* beads were recorded within structure # 57 of Zone 1, also referred to as Corral I Vivienda II by Kent’s project, and the workshop within structure #19 of Zone 3. Based upon the results of the cluster analysis, both have been assigned to architectural Type 3, and more specifically to 3c, though as mentioned there is no association between this type and space. The ceramic remains of known highland origin all occurred within Zone 1, with the largest quantity and coincidence within the context of structure #49, categorized as Type 2. Casma is the only ceramic type found to exhibit a significant association to space (Zone 7), though only a single structure was evaluated in this zone making the results inconclusive.

In consideration of larger scale intersite examinations, the valley floor contains a greater overall diversity of surface ceramics than nearby Cerro Santa Rita. This variability also probably exceeds that of the surface assemblage at Cerro Pucarachico, which appears composed of just Casma, Chimú, and possibly transitional MH/Chimu sherds, as well as the nearby site of Cerro la Cruz, which experienced a far shorter period of occupation reflected in a more limited ceramic database (Vogel 2003).
Based on this research, the valley floor of SRB contained a more diverse assemblage over time than these neighboring areas.

**Categorized Exchange Types**

To gain insight into the nature of exchange during the LIP, this research asked what types (Bulk, Utilitarian, Preciosity) exchanged materials assumed.

**Bulk.**

Maize and other locally produced agricultural subsistence resources have been recorded at SRB by Kent’s project, though in low overall numbers. LIP inhabitants consumed such resources along with local camelid/cui meat and the land snail *Scutalus sp.*, though these supplemented a maritime focused diet of fish and *Donax obesulus*, the latter of which confirms coastal exchange.

**Utilitarian.**

No wood was recorded during field survey, and the utilitarian lithic elements (scrapers, knives, flakes) that were, exhibited no diagnostic qualities that distinguished them from other site locations. Additionally, where fully forty-four architectural structures contained utilitarian ceramic sherds, no evidence for exchanged utilitarian goods were recorded despite this category’s dominance over non-utilitarian assemblages (Table 7.14). By definition, utilitarian items lack most of the enhancement of preciosities, and as such tend to occur in a more generalized fashion over the Andean area. This was the case here, as neither morphology, manufacturing techniques, nor ceramic enhancement distinguished the SRB utilitarian assemblage from that commonly found at other sites in the Chao, Viru, or Santa Valleys.
Preciosity.

In one instance, a lithic fragment of a heavily smoothed bowl was recorded during survey. Though it lacked any diagnostic attributes that might link it to exchange, such items are rare, occurring at just a few sites including Pampa de las Llamas-Moxeke of the Casma (Pozorski and Pozorski 1987), Huaca Suchiman in the Santa (Tello 1943), Huaca Negra of the Viru (Strong and Evans 1952), and Caballo Muerto in the Moche Valley (Pozorski 1976). Nonetheless, it is unknown if this was produced here or elsewhere. Kent’s discovery of a *Spondylus* workshop at SRB opens the possibility that valued items, such as the turquoise bead recorded during survey, may have been produced locally, though with no material source of this type in the vicinity it seems likely it was imported. The sheets of metal recorded during survey within the context of looted burials can be thought of as high status relative to those burials that contain no accompaniments. Yet, with evidence of metal working at the Chimu provincial sites of Huaca Chotna in the Lambayeque Valley and elsewhere, and metal slag found within excavation contexts at SRB, it is possible that this material was produced locally (J. Topic 1990). At the same time, however, the skilled metalworkers at Chan Chan utilized the high quality ores of the highlands to produce preciosities (J. Topic 1990). Perhaps high status metal items were brought into SRB through exchange, with local production of all others, though this is inconclusive. The Chimu textile from a looted context is also a preciosity relative to low status burials, though as mentioned, it is unclear if its presence was due to local production or exchange.

The *Spondylus* workshop produced preciosities locally, though it is distinguished from the ceramic workshop within the same architectural structure, as the raw material had to be imported from the coast, whereas the Chimu style ceramics could be produced with local material. It was not clear at the conclusion of this research if the ceramic workshop produced high or low status manufactured goods.
Consumption vs. Production

As discussed, evidence derived from Kent’s excavations, point to local LIP ceramic production. Furthermore, slag found during 2001 field school excavations within the context of structure #57 of Zone 1 (Vivienda II), is thought to be the by-product of local metal production. This structure had a surface component of mostly Chimú sherds, though excavations detected multiple episodes of occupation. With no metal workshop uncovered, however, it cannot not be stated conclusively that metal production occurred locally during the LIP, although this may have been the case. Lastly, the Spondylus workshop included both unmodified and modified materials, and this indicates a full range of production occurred locally.

Exchange Site Types

Based upon the site-type models advanced in Chapter 5 Archaeological Indicators, exchange is categorized as follows. Even with evidence of the localized production of Chimú style ceramics, it still seems likely that some made their way to SRB via exchange. At the risk of appearing core-centric, this assumption is based upon the dominance of other exchanged coastal material including Donax obesulus, the surprising occurrence of Spondylus at SRB, the appearance of higher status ceramics from the Chimú polity core at other LIP centers, and the maker’s mark upon the ceramic sherd. This acknowledges asymmetrical core advantages existed during the LIP in the North Coast area.

At first glance, this seems to place SRB within the exchange site-type of frontier, as defined in Chapter 2 Theory as part of the re-conceptualization of peripheries. The diversity of exchanged goods over time points to a dynamic location that shifted with changing political, social, and economic conditions. Yet SRB was not outer-oriented but rather appears to have been more integrated towards coast and core developments,
and these characteristics are more comparable to those of boundary sites. With such indistinctness, this analysis moves beyond exchange alone to gain more insight into the degree of Chimu core control at SRB.

Interaction

As detailed previously in this study, interaction is the social/political exchange of information or ideas beyond the economic realm of material objects alone. Of interest are items that display certain qualities based upon style, display/context of usage, morphology, manufacturing technique, enhancement, and spatial patterning, that cannot be linked to exchange but which nonetheless signify some type of relationship to other groups or polities.

Portable Indicators

Portable indicators of interaction of non-fixed elements at SRB can be broken down here into two primary categories, that of Ceramics and Other, with the latter considered here first.

Non-Fixed ‘Other’.

At a very general level the use, production, or consumption of Spondylus, Donax obesusulus, lithics, fabric, turquoise beads, copper sheet metal, red ochre, spindle whorls, camelid, and cui, all imply that information or ideas were exchanged at some point between the inhabitants of SRB and others. In other words, the nearly pan-Andean usage of some of these items was based upon a collective, shared knowledge base. Some such items are more specific with respect to interaction, including the previously mentioned burial fabric that is linked to the Chimu polity, though this tends to be an exception.
Ceramics.

The primary portable indicator of interaction at SRB occurs within the category of ceramics. As mentioned earlier, the dominant identified assemblage at the site is Chimu, though with local production known, its correspondence to exchange falls on a continuum between insignificant and effective. Conversely, the large volume of Chimu ceramics and the knowledge of the diagnostic attributes necessary for local production suggests a strong level of interaction between SRB and the dominant North Coast polity of the LIP. Spatially the ceramic distribution follows a common Chimu co-option pattern (to be discussed more) with a ‘core’ area within the largest structures of Zone #1, and a spatial spread into most areas and architectural types (except 1a). Moche ceramics make up the second largest identified assemblage of this study, though their numerical distribution falls well below that of Chimu (Tables 7.10 and 7.11). This is consistent with the argument that the Moche and earlier Gallinazo occupations were focused upon the hilltop of Cerro Santa Rita, and not the valley floor. With the absence of known local production of Moche style wares in any zone; this assemblage is attributed to exchange or intrusive settlement. The volume and quality of sherds suggests the Moche polity influenced developments here, though based on the less extensive distribution of Moche type ceramics, the level of interaction with local peoples was probably less than that surmised for the Chimu. Much the same can be said for the Casma polity’s influence at Cerro Pucarachico, though here the spatial distribution of Casma sherds hardly extends off the hillside. Unfortunately, with no excavation in Zone #7 to date, and only a single structure evaluated during this study, little more can be said. Lastly, the relatively low volume of Highland sherd types and their isolated spatial occurrence at SRB, suggests low interaction levels with highland groups compared to that of the coast.
Non-Portable Indicators

As Chapter 5 Archaeological Indicators specified, non-portable material culture is often the clearest marker of relationships of interaction as only rarely are such items physically exchanged from one location to another. The two major categories of non-portable indicators of interaction at SRB are semi-fixed and fixed elements.

Semi-Fixed.

Semi-fixed elements were explored for indicators of interaction with mixed results. For example, the recorded batanes suggest SRB followed the widespread Andean method of processing subsistence, though neither this function, the batán/Chungo morphology/manufacturing technique, nor the context of spatial placement can be used to distinguish more specifically between polities.

As mentioned in the last chapter, petroglyphs contained a variety of motifs similar in many ways to those recorded in the neighboring Viru and Santa Valleys, with clear influences from both the highlands and the coast (Kent et al. 2001; Wiley 1953; Wilson 1988). For instance, there are fish, smiling faces, human figures, birds, llamas, and one in particular is a feline-like fanged deity common to the early Chavin and Cubisnique traditions (Kent et al. 2001). These connections, however, are stylistic alone as the survey team was unable to ascertain particular methods or materials used in their applications to rock panels, nor did any test pits dug by Kent’s project within their context yield diagnostic artifacts (Kent et al. 2002).

One motif is worth discussing further as it is repeated systematically within particular contexts, and provides clues to the nature of interaction at the site. The representation of a human foot was observed in three instances just east of the Muralla Pircarda, and also was recorded in the Santa Valley to the south, often within the context of roads and wall systems (Wilson 1988). Thus, these foot motifs are found at SRB within the context of a wall-system (Muralla Pircarda), in the area
known as the ‘throat of the valley’, and in association with other petroglyphs (highland/coastal) that indicate crosscutting sociopolitical networks. Furthermore, they have a known relationship to places characterized by the movement of people in neighboring valleys. For example, the Santa Valley, which exhibits a number of similarities to the Chao (road and wall system, local ceramic assemblage, petroglyphs), also has foot petroglyphs that are clustered along the previously mentioned Santa/Chao desert road (Wilson 1988). Therefore, it is logical to assume the foot motif in general and at SRB, is related to the movement of people, and as such this implies a level of interaction between both valleys. If SRB as an inner oriented site marked the beginnings of a political territory associated with the coast, then it is plausible that this territory may have been delineated at its outer edge by mnemonic cues of this type, meant to convey information relative to this transition.

As mentioned in the last chapter many of the walls, presumed hydraulic features, and other incomplete fixed elements were not evaluated during this study, though the Muralla Pircarda was examined more closely. The roughly 2.5 km wall is thought to have been built through a labor-intensive corporate work effort during the LIP, and to have served as a hydraulic divergence feature meant to protect settlements to the west of it (Brooks et. al 2001; Kent 2002). Nonetheless, with the relative close proximity to the “Great Wall System” of the Santa Valley, which actually enters the middle of the Chao Valley in two major sections, and with a wall of unknown origins running along the slopes of Cerro Pucarachico, the Muralla Pircarda was evaluated for its relevance to issues of interaction (Wilson 1988).

In support of the hydraulic divergence hypothesis, several characteristics of the Muralla Pircarda have been noted. It has been argued to incorporate well organized or imbricated cobbles on the upstream (east) side of wall, it is perpendicular to the numerous quebradas crossing the site, and it is comparable in construction (case and
fill) to other known hydraulic control features at Chan Chan and elsewhere (Brooks et. al. 2001). Furthermore it plainly lacks traditionally defensive features (sling stones, parapets, etc.), and could literally be stepped over in certain areas with only a modicum of effort (T. Topic 1990).

To explore the relationship of the wall to processes of interaction, the hydraulic divergence/control hypothesis was evaluated opportunistically with the group Engineers without Borders, which was part of the sociocultural element of the SRB project directed by Arthur Campa. Several graduate students specializing in hydraulic, environmental, and mechanical engineering were enlisted. They observed that the wall did in fact run perpendicular to quebradas in a number of areas, though pointed out that this in itself is an ineffective means of redirecting floodwater. Rather, to avoid catastrophic failure during flooding episodes the site inhabitants to the west of the Muralla Pircarda would have been more protected by angling sections of the wall into the drainages, and this was only apparent in certain instances. Additionally, those areas in the NW portion that could be stepped over could not prevent serious flooding, nor does there seem to have been any functional reason to change the direction of the Muralla Pircarda at datum point #1 to connect to the base of Cerro Pucarachico (Table 6.4). Further, neither the case and fill construction method nor the placement of imbricated cobbles along the eastern side of the wall is consistent, and where an earthen dam would be effective, much of the wall is composed of undifferentiated piles of cobbles that are not. Lastly, at certain points the wall actually continues along the bottom of relatively deep quebradas suggesting extreme flooding episodes have either not occurred since the construction of the wall or that such events affect the site differentially. This is not unheard of as in the nearby Viru Valley a series of walls and small structures were built directly in a quebrada that provided access to the Chao Valley, and these fixed elements were associated with early Chimu (LIP) ceramics (T. Topic 1990:184). With the recent destructive flooding at the village of Santa Rita, such episodes clearly have not
simply ceased, and as such, it seems likely that flooding at SRB did not occur consistently throughout.

These observations do not invalidate the hydraulic divergence argument as certain areas are clearly protected by the Muralla Pircarda, though they do call into question the applicability of assuming the wall functioned uniformly at the site. If there are sections of the wall that are not useful for flood protection as has been argued, then there must have been an additional motivation for incurring the labor cost associated with its construction from one hill to another across the 'throat of the valley'. When placed within the context of other evidence detailed thus far, it is reasonable to assume the wall served multiple functions. For instance, a strong coastal and Chimu influence was demonstrated to the west and not east of the Muralla Pircarda, and where consumption of both highland and coastal goods is established, local production is exclusive to the latter. The mnemonic cues upon the medium of petroglyphs are by and large found to the east of the wall, and collectively this is consistent with a site orientated inward to core/coast developments. Other walls including the Muralla Segunda mentioned in Chapter 6 Field Investigations, clearly do not function as flood barriers, nor can they or the Muralla Pircarda be viewed as defensive (Kent et. al. 2002; T. Topic 1990). This last should not be surprising as the Chimu need for defense was situational for reasons that are not entirely clear. For instance, there were no defensible walls at Chan Chan itself, whereas they were present at Chao Valley sites such as Cerro de la Cruz and Cerro Coronado (Conklin 1990; T. Topic 1990; Vogel 2003). Perhaps in the case of Chan Chan they simply were not necessary as the LH Inca siege marks the only known attack on the city. Cerro de la Cruz and Cerro Coronado, however, were both in strategic locations near an inland pass from the Viru Valley where coastal north/south traffic could be controlled. Another wall thought to be of Chimu in origin extends from one steep slope across a floodplain to another in the Moche Valley, demarcating an important area where east/west movement could be strategically monitored and controlled. It
also is clearly not meant for defense, but rather serves as "...a reminder to groups on both sides that a change in group affiliation occurred here" (T. Topic 1990:183). As was the case for the 'Great Wall System' of the Santa Valley, the Muralla Pircarda probably also served as a boundary that need not have been defensible, but rather communicated a shift from one interactional structure to another (Wilson 1988:255). This follows the pattern of ostensible Chimu concern for defining territorial limits. In a comparable fashion to the earlier Moche polity, from whom the Chimu borrowed heavily, this pattern never extended beyond the floodplain narrows into the mountain foothills (Donnan 1976; T. Topic 1990).

Architecture.

The primary means of elucidating processes of interaction from fixed element architecture is through an examination of manufacturing methods and spatial patterning. As mentioned earlier the architectural structures at SRB lack the more diagnostic and well-known characteristics of other LIP provincial and core centers. In certain regards, the architectural assemblage does resemble those found at individual sites on both the Viru and Santa Valley floors. There are agglutinated, semi-agglutinated, and isolated habitation dwellings, a workshop, camelid corrals, structures that include inhumations, possible necropolis-like complexes, and what appear to be administrative buildings, though none presents evidence of interaction at anything other than a general level. For instance, camelid corrals are found in the neighboring Santa and Viru Valleys during the early EIP and early MH respectively, as well as in several locations throughout the North Coast area (Willey 1953; Wilson 1988). In the Santa Valley, many are spaced alongside ancient trails or road systems in association with small villages that have been compared to Inca Tambos or way stations, and where it is unknown if SRB served in a similar capacity, the movement of people and animals through the site is implied (Wilson 1988).
The level of interaction with the Chimu polity as reflected through architecture is provoking, though inconclusive. For example, several rectangular enclosures with interior mortuary mounds that resemble the Imperial Chimu style seen at provincial centers are found at SRB, though they occur at greatly reduced scales and follow less rigid canons (Moseley 1990). So too, some architectural structures conform to a “checker board” pattern that is more common during the early Colonial period than the LIP or LH (Kent—personal communication 2002). Spatially the architecture with associated Chimu ceramics follows a common Chimu co-option pattern with a ‘core’ area within the largest structures of Zone 1, and a spatial spread into all other areas (except Zone 4) and into most architectural types (except 1a) (J. Topic 1990).

Further, the blending of architectural styles suggests populations were not resettled, and this cost effective strategy of reusing extant structures is a characteristic of a co-opted system (Mackey and Klymyshyn 1990). Conversely, an intrusive settlement features more distinct architectural types that are discretely spaced, and this does not seem to have been the case for SRB (J. Topic 1990).

Complexity

Complexity refers to the degree of centralization and organization of political power at various scales, which in turn affects intersocietal exchange and interaction. It is characterized by increased scale and internal differentiation, the likes of which are associated with more diverse activities and duties to perform. Based upon Andean precedence, the assumption is that greater complexity entails differences in status, rank, and/or prestige. The following breaks down the three material culture types for evidence relating to inequality in terms of the discrete spatial occurrence of geographically rare items, those connoting high status which are labor and skill intensive, those that have specific ideological content, and items that constitute certain morphological forms.
As mentioned earlier, an evaluation of spatial patterning relative to organic portable material, including *Donax obesulus*, was not possible through only a surface survey. Kent’s excavations found it to be the dominant type of subsistence in most cases, while Van Heuklem’s research at Cerro Santa Rita found much the same (Kent et al. 2001; Van Heuklem 2002). Additionally, rare exchanged items such as Spondylus were not recorded during this study; though as mentioned, Kent’s project documented them within the context of Type 3c, which tends to include the most preciosities and diversity of material culture of all architecture. The fact that these items were in various stages of production strongly suggests an investment in specialization. Specifically per the Political/Social complexity model presented in Chapter 2 Theory, specialization and the manipulation of production as evidenced by both the Spondylus and ceramic workshop, creates indebtedness and social leverage, the likes of which solidify positions of differential authority (Wiessner 2002).

In terms of ceramic data, those defined as Requay, incorporate highland kaolin paint, and were found within the context of Zone 1 structures, all of which are defined as Type 3 architecture. Despite this, these structures are not clumped together but are spatially spread out in this zone, and as such, Requay surface sherds are spatially discrete only in the more general level of Zone 1, though they are restricted to one type of structure. High status Blackwear Plates associated with the Chimu polity were recorded within the context of ten architectural structures all of which are located west of the Muralla Pircarda (Zones 1, 2, and 3). Additionally 70% were within Zone 1, and were defined as Type 3. Thus, there is a strong association of Blackware plates with the area west of the Muralla Pircarda, and at a more specific level, a weak to moderate association with Zone 1 and architectural Type 3. While
this is evidence for the inequitable control of a valued item, it is less conclusive than that presented by the Requay sherds.

Ceramic preciosities are only recorded within the context of architectural structures when in conjunction with utilitarian ceramics. Indeed as architectural structures increase in size, the activities inferred from the material culture recorded in each seem to become more diverse rather than less so. In other words, specialized structures that house only elite activities as evidenced by the presence of preciosities alone, seem to be absent at SRB. Whether this is analogous to Chan Chan, where craft production was the major focus of the lower classes, and where workshops did not specialize in only one product, is unclear though surely suggestive (J. Topic 1990). Numerically more architectural structures that contain the combination of preciosity and utilitarian sherds occur within Zone 1, though this spatial association is not statistically significant. Yet there is a moderate to strong relationship between the presence of this combination and architectural Type 3 (particularly 3c), and this indicates a disparity of acquisition, though one that is not overly vertical.

Ideological content associated with portable elements was evaluated, albeit at a very general level. Where in certain instances aspects of ceramic enhancement were used to infer political association (i.e. paint, appliqué), the full range of iconography was not represented upon a sherd, nor were sherds reassembled where possible to display this content. Nonetheless, there are areas of the site that probably held special meaning including structure #49 and Marker Rock #1 of Zone 1, along with the petroglyphs and footpaths/roads of Zones 5 and 3 respectively. These include possible offerings that are exotic and high status (structure #49), and ceremonial/ritualistic (Marker Rock #1) in nature, and which have meaning to Prehispanic Andean cultures (petroglyphs, paths/roads) (Schreiber 2004). By the LIP, the medium upon which ideological meaning was inscribed may have shifted, or changed outright. In particular, the spatial context of the petroglyphs seems to have fallen into near disuse, and become a marginal location east of the Muralla Pircarda.
The paths/roads may have retained their importance, though it was not possible to evaluate them spatially as mentioned. It can, however, be stated that all the identified highland sherds at SRB, including those that may or may not represent offerings at structure #49, occur within Zone 1 along with Marker Rock #1, and this suggests discrete ideological local control. Conversely, coastal material has a wider distribution and spread at the site implying at a general level more of a local acceptance of coastal ideology.

Finally, the spatial distribution of ceramics by form was considered for evidence of inequity. With Chimu Blackware plates already mentioned above, Bottles, Ollas, Tinajas, and mixed combinations of forms were all found mostly within the context of Type 3 architecture, and spatially within Zone 1 with the exception of Tinajas. The latter were more evenly spread out, as were Canteros, which had no association with architectural types. Once more, Zone 1 emerges as a spatially restricted area within which a diversity of activities took place, largely within Type 3 architectural structures. This implies a ‘neighborhood’ of sorts that contains more a variety of activities than other zones, though the disparity in this regard between Zones 1 and 3 is only slight. As such, centralization appears more applicable by type rather than by space.

*Semi-fixed*

Batanes, as mentioned, are usually found west of the Muralla Pircarda and occur in the greatest numbers within Zone 5, though the association with the latter is not significant, nor is their association with architectural type. As a result, it can be inferred that the processing of resources does not occur within spatially discrete locations of the site, and in all but one instance (3b) all architectural types included these elements, albeit in uneven ratios. This suggests households, or within-zone neighborhoods, were relatively self-sufficient in this regard. Conversely, petroglyphs
do exhibit a significant and strong association to Zone 5, and occur more than half of the time within Type 1 architecture though this latter is not a significant association. Thus, petroglyphs, while spatially discrete, are nonetheless most often associated with the smallest, least elaborate types of architectural structures at SRB, within which fewer activities take place and fewer preciosities are found. Additionally, as alluded to previously, the positioning east of the Muralla Pircarda and the negative residual for Chimú sherds suggests this may have been an older zone that fell into disuse or was abandoned during the LIP. This would be consistent with the IP dates established by Kent’s project for the Cupisnique style petroglyphs in the area (Kent et. al. 2001).

Fixed

One of the main gauges of inequality relative to fixed elements, as detailed in Chapter 5 *Archaeological Indicators*, is that of size (area, height, wall thickness), or the use of high ground. Where size variables were recorded, equipment limitations unfortunately precluded the accurate incorporation of elevation data. Nonetheless, of interest is the transition from building projects that can be accomplished by the household, and those corporate endeavors that incur labor costs that cannot. The latter implies the ability to motivate individuals to participate in projects that do not benefit their own household directly. This study does not attempt to arbitrarily establish the point when this transition actually occurs, but rather examines the range of size disparities in conjunction with other lines of evidence for inequality.

As indicated, there are clear disparities in the collective size of architecture at SRB, with the largest exhibiting labor-intensive features not present in smaller structures. With no evidence of high status adobe use derived through survey, the larger structures nonetheless tend to include wall facing, chinking, and chamber and fill construction, which all require greater investment. Where Kent’s project did
record trace amounts of adobe used in wall construction at several excavated units, no actual bricks were discovered (Kent et. al. 2001). The largest structures also include a greater diversity of material culture and inferred activities, a greater quantity of preciosities, more benches, burials, walls, etc.

The presence of baffled entryways, associated with restricted access, was negligible at SRB, while other types of architectural control, including walled pathways, showed no significant association with any single type or space. Restricted access can also be accomplished with fewer doors, though this was not the case at SRB where the largest structures featured the most doorways (Pillsbury and Leonard 1998). Conversely, gateways and other access control features, including outer walls associated with compounds, were found within the larger structures. Certainly, the re-conceptualized Muralla Pircarda provides both a physical and visual political/social separation and check between the western portions of the site and the east, especially in the area of Zone 1 where the highest and widest portions of the wall are found in conjunction with the largest and most diverse architectural assemblage (Pillsbury and Leonard 1998). Lastly, plazas at SRB, while limited in size and quality relative to other Chimu sites, are only found in Type 3 architecture (especially 3a), and largely occur within Zone 1. Thus, access to presumed group activities within this architectural form are spatially discrete.

Inequality, per Chapter 2 Theory, is assumed where the space surrounding strategic resources is monopolized by corporately built structures. Such strategic resources can include those that provide defense, those that enable the oversight of activities, or those that are necessary for basic subsistence. Again, a concern for safety and defense was not apparent, nor was it the survey teams impression that any of the architectural structures on the valley floor at SRB were high enough in elevation to oversee the entire area, though the Chimu presence at Cerro Pucarachico and Santa Rita suggests the ‘throat of the valley’ was monitored during the LIP. Despite this, Zone 1 is in a more advantageous and spatially protected position. The
size of the Muralla Pircarda in this area definitely provided disproportionate protection against flooding events, and controlled movement and access, while water resources from the Rio Huamansana was most easily accessible here. With the largest, most elaborate and diverse architectural structures at SRB located in Zone #1, preferential access is probable and inequity in spatial patterning implied. Regrettably, the area N to N/E of Zone 3, had not been evaluated due to destruction from contemporary cultivation, and as such it is unclear if the built environment is situated strategically here as well.

Centralization

Intersite centralization is characterized as a continuum between successful aggrandizers who have appropriated and controlled processes of exchange and interaction, and monopolized local decision making, to de-centralized control typified by non-discrete evidence of activities throughout the site. Clearly as has been discussed in this chapter, there is data confirming inequality and a disproportionate distribution of higher status architectural structures within Zone 1. Yet, at the same time, important activities were occurring within Zone 3 as evidenced by the large quantity of structures there, the likes of which house the Spondylus and ceramic workshops. With both zones spatially discrete from each other, it seems likely that the control of activities and decision-making was not clustered solely within either. Thus, where elites were present at SRB, they were largely comparable in status to each other, with none assuming outright asymmetrical dominance. With the exception of the labor intensive Muralla Pircarda and the handful of rather large architectural structures at SRB that must have required corporate building endeavors, it is argued that the Chimú polity did not invest heavily into the site. There does not appear to have been an effort to centralize intrasite control spatially, as seen in Chimú provincial locations such as Farfan in the Jequetepeque Valley, or V-124 in the Viru
Valley (Moseley 1990). Instead, it seems likely that SRB more closely resembles sites like Manchan in the Casma Valley, in that pre-existing administrative structures were co-opted and utilized by the distant polity (Mackey and Klymyshyn 1990).

Research Questions

Based upon the preceding analysis, the research questions that have driven this study are now addressed.

Exchange

This research confirmed that the economic and material processes of intersocietal exchange did in fact take place during the LIP, with *Spondylus* and *Donax obesus* as the clearest indicators. Such organic preciosities and subsistence resources connect the site of SRB to the coast and to the Chimu polity in particular, as they indisputably controlled coastal commerce during the LIP. Other evidence for exchange with the coast during the LIP was more elusive as both the consumption and production of Chimu ceramic wares took place, and in the absence of a technical material analysis of the sherds it is impossible to say with certainty if any were non-local. There is always the chance that other LIP evidence will be uncovered, however, the overall large quantity of Chimu sherds probably exceeds the output of the single known workshop, and exchange on top of production is probable. With no evidence of local production for other periods and ceramic types, the presence of coastal Gallinazo, Moche, and Casma at SRB is likely due to exchange or intrusive settlement, though this mostly predates the LIP. At a far smaller scale, exchange with the highlands is confirmed via ceramic evidence possibly for the early LIP (Late Cajamarca and Requay) and its terminus (Inca). The few Wari sherds indicate an earlier MH exchange network, though again the scale is limited. Nonetheless, it is reasonable to assume, based on the evidence here and in the following sections, that exchange with
the highlands took place at a greater scale than is indicated by the ceramic record. Some of the exchange with both the highland and coastal polities unmistakably involved preciosities, though by far the bulk subsistence resource of *Donax obesus* was dominant. Local patterns of exchange at SRB during the LIP suggest an organizational exchange form that fell somewhere along the continuum between a frontier and a border, though more towards the latter.

**Interaction**

Intersocietal interaction is confirmed for SRB during the LIP. The ideologies manifested within Chimu ceramics are widespread and dominant throughout the site, and there is no denying SRB is inward oriented toward this coastal polity, both consuming and producing such markers of association. Conversely, interaction with the highlands during the LIP, inferred through the media recorded during this study, was more intangible and spatially controlled. Interaction is manifest through the petroglyphs at the site as well, with both coast and highland influences, though this probably assumed importance earlier than the LIP. Even more broadly speaking, fixed elements such as the Muralla Pircarda in conjunction with other lines of evidence implies some sort of east/west interaction between the highlands and SRB, which in turn was inward oriented to the coast. The fixed element of architecture exhibited blended features that precluded the identification of specific interaction, though when combined with the dominance of Chimu style ceramics, SRB’s structures were comparable to those seen at other co-opted Chimu centers.

**Complexity**

Evidence for differences in status, rank, and prestige was recorded at SRB and included the inequitable distribution and control of preciosities, the spatially
controlled production of preciosities and Chimu ceramics, the difference in architectural size, building methods, and labor investment, and the discrete spatial placement of the most elaborate and diverse structures within the most protected areas of the site. Despite this, centralization, or the spatial organization of political power within discrete space or architectural type, was largely absent at SRB. Rather, political power appears to have been more evenly distributed again in a manner similar to that seen at co-opted Chimu centers.

*Socio-Political Organization*

Socio-political organization is derived through the cumulative examination of the processes of exchange, interaction, and complexity. Unmistakably, SRB was not isolated during the LIP, with strong evidence for exchange and interaction with both the highlands and the coast, though the latter assumed greater importance. Nor can it be thought of in a traditional World Systems sense, as local complexity and semi-autonomy distinguish it from ‘peripheries’. There is no denying the influence the Chimu exerted at SRB, yet the polity’s labor investment pales in comparison to other provincial sites, or even for that matter to any of the other known Chimu site types. The blending of architectural styles, and the less than vertical and non-centralized local hierarchy, point to an unknown, or rather more appropriately an ill-defined tier of the Chimu polity that existed during the LIP along a continuum between dominance and subordination.
CHAPTER 9

CONCLUSION

This study examined fixed, semi-fixed, and non-fixed variables associated with architecture at the site of SRB, relative to issues of exchange, interaction, complexity, and sociopolitical organization. With architecture assumed to be the loci of site activity, the systematic repetition of such variables, or mnemonic cues, allowed both exogamous influences and endogamous agency to be evaluated. As argued from the beginning neither is exclusive, and this was the case at SRB. This chapter concludes this study with a summary of the results and a consideration of future research.

The Chimu polity controlled coastal resources during the LIP, and was actively engaged in exchange and interaction up-valley along the North Coast area, with such networks extending to the highlands. With the location of SRB at the ‘throat’ of the Chao valley marking the transition and shortest route into the Andean foothills, it was expected the site would exhibit indicators of exchange. This was the case, though it was shown that conceptualizations of peripheral nodes, articulated within traditional World Systems approaches, were inadequate and did not capture the diversity of rural forms such as SRB. For example, where it was established that SRB was part of an exchange network with both the highlands and the coast, it was not solely involved in consumption, but produced local material culture as well. The presence of local production is not compatible with the definitions of traditional peripheries, where unfinished materials are presumed to be destined for the core, to return only as finished goods of elevated costs. Evidence at SRB suggests the opposite was happening, with high status materials such as *Spondylus* found in both unmodified and modified form.
Obviously, SRB lacks the quantitative advantages of a core, though it can be concluded that it either retained at least some local autonomy during the LIP, or it served as an administrative or intrusive Chimú site. The latter seems unlikely as the characteristics of such sites are largely absent at SRB. In terms of exchange, such an intrusive center would be distinguished by the spatially discrete occurrence of material culture from the occupying polity. While no focused research has been undertaken at Cerro Pucarachico, it has been argued to be an intrusive Casma/MH center, and the restricted spatial context of its material assemblage seems consistent with this. Clearly it has been shown in this study that the spatial distribution of Chimú ceramics does not follow this pattern.

At the same time that both exchange and local production are confirmed for SRB, there is a vast disparity in non-fixed elements between the highlands and the coast. Chimú ceramics are the dominant assemblage found during this study in nearly every defined spatial zone, and this disparity was also established through most of Kent’s excavations at various locations of the site. Additionally, the survey team’s impression was that coastal resources (Donax) seem to have assumed central stage in the daily lives of SRB’s inhabitants, and this is also corroborated by Kent’s findings. Where exchange with the highlands may have assumed different forms that were not detected during surface survey, the overall dearth of ceramics, within the context of the LIP and the Andean area where they assumed such importance, is noteworthy. So too, most of the architectural structures that contain LIP ceramics are spatially located on the west (coast side) of the Muralla Pircarda and not to the east (highlands side). Where local production is confirmed, it conforms to Chimú manufacturing specifications. It is shown through this research that SRB exhibited a strong level of interaction with the coastal areas in general and a high degree of interaction with the Chimú polity in particular.

Within the site of SRB, evidence of inequality is apparent in the size and labor investment associated with architectural types, in the spatial placement of
architectural types at select locations, and the inclusion or lack thereof of high status non-fixed elements. SRB certainly contains all the hallmarks of complexity, and differs from the traditional periphery in a number of ways. For example, were the site strictly dependent upon the core of the Chimu polity, the diversity of inferred activities as reflected through multiple forms of architecture and material culture would not be apparent. Rather, it would be expected that the traditional periphery would exhibit less activities, consistent with its role as a specialized extraction site under the auspices of core control. Additionally, it is assumed that local elites within traditionally defined peripheries, monopolized preciosities given as debt-producing gifts by the core, and this would produce marked status differences and centralized political leadership. There is no denying inequality was present, with pronounced differences seen between architectural type and the distribution of material culture, yet it does not seem to have been as vertical as periphery models suggest. Instead, local political power appears more spatially distributed at SRB, especially between Zones 1 and 3, again suggesting more local competition and less investment by the core in only a select few individual aggrandizers.

The evidence does not point to SRB functioning as a traditional peripheral location during the LIP, with at least some degree of local complexity and autonomy. Nor does it appear to have been an intrusive Chimu site, per se. It seems likely, rather, that the Chimu polity co-opted local administrative structures to some degree during the LIP, or perhaps local administration chose to enter into a relationship with the emergent Chimu polity. Unlike sites further down the valley such as Cerro la Cruz where evidence of siege and warfare are found, control of SRB likely was negotiated during the initial Chimu expansion up-valley. Thus, the Chimu polity was able to exert its influence at the 'throat of the valley', and local administrators were able to avoid complete dissolution of their political structures while retaining some level of local autonomy.
The results of this study bring to light hitherto obscured dimensions to both Chimu territorial administration, and local decision-making. Such results, however, are only thought to be suggestive, and this is consistent with such an all-encompassing baseline examination of an archaeological site or complex in its entirety. Two approaches to future research can be used to examine and test the strength of the statements made in this study. For example, a comprehensive examination of all data collected by Kent's project relative to issues of exchange, interaction, complexity, and sociopolitical organization is of paramount importance. This will allow extant temporal and functional data to be considered in relation to the mnemonic architectural typologies recognized here. In this way, changes in local decision-making can be evaluated over time, allowing for more nuanced typologies. Secondly, an examination of these issues would benefit from additional fieldwork. In particular, an adequate sample (10%) of architectural types should be excavated to allow confident generalized statements about each, and while Kent's project has probably achieved this level within certain typologies, the full range of the built environment must be considered. It would be particularly interesting to distinguish between architectural units that were remodeled and occupied by the Chimu, and those that appear to have been constructed during the LIP. At the time of this research detailed information relative to local production was not available, and this is an area that should be explored in much greater detail. Additionally, there were several structures that resisted classification during the cluster analysis, some of which exhibit anomalous features that could be explored further through excavation.

Future research might also focus on mitigating some of the limitations to fieldwork encountered during this study. For example, the obstacle of terrain and vegetation can and should be overcome through the use of updated and oblique aerial photographs and other remote sensing. Satellite imagery was found to be problematic in the space of the boulder strewn floodplain, but may be of more use in the undefined areas along the valley floor between the recorded structures along the edge
of Zone 1 and the Rio Huamansana, and San Leon northwest of Zone 3. At the very least, such approaches may pinpoint locations that should be investigated on the ground. Indeed the full spatial extent of SRB must be determined before more detailed questions can be addressed. This would include research at the largely unexplored Cerro Pucarachico, where excavations are scheduled for summer 2008. Cerro Santa Rita has received some scholarly attention, though there are several hills along its base that appear to be artificial, and excavations here may lend themselves to a greater understanding of early Moche and Gallinazo occupations.

Where a continued examination of the valley floor and surrounding hillsides of Cerro Pucarachico and Cerro Santa Rita demand top priority, future research would also benefit by increasing the scale of analysis. Simply stated, the position of SRB within greater exchange and interactional networks needs to be explored. This study encountered several tantalizing clues to such larger potential networks, including the hillside wall running along Cerro Pucarachico. Additionally, detailed aerial photographs could be employed to examine the upper-valley for paths/roads and sites that are linked to SRB, as well as intra-valley passages, that could all be scrutinized through reconnaissance survey.

Lastly, it is hoped that future research will benefit from the information compiled during this study, and that it can be effectively combined and/or connected to Kent’s larger database. The full tabular catalog of all variables recorded during this study will be archived and openly available for any who desire it. This thesis has demonstrated the value of research in areas formerly referred to as peripheral, illuminating variable strategies of territorial administration and local decision-making that lend themselves to a more nuanced understanding of Prehispanic Andean social and political organization. It is hoped studies at such cross-cutting locations will continue to contribute to Andean studies.
APPENDIX A
CERAMICS

Figure A.1 Chimu Fish

Figure A.2 Chimu Olla

Figure A.3 Chimu Applicué

Figure A.4 Chimu Applicué

Figure A.5 Moche Face

Figure A.6 Moche
Figure A.7 Moche Foot

Figure A.8 Casma

Figure A.9 Casma

Figure A.10 Inca

Figure A.11 Wari

Figure A.12 Gallinazo
Figure A.13 Recuay

Figure A.14 Late Cajamarca
Table B.1 Measures of association of variables to spatial zones

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-------------. E-mail Conversation with Brian Broad, September, 2006.


