ARCHAEOLOGICAL INVESTIGATIONS, DEPARTMENT OF SOLOLÁ,
SOUTHERN MAYA HIGHLANDS: PREMAYA TO POSTCLASSIC
SETTLEMENT, NORTHERN TERRESTRIAL RIM AND SUBSURFACE SHORE
LAKE ATITLÁN, GUATEMALA

Volume I

A Dissertation

by

MARGARET SABOM BRUCHEZ

Submitted to the Office of Graduate Studies of
Texas A&M University
in partial fulfillment of the requirements for the degree of

DOCTOR OF PHILOSOPHY

May 1997

Major Subject: Archaeology
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Approved as to style and content:

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May 1997

Major Subject: Archaeology
ABSTRACT

Archaeological Investigations, Department of Sololá, Southern Maya Highlands: PreMaya to Postclassic Settlement, Northern Terrestrial Rim and Subsurface Shore Lake Atitlán, Guatemala. (May 1997)
Margaret Sabom Bruchez, B.A., University of New Mexico;
M.A., Texas A&M University
Chair of Advisory Committee: Dr. David L. Carlson

This dissertation reports findings of archaeological investigations conducted by Proyecto de Sololá in the Lake Atitlán basin in southwestern Guatemala. The study began as an analysis of an account of the Cakchiquel Maya's early settlement in the basin. The version of the tribe's beginnings appears as part of their narrative of sacred mythic origins transcribed at the time of the conquest in los anales de los Cakchiqueles. The tribe's mythic, legendary, and historical founding rites were considered to be an expression of, and therefore were used as a guide to, features in the sociological context. The archaeological study of cultural material site remains was used to determine the effects of the social organization upon the natural and social setting. Summarized are the systematic archaeological reconnaissance, surface surveys, excavations, and data analyses carried out along nine sq km of the northern rim, lake, and lakeshore region from 1993 through 1995. Highlighted are materials representing early Middle Preclassic to Late Preclassic traditional styles shared throughout a broad southeast highland region. Hypothesized is the partial reconstruction, based upon material remains, of the beginning of the ancient belief system used to legitimate the tribe's heritage.
Recordar es vivir.
ACKNOWLEDGEMENTS

The research and success of the studies along the northern rim of Lake Atitlán would not have been possible without the interest, encouragement, and support of the residents. While Michelle Woodward and I conducted initial reconnaissance of the rim basin, Bernardo Estrada E. invited our visit to sites on his family's property and our recommendations on how to investigate the significance of the prehistoric past. Once the potential significance of the site was recognized, the Leland T. and Jessie W. Jordan Fellows Program, the Jacob Javits Dissertation Fellowship Program, a Texas A&M University Department of Anthropology Travel Grant, along with funding from EARTHWATCH Center for Field Research provided monetary support for the field investigations. David Carlson provided funds from the College of Liberal Arts to help finance radiocarbon dating. Harry Shafer and David Carlson provided funds from the College of Liberal Arts to finance neutron activation analyses. William James and the Chemical Characterization Laboratory donated time to conduct the obsidian sourcing analyses. The Center for Environmental Archaeology, Texas A&M University loaned equipment and helped defray costs of printing materials. Robert Drapkin, M.D. donated a compressor and dive tanks for the underwater team. Bob, an internist specialized in medical oncology, as well as an avid archaeologist and diver, joined the dive team in 1995.

Sixty EARTHWATCH volunteers from the U.S., France, England, and Japan donated time over two summer field seasons to help excavate, map, and record archaeological sites, as well as conduct ethnographic investigations. Clancey McMahon preceded their efforts, in 1991 following the trail which led to the discovery of Chuichitori. Brandy Gibson, at the time an undergraduate archaeology student at University of North Texas, mapped Laguna Seca. Brandy, together with Dan Unger, a philosophy student at Texas A&M, conducted test pit excavations near the Laguna Seca area. Along with Dan and Brandy, Graves Cowden and Leslie Tomaszewski,
archaeology students at A&M, helped map Cakbatzulú. Graves also drove gear down to Guatemala from Texas, as well as conducted test pit excavations in Str-SJC05-06. Luisa Yurrita and Ernesto Leiva, students of Marion Hatch at del Valle University, excavated Str-SJC05-02. In addition to organizing a three-day-long shaman ceremony atop Str-SJC05-01, Damon Burden, Texas A&M University cleared and mapped the structure. In 1995, Damon, with Mike Saunders from A&M, ferried gear across Mexico from Texas to Guatemala. Also from A&M, Tiffany Hachman, Kash Krinop, and Ben Armintor, along with my son, John, excavated the base of Str-SJC05-01 and Str-SJC05-09. Gail Colby helped excavate Str-SJC05-02 and Lori Guilmartin managed the field laboratory. Both are anthropology graduate students at A&M. Blinn College’s Liz Ash and Lisa Reyes conducted ethnographies and assisted field volunteers. Mark Hartmann and Mike Fitch, graduate students at A&M in archaeology and geography, respectively, set up in one summer the dive operations and mapped the northern underwater shoreline. David Carlson and John Jacob conducted the paleoenvironmental reconnaissance.

Oscar Martinez, Thelma Mejia, Eliseo Mejia, Dr. Oscar Lopez, Christina and Daniel Robey helped with the Spanish language translations of reports filed with the Guatemalan government. Arquitecto Mario Flores Saenz prepared the site and structure drawings. Frances Meskill, University of Texas archaeology graduate student and Deborah Hutchinson, Southern Rim Graphics, provided the ceramic drawings which appear in this text. Linda K. Bailey, the site photographer, provided the photographs.

Ed Shook visited the site and shared his expertise. Marion Hatch made herself available on several occasions for consultations. Richard Bronson and Clyde Carruthers advised and guided our field methods. These conversations must be recognized in light of their importance to the continuing formulation of this research.

Proyecto de Sololá operates with the authorization of Instituto de Antropologia e Historia, Guatemala, the permissions granted under the directorship of Erick Cortés Serrano, and later Agustin Estrada Monroy, along with Erick Ponciano, Director of
Prehistoric Monuments. The contents of this dissertation have been filed annually in reports made to IDEAH in the Spanish language.

I am indebted to Robert Carmack, John Fox, and Ken Brown who preceeded our archaeological efforts in the volcanic escarpment of the southern highlands; Samuel Lothrop, Lawrence Feldman, Ben Paul, Sandra Orellana, and Robert Carlsen preceeded our efforts in the lake basin. Additional thanks to David Brooks, Head of the Department of Geosciences, Texas A&M University, Donny Hamilton, Head, Department of Nautical Archaeology, Texas A&M University, Luke Allendorf of the Jordan Institute, and Cathy Schutt, Programs Chairman, Study Abroad, Texas A&M University. Data included in the discussion of the environment of the northern rim and lake basin has been contributed by Juan Skinner, Amigos del Lago de Atitlán.

The Shriners and medical staff at Shriner’s Burn Institute, Galveston, Texas extended at no cost medical services to preserve the life of Lorenzo Garcia Acajon, three-year-old son of Santiago and Rosario Acajon. Cakchiquel and Quiché-speaking Maya, respectively, they now own and farm the land of the ancient site of Chigojom.

The U.S. Embassy and Guatemala Immigration Department in Guatemala City, and Patrick Traynor, U.S. Immigration Department, Houston, along with American Airlines, enabled the emergency evacuation of Lorenzo and his mother to the United States when Lorenzo was accidentally burned on his mother’s open-fire cook stove.

To Michelle Woodward I return warm and sincere thanks. Our efforts were unprecedented; the impossible is now possible. My experiences with Michelle shaped me as both an archaeologist and a human. *As mi amiga especial*, Michelle walked with me along the path least traveled; for her strength I will always be grateful.

My children, Gretchen, Elizabeth, and John provided the foundation of my personal support. Mike Saunders has, without rest, acted as liaison to our Guatemalan families in San José Chacayá and Santa Cruz de la Laguna. Thanks to Ruth Riegle for editing the manuscript. The interpretation of the field and lab data is solely the responsibility of the author.
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CHAPTER I
INTRODUCTION

1.1. The Theoretical Foundation

To the Spaniards in the New World, the diversity of indigenous origin myths was confusing. Today, we know the differences are due as much to various traditions as they are the result of the various interpretations recorded and the different stages of creation to which the myths alluded. Moreover, we are able to imagine that in one evolutionary tale, life and mind emerge simultaneously: the physical, biological, mental and cultural aspects unfolding together as natural systems (Roszak 1992).

The first residents of the Lake Atitlán area left no written record of their beginnings. All that we know of the early cultural history of the lake area comes from the traditional narrative of one tribe of Cakchiquel-speaking Maya who lived along the lake’s shores. The account was discovered in the 1800’s after having been transcribed at the time of the conquest from oral tradition into los Anales de los Cakchiqueles. In it, the tribe presents a record of their lifeways which, they say, extends to mythic time. According to the author, the tribe’s founding ceremonies capitalize upon a supernatural phenomenon occurring on the lake waters. While considered to be legend, recreations of the original ceremony became time-honored celebrations of the ordering of the Cakchiquel kingdom (Recinos and Goetz 1953:73-76).

As valuable as the Cakchiquel document is to our understanding of the lake area, no one has investigated the account. No one has attempted to factually legitimize the obscure mythic ancestry. No one has explained or even questioned the curious relationship of community and environment in the testimony to deep tribal roots.

Against the backdrop of the written account, Proyecto de Sololá was organized.

This dissertation follows the style of American Antiquity.
The project was designed to seek answers to questions regarding the early human inhabitants of the Lake Atitlán area, particularly Cakchiquel-speaking Mayas. The plan for my dissertation research focused on an archaeological investigation of the cultural remains and its environmental context, locating the evidence by first interpreting the tribe's story. Inextricably linked to this effort to produce data, the textual analysis and archaeological investigations were otherwise independent in their methodological approach. As allies, the two approaches have generated a preliminary understanding of the cultural development of the area.

Each methodological approach is outlined below. But first, I present the project's inception, that is, a series of presumptions which coalesced to become the driving force in the development of the dissertation research. The concepts evolved over a period of years, beginning in 1985 with a study of myth, legend, and oral narrative. The first step was to understand the genres as direct expressions of, and reliable guides to, patterns in the historical and sociological context. Together with an analysis of the symbolic form and content of ritual acts, the study became an academic program. From the beginning, I was strongly suspicious that the Cakchiquel were deeply justified in modeling their social processes on the natural environment.

1.2. **Conceptual Background**

During the formulation of this dissertation research, there was never a question of whether interpretations of ancient texts, such as the record of the Cakchiquel narrative, might successfully lead to an understanding of ancient civilizations. Following Carolyn Tate (1992), careful analyses of recorded grammars allow for the comprehension of ancient conceptual systems across cultural barriers (p. xi). Tate gained knowledge of the prehistoric Yaxchilan ceremonial community, once assembled along the banks of the Usumacinta River in southern Chiapas (Figure 1), utilizing
iconographic texts recorded on the ancient city’s architecture. As Tate puts it, "the Maya conceived the imagery of each monument in relation to nets of meanings woven by the symbols on previously existing monuments placed throughout the city” (p. xii). To Tate, the community was a work of art through which cultural ideals and community identity were forged.

Figure 1. Major areas and sites named in the text.
Indeed, much of the knowledge of prehistoric Maya society has come from investigations of their texts. The earliest texts were inscribed as carved glyphs on stone monuments; they appear as painted pictoral representations and/or glyphs on murals, ceramics, and codices made of bark paper, and as architecture and portable sculpture. The phonetically-rendered text, *los anales de los Cakchiqueles*, sheds light upon the Cakchiquel history. The tribe's migrations from Mexico have been confirmed with material remains dating to 900 - 1100 AD (Carmack 1981; Fox 1978).

A study of the Cakchiquel document offered me a means to test the reliability of the text as an expression of, and guide to, patterns in the prehistoric sociological context. I was drawn to the creation account, which I consider to be a description of the development of consciousness as it occurred for that particular social group. I consider some universal symbols found in the creation account to be references to neurophysiological perception processes through which awareness develops (see Bruchez 1992).

In fact, I began researching the Cakchiquel narrative because, in the document, I believe the elders spell out the tribe's founding in terms of ritual processes which mirror the neurological processes. I made my first visit to Guatemala in 1985. The purpose of the trip was to determine the feasibility of looking in the archaeological record for any remains of the ritual processes described in the text. High above the lake waters, creation was said to have been re-enacted. So far, no one had ventured to ask about these people's past, much less make inquiries into their mythic history. Yet, detecting an influence from older traditions, I realized that the account was probably basic to an understanding not only of the Cakchiquel, but also of the earliest residents of the Lake Atitlán area.

Admittedly, the business of organizing the Cakchiquels' story into a scientific investigation was tricky. The dissertation's argument risked being circular. I knew that, as independent evidence, archeological data might prove the text, meanwhile the
text might be used to prove the event. All the while, the text, as historical document, would be imposing its own perspective, history supplying answers to the questions asked, as well as determining the nature of the questions, concepts, and even the terminology (cf. Renfrew and Bahn 1991:166).

At first, I was suspicious that the written record had been distorted and the characters and events fictionalized, indicating that the tribe was living through a falsified past. At best, I knew that, as translations, the words were already devoid of much of their original meaning.

Nonetheless, I suspected that the myth had a basis in experience and, therefore, was a means for that Maya society to account for their experience. As Jonathan Hill (1988) found among the indigenous South American populations, oral narratives of mythic and legendary nature are utilized as the means by which people struggle to make sense of the complex process of their history. Likewise, I believed that oral tradition had, in essence, packaged the past and the process that kept it alive and safely transported the information through generations of Cakchiqueles. Transcribed into written form, the narrative had become suspended, so that the teachings had become fixed. The teachings are available today in the form of an integral part of the document.

In general terms, myth, like history, is a strategy that enables humans to cope with the natural and social environment. As such, a mythic structure is beneficial to society, the "flow of social process" affecting the symbolic structures (Hunt 1977).

Similarly, the content of the Cakchiquel myth, formulated as history, became a medium through which adaptation occurred. For the individual, the myth incorporated tools with which everyday life was constructed (cf. Jung 1965). Socially speaking, the myth provided a model of human values specific to the time. In archaeological terms, the myth left its evidence in the patterns of everyday life. Strewn out over time, the remains were the record of how the world and its effects were perceived and responses evaluated (cf. Hodder 1992:15).
History and myth, as contexts through which the environment is perceived and ordered, are sense-making processes. As such, they are modes of social consciousness through which people construct interpretive frameworks. Myth differs from the historic fact in that the rendition cannot be read literally, but not because it is made up. It is more accurate to say that history is interpreted and contextualized by means of myth. When the Cakchiquel told their myth, they reported the culture's adaptation and survival. Put another way, adaptation occurred by means of the myth constructed in the historical context.

In order to analyze the Cakchiquel text, it has become necessary to understand that the Cakchiquel were bound to the fate of a life subjected to the rules and order of the natural environment. Moreover, their fate, like that of all Maya, was expressed in terms of a bond with the principles of the world of nature and sky. By grounding their myth in ritual, they guaranteed that their lives remained harmonious with a temporal and celestial reality; the rituals were synchronized to the sky's periodicities and the earth's seasonal cycles (cf. Aveni 1992).

It became the work of this dissertation research to reveal archaeologically the historical context of the Cakchiquel's conceptions of their fate and of the bond they established with the earth and sky. I now suspect that their beliefs developed over a gradual period of twenty-five hundred or more years. The notions belonged to different tribes of people, both from within and outside of the area. For, only after they were firmly established in their sedentary lifeways, and the migrant hunting and gathering bands were united over generations in a tribal league of sort, did the people consider themselves to be the Cakchiquels.

I now present the premises underlying the use of the Cakchiquel text as guide, followed by a summary of the text. This chapter ends with a presentation of the grounds for employing the archaeological investigations. Chapter II carries the discussion of how the two theoretical methodologies fit into the planning, scope, and objectives used to formulate a large-scale, long-range project of investigation.
1.3. *The Textual Analysis*

Textual analysis is not strange to anthropology. The discovery of the Rosetta Stone by one of Napoleon's army eventually provided the key to understanding Egyptian hieroglyphic writing. Homer's account of the Trojan Wars in the narrative poem the *Iliad* aided Heinrich Schliemann's 1870 identification of Troy. By literally digging up the past in Israel, archaeologists are making discoveries which suggest that some of the Bible's ancient tales are also based on real people and events.

Likewise, Mesoamericanists' study of the *Popol Vuh,* revealing the religious beliefs and theories of creation held by the Quiché Maya tribe, contributes to our knowledge of the residents of ancient Central America and their associated lifeways. More particularly, the insight gained from the translation of Classic period Maya hieroglyphic texts is helping us to understand Maya ideology. More than that, the glyphs tell us how Mayas explained to each other the existing pattern and dynamic in the natural and supernatural worlds to which they were inextricably linked.

Maya ideology guided ritual practices, in which people participated for the purpose of sanctioning the causal relationships between themselves, the natural, and the supernatural worlds. Because the rituals depended upon the ideology, the two are found recorded together in context. For example, burial data from the Valley of Oaxaca have led David Grove and Susan Gillespie (1992) to suggest that across western Mesoamerica the intracommunity use and intercommunity sharing and manipulation of a symbol system, as texts, so to speak, inscribed on the most common and accessible portable artifacts—ceramics—were one means of establishing and communicating order. Ceramics are found in most Maya ritual contexts. Grove and Gillespie echo David Freidel's (1992) words, who notes that "ancient Maya ideology is the interconnected, fundamental ideas held by elite and commoners alike about the order of the cosmos and everything it contains" (p. 116).
Likewise, Andrea Stone (1989) reveals how texts, such as Maya cave paintings appearing as early as the Protoclassic (ca. 200 A.D.), "visually unite with the surroundings so that the cave sets the stage for events portrayed in the paintings. The cave, as an environment for the painting, provides a context for understanding events that mitigates the need for symbolism" (p. 327). Stone believes that, with the cave as a place of metamorphosis of the individual and of time, cave painting provides a "unique window into ritual life" (p. 333).

Paraphrasing Stone, analyses of "ritual recipes" give us insight into contracts with divine powers that later become the rules for rites by which "towns are founded, temples and shrines consecrated, walls hallowed, laws of tribes and time distributed, social organization constituted, and the things pertaining to living arranged" (p. 333). Taken further, analyses of ritual behavior can be used to study the operation of forms of social organization, with respect to the understanding and motivations of the social participants. It has been demonstrated that, to the extent that religion and world view, as ideology, are models of human perceptions, similar operational models are used among social groups to make sense of, and to provide the motivations for, maintaining social and individual understanding (Rappaport 1971).

Put simply, the rituals are texts. More particularly, they are ideology that has been operationalized. The rituals are more than pedagogical. Like myths, they are adaptation strategies enabling individual and group survival. Following Robert Carneiro (1992), ideology among the Maya is formulated by structural changes which take place in their society, prompted by altered conditions of their existence. In Carneiro's words, "as changes take place, an ideology arises aimed at gaining acceptance for these changes and thus providing order and stability to the society undergoing them. As this ideology is internalized by individuals, it provides the motives that impel them to do whatever is appropriate and adaptive under the circumstances" (p. 179). Individuals' own ritualized behavior patterns are their personalized attempts to reconcile changing concepts of social processes with actual
features of the changing structure and dynamics of those social processes (Rykert 1989; Turner 1977). Likewise, as we read the group's texts spelled out on ceramics and cave walls and occurring as ritual processes, we are reading group accounts of living.

It might be said that, defined as "rule-governed activity of a symbolic character which draws the attention of its participants to objects of thought and feeling which they hold to be of special significance" (Lukes 1975), Cakchiquel rituals sanctioned, through action, a conceptual model of how the Cakchiquel believed themselves to be spending the time of their lives. The ritual action guaranteed that their views remained anchored to the space and time and rules of their world environment. A study of the Cakchiquel founding rituals provides not only a key to understanding the tribe's settlement, but becomes a means to understand the conflict of their identity process (cf. Rykert 1989). The Cakchiquel myth tells us how they survived that conflict.

To illustrate, according to Joseph Rykert, the ancient world shares a suspiciously universal procedure for the founding of settlements which is grounded in myth:

(1) the acting out, at the founding of the settlement (or temple, or mere house) of a dramatic show of the creation of the world;
(2) the incarnation of that drama in the plan of the settlement, as well as in its social and religious institution; (3) the achieving of this second aim by the alignment of its axes with those of the universe; and finally (4) the rehearsal of the foundation cosmogony in regulary recurrent festivals, and its commemorative embodiment in the monuments of the settlement [Rykert 1989:194].

According to Rykert, such a powerful complex served to "reconcile man to his fate", having roots in biology while receiving support in the natural recurrences of day
and night, the phases of the moon, and the sequences of the seasons (p. 195).

Reconciled to their fate, the Cakchiquel continue today reenacting the ritual which celebrates their origins. As a commemorative ceremony, the process is a mnemonic device which, through re-enactment, shapes communal memory (cf. Connerton 1989). What is being remembered is the community's identity and reconciled fate. Paul Connerton calls this making sense of the past a kind of "collective autobiography" with cognitive components. As he points out, the image of the past is conveyed and sustained by ritual performances (p. 70).

It is the theoretical premise of this dissertation that ritual behavior, spelled out as the text of mythic founding rites and commemorative ceremonies, provides a key to the understanding of the cultural history of the Cakchiquel. By unlocking the community memory stored in the text, we can hope to reveal the ancient community's identity and the process that kept it alive. What follows is a brief description of the Cakchiquel text, which I now know preserved the memory and protected the ancient identity.

1.4. The Cakchiquel Text

Scant literary works describe the life and thoughts of American residents prior to the conquest. Of the few, there are three that come from Guatemala. Two of these, the Popol Vuh and the Title of the Lords of Totonican. While both are known to have been written in the Quiché Maya language, the authors remained anonymous. The third, los anales de los Cakchiqueles, was written by Cakchiquel- and Quiché-speakers. When the authors recorded this third document, they were occupying the territory where some 1000 years earlier their ancestors, after long migrations, settled down and called themselves a kingdom.

The Popol Vuh is considered by many to be a literary masterpiece. The poetic
text relates the religious beliefs and theories of creation held by the Quiché. *Los anales de los Cakchiques*, belongs to the southern neighbors of the Quiché, and is perhaps second only in importance to the *Popol Vuh*. The document was an effort by tribal elders, utilizing Latin letters, to transcribe into forty-eight folios the oral history of the Cakchiquel tribe. Written in 1573, the narrative was recorded some 49 years after the arrival of the Spaniards in the Cakchiquel capital, Iximché. The book was kept in the village of Sololá, situated in the mountains overlooking Lake Atitlán, and was later deposited with the region's spiritual advisors at the monastery of San Francisco.

Documents with religious significance, including *los anales*, came into the hands of private individuals when, in the early 1800's, religious orders were expelled from Guatemala. The Cakchiquel document, acquired by visiting scholars, was subsequently translated into Spanish. Called "Memorial de Tecpan Atitlán", the document reflects Mexican influence, the Mexicans having given the name Tecpan Atitlán to Sololá at the time of the conquest. Ancient dictionaries of both Quiché and Cakchiquel were otherwise utilized for the translation. As a result, the document remains, for the most part, unintelligible to present day Cakchiquel- and Quiche-speaking residents.

The historical narration utilizes the calendrical chronology coordinated with the ancient Maya lunar calendar. A small portion of the chronicles preserves philosophic and legendary communication between tribal chiefs, who knew the sacred incantations, and the gods. The references to legendary events, some borrowed, are believed to disguise an even older mythology.

The text opens with a rendition of the mythic origin of humans (Figure 2). The account is similar to the *Popol Vuh*, containing descriptions of the emergence of human beings, of tribal wanderings in darkness while watching and waiting for the rising of the light of dawn, and of tribal migrations from Tulan (acclaimed nucleus of native peoples of Mexico and Guatemala). The Cakchiquel narrative glosses over the earliest history, describing the events in both legendary and mythic terms. "From the west we
Figure 2. Page one, *Memorial de Tecpan Atitlan*, written in Cakchiquel, 16th century.

came to Tulan" reads the document, "from the other side of the sea" (Recinos and Goetz 1953:45). Tulan is considered to have been the mythic birthplace of all Maya. But since the Cakchiquel actually came from Mexico, the account can also be considered legendary. Following the format of legends, the past, the present, and the future occur simultaneously, having been set in a past conceived to be remote or antihistorical or not really past at all (Georges 1971:18). The Cakchiquel considered the West also to be their ultimate destination.

Moreover, as the written account of narratives that were once told orally, the condensed version is a descriptive self-portrait of the early forebears of the Cakchiquel tribe. The document may be more accurately called a national legend, legends being a "story or a narrative that is believed to be true by those by whom and to whom it is communicated" (Georges 1971:5). The second largest category of traditional prose narrative, legends are like myths in that "they are stories regarded by their tellers as true, despite being partly based on traditional motifs or concepts" (Brunvand
1986:158). By recounting these "stories", the teller re-creates the version in his/her own way. Nevertheless, each time the teller uses the basic elements of the legend's traditional content, so that legends, one of the most expressive folklore products, become "a sensitive and immediate indicator of social conditions within small groups of society" (Dégh and Vázonyi 1973:8). Incorporated into the narration are local beliefs, community attitudes, individual variations, performance, and social roles. The legend becomes a mirror so to speak, "a collective projection of basic emotions" (p. 50), which is held up to the listener in order to generate, regulate, and teach the group's belief system.

Deeply rooted in social reality, the narration of their legendary settlement on the shores of Lake Atitlán existed as part of the Cakchiquel tribe's common knowledge. Only later was it necessary to transcribe the "story", the work begun by Francisco Hernández Arana, a member of the Xahilá (Xahil) family. Seemingly corroborating with the writers of the Popol Vuh, the Cakchiquel author was 18 years old when Alvarado arrived into his tribe's capital. Arana matured to become one of the tribal elders and quietly began writing down the tradition, which up until that time had been passed orally from generation to generation.

It is believed that the written version follows the tradition of the picture writing of the ancient Maya scribes, recording words with elements that symbolize their meaning. Like Maya storytellers of the past, the author tells the events, adding the support of "validating formulas" (Brunvand 1986:159) in carefully patterned phrases such as "Oh my sons," or "so they say". The author claims the words are those of the First Fathers, the brothers Gagavitz, or Hill of Fire, and Zactecauh, or Hill of Snow. In oral storytelling, "the storyteller takes what he tells from experience—his own or that reported by others. In turn, the storyteller makes it the experience of those who are listening to his tale" (Benjamin 1969:87). Unfortunately, without the performance event, we have lost one of the fundamental units of description and analysis that provides the concrete framework for the comprehension of oral literature as social

The account documents the legendary travels of the brothers, or First Ancestors, who lead the tribe out of mythic darkness in the West. The Ancestors' journey is similar to the journey of the Hero twins, Hunahpu and Xbalanque, and their fathers that is described in the Popol Vuh. Unlike the Quiché boys who both successfully overcome death, Zactecauh falls into a ravine and dies. Gagavitz survives, gaining the acclaim of his followers by conquering the fire of the volcano and giving to the tribe the spirit of the mountain. To embellish his authority, Gagavitz accomplishes the wounding and killing of a captured sacrificial victim, Tolgom, who claims he is the son of the earth mother. With Tolgom's dismembered young body, Gagavitz consecrates the location of the sacrifice as the final destination of the wandering tribe. At this location the glory of the early Fathers was said to have never been extinguished. Following the scaffold sacrifice of Tolgom, Gagavitz enters the waters of the lake. Transformed, he flies out as Plumed Serpent, or Quetzalcoatl. Suffering many hardships, the tribe loses Gagavitz as their leader. In his death he leaves two sons to lead the tribe. Gagavitz was buried at Paraxon, where he saw his first dawn. We know from this research that the location that marks the journey's end for the wandering tribe is above the lake on the northern rim. Paraxon has not yet been located.

Subsequent to the detailing of Tolgom's sacrifice, the commemorative ritual, and of Gagavitz's transformation into Quetzalcoatl, the transcription becomes more history than legend or myth. Arana was a member of one of the two principal families of the Cakchiquel kingdom who settled in Sololá. Therefore, he takes the opportunity to describe, in writing, the events of the people of Sololá, as well as information regarding their Lake Atitlán neighbors. He traces the succession of rulers prior to the conquest, relates the exploits of the conquering Spaniards, and records the founding of some of the nearby villages. When the authorship changes hands, the narrative becomes a public record of births and deaths, arrivals of important travelers, land disputes, eclipses, and earthquakes to include much of the history of the tribe's
political, religious, and social affairs until 1604. Of the original document, only two parts survive. The folios from the original manuscript are suspected to be missing or deliberately left out of the translations.

To summarize the discussion so far, the elder's narratives, recorded and transcribed by Arana in *los anales de los Cakchiqueles*, describe founding rites and commemorative ceremonies of the tribe. The narrative and the events provide the key to understanding the early history of the Cakchiquel. For the Cakchiquel who constructed it, myth helped to conceptualize into ideology the ideals and identity of the community. Ritual anchored that conception to the here-and-now. Ritual sanctioned and guaranteed the fate to which the people who believed in it had been reconciled. Through ritual re-enactment of the rites, changing ideological concepts could be reconciled with the changing structure and dynamics of the natural and human environment. Moreover, ritual re-enactment helped to shape communal memory as part of an adaptation strategy for individual and group survival. What was being remembered was the community's identity and the process that kept it alive, as represented by, and told in, myth.

In short, the study of the text enables the unlocking of the community memory. The ideology includes those aspects of an ancient community's identity as well as the process of change that insured the group's survival. Utilizing archaeology, it is possible to locate evidence of that identity and the changes.

1.5. *The Archeological Investigations*

Archaeological investigations are the necessary step in combining the written account and the historical context. Archaeology enables the study of the effects rituals had upon the natural and social setting. Archaeology verifies the ideology by studying the processes that kept it alive.
Evidence of ideology is found in the remains of ritual structures and associated paraphernalia. Archaeologists are guided by the knowledge that, in Ian Hodder's words, "Ritual, social organization and ideology are seen as having universal cross-cultural relationships with the material observable world; we can therefore infer the ideology from measurable archaeological data, and we can do this with security" (Hodder 1992:30). This investigation follows archaeological studies of ritual contexts in Maya prehistory that have yielded vast amounts of information concerning social organization and belief. For the Maya, maintaining social order was dependent upon maintaining behavior. It is well illustrated that Maya belief systems were accepted as social convention and reinforced by means of ritual occasions.

Maya belief systems were effective definitions of the world. More than that, overall well-being required human participation. As Linda Schele and Mary Miller (1986) put it, "For the Maya, the world was a complex and awesome place, alive with sacred power. The power was part of the landscape, of the fabric of space and time." (p. 301). We know for instance, that Mayan astronomy promoted the concept of the divine origin of kingship. Celestial patterns demonstrated natural principles of power, regularity, and reliability of rulership. In turn, kings regularly and publicly let blood to demonstrate their bond with nature through the gods of lineage (Schele and Freidel 1990:19)

Moreover, among the Maya the natural environment was cast in a social framework. Images codified cosmic perceptions into a language that instructed social behavior and brought order to both the social and natural world (Aveni 1992:91). Similar belief systems were current among all Mesoamericans. For example, Flannery and Marcus suggest that the Zapotec of Mexico believed in "a harmonizing ethic in which a particular relationship with the cosmos underlay ritual, society and economy..." (1976). During their heyday (200 - 900 A.D.), the Classic Maya ordered their social world into fifty or more independent states encompassing more than 100,000 square miles. Today, modern-day Maya shamans still perform rituals "to
regenerate the order of the cosmos and rejoin two separated worlds, the human world and the Otherworld" (Freidel, Schele and Parker 1993:51).

The study of Maya social systems is a study of early communities that "interacted spatially, economically, and socially with the environmental matrices into which they were adaptively interwoven" (Butzer 1990:7). The task follows Karl Butzer's general goal for contextual archaeology. We are able to understand and study the Maya belief systems because archaeologists now view cultural systems holistically in relation to their environments. The human populations are considered contributing members of the ecosystem (cf. Flannery and Marcus 1976). In actuality, archaeology experienced the shift to ecological perspectives beginning in the 1950's, yet the transition is only now beginning to take effect (Willey and Sabloff 1980:192).

An ecosystem has been defined as "the interactions, involving energy and matter, between one living population or all living populations of an area and the nonliving environment" (Evans 1956; Odum 1963). Patterns of behavior are activated as a response to the environment by means of a process Niko Tinbergen (1951) calls "innate releasing mechanisms." John Bowlby (1969) explains that the patterns express some "common plan" with obvious survival value (p.40).

As Carl Jung (1967) believes, when the patterns in the human central nervous system match configurations in the environment, behavior is activated. Called archetypes, the patterns are grounded in biology, but manifest psychologically as symbols, and culturally as ritual. According to Anthony Stevens (1982), "our unconscious perceptual mechanisms marshal the chaotic mass of information making itself available to our sense, rendering them comprehensible to the conscious mind" (p. 56), selecting stimuli that are most relevant to survival. Consciousness, according to anthropologist Charles Laughlin and psychiatrist Eugene d'Aquili (1974), with anthropologist John McManus (1979, 1990), is a relationship between symbols and cognitive, ethological, and ethnographic factors, the complex proceedings of the human brain interdependent upon symbolic culture.
Although archaeology has yet to adopt ethological considerations for the study of cultural behavior, archaeologists and anthropologists, who view culture a part of an ecosystem, find compatibility with general systems theory (Clarke 1968, 1972), as well as theories of nonequilibrium structures and associated dynamics of self-reproduction (Adams 1988). Nonequilibrium structures rely upon random "organizing" events in nature that, first named by Edward Lorenz (1964), became the central principle in Ilya Prigogine's 1979 Nobel Prize work on complex dissipative systems, defined in his joint authorship with Isabelle Stengers (1984). Research on the physiology of human perception has been published by Walter Freeman (1991), together with Christine Skarda (1987), defining perception as dependent upon the same chaotic ordering processes found in the brain.

Geoarchaeology applies many of the concepts of ecosystems to archaeological research. Geoarchaeologists are acutely aware that "(1) a site is part of a landscape that once was integral to a human ecosystem; (2) the physical record is much more than a spatial and temporal backdrop; site formation and destruction are culturally controlled or predicated; and (3) the reciprocal relationships between people and their environment are reflected both within the site and in its containing landscape" (Fedele 1976:37). Considered indispensable to modern archaeological research, Colin Renfrew explains that "every archaeological problem starts as a problem in geoarchaeology" (Renfrew 1976:2).

Moreover, providing a way of living within the biophysical environment that is consonant with the predilections of the cultural heritage is the purpose of adaptive systems. Butzer has explained adaptive cultural systems as "three-dimensional intersections" defined by social behavior, technology, and resource opportunities and limitations, and reflected in subsistence strategies and settlement patterns "that respond and adjust in relation to internal processes as well as changes in the human and nonhuman environment" (Butzer 1990:285). Archaeologists have demonstrated that the world's major agricultural systems are compromises between historical trajectory
and regional environmental opportunities and constraints (Butzer 1990:313).

Adaptive transformations comprise a series of strong positive-feedback loops in which there is greater human control over the environment. Each feedback sequence involves socioeconomic, demographic, and ecological changes, which may be to the detriment of the ecosystem. As Butzer explains,

In their efforts to control the environment in the interest of reducing risk and increasing productivity, people unwittingly imposed subsistence landscape on new and frequently unsuitable environments. At first habitats were altered, then frequently eliminated, until the original biome had been transformed almost beyond recognition. Eventually, agricultural success became equated with an imposed cultural landscape that was perceived as a taming of nature. But, although seemingly tamed, these simplified ecosystems were increasingly fragile, unpredictable, and liable to irreparable deterioration. [Butzer 1990:310].

In effect, the Cakchiquel tribe’s founding ritual anchored what I believe to have been their conceptions of an environment changing under the effects of early agricultural practices and sedentary living. The ritual sanctioned and guaranteed a bond to a changing natural and human environment to which their concepts had to be reconciled. In effect, Origin mythology codified a deep perception of a changing world, while the rituals instructed behavior in agreement with those changes.

More than that, ritual re-enactment ensured that changing concepts continued to be reconciled with changing features of the structure and dynamics of the natural and human environment. Like all Maya, the Cakchiquel would have believed in a past "which always returned, in historical symmetries, endless cycles repeating patterns already set into the fabric of time and space" (Schele and Freidel 1990:18).
Consequently, the communal memory was shaped and reshaped as part of an adaptation strategy for individual and group survival. To repeat, what was being remembered was the community's identity, as represented by, and told in, the myth. Archaeology is a means to unlock the community memory, stored in the myth, and reveal the process of change which insured the group's survival.

1.6. Formulation of the Research

For the purpose of this dissertation, myth, legend, oral narrative, and ritual process provided the foundation upon which was conducted ecologically, and ethologically, informed archaeological investigations. I conclude this introduction by presenting an overview of the formulation of the field research. Specific goals were designed to meet the theoretical objectives. Important as it was to accumulate data relevant to the Cakchiquel account, the proposed archeology was meant to throw light on, not prove, the mythic account. Consequently, the focus was directed to Preclassic, although Classic and/or Postclassic data encountered in conducting the research was recorded and conserved.

Instigated in 1989, reconnaissance along the northern lake began to locate evidence of prehistoric ritual structures and associated materials suggested by the elders in their account of the tribe’s settlement (Figure 3). From the start, the potential existed for validating accounts of the founding rites. An initial settlement by non-Maya wanderers was postulated. Later Mexican settlement and Maya Highland-Lowland interaction was expected.

In 1991, limited access to the northern rim continued to help foster an assumption among most scholars that the area contained evidence of surviving Maya lifeways, but was lacking in ancient cultural significance. At that time, travel to the area was limited to travel by foot or 4-wheel drive vehicle. That same year, Michelle
Woodward and I set out on foot to conduct a feasibility analysis almost fifty years after anyone had traversed the area in an archaeological investigation.

In 1944, Edwin Shook had surveyed along the San José Chacayá to Santa Lucia route. While he undertook no intensive study of the area, his field notes indicate in passing that the locality of Santa Cruz could be turned into a fortress with the erection of a few

Figure 3. Location of investigations, northern rim, Lake Atitlán basin.
palisades. The deficiency of the haphazard reports of the area became evident as our field surveys continued.

Permits requested from and granted by the Instituto de Antropologia e Historia, Guatemala, allowed for systematic surveys of the area to begin in 1993. During the summer months of 1993, reconnaissance was planned to cover as much terrain as possible on foot. Unfortunately, during 1993, the rainy season was particularly intense, so that the members of the field team, representing Texas A&M, the University of Texas at Austin and the University of North Texas, were able to walk only 9 sq km of the survey area. During the summer of 1994, two students from del Valle University of Guatemala helped inspect another 5 sq km of terrestrial terrain. The surveys were planned to complement associated reconnaissance of the underwater surfaces along 14 km of the northern shoreline, extending from the Rio Quiscab delta west to the village of San Marcos. The purpose of the underwater surveys, coordinated by certified divers Mark Hartmann and Mike Fitch, was to determine the presence of cultural material remains and to collect cores as evidence of sedimentary-geological history.

Taking into consideration that the survey area sits on a volcanic caldera, consisting of 400 m of volcanic ash and debris that has been weathered and redeposited over the last 10 million years, 1994 investigations were planned to also include geoarchaeological surveys. Paleoenvironmentalists David Carlson, PhD., and John Jacob, PhD., Texas A&M University, set out to evaluate the potential for early, buried archaeological sites in the area. In 1994, investigations were planned to include studies of stratigraphic sequences of structural and ceramic remains in Chigojom. The area had been discovered during reconnaissance in 1993. Excavations of structural remains were designed to define settlement organization and use. It was also hoped that a ceramic sequence established by Frances Meskill, of the University of Texas at Austin, together with dating analyses, would provide for temporal control of the data.

To complement the archaeological investigations, ethnographic interviews were
conducted each field season in order to make certain we gathered data relevant to the general theoretical concerns. In 1994, Ernesto Arrendonda Leiva from Del Valle University, an archaeology student of Marion Hatch, PhD., accompanied the terrestrial and underwater crews and talked with the locals. Some of the residents know and have names for every tree, rock, stream, mound, gully, river, delta, and shoreline point.

Placenames were matched with those appearing in the Cakchiquel narrative. For example, Chigojom's traditional name has been preserved for centuries. While in most cases we found that the ancient names are no longer in use, we maintained our questioning. We discovered that, when current names are translated, their meanings often match the meaning of the ancient name which, for the intent of this research, preserves the traditional name.

Some placenames are still associated with, and carry the lessons of, tales once told to thousands. Structure SJC05-10, the largest and northernmost pyramid structure in Chigojom, is called by locals Zaqui coxol. According to locals, the "mountain" with an active shrine site at the summit is named after a small dwarf who appears around dusk. The dwarf is frequently seen wandering through the nearby milpa, or tended cornfield. The locals with whom we spoke were unaware that Zaqui coxol is named in the Popol Vuh as a being who escapes into the shelter of the woods when the sun first rises, taking along the animals that were petrified by the sun. In the present-day dance drama of the conquest enacted throughout the Mesoamerican highlands, the apparent folk-hero appears as a dwarf dressed entirely in red. The annual festival at Santiago Atitlán, across the lake from the project site, employs the figure as a dancer high atop a scaffold erected in the central plaza of the town. Translated from Quiché to mean White Sparkstriker (zaki "white"; coxol, "to start a fire"), the character carries a stone hatchet, said to be used to strike sheet lightning into the bodies of the first daykeepers (cf. Tedlock 1985:368).

Unfortunately, plans for the 1995 field investigations, which included further excavations of Chigojom, were unable to be completed due to bureaucratic difficulties
in the pre-election year which prevented the release of our permits and equipment for the season.

Survey and field excavation personnel during the three years of field research were enlisted from undergraduate and graduate students in archaeology and anthropology from Texas A&M University, University of Texas at Austin, University of North Texas, Blinn College, and Del Valle University. During 1995, 23 EARTHWATCH volunteers assisted with surveying, as well as laboratory cataloguing, analyzing, and artifact drawing. Finally, as part of the research design, local residents were asked to contribute to the research as informants, survey and excavation members, guides, technical support staff, and, most importantly, friends.
CHAPTER II

PRESENT STATUS OF THE QUESTION OF ORIGINS OF MAYA SETTLEMENT IN THE SOLOLÁ AREA

2.1 Introduction

Efforts made by Proyecto de Sololá are the first attempt to gain an understanding of the origins of social life along the northern rim of the Lake Atitlán basin. Up until now, next to nothing was known of the identity, and linguistic affiliation, of people suspected to have inhabited the area prior to highly territorial tribes of Cakchikel, Tzutujil, and Quiché Maya. The research constitutes a small part of the larger effort being made by Maya scholars to understand the origins of Classic Maya civilization (A.D. 250-900). The project area is geographically located to the south of one of the three areas considered as contributors in the emergence of the lowland Maya civilization. Belize and the Pacific coast are also considered contributors.

The following is a review of the status of the question of the origins of Maya settlement in the Sololá area. The presentation is organized around three repositories of anthropological information presently available relating to the Cakchique population and/or their neighbors, the Quiché and Tzutujil, and the comparable Maya populations from the lowlands. These include (1) inhabitants' versions of their origins, (2) archaeological investigations, and (3) past and present-day traditional culture.

First, Origin Stories are the means by which the Cakchiquels use to narrate their own beginning. Like their Quiché neighbors, whose narratives are transcribed in the Popol Vuh, Cakchikel elders permanently fixed their tribe's tradition at the time of the conquest. The elders' work, los anales de los Cakchiqueles, was undertaken, in part, to legitimize the Cakchikel legacy. Because symbols of the elders' mythic rendition are
inseparable from the past experiences, it is possible to uncover historic aspects of the tribe's early lifeways that otherwise remain hidden in the obscure symbols.

Second, a few archaeological investigations have located the cultural remains of early inhabitants in nearby areas of Semetabaj, Santiago Atitlan, and the Quiché basin. Still, human populations' interactions with their prehistoric environment, as well as regional and interregional interaction remain poorly defined. In this area, Proyecto de Sololá is breaking new ground through the utilization of a geo-ethno-archaeological approach to the study of the area. The approach lends itself to the broad comparisons.

Finally, the interpretation of myths and ritual as manifestations of traditional culture deeply rooted in the society's collective history yield aspects of the cultural process that gave birth to the tradition's meanings (cf. Hunt 1977). No such analyses have been conducted on the myths and rituals of the Cakchiquel Maya. However, analyses of Maya lowland traditions serve this dissertation as reliable models.

2.2. Previous Anthropological Approaches to Interpreting the Legacy: The Study of the Cakchiquel Myth

Curiously, the Cakchiquel heritage finds its strongest support in mythic origins. The Cakchiquel document, begun in 1573 as a chronicle of the Xajil family, utilizes mythic time as the only ground upon which to discuss their earliest lifeways. As was common among the Maya, the chronicle explains the founding of the tribe in terms of the original ordering of the cosmos. Translations of the mythic origins are found in a version by Recinos and Goetz (1953), as well as the Memorial de Tecpan-Atitlan (Villacorta 1934). The Title of the Lords of Totonicapan (Goetz and Chonay 1953), and the Popol Vuh (Recinos, Goetz, and Moreley 1950; Tedlock 1985), are native documents comparable to the Cakchiquel efforts.
Most early travelers, geographers and historians (Alvarado 1924; Lothrup 1933; McIverde 1934, 1947; Villacorta 1934) overlooked the prolific evidence of prehistoric lifeways which would have deemed as credible the inhabitant's story of their early community. Nonetheless, thirty years ago, Borhegyi postulated Teotihuacan influences in the Guatemalan highlands as early as 300 A.D.; the intrusions continuing as Tlaloc-Quetzalcoatl traditions around 700-900 A.D., and as Chichimec traditions of Yaquis from Laguna de Terminos around 1200 A.D. (Borhegyi 1965).

The accounts of these early visitors, including those of Pedro de Alvarado, Bernardino de Sahagun (1971), and Fr. J. de Torquemada (1943), have been employed by Michael Coe (1977) to validate that the Pacific Coast of Guatemala was once inhabited by Cakchiquel-speaking peoples. In particular, the account by Fr. J. de Torquemada recounts displaced Nahua-speaking peoples on the Pacific Gulf Coast and their subjugators, "Olmecas", migrating to Nicaragua, and then traveling through Guatemala where, "when they found a good place to settle, they settled". The semi-legendary account, in speaking of the migration during which the elders died along the way, is reminiscent of the legendary-historical account in los anales describing similar misadventures occurring during the migratory effort of the Cakchiqueles. Coe discusses the traits he believed became part of a Maya pattern that were transmitted by epi-Olmec and Izapan peoples who were distributed from the Gulf Coast, through Chiapas, and into the Guatemalan Highlands during the period from 400 B.C. to the third century A.D.

2.3. Previous Anthropological Approaches to Interpreting the Legacy: Archaeological Investigations

Within the past fifty years, remains of the lifeways of people who once inhabited the region of Lake Atitlán have been found to be representative of a portion
of the Preclassic period (1500 B.C. - A.D. 200) at Semetabaj. This small community was once settled on the eastern perimeter of the lake region (Shook, Hatch, and Donaldson 1979). Surveys conducted during the 1930's of the settlement of Chukumuk and Chuitinamit on the southern side of the lake (Lothrop 1933) reveal Late and Terminal Preclassic, as well as Classic period (A.D. 200-900) to Postclassic settlement.

A very early development of complex societies is suspected for the entire southeastern Maya highland region (Figure 4). In fact, research presented by John Clark (1991) about the late food-gathering era (8000 - 5000 B.C.) along the southern coastal piedmont of Mexico and Guatemala holds important clues to the understanding

![Map of Southeast Maya Highlands](image)

Figure 4. Southeast Maya Highlands.
of the transition from foraging to farming in Mesoamerica. Whereas farming communities, with social complexity, began appearing along the Pacific coastal plain of Guatemala as early as 1650 B.C., it is reasonable to suggest that foraging and farming was practiced together by family groups in the easier to defend higher elevations around Lake Atitlán, following the river tributaries less than 50 km northward.

Assumptions of early life in the Lake Atitlán region are reliant upon twenty years of archaeological investigations of Preclassic Maya settlement. These studies include investigations of the northern highlands by Robert Sharer and David Sedat (1987); investigations of the Postclassic settlements among the neighboring Quiché, carried out by Robert Carmack (1968, 1973, 1981) and John Fox (1978, 1994); surveys of early Formative settlement in the Quiché basin by Ken Brown (1984); surveys of the Guatemalan highlands by Borhegyi (1965); and the work of the Guatemala Project, Department of Anthropology, University of California at Los Angeles (1970). Brown (1984) hypothesizes that the Quiché basin was settled, around 1000 B.C., indirectly as a fission population from highland regions such as the Lake Atitlán basin (p.229). With somewhat scant data, Brown nonetheless speculates that different environmental conditions produced subsistence resources on a somewhat different seasonal schedule, causing the Quiché valleys to become settled by peoples from the Atitlán basin and/or Pacific lowlands.

Brown's interpretation is grounded in a study made by Reina and Hill (1978) of the correlations between linguistic groups and pottery-making techniques. In their ethnoarchaeological investigation of Guatemalan potters, these researchers took contemporary observations of correlations between pottery-making and language traditions and translated them into statements about past lifeways. Reina and Hill found that the linguistically-related Quiché and Cakchiquel potters utilize essentially the same production technique as Pokoman technologists. The early inhabitants of the Lake Atitlán region have been suggested to be Pokoman speakers, according to
references made in the *Popol Vuh* and *los anales de los Cakchiques*. The Quiché narrative names the Pokoman as the tribe which they conquered. In *los anales*, the Cakchiquel were referred to as the sons of the Pokoman. Moreover, observations that the Quiché and the Cakchiquel, together, are different from the surrounding linguistic groups utilizing different pottery techniques reiterate Quiché and Cakchiquel claims to have come from elsewhere.

According to Reina and Hill, the Pokoman technique was itself intrusive into the Guatemalan highlands. At one time, it seems that another technique was dominant and probably universal (p. 206). Associated with the greatest number of highland Maya languages, the technique is used today by the speakers of Mam, acknowledged as one of the earliest Maya languages to have become differentiated from the parent stock (Swadesh 1967:99-100). Also important is its use among the Xinca, another group with a long history of occupation in Guatemala, and possibly with linguistic affiliations to more southern groups (Johnson 1940:110; Mason 1940:75). The distribution of this technique, in association with these linguistic groups, indicates that it is the most ancient of the pottery-making techniques still extant in Guatemala.

It should be noted that neither the Mam nor Xinca claim descent from Toltec origins. Their technological commonality indicates an extremely long and close association between early peoples, the technique being dominant and universal, and having been subjected to later intrusive techniques.

Support for Reina and Hill's hypothesis that, based upon trends in pottery-making traditions the early residents of the highland area included either Mam or Xinca speakers, is found in Stephen de Borhegyi's (1965) summary of cultural development of the western and central highlands of Guatemala. Borhegyi supposed the Early Preclassic period (ca. 2000 B.C.) to be a period during which the Guatemalan highlands were inhabited by Pre- and Proto-Maya groups, and the Pacific Coastal area occupied by Proto-Xincas. During the Middle and Late Preclassic (ca. 600 B.C.), Xinca-speaking residents were pushed eastward into El Salvador when Olmec-Mayan
influences reached the Guatemalan highlands from Chiapas and the Pacific coastal regions (p. 7-12). Arthur Demarest (1986) and others propose a Middle to Late Preclassic similarity for sites of southeastern Guatemala and western El Salvador. Throughout this southeast highland region, strong similarities can be found in distinctive figurine types, ceramic artifacts, censer complexes, sculptural styles, lithic assemblages, and site layouts (p. 165).

2.4. Previous Anthropological Approaches to Interpreting the Legacy: The Study of the Manifestations of Tradition

Without question, archaeological investigations are an important means to answering our questions about the early people living in the area that the Cakchiquel call home. Yet archaeological investigations are but a step, albeit a necessary one, which integrates the study of cultural systems into the social context. Cultural systems are cognitive structures. As cognitive structures, cultural systems must also be studied as symbol systems that interact with social systems. These cognized models are apparent in all aspects of social operations. For example, myth and ritual are both manifestations of traditional culture deeply rooted in the society's collective history. As aspects of the collective knowledge, studies of myth and ritual yield information about the cultural process from which the particular meanings are derived.

Unfortunately, no such analyses have been conducted on the myths and rituals of the Cakchiquel Maya. That is not to say that analyses of other Maya traditions have not yielded vast amounts of information concerning Maya social organization.

For example, Eva Hunt's (1977) unparalleled work on Zinacantan poem-myth demonstrates the genre as a "cultural product created by persons within the canons imposed by their own cultural axioms" (p. 37). Within the narrative, Hunt found "multiple significant messages, each structured in its own patterned order to be treated
as equally significant to the myth makers and symbol tellers" (p. 40-41). According to Hunt, "threads in the warp and woof of mythical cloth" include multiple human concerns about the nature of reality, scientific discoveries, orecstic perceptions, ideological convictions, deep-seated psychic contradictions, and the obviously socially manifest as well as the obscurely repressed" (p. 41). As well, Carolyn Tate's (1992) landmark study of Yaxchilan concludes that through public art in the form of a city, Maya rulers provided a coherent view of the place of the individual and a concept of self by utilizing imagery of a shared history, of dreams, and of ritual experiences.

In general terms, the purpose of any group's myth, according to Mircea Eliade (1963), is to reveal the exemplary models for human rites and significant human activities (p. 8). As Eliade points out, myth's role in a society is easier to observe in groups where it still establishes and justifies human conduct and activity. By compiling analyses of the distinction between myth and history in indigenous South American narrative, ritual, and oratory, Jonathan Hill (1988) demonstrates Eliade's point. In the South American native population, myth is a way of formulating and interpreting the history of Indian-white contact. Following Hill, mythic consciousness is free to construct and reproduce the difference between humans living in the present and the powerful beings of past times. Likewise, history is not able to be reduced to the "what really happened" of past events but includes processes whereby individuals experience, interpret, and create changes within social orders. As well, history incorporates individual and group change over time as they actively participate in changing objective conditions.

Moreoften, ritual process can be a powerful social ordering process. No one has said it clearer than Victor Turner (1969). Turner studied societal and individual "communitas" reaffirmed by "liminal" (Van Gennep 1960) states of disorder. Modeled on naturally occurring organizing events in nature (Lorenz 1964; Prigogine and Stengers 1984), ritual may reflect individual neurological ordering processes (Bruchez 1992; Freeman 1991; Skarda and Freeman 1987). Recent research has led to the
possibility of interpreting ritual behavior as reconciling personal perception and social understanding (Bowlby 1969; Bruchez 1992; Jung 1967; Laughlin, McManus, and D'Aquili 1990; Munn 1973; Stevens 1982; Turner 1986).

So clear are the ordering mechanisms of ritual behavior that the processes themselves have been used to study the operation of forms of social organization with respect to the understanding and motivations of the social participants (Rappaport 1971). It has been demonstrated that, to the extent that religion and world view are models of our perceptions, operational models are used among social groups to make sense of, and to provide the motivation for, maintaining the group's understanding. Patterns of ritual behavior reconcile concepts of social processes with actual features of the structure and dynamics of the process (Rykert 1989; Turner 1977). In particular, views held about the space and time one inhabits are anchored to a specific place by means of founding rite ceremonies. Joseph Rykert (1989) has adequately demonstrated that the study of founding rituals provides a key to understanding the history of a city. The reliability of founding rites as a key to the history of a city is proven in cross-cultural research conducted by Rykert and P. Wheatley (1971).
CHAPTER III
THE PROYECTO DE SOLOLÁ ARCHAEOLOGICAL RESEARCH PROJECT

3.1. Introduction

The Proyecto de Sololá project utilized prior research of myth and ritual behavior as reliable models upon which to base an unprecedented archaeological

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Figure 5. Location of investigations.
study of Cakchiquel's early history. Cakchiquel founding ceremonies were considered to have been a social organizing process whereby individuals made sense of, and subsequently settled down in, their world. The research objectives and operational methodology systematically compiled data from the area where remains of these ordering processes were located (Figure 5).

3.2. Objectives

The plan for archaeological research included three objectives: (1) establish a chronological framework to provide basic temporal control of the data; (2) develop a preliminary view of site organization based upon distribution of features and cultural items; in order to (3) make functional assessments inferred from site organization.

Chronometric control was accomplished by means of surface surveys and limited test excavations, which provided a working sequence of ceramics, as defined by standard procedures and units used in Maya archaeology (cf. Gifford 1976). The ceramic sequencing was founded on local stratigraphy, determined from site-specific test excavations. Descriptions of the excavations, with comments on their related ceramics, are presented in Part II of this report. It suffices to say that the earliest identified pottery from excavated materials was attributed to the Middle Preclassic. Pottery extending into the Postclassic was found in limited quantity, with indices for intervening periods also recovered. This ceramic sequence was reinforced by comparisons with established sequences from adjacent regions.

The second goal involved developing a preliminary view of site organization based upon the distribution of features and cultural items. The surveys undertaken during the three summer field seasons located and recorded numerous earthen and stone structural remains with associated carved, grooved, pecked, and/or basined monuments. From the start of the operations, the architectural, sculptural, and ceramic
evidence indicated that the area may have been an important focus of early occupation. Remains include a series of large, formally arranged structures, presumably of public ceremonial and related functions. Households, where the bulk of supporting populations probably lived, were not located. Sites were plotted on 500 m square grid sections of 1:50,000 topographic maps. Additional mapping of specific site areas (in effect, the entire area may be one site) was carried out for four areas, Chigojom (SJC05), Cakbatzulu (SJC01), Laguna Seca (SJC02), and Estrada-Escobar (SJC03).

The third goal involved making a functional assessment of the area, inferred from site organization relative to los anales' rendition of early lifeways, as well as broad patterns of settlement known from the Pacific coastal and lowland areas. Concentrations of ceramics and obsidian debris, in association with structural evidence, analyzed together with monuments of the potbelly type, suggest ceremonial use at least as early as the Middle Preclassic to Late Preclassic. The plaza at Chigojom has an optimal location, the vantage point believed significant in the ancient situating of the plaza and its structures. Chigojom agrees in ancient placename and significance to one of the Cakchiquel settlements described in los anales de los Cakchiqueles (Recinos and Goetz 1953:83;87;89;181).

While results of the ceramic analyses are subject to further research and analysis, and future excavations are necessary to clarify occupational patterning, a partially reconstructed Preclassic to Classic cultural development for the northern rim represents a beginning point in understanding the process of sociocultural evolution in the area. The project area falls well within the limits of a late Middle to Late Preclassic southeast highland "culture area" outlined by Demarest (1986), as defined by shared styles in architecture, as well as shared sculptural and ceramic traditions (see Chapter XVII, this dissertation). Together with ideological traditions, the cultural aspects represent a suite of traditions appearing as early as (or earlier than) similar traditions in the lowlands. Future investigations can be used to formulate more refined and sophisticated propositions concerning paleoenvironmental change, human adaptation,
and cultural prehistory, both regionally and interregionally.

3.3. Resumé of the Operational Methodology

The following summary of the methods employed by Proyecto de Sololá, to fulfill the objectives, is organized according to survey, reconnaissance, and excavations. During the period of the project's research from 1993 to 1995, archeological reconnaissance and surveys of terrestrial surfaces, the lakeshore, and subsurface waters were conducted in order to locate artifact and structural remains. Test excavations were conducted in three areas located by the reconnaissance. Ethnographies, coupled with surveys and excavations, were conducted throughout the project area.

3.4. Reconnaissance and Surveys

Surface surveys were conducted of an approximate 12 sq km portion of the northern rim and 14 km of the subsurface of the northern shoreline waters, in order to locate areas of prehistoric activity and to assess ancient use and chronological position based upon recorded observations and examination of surface collections. Surveys of the deposition and erosion were conducted to look for evidence of paleosols. Terrestrial surveys were accomplished by walking the precipitous terrain, in search of artifact remains and structural debris, and by driving the small roads noting cutbanks, in order to locate evidence of paleosols. Subsurface nautical surveys were conducted to a maximum depth of 20 m below current lake level using both skin and SCUBA diving equipment. The specifics of the terrestrial surveys of artifact scatters and structural remains, terrestrial geoarchaeological surveys, and nautical subsurface surveys are
described below.

All surface and nautical operations were controlled by definition of locus or structure. Survey forms were prepared for 500 m square sections of each of the 1000 m grid sections of the area shown on the 1:50,000. The plan was to enter information, which included landowners' names, descriptions of general topography, types of modern construction and ground cover, descriptions of archaeological features and artifact materials encountered in the plot, field sack numbers of surface collections obtained from the plot, if any, with photographs and drawings made of features and artifact material. Information obtained from landowners concerning any artifact materials or archaeological features on their land was also to be recorded. The intent was ambitious. During the three summer field seasons, we were only able to complete survey and forms of one-fourth of the overall research area.

3.5. Surveys of Terrestrial Artifact and Structural Remains

Random surface collections were made of cultural remains in accessible localities. Reconnaissance, together with tape and compass mapping located and plotted the structural remains. During the 1993 months of field work, seven members of Texas A&M University, and one member of the University of North Texas, together with three local informants, covered nine square km of the research area. Out of approximately twenty-two prospective 500 m square grid sections of precipitous terrain, 16 were found to be traversable. Of the 16, 13 quadrats yielded collections of a total of 8909 prehistoric ceramic sherds and 2267 obsidian tool fragments. Seven quadrats yielded 20 monuments associated with earthen and stone structural debris. During 1994, additional surface surveys and collections were conducted in site SC01. All surface collections were bagged according to quadrant, assigned field sack numbers, and logged according to these numbers. All cultural material remains were
cleaned, analyzed, and stored at the field headquarters in San José Chacayá, with the submerged artifacts receiving special care. In general, artifacts (ceramics, obsidian, and stone implements) collected from the area revealed consistently the same types, and a long temporal sequence, with possible functional differentiations. In particular, the variety of diagnostic ceramic sherds found in association with mounds enabled a comprehensive comparative analysis of the ceramic collections.

3.6. *Geoarchaeological Surveys*

Geoarchaeological investigations were conducted in July 1994, by David Carlson, PhD. and John Jacob, PhD., to evaluate the potential for early, buried archaeological sites in the research area (cf. Carlson and Jacob 1995). Investigations examined the numerous roadcuts in the vicinity of San José Chacayá caused by recent improvement of many of the dirt roads. A consequence of the improvements is that ash falls have been cut back recently, providing an opportunity to examine the stratigraphic sequence. Their investigations were guided by three questions: (1) What evidence of stable surfaces, i.e. paleosols, could be identified in the roadcuts? (2) Do stable surfaces occur in all geomorphic settings (upland surface, slopes, river valleys)? (3) How old are the stable surfaces?

Reconnaissance conducted by Carlson and Jacob enabled the determination that many of the exposures in the vicinity contained paleosols, and that paleosols occur in all geomorphic settings. They report that the best sequence of upland paleosols came from the Los Tablones Cut, where they were able to identify eight paleosols superimposed over the Los Chocoyos ash deposits, variously dated from 85,000 to 75,000 years ago (Newhall 1987; Rose et al. 1987). Investigations also identified three paleosols in a colluvial fan deposit outside Santa Lucía Utatlán and at least four paleosols along Rio Molino near Finca Santa Rita.
The Los Tablones Cut provided eight samples, three of which were submitted for radiocarbon age determinations. The results are detailed in the discussion of paleoenvironment later this chapter. Carlson and Jacob report that the radiocarbon age estimates suggest that all three paleosols formed in the Late Pleistocene. Their findings suggest that pre-Maya sites are not likely to be found buried by ash fall deposits in these upland setting near Lake Atitlán.

3.7. Lakeshore and Subsurface Surveys

Underwater archaeological investigations were initiated during 1994 by Mark Hartmann and Michael Fitch of the Department of Nautical Archaeology, Texas A&M University. Their full report appeared as a portion of the Final Report of 1994 Fieldwork (see Hartmann and Fitch, 1995). Investigations of the nautical areas followed the same techniques as terrestrial archaeology with the exception of equipment which was geared for underwater activity. The altitude of Lake Atitlán (ca. 1532 m) required that decompression tables, depth of stops, rate of descent, and repetitive dive planning be altered for safe diving (National Oceanic and Atmospheric Administration 1976). The dive team utilized an open-circuit SCUBA (self-contained underwater breathing apparatus) system with wet suits to protect body temperature from cold water. Survey equipment followed guidelines set forth in early works on underwater archeology (Bass 1966; Wilkes 1971). Underwater slates, consisting of plastic clipboards coated with mylar, were used for writing messages and recording information. A submersible compass was used for direction finding and for triangulating from fixed locations. Depths were recorded using a submersible depth gauge. Artifacts were collected in plastic bags, tagged, sealed, and carried to the surface, where they were transferred to more permanent plastic containers and moved to the field laboratory in Chacayá.
During 1994, the underwater operations employed an 18-ft launch with a 25-hp outboard motor mounted on the stern. The boat carried the crew to and from the dive sites and was used extensively during the towboard survey. A towboard allowed for maximum coverage of the large underwater area given the limited time schedule (14 km in three weeks). As Hartmann and Fitch reported, the towboard is designed to carry a diver tethered behind a vessel, submerged to the desired depth. By changing the forward angle of the leading edge of the board, the diver can move up and down, while twisting the board in either direction allows the diver to turn left and right. Upon locating something of interest, the diver has merely to let go of the board and investigate. As the board pops to the surface, the boat crew knows that the diver has dropped off.

Overall problems were minimal during underwater investigations. Visibility continues to be limited around the rocky lakeshore walls. During 1994, towboard surveys covered the entire shoreline from San Marcos to Rio Quiscab to a depth of 20 m. Artifacts were plotted within the grid using both compass triangulation and depth measurements. Throughout the survey, the local boat pilot was interviewed as to place names, in order to record dive and artifact locations and to help build reference points for documentary comparison.

Areas that were investigated with a more thorough visual survey included the points around Nicaj Siwan, areas where the slope angle is greater than 45°, and areas with abundant cracks and crevasses in which artifacts are easily trapped and located. The waters beneath Tzan Cruz (SC01) were among the more difficult areas to survey, but were possibly more significant in regard to cultural remains. The site was associated with narratives appearing in _los anales de los Cakchiqueles_ (Recinos and Goetz 1953:75) to explain commemorative founding rites and sacrifices.

An area in the Panpatin delta, and an area near a collapsed structure within grid 9330 SE in Santa Cruz la Laguna, were investigated with a 1 m x 1 m test unit excavated to a depth of 50 cm. The excavations were carried out utilizing a grid
manufactured from nails and string tape measures for plotting and recording the grid. An airlift was constructed especially for the project. The excavations were conducted in order to aid in determining the depositional environment at these locations and to test for the presence of cultural materials. The unit at Pampatin was placed in the delta sediments approximately 25 m from the present shoreline, near the region known as Pale Talek, at a depth of just over 9 m beneath the surface of the lake. The remaining test excavation was in Santa Cruz la Laguna, in just over 8 m of water. No trace of human occupation was discovered within either test unit, suggesting that any cultural materials present were deeply buried.

3.8. Test Excavations

During 1994, terrestrial test excavations were carried out in the areas of SJC02, SJC03, SJC05, three of the areas located during 1993 reconnaissance along the fault block ridge extending east-west high above the northern shore of the lake. The surface topography along the ridge varies from relatively flat plateaus to rugged, stepped and terraced inclines. The subtle rises or mounds, associated with abundant ceramic and obsidian scatters, are the only clue to the ancient cultural presence.

The subtle differences in surface topography, that is, culturally modified terrain or actual construction in the area of SJC05 (Chigojom), necessitated first completing the production of a site map showing the relief of structural evidence in relation to surrounding topography. A transit was used to make a preliminary contour map. A datum was established arbitrarily at approximately 50 m and consisted of permanent geographic features or rod iron stakes driven into the ground. All vertical measurements were with reference to the datum plane. For each excavation operation that was conducted, horizontal measurements were relative to datum plane. Vertical elevations for one corner of each excavation were noted relevant to each excavation, in
some permanent manner specific to each operation.

For each operation, vertical control was maintained through the use of a line level and, where possible, 10 cm arbitrary levels. The surface elevation of one corner of each unit was used as the actual elevation from which line level readings were taken. A level floor was maintained at all times to insure uniform level thickness. All contents were passed through a 1/4" mesh hardware cloth. In addition, a flotation sample was taken from a control column located in the corner of each operation. Soil samples were coded according to Munsell Color Charts, and recorded on level forms for each operation. Excavations were conducted solely with the use of a hand-held trowel.

A uniform set of field forms and notes was maintained for each operation of the excavations. These included a level form which recorded changes in artifact density, soil color and texture, disturbances, and details on excavation techniques. Field notes were maintained by each participating student independent of unit level forms. A field sack log was maintained for all recovered specimens. Profile drawings were made of at least one wall of each operation, and floor plans were drawn where useful. All materials, notes, and documents are reserved on file at the Instituto de Antropología e Historia.

The excavations in SJC02, SJC03, and SJC05 were carried out in six weeks, during June and July, 1994. The excavations involved Ernesto Arredondo Leiva and Luisa Fernando Yurrita, from del Valle University, Guatemala, Graves Cowden, Michelle Woodward, and Margaret Bruchez, from Texas A&M University, Frances Meskill, from University of Texas at Austin, and six local laborers. All excavations followed procedures and standards specified by the proposal for research approved by the Ministerio de Cultura y Deportes, Acuerdo Ministerial Numero 116-93, Guatemala, 27 de agosto de 1993, and Carta de Entendimiento, 20 de julio, 1994, following standards established by the Instituto de Antropología e Historia. Summaries of excavations carried out during the field operations are included in Chapters V through
3.9. Ethnographic Surveys

Ethnographic interviews conducted randomly during the 1993, 1994, and 1995 field operations yielded information which has allowed comparisons with textual references in los anales. During 1994, Ernesto Arredondo Leiva spent three days along the shoreline obtaining placenames of the different geographic locations. Detailed descriptions of the ethnographies undertaken during the three field seasons appear in Part 2 of this dissertation as part of specific site reports.

3.10. Research Realities

Reasonable limits of the Proyecto de Sololá forced amended goals of the project, after taking into account varying amounts of funds, time, personnel, and related problems. The following summary presents some of the unexpected limitations which arose during the three-year period of field investigations.

Most importantly, our attempt at discovering ancient remains was hindered by natural forces. Centuries of agricultural practices, erosion, and deposition have erased all but traces of the platforms, structures, and terraces of ancient settlement. Literally thousands of ceramic and obsidian pieces are layered in haphazard depositional patterns as a result of the disturbances.

Moreover, research carried out in order to provide a chronological and functional analysis was dependent upon excavation material from secondary contexts (construction fill). Our policy of conducting small, precise excavation units, which do not disturb the milpa fields, prevented a more productive technique of trenching. With
further funding, larger excavation units might reveal primary contexts, along with surviving architectural forms, in Chigojom, which may lie buried beneath at least 2-3 m of surface materials.

Overall, our time in the field was dependent upon semester scheduling of classes; the field seasons concurred with the rainy seasons. Torrential rains did not prevent the 1993 field team from conducting reconnaissance. In fact, the daily rains were responsible for rewarding collections of varied and unusual finds. the ceramics and obsidian having been washed clean of their otherwise daily accumulation of dust.

A factor less likely to appear in archaeological reports, but which nonetheless proved significant to productivity, were constraints caused by human relations. Our progress was hampered by constantly having to manage relations with Guatemalan and U.S. governmental authorities, as well as academic bureaucracies. Our frustration was compounded when we considered the time and money involved in attending to paperwork, negotiations, and renegotiations, which could have been better spent in the field. Less often we were hindered by the local residents, whose requests to be allowed to observe and participate in our affairs led to the temporary disappearance of equipment, squabbles over job assignments, as well as problems resulting from shifts in social status which came about with the acquisition of new privileges. Our time spent as fodder-gatherers for animals and cheerleaders for basketball and soccer teams was more than repaid in gifts of tortillas, huipiles, well-meant advice, and much-enjoyed laughter. No member of any of our teams ever won the school raffle, although I am sure we contributed to buying the most tickets. We have been accepted into the community. Now, our welcomed project truck-turned-taxi, which has ferried shoppers to and from town and provided ambulance service for sick mothers and children throughout the season, signals, like the onset of the rainy season, our yearly return.
CHAPTER IV

GEOGRAPHIC, ENVIRONMENTAL, AND CULTURAL DESCRIPTION

OF THE PROJECT AREA

4.1. Location

The project area, which for centuries the Cakchiquel have called home, is nestled amidst one of the many natural resource treasures of Guatemala, the tropical cloud forest. High in the Sierra Parraxuim mountains, the site covers a minute portion of the Sierra Madre mountains on the axis of the greater Andes Range across which the earliest humans made their way into the Americas. The Sierra Parraxuim mountains join the Sierra Cuchumatanes farther east to form more tropical highlands, following a route along the Motagua valley to the Caribbean. The project boundaries encompass the shoreline and precipitous fault block ridge extending east to west along the northern rim of the Lake Atitlán basin.

Derived from the Cakchiquel word atit, meaning "grandmother", the lake (approximately 130 square km) is situated at the foot of three young volcanoes which rise above the southern shores: Nimajuyú to the Maya, or San Pedro, rising 3020 m (9,925 ft); Atitlán, 3537 m (11,500 ft) in elevation, and Tolimán, reaching 3134 m (10,350 ft). Frederick Catherwood introduced the first descriptions of the lake into the early archaeological literature, referring to the lake as having "a surface shining like a sheet of molten silver, enclosed by rocks and mountains of every form, some barren, and some covered with verdure, rising five hundred to five thousand feet in height" (Stephens and Catherwood 1969:157).

The research area includes the mountains Cerro Chuichimuch, Chuicohón and Chueminix. Naturally honeycombed with caves and springs, the summits reach 900 m above the lake waters. The sprawling delta of the Rio Quiscab (lord of the Quiché
Maya prior to the Spanish conquest) and its steep, narrow tributaries, the Rio Chuiscalera and the Rio Xibalba, drain the ridge. *Xibalbal*, derived from *xibih* (meaning "to frighten") and *bal* (meaning "the place of"), names the Maya Underworld. Field headquarters were located at the small rural village of San José Chacayá, Chacayá meaning "hidden water".

4.2. Natural Resources

Forests in the lake basin hide numerous endangered species, including the Quetzal, Guatemala's national symbol and an inspirational focus for world conservationists. At an elevation of 1600 meters, Lake Atitlán is one of the impressive array of environmental preservation areas in Guatemala. Managed by INAÚFOR’s Departamento de Parques Nacionales y Vida Silvestre, the area affords the conservationist the visual beauty and scientific potential of Guatemala's natural resources as an inspiring experience and challenge for the future.

Included among the range of bird life are the endangered, and now possibly extinct, Giant Pied-Billed Grebe (Zambullidor, poc, or *Podilymbus gigas*), a flightless water bird found only on this lake (LaBastille 1983), and the Horned Guan (Pavo de Cacho, Pavón, or *Oreophasis derbianus*), a large member of the cracidae family which inhabits the forested upper reaches of the nearby volcanoes surrounding Lake Atitlán. Eagles, parrots, and the close cousins of the Quetzal, trogons, are frequent visitors to the site. Because Guatemala is located within a major migratory route of North American avifauna, the site serves as a stop-over, as well as winter home, for migratory species. Prior to ourcomings and goings, native residents are said to determine the arrival of the annual rainy season by watching for the fly-over of certain species of migrating birds.

Plants, including bromeliads, orchids, begonias, philodendron, native fir, and
magnolia provide the habitat for the visitors.

The mineral resources of the basin and surrounding area include volcanic stone for grinding stones and sculptures, lime for mortar and corn preparation, obsidian for implements, clay for pottery and plaster, iron pyrite for mirrors, specular hematite and cinnabar for red paint, copper and some gold, jade, and salt.

The Lake Atitlán basin, like all of Guatemala, faces a severe environmental problem. Deforestation continues to destroy the forest resources at the rate of 900 km² per year, and reforestation programs fall short of countermeasures (Nations and Komer 1984). Some 450 years after explorers set foot on the landmass of Central America, the forest cover of modern Guatemala has dwindled to less than half. (In 1979, Central Intelligence Agency estimates indicated 57% was still forested; in the same year, Guatemalan Association for the Defense of Environment estimates indicated 33% [Library of Congress 1979:42]). Pine forests in the highlands are being cleared for agriculture and pasture at a rate of 180 square km per year (Library of Congress 1979:47). The Guatemalan Forestry Institute, INAFOR, carries out reforestation campaigns, including hand planting, and the broadcasting of seeds from helicopters in inaccessible regions, but this reforestation covers only 158 square km of land each year.

4.3. Weather and Climate

The latitudinal position of the site area, near the northern margin of the New World tropics, together with the altitude, are the basic controls of weather and climate (Figure 6). Situated in the volcanic escarpment, the area offers a complex variety of weather, climate, vegetation, soils, and uses for the land (West and Augelli 1976:36-37). In general, the climate of the project site, at elevations between 1000 and 2000 m, distinguishes the area as tierra templada, or the tropical highlands (Figure 7). The mild
Figure 6. Weather and climate patterns of the southeastern highland region.

day (70-80°F) and cool night (50-60°F) temperatures are considered the most desirable for human comfort (West and Augelli 1976:37). At elevations above 2000 m, the temperatures are cold (45°F) at night. The higher elevations are part of 10% of land surface in Middle America considered as the tierra fría, the basins of which are among the most densely populated areas in Middle America (West and Augelli 1976:39).
Significant to the weather and climate in the project area are the warm ocean surface waters along the northern extension of the Pacific Equatorial Counter Current. Rising unstable air, forming over the waters, fed by the trade winds of the northern and southern hemispheres, cause intense thunderstorms with monsoonal winds during the afternoon and night. Winds around the lake come from the south (called by some Xocomil, the Cakchiquel term for south, or left-handed [Aveni 1992:22]), or from the southeast (called panumul [Lothrop 1933:4]), around noon, making lake navigation in small crafts dangerous. Shifting to the north around midnight, the winds can blow violently until around 8AM. There are a few weeks of a well-marked dry season between December and March, and a wet season between May and October commonly referred to as invierno (winter). The heaviest rains occur from May to October, with a respite, or canícula, coming around the middle of July to the first of August.

Less obvious, yet potentially more influential in the everyday welfare of residents of the project area, are the three continuously moving tectonic plates which underride the lake region topography. The North American plate, the Caribbean plate, and Cocos Plate come together just offshore along the Pacific coast of Guatemala, less than 100 km from the project site. Most earthquakes occur along plate boundaries, as evidenced in the recorded history of Guatemala. Between 1541 and 1773, 14
prolonged, destructive quakes, sometimes accompanying the volcanic eruptions of nearby Pacaya, rocked Antiqua before the capital was moved to its present location in Guatemala City. While the earthquake in 1717 leveled almost 3000 buildings and homes, the 1773 tremor destroyed the city. Guatemala City suffered a severe earthquake in 1874; Quetzaltenango was destroyed in 1902 (re. Guatemala. Ayuntamiento. Colección de documentos antiguos del archivo del ayuntamiento de la ciudad de Guatemala, 1857; Moore 1973.)

Although the last activity of Volcán Toliman and Cerro de Oro was 1000-2000 years ago, and Atitlán's last outburst occurred in 1469 (Williams 1960:45), the recent earthquake of 1976 created the most extensive surface faulting in the western hemisphere since the San Francisco earthquake of 1906 (Frazier 1979:227). The greatest damage occurred in the western highlands. As residents of the earthquake prone area, people in the project area experience any of a bewildering array of possible geophysical changes up to three days before an earthquake, including uplift, warping, horizontal shifting of land surface, variations in the pattern of small-quake activity, changes in electrical resistivity and magnetic fields, changes in the velocities of seismic waves, changes in gas content of ground water, and alterations of underground water levels (Frazier 1979:274). Noticeable effects on animals are seen as general changes in behavior, the "tiny tremblings that precede the real shock upsetting them, as would the strange sounds arising from the scraping of the lips of the fault" (Asimov 1979:188).

During the earthquake, there may be sounds like high winds, distant rumbles of gunfire, and explosions, accompanied by flashes of light, caused by the buildup of static electricity through the ground's movement. It is the belief of the Chorti Maya of eastern Guatemala and Honduras that movements of the rain gods residing in the hills cause earthquakes, a tremor indicating that the god is turning in his sleep, the more violent earthquake meaning the god has turned completely over to lie on his side (Thompson 1970:262).

Earthquake tremors trigger groundwaves moving across the landscape as if on a
lake; groundwaves can be as high as 3 feet high and 60 feet long (1906 California earthquake). A tremor is believed responsible for triggering a 2000 meter long, 150 meter deep wave recorded in 1991 traveling east to west across Lake Atitlán (see Chapter X, Tzan Cruz for a full description of this lake phenomenon). Meeting an obstruction on the lake floor, the wave dissipates. The resulting whirlpool is believed to be similar to the whirlpool out of which First Ancestor is said to have flown as Plumed Serpent (Recinos and Goetz 1953:76). It has been impossible to obtain a name from the locals for the whirlpool witnessed in 1991.

4.4. Paleoenvirnoment: Lake Atitlán Caldera

Modern Lake Atitlán is the result of three periods of caldera formation begun around 14 million years ago (Figure 8). The following discussion of the geologic history of the three calderas, Atitlán I, Atitlán II, and Atitlán III (see also Properties of Modern Lake Atitlán which follows), is adapted from Newhall (1987), and appeared, in part, as the report of Nautical Archaeological Investigations conducted during 1994 by Mark Hartmann and Michael Fitch (1995).

The Atitlán I caldera measures 15 x 25 km and is located to the north of the modern Atitlán III caldera. Although no associated stratovolcanoes have been found, the widespread Maria Tecun tuffs are believed to have been deposited by the eruptions that preceded or accompanied the caldera collapse (Figure 9a-g). The Maria Tecun tuffs are found throughout the Guatemalan volcanic highlands and are composed of a set of five lithologically similar ash-flow tuffs (Newhall 1987:31). They are typically massive and the set often reaches a thickness of 1 km. The first and second tuffs are separated by about 16 m of lacustrine sediment, and the third tuff unconformably overlies the second. These tuffs were deposited over a period of at least several hundred thousand years and the caldera probably formed in several episodes of collapse
during this period (Newhall 1987:31). The only date available for this cycle of caldera formation is a potassium-argon (K-Ar) date of 11.6 ± .5 Ma from the fourth tuff in the Maria Tecun tuffs. The source vent for these tuffs was slightly to the north of the modern Lake Atitlán (Newhall 1987: 31). These tuffs unconformably overlie Miocene plutonic rock.

Figure 8. Formation of Modern Lake Atitlán (adapted from Monzón 1989).
Figure 9. Genesis of Atitlán (adapted from Monzón 1989).
Between 11 and 8.4 Ma the caldera began to fill with sediments after its formation, and approximately 450 m of mudflow breccias, coarse conglomerates and sandstone rich in Maria Tecun clasts are interbedded with ash-flow deposits in the caldera. These coarse sediments were deposited by mudflows and high energy streamflow on the caldera floor, suggesting that the lake had not yet formed. However, these deposits are overlain by alternating fine and coarse sandstone, which represent deposition by turbidites in a lacustrine setting (Newhall 1987:35-36).

The second cycle of caldera formation, Atitlán II, immediately followed Atitlán I and occurred just to the south of it. It is characterized by the distinctive Tzanpetey intrusive breccia which is abundant in hornblende gabbro. This breccia has a K-Ar age of about 10.0 Ma and it was formed after the Maria Tecun tuff, but before some of the Atitlán I caldera fill (Newhall 1987:37). The presence of brecciated tuffs during this period suggests that at least some of the eruptions were subaqueous (Newhall 1987:38-39). The eruption of a pumiceous tuff called the San Jorge Tuff resulted in the formation of the relatively shallow and poorly defined Atitlán II caldera which overlapped the southwestern part of Atitlán I caldera (Newhall 1987:40-42). This caldera is given a provisional age of 8.45 ± .4 Ma based on the K-Ar age of a dike that cuts through Maria Tecun and Atitlán I caldera fill (Newhall 1987: 42).

The caldera overfilled with Atitlán II tuffs and sediments derived from Atitlán II, and older units and these deposits spilled into the Atitlán I caldera and spread thinly over it (Newhall 1987:42). The Atitlán II sediments range from pebble conglomerates to siltstone and shales, and these fine-grained deposits suggest a lower energy depositional environment than was present during the Atitlán I caldera filling period. Evidence for the presence of a lake during part of this cycle is found within a small volcanic ash-flow tuff (the lower Catarata tuff) that is interbedded with Atitlán II sediments (Newhall 1987:42). This tuff contains inclusions of clasts of clayey beds that were picked up and baked by the ash-flow in a subaqueous setting (Newhall 1987:42).
The third cycle of caldera formation, Atitlán III, resulted in the formation of the modern Lake Atitlán (Figure 10). This caldera is associated with four early Quaternary stratovolcanoes: three to the west of the modern lake, Paguisis, Tecolote, San Marcos,

Figure 10. Modern Lake Atitlán (adapted from Monzón 1989).

and one to the east of the lake basin, Xejolon (Figure 11). There are four broad Quaternary pumice units associated with large silicic eruptions during this cycle: pre-W unit, W unit, H or Los Chocoyos unit, and post Los Chocoyos unit. The pre-W unit is overlain by fine-grained mudstone and diatomaceous earth, indicating that a high-elevation lake existed at this time, but the deep Lake Atitlán basin had not yet formed (Newhall 1987:44). The W unit represents an eruption at about 100-125 Ka, that was much too small to have formed the modern caldera (Figure 12). It was the Los Chocoyos eruption that was responsible for the formation of the modern caldera (Figure 13).
The Los Chocoyos deposits have been correlated with deep sea ashes which have estimated ages of 84 ± 5 Ka. This was an enormous eruption that was responsible for depositing tephra as far away as the Gulf of Mexico and up to 200 m of unconsolidated ash-flow deposits that fill valleys in western Guatemala (Newhall 1987:45) (Figure 14). It is estimated that these deposits represent 270 km³ dense rock equivalent. The Los Chocoyos eruption is believed to have originated in the modern caldera because of the distribution of lag-fall deposits around the modern caldera. Newhall (1987:46) offers three reasons to believe that the caldera collapsed at least a few weeks after the Los Chocoyos eruption: the presence of ponded ash-flows
at the rim of the modern caldera where no barriers to flow now exist. Atitlán III collapse faults that cut Los Chocoyos ash-flow deposits at some localities, and the absence of Los Chocoyos ash-flow deposits in the caldera.

There have been at least five post-Los Chocoyos silicic eruptions and two or

![Diagram of Eruption W](image)

**Figure 12. Eruption W (adapted from Monzón 1989).**

three periods of andesitic and basaltic eruptions (Newhall 1987:46-47). The oldest occurred not long after the Los Chocoyos and was centered near the west end of the Atitlán III caldera. There was a period of stability during which a thin paleosol formed, followed by another eruption located to the west of San Juan la Laguna. Next, a series of five eruptions associated with the early development of Volcán San Pedro, and
separated by periods of soil formation, occurred. Finally, Volcán Tolimán and Volcán Atitlán grew on the southern edge of the Atitlán III caldera. Newhall (1987:47) believes that these three modern volcanoes may represent the beginning of the Atitlán IV cycle.

Figure 13. Atitlán III Caldera (adapted from Monzón 1989).
4.5. *Paleoenvironment: Paleosols*

Area soils are composed of volcanic igneous and metamorphic rocks of the

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**Figure 14.** Los Chocoyos deposition (adapted from Monzón 1989).
Quaternary, with thick pumice fills. The following report is taken directly from studies of the paleoenvironment of the northern rim of the Lake Atitlán basin, conducted during 1994 by David Carlson and John Jacob (1995) and reported in 1995. Carlson's and Jacob's intent was to evaluate the potential for early, buried archaeological sites in the Lake Atitlán area.

The survey area sits on a volcanic caldera consisting of 400 meters of volcanic ash and debris which has been weathered and redeposited over the last 10 million years. While the potential for buried sites is great, the depositional history of the area years. While the potential for buried sites is great, the depositional history of the area is complex.

Little is known about paleoenvironmental change in Guatemala. Although geological studies of the area have been published in the last 15 years, they do not focus on the most recent 12,000 years (Newhall 1980; Newhall 1987; Newhall et al. 1987; Rose et al. 1987). Yet, it is by learning more about the last 12,000 years of deposition and erosion that we can know where to look for the earliest human occupation in the area.

In the vicinity, paleosols occur in all geomorphic settings. Upland paleosols came from the Los Tablones Cut, where eight paleosols have been identified superimposed over the Los Chocoyos ash deposits variously dated from 85,000 to 75,000 years ago (Newhall 1987; Rose et al. 1987) (see Figure 5). Also identified were three paleosols in a colluvial fan deposit outside Santa Lucía Utatlán, and a series of paleosols (at least four) along Río Molino near Finca Santa Rita. Río Molino appears to be reworking colluvial fan deposits in this area.

The Los Tablones Cut contains many superimposed paleosols. Table 1 illustrates the section. A description of the section is attached to this dissertation. The top three paleosols, submitted for radiocarbon age determinations, confirm the dating difficulties that Rose et al. discuss (1987:69):
Table 1. Radiocarbon age determinations for the Los Tablones cut.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Age (B.P.)</th>
<th>C13/C12 Ratio</th>
<th>Conventional C14 Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beta-77412 (Paleosol 1)</td>
<td>24,070±160</td>
<td>-19.1 o/oo</td>
<td>24,170±160 B.P.</td>
</tr>
<tr>
<td>Beta-76273 (Paleosol 2)</td>
<td>19,630±150</td>
<td>-21.4 o/oo</td>
<td>19,680±150 B.P.</td>
</tr>
<tr>
<td>Beta-76274 (Paleosol 3)</td>
<td>24,820±310</td>
<td>-21.1 o/oo</td>
<td>24,880±310 B.P.</td>
</tr>
</tbody>
</table>

The radiocarbon age estimates suggest that all three paleosols formed in the Late Pleistocene. The age of paleosol 2 may indicate some contamination of the sample. Assuming that humans entered Guatemala sometime between 16,000 and 11,000 years ago, the Los Tablones paleosols are too old to contain evidence of human occupation.

4.6. Properties of Modern Lake Atitlán

Lake Atitlán is an 18 x 12 km caldera lake within the Atitlán III caldera. The lake basin drainage affects three systems, the Gulf of Mexico to the north, the Caribbean to the east, and the Pacific Ocean to the south (Figure 15). The lake is filled with about 300 m of sediment infilling, resulting in a caldera volume of 260 km³ (Newhall, et al. 1987:90), which is very close to the 270 km³ of dense rock equivalent calculated for the Los Chocoyos eruption by Newhall (1987:45). The deep lake basin is flat except where sediments from the Ríos Quiscab and Panajachel deltas pile up against the lava flows of Volcán Tolimán (Newhall, et al. 1987:87). There is a lava flow on the basin floor that flowed from Cerro de Oro less than a few thousand years ago and there is evidence for a large landslide deposit between San Marcos la Laguna and Tzununa (Newhall, et al. 1987:87). Newhall, et al. (1987:87) report that the slopes of the submerged caldera, excluding the Ríos Quiscab and Panajachel deltas and the
stratovolcanoes, are 15° - 30°, which is slightly less than the 20° - 35° slopes above lake level. However, underwater surveys found several slopes that were nearly vertical for tens of meters.

Newhall, et al. (1987:93-95) recorded three general types of sedimentation in
the Lake Atitlán cores: 1) rapid, turbidite deposition producing sandy to silty graded beds up to several tens of centimeters thick, 2) slow hemipelagic deposition of varves of alternating layers of diatoms and silt a few millimeters thick, and 3) massive beds of silt and clay up to several tens of centimeters thick representing hemipelagic sedimentation or mud turbidites. These researchers also calculated the sedimentation rate for the lake using five methods: estimates based on varve thickness, lead-210 ($^{210}\text{Pb}$) dating, carbon-14 ($^{14}\text{C}$) dating, pollen dating, and paleomagnetic studies. The $^{210}\text{Pb}$ and $^{14}\text{C}$ dating results were inconclusive, but the other three methods were in general agreement: a hemipelagic sedimentation rate of .2 - .4 cm/yr, total sedimentation rate in the deep basin of .5 cm/yr, and local sedimentation rates of more than 1 cm/yr locally due to turbidite deposition and sediment focusing, with this exceptionally high lake sedimentation rate being attributed to torrential rains, large watershed size in relation to lake size, and unconsolidated Quaternary sediments on steep slopes (Newhall, et al. 1987:97-100) (Figure 17).

If early "catastrophic" post-caldera sedimentation due to eruptions are excluded, then the annual rate drops to .2 - .3 cm/yr. Comparing these rates with the rates determined for the Preclassic Maya, Classic Maya, and Postclassic Maya reveals an interesting historical trend. The researchers defined four zones in a deep basin core from the Panajachel delta based on changes in concentration and influx of Cecropia pollen. Cecropia is an indicator of slash and burn agriculture and researchers believe that the zones delineated represent the three cultural periods listed above (Newhall, et al. 1987:98). Sedimentation rates for these periods show a similar rate of .2 - .3 cm/yr for the Preclassic and Classic periods but a higher rate of .8 cm/yr for the Postclassic Maya period. Newhall, et al., attribute this increase to intensive modern farming and population growth (1987:100).

The water level of Lake Atitlán has fluctuated greatly in the past and changes of up to 10 m have been recorded over about the last fifty years (Newhall, et al. 1987:102). Newhall, et al., point out that the lake level fluctuates 1 to 1.5 meters
seasonally due to changes in precipitation, so some of the change may be caused by climatic factors (1987:102). Earthquakes can also influence the level of the lake. The 1976 earthquake, for example, caused a drop of 2 m, possibly due to the earthquake
increasing the permeability of the rocks damming the lake (Newhall, et al. 1987:102). Finally, the researchers note that the inflation of magma reservoirs can result in increases in lake levels, noting the correlation between rising lake levels and Volcán Atitlán's activity between 1820 and 1865 (Newhall, et al. 1987:103).

Although short-term changes are related to rainfall or earthquakes, some changes seem independent. No unusual increase in rainfall is known to have preceded a 2 m (ca. 6 ft) short-term rise between 1942 and 1944. No local rainfall records exist to compare with long-term changes of 15-20 m (ca. 40-60 ft), which occurred in the following sequence: a drop from the preconquest to 1575; a rise from 1575 to 1700's; a drop from 1800 to 1820; a rise from 1820 to 1875; a drop from 1875 to 1920; and a rise since then.

The fluctuating lake levels and the sedimentation rates have a serious impact on archaeological investigations along the shoreline of the lake. High sedimentation rates mean that archaeological sites will be buried rapidly and now may be buried under meters of sediments. This affects site visibility. Changes in lake levels can cause previously submerged sites to become exposed to the air and previously exposed sites to become submerged. This could affect the nature of the archaeological record by affecting preservation. The worst environment for the preservation of organic materials and metal objects is alternating wetting and drying. Ceramics, however, are least likely to suffer any ill effects from such conditions. Erosion due to wave action can also be a problem, especially on steep slopes. Even though sedimentation rates may be high, erosion due to waves can quickly remove the sediment overburden and work to destroy or displace any in situ archaeological deposits.

4.7. Cultural Resources

Today, a sparse population of indigenous Cakchiquel, Tzutujil, and Quiché-
speaking Maya reside along the northern rim of the Lake Atitlán basin. Overall, Maya peoples speaking one of at least twenty different languages make up over half of the ten million people who live in Guatemala. Among them, lexical, phonological, morphological, and syntactic variations exist (Dayley 1985:3). Around the lake, the Maya population is becoming increasingly proficient in Spanish, while the non-Mayan or ladino population remains monolingual in Spanish (Richards 1994). Santa Cruz, with 99% of its population Mayan, is the least developed town surrounding the lake basin (Sexton 1992). The communities, called municipios, are still known for their localized costume, or traje, often woven on back-strap looms by women in the individual households.

The municipios (political and geographic subdivisions of the department of Sololá) of San José Chacayá, Santa Cruz, Jaibalito, Tzunúná, and San Marcos are included in the overall project area. Based upon a political arrangement established at the time of the conquest, each municipio has their own subdivisions of aldeas (villages) and caseríos (hamlets), as well as its own cabecera (main town). Normally, each municipio elects its alcalde (mayor), and regidores (councilmen).

Most of the inhabitants engage in subsistence horticulture, growing New World crops such as corn, beans, squash, tomatoes, potatoes, and avocados, and Old World crops such as onions, chick-peas, garlic, carrots, lemons, and coffee. Most consume the maize they grow, selling other crops on the open market or to middlemen. These highlanders are known to have traded for centuries, the earliest accounts including transactions with traveling Aztec merchants from Mexico. In exchange for copper, cloth, and wooden products, the highland Maya gave the Mexican merchants cacao, coastal cotton, and iridescent feathers of the Quetzal.

The discussion of the cultural resources of the project area continues with a brief history of the development of socio-political organization, linguistic traits, and present-day spiritual practices and household life.
4.7. Socio-Political History

The ancestors of the people who now reside on the northern rim of the lake basin are suspected to have included Nonoalca-Pipil-Chichimec groups who migrated from Mexico into the highlands along river routes during the Early Postclassic period (A.D. 1000 - 1200). The Mexicans competed with earlier immigrants, the Pipil-Nicarao, who had settled among Pokomom and Mam-speaking Maya. Entering Guatemala, the Mexicans would have brought Nahua words derived from the Gulf Coast (Carmack 1981:49). Carmack believes the early residents were Chontal speakers. The genesis of human life in the area is unknown. Up until now, speculations of what life might have been like are based upon evidence from the surrounding area.

We know that the highlands and the Pacific coast of Guatemala were part of a land bridge over which early humans made their way between North and South America. Almost nothing is known of these early hunting bands in the area. Yet we have evidence of Upper Pleistocene fauna consisting of a few fossilized glyptodon and mastodon bones in the region (Shook 1952:93-96). A black-gray obsidian fluted "Clovis-like" point with "fish-tail" ear protrusions at the bottom, known as the San Rafael fluted point, was discovered a few miles west of the valley of Guatemala (Coe 1960:413). It is suspected that early residents gathered wild seeds, grains, nuts, and hunted, eventually learning to domesticate food plants and make semi-permanent shelters.

South and west of the area, in the hilly flanks of the Pacific coastal piedmont, we know that plant domestication and food production began early. Stone metates and manos found at the bottom of storage pits in the Las Charcas zone indicate that Early Preclassic people intensified seed collection and began a sedentary way of life based on a primitive method of agriculture. Probably following the methods utilized today, farmers would have grown their crops by slash-and-burn milpa farming, and planted
with pointed wooden digging sticks. Cultivation was probably temporary; when productivity decreased, forced moves to new land maintained yields. Settlement patterns probably consisted of unplanned year-round villages consisting of small clusters of mud-walled houses. Sites were dictated by agricultural needs and nearness of water. Moreover, it is suspect that the sites were undefended, being located on level land in the intermountain valleys and high plateaus. Residents moved back and forth from the coast to the nearby northern volcanic escarpment, as evidenced in ceramic traditions from the Xoc Ceramic Complex (1200 - 800 B.C.) on the Pacific coast, which include some styles derived from an indigenous highland tradition (Lowe 1977).

Among the early residents of the higher elevations were perhaps a proto-Mayan speaking group extant by 2200 B.C. Their language, from which all later forms of Maya speech are derived, could have accompanied them in a move to the lowlands. Very early settlement in the highland area is suggested from remains found at Kaminaljuyú in the Valley of Guatemala, which include conical or bottleshaped pits serving as either sweat baths, a source of clay or ash, refuse pits, or simple burials. Unfortunately, no habitation mounds have been excavated. Yet, burned adobe fragments unearthed during excavation of storage pits at Kaminaljuyú show impressions of poles and organic debris which Shook (1952:97; Borhegyi 1965) believes is suggestive of crude early construction of pole-and-thatch walls daubed and covered with palm-leaf-thatch roofs.

While there is a lack of evidence, it is now suspected that the Lake Atitlán basin was part of a regional and interregional interaction and supplied potential mechanisms that possibly stimulated the growth of Maya civilization (Sharer and Sedat 1987), including the power of exchange systems to generate and reinforce complex organization (Tourtellot and Sabloff 1972), to stimulate an increasing flow of information, and to spawn and reinforce increasing cultural complexity by maintaining exposure to a multitude of potential stimuli (Freidel 1979). The positions taken by myself and other scholars of highland and Pacific coastal Maya are analogous to
similar constructs dealing with the multiple opportunities for, and consequences of, interregional interaction seen in other situations in the development of complex societies for the Maya lowlands (Freidel 1979), the Early and Middle Preclassic Olmec civilization, and the evolution of the Aegean civilization (Renfrew 1972).

Regional and interregional studies of the southern Maya highland regions incorporate several available working hypotheses. A precocious southern Maya development was long ago suggested by Kidder (1940:121) and Shook and Kidder (1952:121-124), based on Late Preclassic archaeological evidence from the largest highland center of Kaminaljuyú. Subsequent archaeological investigations in the southern Maya area have revealed related Preclassic cultural developments at sites such as Bilbao (Parsons 1967), Santa Leticia (Demarest 1981,1986), Chalchuapa (Sharer 1976), and Abaj Takalik (Graham 1979). Unfortunately, the development in the southern highlands of Guatemala of a complex political organization, art style, and centralized formal religion out of a simpler, loosely knit network of autonomous villages with data on early prehistoric plant domestication remains without data.

Despite the gap of understanding about the earliest peoples residing in the lake basin area, it is more certain that from 900 - 1100 A.D., three separate migrations of tribes from Mexico moved into the highlands, married native women, and eventually became a dynasty. The Tzutujil tribal members supposedly settled the lake area first, establishing themselves in new or already existing villages around the northern and southern shores. While the Cakchiquel continued to wander, the Quiché settled just north of the Tzutujil. Considered "provincial," Robert Carmack suggests the area of settlement for the Quiché, Cakchiquel, and Tzutujil tribes was outside the main currents of innovation elsewhere found in Mesoamerica (1981). However, large rural populations were likely to have soon been scattered over the flat basin areas, with small chiefdoms confined to a single plateau, and warfare and defense being secondary to ritual. John Fox (1978) suggests that the Toltec influence from these Mexican tribes is responsible for enclosed plazas, long colonaded structures, central temples, and the
diagnostic Plumbate ware found in the Lake Atitlán and Quiché basin areas.

While it is not presently known what specific role the lake area played during the Postclassic Period, much of what is known comes from sixteenth-century Spanish interpretations. Until the middle of the fifteenth century, the Cakchiquels lived peacefully with the Quichés. The Cakchiquels gave up their association with the Quiché during the reign of king Quikab, and, when threatened by the king's deposition, settled to the fertile zone around Iximché. Soon after Pedro de Alvarado entered Guatemala from Mexico in 1524, he burned the Quiché capital of Uatitlán and marched without resistance into the Cakchiquel fortress capital, Iximché. Joining ranks with the Spaniards, the Cakchiquels turned on their enemy, the Tzutujiles.

At the time of the conquest, Quiché, Cakchiquel, and Tzutujil-speaking people were nucleated around small hamlets of low agricultural potential (Brown 1984:42). These local geographic unit centers maintained day-to-day decision making (Brown 1984:43), apparently following previously established arrangements. Maya society was carefully structured into basic territory-based patrilineages called chinamitales, from a Nahua word meaning "a fenced-in place" (Carmack 1973:12,13). Since the social unit was a landholding unit, one was allocated with one's own lineage in a territorial arrangement. A chinamital extended from the central tinimit, or "sacred shrine," out into the dispersed countryside hamlets called amaq, or "spider legs". Chinamitales unified social groups and helped to make everyday sense. Periodic, ritualized territorial ordering processes redefined the group's territory and identity. Chinamitales were also structured into distinctive lord and vassal castes. Lords referred to their vassals as "children"; vassals were subject to their own lineage heads called "mother-fathers" (Carmack 1981:161). Lords lived in "big houses" within towns fortified by walls and moats. Vassals lived in outlying rural areas which were demarcated by rocks, bunchgrass, or other natural boundaries in simple, square, waddle and daub, thatched-roofed huts close to the milpas. Lords occupied political, religious, and military offices; vassals performed physical labor, fished (the fish they used as
tribute), provided food, and fought for the lords in battles which increased in the Late Postclassic.

Lords received the tributes which vassals paid. Lords braided their hair and dressed in colored clothes, the men in jackets which reached to their thighs. On the other hand, vassals' hair was not braided, and the men wore henequen and jackets that came to the navel. While lords worshipped in temples, vassal lineages had sacred spots where altars were set up to worship ancestors, protect animals, and insure the success of their crops. Lords believed witchcraft was "power and might displays" (Carmack 1981:149-150) and therefore burned witches; vassals supposedly employed witchcraft. Lords were cremated at death; vassals' bodies were considered "earthly" and therefore unpretentiously buried (Carmack 1981:149-150; Orellana 1984:77-78).

Lords and vassals together comprised the social unit, created for the purpose of uniting the widely dispersed peoples by way of tribute and personal-service obligation; for the purpose of carrying out judicial and ritual processes; and for the purpose of establishing a unit under which warfare was fought (Orellana 1984:84). The physical separation between lords and vassals was bridged by "runners," junior nobles through whom business was conducted. Vassals were kept out of the town, supposedly preserving the center's sanctity (Carmack 1981,183).

As a whole, the territorial unit was kept together by successful warriors, who, according to the Popul Vuh, were called aj tz'alam, or "wall officials". Carmack explains, "these officials were put in charge of the administration of tributes, justice, military recruitment, land rentals, and ritual within the lineage estates. They were given authority even though they were not considered officials of state" (p. 177). As intermediaries between the state officials and the vassals and serfs (Carmack 1981:177), they were neither lords nor vassals (Orellana 1984:78), "nor did any of them have his own god; they just blocked the way to the citadel" (Tedlock 1985:216).

The Popol Vuh more specifically explains these officials as the sentries who watched for the makers of war, acting as a "palisade, like doubles for our own lineages,
and like a stockade, a fortress to us" (Tedlock 1985:216). They were called "Point of the Arrow", "angle of the Bowstring" (Tedlock 1985:216), "an enclosure, a fortress around the Quiche" (Tedlock 1985:218). As heroes, they were given the symbolic seats and cushions of authority (Tedlock 1985:217). Aj tz'alum, can also be translated as "carpenter" (Tedlock 1985:80), or sculptor (Orellana 1984:78), and daykeepers, diviners, the "midmost seers" (Tedlock 1985:80).

It was the warriors, according to los anales de los Cakchiqueles, who were also the wizards, performing feats of magic (Recinos and Goetz 1953:103). Their chiefs were "by reason of the great power and wisdom of those who are bearers of the bows and the shields" (Recinos and Goetz 1953:74). The authority that these vassals acquired in order to bridge the social gap and become honored warriors was signified symbolically in their seats, cushions, bows and arrows.

The Tzutujil equivalent of these honored warriors, Orellana believes, later helped prepare the relacion geografica Atilan at the time of the conquest, knowledgable as they were about the previous times (Orellana 1984:93). This group of officials also later produced the "governors and lieutenants" of the Indian town governments set up in highland areas (Villacorte 1962:347-349 in Carmack 1981:177). The Indian leaders who were the most important noblemen of the tribe in Pre-hispanic times (Orellana 1984:184) continued to be the decision makers on boundary disputes among the towns (Orellana 1984:189).

During the colonial period, pacification policies that had worked effectively in Spain, in medieval times, through reduccion and congregacion, were used to resettle the Maya social groups into European-patterned towns (MacLeod 1973). However, according to Robert Hill and John Monoghan (1987), the Guatemalan peasants nonetheless transformed the parcialidad system back into the pre-conquest, kin-based chinamitale structure, enabling the holding of land and ethnic identity. According to the los anales de los Cakchiqueles, the church of Sololá was founded in 1541, the friars of Santo Domingo arriving the next year. In 1547, the inhabitants were said to have
been brought from the caves and ravines where they were living to build the city, laying out the streets and squares. By 1572, the population of Sololá was 3000.

Around 1547, parcialidades in the Lake Atitlán area were incorporated into congregaciones as focal settlements that could both govern and teach the Catholic religion (Orellana 1984). Once again, the congregación retained a pre-conquest identity, functioning in the same manner as the parcialidad and the earlier chinimitale, complete with the name of the existing patron saint as well as the pre-conquest title (Hill and Monaghan 1987:48). In addition, the outlying hamlets became structured together into what were called pueblos. Each hamlet was allowed an alcalde and regidor to town government, which could be argued was as important as an expression of political autonomy, despite Spanish intent to form one municipal unit of the diverse native groups.

Boundary disputes between the town continued to be handled under the old structure, by the newly formed cabildo authorities, caciques and gobernadores (positions which were filled by the once powerful Indian elders), and not as would be expected by the new alcaldes and regidores (Orellana 1984:189). The congregaciones retained the lands of the original settlements, including the important milpas. Each congregación also retained its natural resources and rights to these resources. In the arrangement, the indigenous group remained the "primary corporate landholding units, the "nexus of political, legal, religious rights and duties and the foci of solidarity and allegiance for members through the early 18th century" (Hill and Monaghan 1987:52), despite critical periods of reorganization.

Throughout Central America, the Spaniards replaced the Indian nobility at the top of the indigenous social hierarchy in an attempt to form from a plural society composed of different ethnic elements one single social structure. Boundary disputes increased in Guatemala in frequency during the 17th century as towns sought to gain independence from Spanish cabeceras (Orellana 1984:133). The disputes continue today (Hill and Monaghan 1987).
Disputes that upheld boundaries were also fought in order to preserve community identity and protect the natural resources shared by all of the people living within the territorial units. Craft "industries", continuing from pre-conquest times, enabled groups to share natural resources and capitalize upon technologies belonging to the group. That technology, a special skill, resulting in a material item, was critical to the survival of the community. Each skill, together with the material item produced, represented the groups' culture, or costumbre. The craft and its techniques and materials, passed down, created a heritage that was marketable. Moral obligations associated with costumbre held the group together.

In other words, how the group perceived itself was inextricably linked to a common resource, that was necessarily preserved within their own territorial boundaries. Today, individual towns around the lake are known for their respective specialized economic pursuits of rope-making, fishing, cash cropping, or trade (Sexton 1992). As well, many have adopted Ladino material culture and speak Spanish as a second language. John Chance (1990) explains that through municipal institutions called cargo systems, Indian peasants throughout Mesoamerica have developed the ability to successfully continue to confront colonial authority. Indigenous communities, under threat, face the confrontation with institutional ordering described as an internal "active process for communities to realize their own agendas" (Stephen and Dow 1990:2).

Generally speaking, Francis Hsu (1985) believes "secrets" of cultural change and stability are found in people's own intimate relationships; cultural resistance to change or insistence upon innovation, as well as cultural responses to stress, to oppression, to conquest, or to learning depends upon a community's ability to verbally communicate, to provide emotional support, and to maintain mutual receptivity (1985:30-34). Benjamin Paul (1967) has recognized a structure mediating between the internal forces within the lake community of San Pedro, which he called a "self-correcting mechanism" (Paul 1967:150-165). What Paul called a self-correcting
mechanism—"a process, a frame of perception, a precipitate of history, and a mechanism for survival" (p. 150)—is an everyday, habitualized, and institutionalized process that enables the communities the perception of the reality of themselves, their own identity.

Richard N. Adams (1988) has explained how such Mesoamerican cultural systems can be modeled on non-equilibrium structure dynamics of self-organizing systems. The model works, Adams explains, because it conforms to the nature of the component parts of a society on one hand, and, on the other, regards society as a whole to be a natural phenomenon acting according to its own nature (Adams 1988:9). Adams' model argues for "continuity through adaptive change", in order to retain identity and cohesion either over the short term or over the long term (Adams 1988:22-25). It might be said that, in the lake area, what gives the individual the sense of identity and fulfillment is "literally as important as the requirements for food, water, and air" (Hsu 1985:34). The process is as much cultural as it is innate, practiced from birth, a process in which knowledge is obtained by negotiation and cooperative action.

4.8. Language

Pedro de Alvarado, with his military forces, brought into Mesoamerican communities warfare, and pandemics and famine, decimating the native population and bringing about the disappearance of entire language communities (Feldman 1986). In the Royal Cedula of June 1550, Crown policies ordered the Dominican and Franciscan friars to catechize the Indians in the Spanish language. Curiously, the first group of friars administering the newly created towns found it more convenient to overlook the royal decrees and used the native languages as the language of catechetical instruction (Van Oss 1986:18).

Equally as strange, many theological treatises, grammars, and vocabularies
compiled by the Catholic priests to facilitate the indoctrination of the Indians enabled the study of the language. Among the works include *Arte de las tres lenguas, quiché, cakchiquel, y zutuhil*, by Father Francisco Ximénez, *Arte de la lengua metropolitana del Reyno Cakchiquel*, by Father Ildefonso Joseph Flores, the grammars of Friar Benito Villacañas and Friar Estevan Torresano, and the vocabularies of Father Thomas Coto and Father Francisco Barela.

One hundred years later, Indians throughout Guatemala were forced to assume Spanish patronymic surnames and learn Spanish. As well, the courts were not allowed speech in any other language but Spanish. Only Indians who learned Spanish were privileged to wear Spanish dress and ride a bridled horse (Aguirre 1972:373-374). Some 150 years later, when New Spain obtained independence, the Guatemalan Republic called for the eradication of all indigenous languages. The Spanish language was proclaimed the "medium of nationhood and the vehicle for unifying a fragmented peoplehood" (Richards 1994:4). With no public education and no means to enforce the decrees, the indigenous remained largely unaffected. Illiterate and monolingual, the Maya were integrated into the State system only to provide the physical labor to run the export agricultural economy of the country (Richards 1994:5).

Culture, class, and race, which had become the criteria used to define an Indian from the non-Indian, remained unchanged for yet another 100 years. Then, inspired by American New Deal policies, the leaders of Guatemala initiated a number of programs, including a national school system (in the beginning there were fewer than 1000 rural public schools in operation, serving one tenth of the eligible population [AED 1985:100]) and a series of literacy campaigns. The National Literacy Law of 1945 declared literacy as a national emergency (Decreto 72). Guatemala's rewritten Constitution of 1965 declared Spanish the official language of Guatemala (Article 4) and directed the State to facilitate the indigenous integration into the "national culture" (Article 110), with instruction in the official language. Indigenous languages were used to instruct native peoples (Article 9) with the hopes of hastening the castilianization of
the indigenous through use of the mother tongue.

During 1978-1984, growing insurgency, centered in the highlands, caused the indigenous population to adopt non-Mayan clothing and to disguise their ethnic identity through speaking Spanish (Richards 1994:8). Only recently, since 1985, has bilingual education been afforded to the rural indigenous, implemented in order to strengthen Mayan ethnic identity and to promote development of the Indian population within the linguistic context of a plural Guatemalan society (Reglamento de PRONEBI, Title I. Chapter II, Article 3). Today, throughout the country, mother tongue literacy is viewed instrumentally as a bridge over which the children cross to Spanish, the Mayan languages considered an ancestral birthright and part of the cultural patrimony of Guatemala (Richards 1994:10).

4.9. Spiritual Practices

At the same time in which congraciones were formed, the cofradia systems of religious brotherhoods, with patron saint, house, and ritual activity, was established within Highland Maya social organizations. The cofradia system, according to Orellana (1984), was similar to the old chinamital structure. The earliest cofradas in Guatemala were founded after the mid-16th century, and similarly to the parcialidad, became the fundamental vehicle for the ongoing process of confrontation and adjustment of native and Spanish culture (p. 8).

Among some indigenous residents living in the area today, people are believed to be born with a suerte, an immutable fate which determines one's character. Each aspect of nature has a dueño, a supernatural master, who regulates its progress and role in the yearly sowing and harvesting of Indian corn. Dueños (owners or patrons) reside in land, hills, mountains, water, rain, wind, and other natural phenomena. The native population still accepts traditional beliefs, including costumbres conducted to honor the
dueños before and after fishing, harvesting and before traveling.

The people pray privately or in small groups to dueños of wind, cloud, river, lake, hill, volcano, rain, corn, wild and domestic animals, and to the chief dueño, Maximon. Under the orthodox Catholic saint's name, San Martin is a wooden puppet-like figure seated in a chair. The figure may hide an ancient Mayan earth divinity which has survived four centuries of acculturation, and may well be one of the oldest ethnographical objects in the area (Mendelson 1959:5). Dressed variously as St. Andrew, St. Michael, St. Peter, Judas Iscariot, Pedro de Alvarado, or Zaquicoxol he is known as Mam (Mam-Shimon), or rilaj atcha, "the old man" (p. 5-7). The ancient Maya worshipped Mam on the five last days of the pre-Columbian calendar year. Throughout the year the Mam grew older and, when otherwise considered as dead, was reborn in the new year to represent the yearly cycle of nature. Today, Mendelson believes that "this enigmatic figure appears to represent at one and the same time the ideas which have bound two religions together for more than four centuries, as well as those which have made the partnership uneasy" (1959:6).

In his modern role, Maximon is ritually fed cigarettes, beer, and Quetzalteca (liquor), and is considered to be the father of the prayermakers as well as the dueño of madness. In the Santiago Atitlan legends of his origin explain the figure as the result of an attempt to save a sexual order endangered by frequent adultery among the early inhabitants of Santiago. As the guardian of morals, this idol ran away with his powers, frightening adulterers by taking on the appearance of the beloved and then revealing himself and driving them mad; he also united indiscriminately with the women and youths, becoming the major contributor in breaking the order which he had been created to preserve. Bundled in the ceiling trellis of the cofradía's house in Santiago, Maximon spends most of his time in a dismembered state, appearing only during Holy Week as Judas clothed in Indian costume, and in late July during the town's yearly fiesta. Elsewhere in local shaman's homes, lifesize Maximon puppets are in attendance year-round serving, as Mendelson believes, "a vortex of cyclical conception of history
and the ultimately progressive vision which is the hallmark of Ibero-Catholic culture, hypnotiz[ing] the people and consum[ing] the energies which could be channeled into other pursuits" (1959:9).

As today, rituals among the ancient Cakchiquel were both private and public. Much of the indigenous population, however, relies on native priests, who combine the functions of praysmakers, healers, and fortune-tellers in order to complete the legitimate yearly round of individual and communal dueño ritual. Public rituals among the Maya communities are known to have involved the offering of incense, turkeys, blood, flowers, liquor, precious metals and stones, and sometimes humans. During the public ceremonies, the images of gods were richly dressed and paraded through the towns to the accompaniment of trumpets and drums. Dance dramas celebrated historical events such as a victory in war or the reenactment of local myths (Miles 1965; Thompson 1970). The blending of this native religion and early Catholicism introduced by the Spanish friars is recognized today in the cofradias (religious brotherhoods) (see cofradias, calpules, Chapter VIII. Cakbatzulú: Ethnohistoric, Discussion, this dissertation).

Indeed, Robert Carlsen and Martin Prechtel's (1994) research along the southern shores of the lake indicates that, until a few decades ago, the indigenous population was dominated by followers of the traditional religion, a group called costumbrista, or "followers of the old customs". Carlsen claims that civil war, deteriorating economic and ecological conditions, along with increased Western cultural influence, has helped Protestant missionization cause a significant decline in the costumbristas. In the northern lake town of San José Chacayá, increased alcoholism is a drawing card for Protestantism. Although there are no counts of the northern lake towns, Robert Carlsen's research determined that in Atitlán slightly over 35% of the approximately 20,000 inhabitants are Protestant. The remainder are divided between Catholics and costumbristas, with a sharing of traits between the two which makes it difficult to distinguish the difference (Carlson and Prechtel 1994:82).
4.10. *The Household*

Despite the occurrence of increasing ladino landownership, and foreign investment linked to increasing tourism, family life among the indigenous of the remote areas of the lake basin continues much the same as it has since the conquest. The physical characteristics of that existence are reminiscent of pre-conquest defensiveness: territories are bounded and demarcated, stone and canewalled houses are clustered for security along narrow, widely dispersed zigzagged paths.

Yet, unlike earlier times, households are now separated from their milpas, the distance commonly an hour's walk away. The separation between household and milpa is an important one. Where the milpas are located, what goes on in the space between the two areas of activity, and by whom, are all important to discovering patterns of everyday lifeways. The space along simple foot paths traversed every day is often where important community business is conducted. Men on their way to the fields, women on their way to wash clothes or gather firewood occupy the space used to distinguish the two major areas of activity. The house compound and field, differentiated by the space which separates them into different realms of life, represent respectively the female and the male aspects of living.

Households, however, are still closely nucleated around a patrilineal descent, married couples generally living with the husband's family after a brief stay with the wife's family. This was the traditional marriage arrangement, the boy staying with the girl in her home before marriage; after marriage the couple moved into the husband's home to remain, share a hearth, and raise a family.

Households are still maintained by the women, the day's activities still revolving around child tending, tortilla making, cooking over an open hearth, and weaving on a backstrap loom. Children are born at home with the aid of a midwife, nursed until around age two, wrapped securely and carried on the mother's or sibling's
back until weaned. Children enter school at around five years of age as Spanish
dominant bilingual speakers (Richards 1989; Brown 1991; Garzon 1991). Until the age
of twelve, the children will attend the formal school in the villages, taught in Spanish
and Cakchiquel with funds acquired by the municipio. If the parents have the funds,
the children are immunized at the local health post for measles, polio, tetanus,
diphtheria and whooping cough.

Sweatbaths are still found in most households in the project area. The
"primitive saunas" date to preconquest, when they were used for healing ceremonies,
ritual purification of priests before rites and of players before ballgames, or as an aid in
confessional. Today the sweatbath, approximately 4 ft x 4 ft, and 3 ft - 4 ft high,
with a thatch roof and a supply of wood to fire the heat, is used for curative purposes,
to treat anemia, and as a place for childbirth. By comparison, in the 1960, 84% of the
Indian households in the lake town of San Lucas Toliman were without sweatbaths, the
new health programs having discouraged their use for curative purposes (Woods and

The indigenous system of medicine remains holistic, an integrated system of
religion and medicine, a syncretism of tradition together with western medicine and
religion. Shirley Cosminsky (1983) suggests that the decline of shamans and
traditional curers is due to religious missionary activities, especially Catholic Action
and Evangelical Protestantism, which forbid members to use the traditional curers and
spiritualists. To these people, there is otherwise no conflict between western medicine,
which treats symptoms, and traditional forms, which treat the causes (Cominsky
of illnesses in highland Guatemala. Disease is considered the pathological state of an
individual whether or not it is culturally recognized, in other words as a biomedical
category; illness is a cultural category caused by non-human beings, human beings or
natural causes. Illnesses are believed to come from offenses against the gods requiring
confession and performance of penance (p. 27). Very often if an adult is sick, they
blame it on *brujeria*, or witchcraft, while sick children are considered "normal".
Consequently people enlist home remedies, treatment by folk healers (shamans, herbalists, bonesetters, midwives), public health promoters and private physicians (McMahon 1994; Sexton 1985; Woods and Graves 1973). Both folk practitioners and specialists use pharmaceutical medicines (antibiotic and vitamin injections, medicated plaster, pomades, purgatives and tonics), as well as herbal medicines. Villagers believe that shots are better than medications; medicine "paid for" is better than that which is "free". Common ailments are parasitic infections, diarrhea, colds, anemia, bronchitis, pneumonia, and occasionally whooping cough.

Households are sparsely furnished with a table, a bed, little miniature chairs reminiscent of pre-hispanic "seats of authority", and larger chairs. In many households, calendars and photos of the lake are on the walls. Protestant families have noticeably more possessions including furnishings, radios, televisions and domesticated animals. Cattle, sheep, horses, and pigs are kept within the confines of the "private yards" of the house compound where the kitchen gardens are maintained. Otherwise, the animals graze on the higher plateau areas where intensive agricultural terracing resembles patchwork across the steep slopes.

Today, most households have running water and a latrine; many still use the hillside for garbage areas or for their bathroom. Few bathe in the lake as it is considered "bad".

Some fish and crab to supplement the milpa, or to sell in town. Fishing is never done more than approximately one hundred yards from the shore because the fishermen say that there are no fish in the center of the lake. Fishing nets, which come in three sizes, cost Q300-100 (5.5Q/US$1), and must be replaced approximately every six months. Most fishermen own at least two nets of different sizes. Repair work is a tedious job of tying and retying one inch pieces of nylon. Notwithstanding, the milpa remains most important to fishermen, "without which there would be no tortilla". For the modern residents still following ancient tradition, motors for boats, like watches
and radios, are a sign of the times.
CHAPTER V
CHIGOJOM (SJC05)

5.1. Location: Grid 9232NE

This major settlement area is located about 1/2 km southeast of the town square of the municipio San José Chacayá. By taking the all-weather road 2 km west from Sololá, the road (CA#3) passes just to the north of the site.

5.2. Environmental Setting

Chigojom is almost totally confined to a small plateau topping a ridge formed in an old caldera (Figure 17). Access to the site requires climbing the 100 m high slopes of the ridge. Considered to be in a wet-dry highland rainfall zone, the site was once covered in coniferous forest. According to the narrative, the native pines were once large enough to be hollowed out and lived in. Today, the large pines, as well as native and prehistoric flora and fauna, have all but disappeared. Reforestation campaigns in nearby areas, including planting by hand and broadcasting of seeds (Nations and Komer 1984), have not been implemented in the area. Structures belonging to this area of ancient settlement, which are apart from this ridge, include the largest and most northern conical mound resting below and adjacent to the ridge.

The ridge, approximately 150 m wide and 250 m long, and the more gentle slope below, have been totally cleared for milpa production. The debris of scattered structure mounds are situated amidst undergrowth and a small grove of deciduous trees which remain in the otherwise cleared milpa. The elevation of the ancient settlement ranges from approximately 2200 m to 2300 m.
The area is underlain by both *talpepete* and eroding basalt, the latter appearing near the surface to hinder the crop and plant growth. Surface soils throughout the area are brown in color, changing to a yellow-brown at a depth of one meter and appear to derive from rich volcanic material and humus.

5.3. **Present Status**

Unfortunately, what remains of ancient settlement is now rubble. Today the huge earthen terrace, together with earthen and adobe platforms and plaza structures are identifiable only by debris scatter remaining after centuries of disturbance. Years of agricultural activity, together with the grazing of cattle and goats and accompanying erosion patterns, have contributed to the deterioration of Chigojom. The area is subdivided into ownership, the boundaries having been marked by agave plants. The small plots belong to at least three different families, each with numerous family members who depend upon the land for their subsistence.

The entire area of Chigojom is currently under hand cultivation for milpa, or has been for at least two prior generations. Today, the seasonal crops of milpa, beans, and potatoes are dependent upon piped irrigation, chemical fertilizers, and pesticides. In addition to their milpa, the population relies heavily upon gathering for their subsistence.

Where today the land is under continuous cultivation, at one time a central group of platforms and plazas with multiple public functions were probably once surrounded by compact arrangements of domestic structures, much like the modern arrangement of living in the area. What remains of irrigation canals explains how past populations handled torrents of seasonal rains. Without the ancient control, yearly rainy seasons today can cause uncontrolled runoff, accompanied by landslides. A piped water system has been introduced within the last two years. Electricity, which is
carried from Sololá, crosses the middle of the ancient settlement area.

Throughout the years, considerable looting activity has been reported on the site. Various sculptured monuments, stone and ceramic effigies, pottery vessels, and obsidian cores and blades are presently found throughout the private homes, in collections, and are available for sale in tourist shops in nearby Panajachel.

5.4. General Description

Once a relatively compact settlement, 150 m x 500 m, the structural remains visible today consist of seven low (1-6 m in height) uncut stone and earthen mounds (Str-SJC05-02, Str-SJC05-04, Str-SJC05-05, Str-SJC05-07, Str-SJC05-08, Str-SJC05-11, and Str-SJC05-12), one round mound (Str-SJC05-03), one high (25 m in height) culturally modified, naturally occurring earthen covered boulder mound (Str-SJC05-01), one high (25m in height) culturally constructed conical mound (Str-SJC05-10), and two platform mounds (Str-SJC05-06 and Str-SJC05-09). With the exception of Str-SJC05-10, the site's structures are built upon the prominent, elevated earthen and boulder-strewn ridge. The structures are arranged along a general north-south axis (ca. 10°-30° az.). The plaza has an optimal location, situated at a point that provides a vista of the surrounding area to the north and east. The vantage point was probably significant in the situating of the plaza and its structures, the vista providing a view of the emergence of stars and planets on the horizon. The eastern horizon was no doubt important in the placement of the structures and monuments at this location.

Reminiscent of the "plateau groups" described by John Fox (1978) for the Quiché areas, scatters of ceramic and lithic tool remains are concentrated around the architecture that is situated on the broad ridge. It is believed that settlement at Chigojom reflects a sedentary or semi-sedentary population similar to the Middle to Late Preclassic society in Mesoamerica. For these population groups, subsistence
depended upon nondomination by recognizable elite. Moreover, the evidence points to a population that probably struggled to maintain their existence when the supply of game and wild food diminished. Unlike the basins and valley sites documented by Ken Brown (1984) in the nearby Quiché regions, chosen in the Early Preclassic for their suitability to agriculture, the terrain of the northern lake basin and the site of Chigojom is precipitous and unsuitable for intensive farming practices (for further discussion, see Chapter XV, Architecture).

The site consists of stone and earthen structural debris in association with prolific ceramic and obsidian artifact scatters. There is a large boulder located on the western periphery, upon which is carved a facial mask (M-9232NE-01). Another basined, pot-belly stone monument (M-9232NE-02), called by locals "San Ysidro," is located on the eastern edge of the site and is presently utilized in costumbre ritual. There is a smaller boulder (M-9232NE-03), pecked in a linear motif, which is currently being used as part of an existing terrace wall on the southeast perimeter. Finally, a plain stelae (M-9232NE-04) is buried underneath T-SJC05-03.

5.5. Ethnohistoric Description

Locals still refer to the area as Chigojom. In particular, Str-SJC05-01 is referred to by the landowner as "Volcánito". The 50-year old land owner remembers when costumbre ritual occurred atop this mound in association with yearly festivals which drew together the populace of the surrounding villages. Such festivals were conducted in November or December to honor the ancestors and the land. Accompanied by marimbas and drums, the townfolk would proceed from the ceremonies on Volcánito to the top of the ridge. There, overlooking the lake, additional ceremonies were enacted (see Str-SJC05-01, Excavations, Op.02, this chapter).
The monuments M-9232NE-01 and M-9232NE-02, referred to today by locals as *Holom Achi* ("face of the man") and San Ysidro (otherwise called "Pila"), respectively, still play important roles in the lives and welfare of the local residents. Believed to be the male and female aspects, respectively, of a divine pair, propitiation made to the monuments are thought to enable rains, crops, and money, which assist believers in the maintenance of their lives.

Although rituals occur at the "Pila" at any time, each year around May a shrine is constructed of pine boughs around the monument for the conducting of *costumbre* rituals. According to locals, the shrine is not in its original location. At some time in the past, the monument was moved from atop the fallen terrace where it stood in the central area of the plaza.

M-9232NE-01, a symmetrically carved frontal face with curled head dress, is all that apparently remains of a large dance platform upon which were performed yearly dances. The land owner claims that the dances are still performed on the first Tuesday after Easter to commemorate the fiesta of San José Chacayá. Other locals say that a woman with a goiter once lived in the area, and it is from this woman that the name *Holom Achi* is derived.

Comparatively speaking, Borhegyi (1965) distinguishes small (3-5 m in diameter, 2 m high) platforms, used as dance platforms or altars for offertory or sacrificial purposes, as particularly common during the Protohistoric (A.D. 1200 - 1530). According to Borhegyi, the dance platforms resemble size and function to Postclassic Mexican offertory shrines known as *momoztli*. Such platforms are usually located in the center of plazas, frequently in front of a major structure. If there is a connection to be made at this time between the boulder and the story of the woman with the goiter, it is that figurines of the Middle (600 - 300 B.C.) and Late (300 B.C. - 200 A.D.). Preclassic often show such abnormalities as goiter, harelip, hunchback, and pop-eyes (Kidder and Shook 1961:figs. 1-3). Curiously, most of the anthropomorphic figuines of this period are depicted wearing elaborate, turban-like headdresses or hairdos
not unlike the curled hat atop the carved facial mask for which the boulder is named. M-9232NE-01 is also associated with numerous legends of buried treasure, which includes the gold of Spanish conquistadors. Equally prolific stories of successful lootings explain that the huge stone has been stripped of all material wealth, leaving only the stone's spiritual power. On the other hand, numerous tales of buried gold exist for all of the sites in the project area. Whenever we undertook a test pit, locals were close at hand to inspect the remains coming from the excavation material. Americans are said to have been responsible for an apparent bit of gold remains that is believed to have been unearthed and carried off from the area.

5.6. Los anales de los Cakchiquelés

I.

Xepé ca chiri Pantzic, Paraxoné ixquí tolobá can ri, xeul chic pan ché Chigojom ru bi, ca chiri ca ixquitij gúi jalal qui pokob; ka chunaj rupam reé chéé qui quechá chirichín chéé, xa orocon rupam chéé ixauí chunaj, xacá rachak chicop cot, balam ixquí chunabej rupam chéé. Ok ixlagabex ca, ixyá chupam ri Caxtoc, Chay Abaj, xacá chicop quel, cuych xulaba libej rochoch ri Caxtoc cumá: querecá xubinaaj gúi pan che Chigojom ri xe yaloj ca chiri, xacá e cai xeruajolaj ri Gagagüitz, Caynoj ru bi jun, Caybatz ru bi junche, e caí chi achí (Villacorta 1934:218).

Abandonando Pantzic y Paraxoné llegaron a la floresta llamada Chigojom, y allí sufrieron algunas privaciones; pero hicieron sus viviendas en los árboles, cada cual escogiendo su árbol y blanqueando el interior de su árbol, con cal sacada de los excrementos de águilas y tigres que posaban en los árboles. Cuando se establecieron
allí erigieron los ídolos de Caxtoc y Chay Abaj, y en el templo del primero colocaron perisoc y loros; y por tanto llamaron a ese lugar Chigojom, después de haber vivido allí algún tiempo Gagagüitz tuvo dos hijos, Gaynol llamado el uno y Caybatsz el otro, ambos dos varones (Villacorta 1934:219).

Having left Pantzic and Paraxoné, places which they abandoned, they reached the forest called Chigojom. There they suffered hardships. "Let us whitewash the inside of these trees, they said, finding themselves in the forest, and thus they whitewashed the hollow trunks of the trees. With the excrement of animals, eagles and tigers, they whitened the inside of the trees. When they were living there, they set up the idol Chay Abah within. But the animals, the parrots, and parakeets made war upon them in the house of the devil where they were staying. For this reason they gave the forest the name of Chigojom. Gagavitz had two sons, the first was called Caynol and the second Caybatsz, both were males (Recinos and Goetz 1953:84-84).

II.

Caponibal chic guaé panché Chigojom. Xe apón chiri cachbilam chic quixjayil; queré bilá ixtzet qui guach iniquicot ronojel amag, tok xeapón chic. Canicár xeqitzak xecam ri Galel Xajil Ajuchán Xajil, ronojel tzií tok xecam (Villacorta 1934:222).

Llegan de nuevo al bosque de Chigojom. Al regresar llegaron juntos a donde estaban sus esposas; por lo que today las tribus se regocijaron al ver sus rostros, cuando regresaron. Immediatamente hicieron ahorrar a los Galel Xajil y Ajuchán Xajil, y toda su fama pereció con ellos (Villacorta 1934:223).

Our arrival at the forest of Chigojom. They returned then to rejoin their wives. All of the tribes were glad as soon as they saw their faces, when they returned.
Immediately the Galel Xahil and the Ahuchán Xahil were hanged and they died (Recinos and Goetz 1953:87).

III.

Ixqui tolobá carí ki xezaker güí conojel xepé chiri Pantzic, Paraxoné; yulabey Cimajijay, Pancheé, Chigojom, Chiauar, Tzupitagají, nicá ya cotex ul; re chicá ru bì ki xezutulakin chigüié, Zajcab tinamit, Petzé, Utzupá, Ginoná, Galeaj, Puzbal, Zalicajol. Nimcakajpec, Yutgum, Callá, Chugüí Xilom, Molinxot, Pachalicbak, chuti tinamit, qui tancá tiquil Akajal güínak chugüí tinamit Ochal, Cabogüí Ziguán, tantí gagar ajauj Ichalcán Chicumcuguat, rajaual Akajal güínak (Villacorta 1934:224).

Por aquel tiempo abandonaron ellos el lugar donde les había aparecido su aurora, y regresaron todos a Pantxic y Paraxoné; dejaron a los de Cimajijay, Chigojom, Chiauar, Tzupitagají, que siguieran la corriente de los ríos; siendo los nombres de los lugares que pasaron en este viaje los pueblos de Zajcab, Petzé, Utzupá, Ginoná, Galeaj, Puzbal, Zalicajol. Nimcakajpec, Yutgum, Callá, Chugüí Xilom, Molinxot, Pachalicbak, pueblos donde la tribu de los Akajales se había aumentado, lo mismo que en las poblaciones de Ochal o jefe do los Akajales, con mucha majestad (Villacorta 1934:225).

Then they abandoned the place where dawn had appeared to them, and all of them returned to Pantxic and Paraxoné, Yulabey, Ximahihay, Panchee, Chigojom, Chiavar, and Xupitagahi, which they reached by following the bends of the river. Here are the names of the places where homage was rendered them; the towns of Xahcab, Petzé, the marsh Paginona, Galeaj, Puzbal, Zalicajol. Nimcakajpec, Yutgum, Callá, Chugüí Xilom, Molinxot, Pachalic Bak, and the small town where the Akahals had settled, the city of Ochal, and Qabouil Ziván, where the king Ychalcán Chicumcuvat,
king of the Akahals became great (Recinos and Goetz 1953:89).

5.7. Discussion

This site's structures and associated artifacts, together with local narratives, disclose a settlement, the remains of which probably reflect events described in los anales as having occurred in the forest of Chigojom. Although a dating sequence is preliminary, the archaeological evidence indicates that the area was already settled at the time of the Preclassic, with settlement continuing through the Classic and Postclassic period. Speculation as to the original inhabitants, based upon comparisons of ceramic assemblages of the southeast highland traditions, of pottery-making techniques, and of linguistic traditions is defined in Chapter XII, Ceramics: Pottery Making Traditions, and discussed in Part Four of this dissertation. For an explanation of the meaning of the idol Chay Abah (Transcription I) established in the forest of Chigojom, see Site SJC-03, where the Cerro Las Minas is named and described.

5.8. Reconnaissance and Survey

While los anales de los Cakchiqueles describes the present day site of Chigojom, the area's structures and associated artifacts are informative of the ancient settlement. Surveys of the area were conducted during 1991, the information first reported in the Final Report of 1993 Investigations (Bruchez and Carlson 1994). The initial survey was conducted under the guidance of local residents, who were familiar with two of the area's monuments currently used in costumbre rituals. At that time the abundant surface scatters of obsidian and ceramics indicated the need for further investigation. During 1993, extensive artifact collections were made, and tape and
compass maps were drawn of the structural remains.

Analyses of the investigations provided data in strong support of Middle and Late Preclassic patterns of architectural and monumental structure organization at Kamiraljuyú and Chalchuapa. The patterns of organization at these two sites has been used to note a general pattern for the time period (Michels 1979; Sharer 1978).

The appearance of a round structural arrangement built with uncut stones on the western perimeter of the site continues to present some problems. Round structures, although prominent in the Postclassic (Carmack 1968, 1981; Fox 1978), are rarely found in settlements of Preclassic. Although Preclassic households were round or oval, they were build on the ground surface and consequently do not leave structural evidence. Kidder and Shook (1959) note that community sweathouses appear during the Late Classic in the Western highlands which consist of a circular subterranean structure made of roughly cut stones. Prehistoric community sweathouses, not common evidence in the Guatemalan highlands, have been noted as occurring at Chiapa de Corzo, Chiapas at the beginning of the Early Classic (Borhegyi 1965).

5.9. Artifact Distribution: Ceramics

<table>
<thead>
<tr>
<th>Table 2. Distribution of ceramic surface collections, SJC05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period/Ceramics</td>
</tr>
<tr>
<td>----------------------------------------</td>
</tr>
<tr>
<td>Early Preclassic Cuadros/Jocotal Brushed</td>
</tr>
<tr>
<td>Middle Preclassic Semetabaj Brown Glossy Orange Glossy Black Polished Black-Brown Fine</td>
</tr>
<tr>
<td>Late Preclassic Fine-Red slipped</td>
</tr>
</tbody>
</table>
## Table 2. continued.

<table>
<thead>
<tr>
<th>Period/Ceramics</th>
<th>Total of Diagnostic Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polished Black-Brown</td>
<td></td>
</tr>
<tr>
<td>Semetabaj Brown</td>
<td></td>
</tr>
<tr>
<td>Glossy Orange</td>
<td></td>
</tr>
<tr>
<td><strong>Protoclassic-Early Classic</strong></td>
<td>13</td>
</tr>
<tr>
<td>Red on Buff</td>
<td></td>
</tr>
<tr>
<td>Orange Ware</td>
<td></td>
</tr>
<tr>
<td>Streaky Brown</td>
<td></td>
</tr>
<tr>
<td>Santa Marta Brown</td>
<td></td>
</tr>
<tr>
<td>Mahogany Brown</td>
<td></td>
</tr>
<tr>
<td>Esperanza Flesh</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Slipped</td>
<td></td>
</tr>
<tr>
<td><strong>Middle Classic</strong></td>
<td>43</td>
</tr>
<tr>
<td>Santa Marta Brown</td>
<td></td>
</tr>
<tr>
<td>Red on Buff</td>
<td></td>
</tr>
<tr>
<td>Mahogany Brown Slipped</td>
<td></td>
</tr>
<tr>
<td>Esperanza</td>
<td></td>
</tr>
<tr>
<td>Mahogany Brown</td>
<td></td>
</tr>
<tr>
<td><strong>Late Classic</strong></td>
<td>4</td>
</tr>
<tr>
<td>Red-Washed Buff</td>
<td></td>
</tr>
<tr>
<td>Red on Buff</td>
<td></td>
</tr>
<tr>
<td>Orange Buff</td>
<td></td>
</tr>
<tr>
<td><strong>Postclassic</strong></td>
<td>7</td>
</tr>
<tr>
<td>Tohil Plumbate</td>
<td></td>
</tr>
<tr>
<td>Red Paste Ware</td>
<td></td>
</tr>
</tbody>
</table>

### 5.10. Artifact Distribution: Lithics

Table 3. Distribution of obsidian surface collections, SJC05.

<table>
<thead>
<tr>
<th>Collection</th>
<th>Site Total</th>
<th>% Site Collection</th>
<th>% Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blades</td>
<td>1048</td>
<td>73.40</td>
<td>82.58</td>
</tr>
<tr>
<td>Macroblades</td>
<td>41</td>
<td>2.80</td>
<td>75.92</td>
</tr>
<tr>
<td>Bifaces</td>
<td>0</td>
<td>0.00</td>
<td>00.00</td>
</tr>
<tr>
<td>Scrapers</td>
<td>2</td>
<td>.01</td>
<td>50.00</td>
</tr>
<tr>
<td>Cores</td>
<td>17</td>
<td>1.10</td>
<td>85.00</td>
</tr>
<tr>
<td>flakes</td>
<td>321</td>
<td>22.46</td>
<td>73.90</td>
</tr>
<tr>
<td>Eccentrics</td>
<td>0</td>
<td>0.00</td>
<td>00.00</td>
</tr>
</tbody>
</table>
Table 4. Obsidian distribution by source and tool type, based upon neutron activation analysis sample, SJC05.

<table>
<thead>
<tr>
<th></th>
<th>Rio Pismicaya</th>
<th></th>
<th>El Chayal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Site</td>
<td>% NAA Sample</td>
<td>% Site</td>
<td>% NAA Sample</td>
</tr>
<tr>
<td>Blades*</td>
<td>(10)</td>
<td>90.00</td>
<td>22.22</td>
<td>(1)</td>
</tr>
<tr>
<td>Macroblades</td>
<td>(1)</td>
<td>50.00</td>
<td>05.55</td>
<td>(1)</td>
</tr>
<tr>
<td>Bifaces</td>
<td>(0)</td>
<td>00.00</td>
<td>00.00</td>
<td>(0)</td>
</tr>
<tr>
<td>Scrapers</td>
<td>(1)</td>
<td>100.00</td>
<td>100.00</td>
<td>(0)</td>
</tr>
<tr>
<td>Cores</td>
<td>(1)</td>
<td>50.00</td>
<td>20.00</td>
<td>(1)</td>
</tr>
<tr>
<td>flakes</td>
<td>(1)</td>
<td>100.00</td>
<td>08.30</td>
<td>(0)</td>
</tr>
<tr>
<td>Eccentrics</td>
<td>(0)</td>
<td>00.00</td>
<td>00.00</td>
<td>(0)</td>
</tr>
</tbody>
</table>

* Green Pachuca (2) 66.66% total Pachuca collection

5.11. Surface Collections Summary

The 1991-1993 collections, together with our developing questions and hypotheses, indicated the need for a more comprehensive and detailed investigation of Chigojom. Of the 333 diagnostic sherds analyzed from surface collections (Table 2), 61% were preliminarily dated to the Middle Preclassic. Markers for Late Preclassic and Protoclassic were of secondary importance. The predominance of blades and blade fragments, which occurred in the site’s obsidian collection, dominated the overall collection (Table 3). Blades were determined predominantly to have been fashioned from Pismicaya materials, with two blade fragments sourced from the Mexican quarry, Pachuca (Table 4). From surface collections, the area seems to have been in significant use during the Middle to Late Preclassic. Based upon the presence of Pacific coast ceramic styles, interregional use through to the Early Classic was postulated.

5.12. Excavations

The 1994 testing procedures were a complement to the surface collections made
in 1993. In particular, we proposed test excavations of the round structure, Str-SJC05-03, and the platform structure SJC05-06 in order to provide data relative to architecture, function, and time span of the site's principal occupations. Also proposed was an analysis of ceramic accumulation on the northernmost side of Str-SJC05-01, to include excavations of the mound, in order to provide a series of hypotheses to be tested, including the use of the area for ritual refuse. Investigations of refuse have successfully figured into analyses of Mesoamerican settlements (Clark 1991; Hayden and Cannon 1982; Love 1991; Michels 1979).

A total of 11 excavations were opened and closed. Testing was conducted to preliminarily define individual structure boundaries to Str-SJC05-01, Str-SJC05-02, Str-SJC05-06, Str-SJC05-09, and T-SJC05-03. A collection of material remains was obtained to establish a preliminary ceramic sequence. Individually placed test units around the perceived structures were utilized to define structures. The intent of the horizontal and vertical profiles was to provide data for further studies. Two radiocarbon dates were obtained, a date of 900 A.D. from the base of T-9232NE-03, and a date of 1200 A.D. from the wall of the southeastern perimeter of Str-SJC05-09. All data collection and recording were consistent with that of the 1993 field season (Bruchez and Carlson 1994) as outlined in the 1993 proposal submitted to IDAEH in order to obtain necessary permits.

Str-SJC05-01 (Figure 18) was excavated in two operations. Operation 01's site was chosen after determining the extent of dense ceramic scatter eroding from the northeast slope of Str-SJC05-01 located in 1993 investigations. It was believed that the excavation of the uppermost extremity of the eroded materials would aid in the understanding of the use of this structure and yield a time depth to the ceramic debris. A 2 m x 1 m was placed at the corner where the northwest wall of the structure meets the northeast wall of Str-SJC05-09. The excavation reached 225 cm below the surface before being closed due to large, loose boulders in the excavation area. We had not yet
reached sterile soil. Artifacts were present throughout the nine levels. Although no charcoal was found in any level, ceramics in the lower level had been burned, which indicated a possible secondary deposition for the ceramics. At approximately 100 cm we encountered a grey volcanic dust. Otherwise the zones were of clay to loosely packed sandy loam.

A Late Classic date was indicated for the upper two levels of this unit, where ceramic counts were relatively high. Late Classic diagnostics in these levels included buff ware jars with wavy-lined grooved-incising; finely-made and painted Red-on-buff sherds, apparent fragments of thin-walled bowls; and orange-buff jars with impressed, circumferential appliqued design. A thin-walled, slipped red-brown plate or cover fragment was also found, along with a very thin-walled flat-based sherd from a slipped brown-black (7.5YR 4/2 - brown) dish or bowl. Surface finds included a large, poorly-fired, friable jar fragment.

Artifact frequency abated quickly as excavations continued to lower levels; the excavated strata consisted largely of boulders, apparent structural remains, with minimal fill around them. Few clearly diagnostic sherds were present within the small number of materials collected.

It was determined that the boulders encountered in this operation were either naturally occurring, or were fill used to construct the pyramid. It was noted that the boulders were loose, air circulating throughout underground chambers which escaped when we removed the matrix. It was impossible to date the original construction of the structure based upon the fill, although based upon the sherd contents, a Late Preclassic date was suspected. It is probable that fill was being added as late as the Late Classic in periodic reinforcement and refurbishing of the surface cover.

A second excavation was placed on the southeast periphery of this structure to compare to the northwest periphery examined in excavation SJC05-01, Op. 01. A 2 m x 2 m unit was extended in 2 levels to a depth of 50 cm where we encountered a soft white surface changing immediately to a hard red clay/basalt surface throughout.
Ceramic and lithic materials were prolific in both levels. Unable to breakup the surface with a pick, the unit was closed. The landowner chided us in our selection of the excavation site, pointing out differences in crop growth which indicated that the hard surface extended approximately 20 m out from this area where it terminated.

The landowner called the structure SJC05-01 "Volcán", or "Volcánito", and indicated that the name had been used for several generations due to the ritual significance. According to the landowner, costumbre rituals were practiced as recently as twenty or so years ago, which incorporated the entire canton, marimbas and candles in celebrations for the deceased and for the land. The rituals were conducted during November and December, to include the mountain of Chuicohon.

Str-SJC05-02 (Figure 19) was investigated in one unit by del Valle University students Ernesto Arredondo Leiva and Luísa Yurrita Ovalle in order to gain definition of eastern perimeter wall of Str-SJC05-02 and an understanding of ceramic depositional sequences comparable to surface collections. The excavation was conducted in an area 1m x 2 m to a depth of 210 cm in 14 levels.

Postclassic traces were indicated by coarse ware appliqued incensario sherds found at the surface and in Level 01. Protoclassic traces included a nicely-finished, waxy black-brown basal sherd with evidence of a bulbous attachment that was likely mammiform in conformation, found in Level 06, along with a second small probable Protoclassic orange-red sherd. An orange-slipped square-lipped sherd, almost surely Protoclassic in date, was also collected on the surface of the plaza.

The incidence of ceramic materials became markedly reduced beginning with Level 11. Recorded in the profile at this depth was an alignment of smaller rocks that possibly represented the footing for a plaza floor. A Classic pottery diagnostic was found at this depth in Level 11B, a painted red-on-buff thin-walled sherd. Beneath this, in Level 14, was found a solid nubbin-footed, heavy-walled flat-based fragment, reddish-brown in color, which appeared to be Terminal Preclassic in date; this support type, however, also appears in Late Classic evidence elsewhere, and this sherd was not
yet securely identified.

Artifact counts numbered 3809 from excavated levels of this unit. Surface sherds were numerous in this central area of the main plaza. Of the excavated pottery, 759 specimens were selected for analysis. These include two sherds of apparent Sacatepequez White Paste White Ware, diagnostic of the Middle Preclassic, along with a few Late Preclassic and Protoclassic indicators. Early Classic materials have also been identified from the unit. Late Classic materials showed strength in the collection from this unit, and utility wares dominated the assemblage, typical of the site. The progressively earlier date with mixed contents revealed in this excavation suggested perhaps that earthen material, eroding from off of and around Str SJC05-02, was not removed. Instead, the debris was being utilized as a floor as it slowly covered the plaza with some 2 1/2 m of earth.

Str-SJC05-06 (Figure 20) was investigated in several operations. Operation 01 was one of two test operations conducted at the base of the southeast face of Str. SJC05-06 to determine the periphery of the structure and to obtain ceramics and carbon with which to establish a dating sequence. The excavation was a 1 m x 1 m unit taken in four levels to a depth of 90 cm where we encountered a sterile floor. Rock fill was prolific, and ceramic and lithic debris were scarce. The site of the excavation was purposely located in the center of a small platform extending out from the southeast base of Str-SJC05-06, which perhaps explains the extensive rock fill.

The second of two test operations conducted of the southeast face of Str-SJC05-06 was carried out in three units. A 1.5 m x 1.5 m pit was taken to 150 cm depth where mud prohibited the continuation (Figure 21). In order to reveal the extent of the walls revealed in Unit 01, the operation was extended to Unit 02, a 1.5 m x 2 m extension from the northeast wall of the first unit. Note that this extension was toward the site of the first test excavation (SJC05-06, Op. 01), and followed the alignment of the periphery of the base of Str-SJC05-06. In order to determine the thickness of the structure retaining wall, Unit 03 was opened as a .5 m x .5 m excavation at right angles
Figure 20. Structure SJC05-06.
to the northwest wall of Unit 01.

In the first level of this structure, OP. 02. was found a stemmed obsidian arrow point, Late Postclassic in date, along with an appliqued coarse ware incensario sherd, an additional Postclassic diagnostic. Throughout, the zones changed from orange to brown to yellow clay. The northwest wall of the excavation revealed a perimeter wall of the structure. Parallel to this wall, aligned N 30°E, extending out at approximately 30 cm, was another wall. Unlike the remaining area of excavation, dense ceramic materials, lithics, fine sand and sediment, and water were between these two walls, which led us to suspect that the walls formed a ditch or drainage canal. We changed
our suspicions when we observed modern-day wall building in the nearby area (ref. Chapter XV. Architecture, this dissertation). We suspect now that the space between the two parallel walls was intentionally filled with debris as ballast.

Charcoal, ceramics, and lithics were abundant throughout the 130 cm depth of this unit. The walls extended the entire length of this unit. This unit extended to a depth of 90 cm before being closed due to flooding from heavy rains. At approximately 40 cm a rock layer began appearing 20 cm to 30 cm from the wall of Unit 01, with cobble, small rocks between the walls.

As I have made clear, it was at first inconclusive whether the west wall of Unit 01 was the wall, or whether the two walls together formed the wall. Ceramics were not as abundant as in Unit 01 and 02. It is now suspected that the two parallel rows of rocks had rubble and fill placed between for supportive purposes.

Two excavations were conducted higher on the southeast face of Str-SJC05-06 in order to determine the significance of a ceramic scatter and a distinct alignment of boulders. A 1 m x 2 m test excavation, Op. 03 was taken to a depth of 120 cm before closing due to prolific large boulders. Although ceramics and lithics were apparent throughout, the boulders were determined to be either naturally occurring or fallen rubble. Operation 04 was a 1 m x 1 m excavation opened on the southeast face of Str-SJC05-06 approximately 35 m to the north of Op. 03 in order to further determine significance of this structure’s construction materials. The excavation was placed on what appeared to be a terrace. Although the area was not presently cleared for milpa, according to the landowner the area was in milpa approximately 20 years earlier.

Numerous rocks and small boulders were encountered in two units of this excavation. Unit 01 was taken to a depth of 100 cm in eight levels. Unit 02, a one m x 30 cm extension of Unit 01, was taken to a depth of 100 cm. Both units were closed after encountering numerous rocks and no significant cultural remains.

Str-SJC05-09, Operation 01 was located in the proximity of a possible midden deposit on the edge of what was then a suspected platform mound. The midden was
discovered during 1993 reconnaissance. The ceramic scatter associated with the
midden was believed to be materials eroding off of the northeast face of Str-SJC05-01.
During 1993, the area of Str-SJC05-09 was uncleared and access was limited.
However, in 1994 at the time of excavation, the area had been recently cleared, the
visibility confirming our suspicions that the area was a platform structure. This
platform is adjacent to and perhaps associated with M-9232NW-01, which is
approximately 20 m to the east of the excavation site.

The result of manually removing the leaves and grass covering the excavation
area revealed prolific ceramic scatter. The purpose of the excavation was to gain a
possible ceramic stratigraphy. Excavation of the 1 m x 1 m pit to a depth 120 cm was
necessary to reach a sterile level.

A total of ten levels produced ceramic sherds and portions of whole vessels
packed into the soil contents. Remains included comals, together with obsidian,
charcoal, and bluish clay balls. Few, if any, rocks appeared throughout. Soil change at
approximately 100 cm to a light yellow-brown hard pack suggested a possible floor.
Chunks of a greyish ashen soil at 103 cm suggested a deteriorated talpetete floor.

The excavation produced a variety of large, some reconstructable vessel
fragments. Limited time depth was indicated for the deposit, which is attributed largely
to the Late Classic. Remnants of a large reconstructable deep-walled comal fragment
with cylindrical handle and broadly grooved interior base was recovered; the sherd may
be Early Classic in date, based on observations by Dr. Marion Hatch (ref. Meskill
1995) (Shook, Hatch, and Donaldson 1979). Similar cylindrical-handled forms
continued into the Late Classic (Bequelin 1969:fig. 52 a-b; Ciudad 1988:110-112;
Shook, Hatch, and Donaldson 1979; Wauchope 1950:121; ). Buff ware jar sherds with
wavy-lined incisions, Late Classic in date, were fairly numerous in the deposit (ref.
Ciudad 1988:110-112; Gruhn and Bryan 1976:92-96; Rands and Smith 1965). Orange-
buff and black-brown utility wares, and a small hand-formed red paste vessel, also
from this deposit, are likely also Late Classic in date. The orange-buff ware appeared
to be the same as that associated with wavy-lined incising. The excavation was closed at the landowner’s request.

A second excavation was opened approximately 10 m directly below Op. 01 when we believed that Op. 01 would have to be closed. The 50 cm x 150 cm excavation was destroyed by animal or human intervention, however, when the site was left overnight. The excavation was taken just below the surface level, when it was subsequently covered and abandoned.

A third, 4 m x 1 m excavation, was opened in order to define the southern perimeter of Str-SJC05-09. The site was chosen at the periphery of the currently existing platform terrace. In a total of five levels, the excavation was taken to a depth of 150 cm. Ceramic frequency in this unit was moderate with greater time depth represented than in Op. 01. Ceramics were scant within the wall area, however prolific with obsidian debris throughout remaining area of the excavation.

Carbon collected at Level 04 within the wall area was submitted for dating analyses. A single radiocarbon date was obtained from the carbon sample (sample # SJC05-09-01) approximately 100 cm below present surface. According to current two-sigma calibration, this dates to AD 1235-1400. At one meter below the present surface, the dated burned material may have been fill, or seepage into the wall area. Consequently, the radiocarbon date may or may not be evidence of a date for wall construction.

A special collection at Level 05 was suspected to be cache of obsidian tool fragments. The excavation revealed the platform structure retaining wall approximately 150 cm wide (the exposed portion) at the extreme north end of the pit, aligned N 30° E., and extending the entire depth of the excavation.

Finally, a single test pit was excavated near the presumed eastern edge of T-SJC05-03, adjacent to the wall of the lowermost terrace of three terraces which presently exist as the eastern slope of SJC05. We were guided to the location by the landowner who showed us three obsidian cores he found near the surface. The cache
indicated a possibility of material remains below the surface which could have perhaps helped to date the terrace.

This unit extended to a depth of 225 cm below the present surface which was currently cultivated with milpa. Two units were opened in this operation amidst a significant boulder fall. A 2.5 m x 1.5 m, extended 140 cm below the surface (@75-105 cm) in four levels. In all levels, lithic debitage and tool fragments, ceramics, clay nodules, and carbon were recovered. Excavations were carried to sterile subsoil. Unit 02, a 1.5 m X 1.5 m excavation, was extended adjacent to the northeast wall of Unit 01 to a depth of 150 cm below the surface (surface @45 cm) in four levels.

Excavations at approximately 65 cm extending to 82 cm below the surface, revealed a reddish clay color change indicating a floor. Postclassic ceramic indices, though limited in number, were recovered in the uppermost level of this unit. These included an apparent plumbate rim sherd having a lustrous dark gray surface that graded to red-orange. Also found was an appliqued coarse ware incensario sherd and censer handle tip; other ritual indices from the first level included a censer spike. A colander-like (pichacha) fragment was recovered from Level 02, and a second censer handle fragment in Level 03. At the termination of Level 04 a mano fragment was located at the SE corner, thus necessitating the further excavation of 20 cm of a 70 cm square area of the original 2.5 m x 1.5 m pit. Six cm below the mano fragment, we found the remaining portion of the stone implement.

At 140 cm, the precarious nature of the boulder fall on the northwest corner prevented further excavation without encouraging the collapse of the excavation. At this level, charcoal, ceramics, and a nearly complete obsidian blade indicated the probability of a one-time cache. Ceramics, in context with clay nodules, were also found at this level. Additionally, we uncovered M-9232NE-04, a large evenly worked boulder, 100 cm x 180 cm and 200 cm circumference. Revealing M-SJC05-04 necessitated the random clearing from underneath the stone to a depth of 225 cm, as well as the opening of Unit 02.
Lithic debitage and tool fragments, ceramics, clay nodules, and carbon were recovered in Unit 02. Excavations were carried to sterile subsoil. M-SJC05-04, a large down-turned, modified boulder that, at one time, was narrowed at the upper section and is now plain except for possible etchings near its base, was completely exposed in the process. The monument is suggestive of an apparent stela. Rim forms in the lowermost levels of the excavations, at or above the base of the stela-like boulder, included those which Dr. Marion Hatch (Meskill 1994, pers. comm.), based on an illustration from the deposit, indicated are Early Classic in date. Radiocarbon sampling of carbon samples associated with these sherds confirmed the Classic dating.

Additionally, ceramics, lithics, clay nodules of bright yellow-orange were found. At approximately 120 cm a reddish clay area was encountered throughout the excavation suggesting a possible floor which may correspond to the reddish clay area found in Unit 01.

The excavation was backfilled to allow for the continuation of milpa production. In the process M-9232NE-04 was completely covered over. Future access to this monument may be obtained by referencing Datum 3. It is inconclusive, but probable that the original floor of the base of this terrace had been covered over after the Early Classic. A red clay exists as evidence of the new surface. Rubble including Postclassic sherds may be part of debris which accumulated on the second floor.
CHAPTER VI
ESTRADA-ESCOBAR I (SJC03)

6.1. Location: Grid 9233SW

The remains of this settlement are located approximately 100 m south from the main road into San José Chacayá as it enters from Solola (CA#3) on the Estrada-Escobar property.

6.2. Environmental Setting

The location is noted for a long boulder fall that follows an approximate east-west linear arrangement for 100 m (Figure 22). The naturally occurring boulder area is partially cleared for milpa; the remaining land is covered with very large cypress trees, some 2-3 m in diameter. The northern slope of this boulder fall is more abrupt, the area below the boulders to the north also cleared for milpa. Outside of the northernmost boundary of the boulder fall is located a natural spring with a year-round pond of accumulated water. The western boundary of this boulder fall consists of very large boulders that ascend abruptly. The southern slope falls off into a cleared, level rock-free milpa, quadrangular in shape. At the west end of this flat milpa exists an immense boulder (apprx. 10 m in diameter, 30 m high). The southern boundary of this cleared area forms the northern perimeter of what is called Cerro Las Minas.

Cerro Las Minas is a conspicuous knoll adjacent to the caldera that forms the northernmost side of Cerro Chueminix. Chigojom is situated within this caldera. Cerro Las Minas is called the "black volcano" by locals because of the black rocks said to have been abundant in the outcrop. In 1991, the black outcropping consisted of
black pumice and pieces of obsidian. By 1994, all trace of the deposit had been purchased from the landowner and removed to be used in nearby road construction.

Figure 22. Map of Estrada-Escobar I, SJC03.
6.3. Present Status

A dead-end road has replaced the once small foot trail which connects the location of settlement remains to households of Las Minas to San José Chacayá. In 1991, abundant obsidian flakes were found in the milpa field adjacent to, and east of, Las Minas. This milpa was under cultivation in 1993, and access was limited. The field and laboratory facilities, as well as a present-day cemetery lie on the western boundary of this grid square.

Cerro Las Minas is currently in use for costumbre ritual, as it has apparently been utilized in the past. Several large flat stones mark the site of the mesa.

6.4. General Description

A quadrangular, east-to-west, site orientation is suggestive of a Classic to Postclassic dating to the platform structure approximately 100 m long x 50 m wide. However, random shovel test pits of the underneath surfaces of the plaza floor and spot checks of soil and residue materials from the surrounding elevated surfaces suggested construction techniques common during Preclassic periods. Construction of the earlier sites is known to have consisted of earth removal by cutting down much of the natural material and leaving some natural material standing in relief to utilize in association with boulder falls. Artificially lowering the surrounding terrain, leaving elevated platforms and pyramids, occurred frequently in the Maya area, and in particular at the nearby site of Semetabaj (ref. Chapter XV. Architecture, Material and Methods, this dissertation).

Atop and alongside the 10-m-high arrangement were numerous ceramic artifacts dating from the early Classic through the Postclassic. Within the boulders on the western edge of the plaza was found a 4-m-high, plain stela (M-9233SW-02). The
association of structural remains with this monument, suggestive of Preclassic plain stelae, was unknown. Approximately 50 m to the southwest of the quadrangular arrangement was located boulder sculpture (M-9233SW-01) with a "ladder" design pecked and/or grooved in the face of the rock.

6.5. Ethnohistoric Description

Locals believed the site contains the remains of a one-time sweatbath or of an ancient graveyard. Cerro Las Minas, although spoken of generally as an obsidian or basalt resource, was believed by locals to have been a prehistoric location of silver mines. It is suspected that, with more interviews, the local lore may present many other significances to the name.

6.6. Los anales de los Cakchiqueles

I.

Ok ixtiquer cari cogüic parchoy ronojel ajlabal, xagüi xambey chic ixbé ri Gagagüitz, jun ca raná Chetejauj ru bi. Ixcojé can chiri xetzakó güi qui jaritzam Cabouil: Abaj... (Villacorta 1934:210).

Entonces comenzaron los guerreros el paso del lago, y les siguió Gagagüitz con su hermana llamada Chetejauj; y se establecieron en el lugar llamado como su Dios: Abaj (Villacorta 1934:211).

Next all of the warriors began to cross the lake, Gagavitz and his sister called Chetehau going last. They stayed there and built their houses on the peak now called
Quabouil Abah (Recinos and Goetz 1953:76).

II.

Tan ca tulax ri chay abaj, rumá raxá Xibalbay, ganá, Xibalbay, tan catí tzak guínak rumá Tzakol, Bitol; tzukul richín ri chay abaj ok ixtzak ri guínak pan pokón (Villacorta 1934:184).

Y entonces fué producida la piedra de obsidiana para el precioso Xibalbay, para el glorioso Xibalbay; y el hombre fué hecho por Tzakol y Bitol; fué su sostén la piedra de obsidiana cuando se hizo al hombre en la miseria (Villacorta 1934:185).

Then the Obsidian Stone was created by the wondrous Xibalbay, by the precious Xibalbay. Then man was made by the Creator and the Maker, and he gave homage to the Obsidian Stone (Recinos and Goetz 1953:45-46).

6.7. Discussion

The first passage, which implicates Gagavitz and his sister in the establishment of a settlement, is situated in the text following a description of the execution and sacrifice of Tolgom on the lakeshore, and the tribe's subsequent traveling to places called Panpati and Payan Chocol. It immediately proceeds a description of Gagavitz entering the waters of the lake and changing himself into Gucumatz, or "Plumed Serpent". Panpati (Panpatin) is a local placename for the area directly west of the present day municipio of Santa Cruz. If the "peak" referenced in this passage is the peak above the present location of Panpati, it is the ridge formed by Cerro Chueminix and Cerro Chuicohón, which includes Las Minas. That Las Minas has been referred to
as the "black mountain," perhaps because of a deposit of obsidian, and since the Cakchiquels worshipped the sacred stone, Chay Abah, or obsidian (made clear in passage II), Qabouil Abah, or "Stone of God" may be a reference to a large obsidian deposit which perhaps once existed on Las Minas.

6.8. Reconnaissance and Survey

This entire area is, as yet, unsurveyed to the west and to the east, and may extend in either or to both directions for a considerable distance.

6.9. Artifact Distribution: Ceramics

Table 5. Distribution of ceramic surface collections, SJC03.

<table>
<thead>
<tr>
<th>Period/Ceramics</th>
<th>Total of Diagnostic Collection</th>
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</thead>
<tbody>
<tr>
<td>Early Preclassic</td>
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</tr>
<tr>
<td>Ocos Thin Walled Tecomate</td>
<td></td>
</tr>
<tr>
<td>Middle Preclassic</td>
<td>31</td>
</tr>
<tr>
<td>Semetabaj Brown</td>
<td></td>
</tr>
<tr>
<td>Late Preclassic</td>
<td>18</td>
</tr>
<tr>
<td>Pumiceous Red Paste Ware</td>
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</tr>
<tr>
<td>Protoclassic- Early Classic</td>
<td>27</td>
</tr>
<tr>
<td>Red on Buff</td>
<td></td>
</tr>
<tr>
<td>Mahogany Brown Slipped Ware</td>
<td></td>
</tr>
<tr>
<td>Middle Classic</td>
<td>10</td>
</tr>
<tr>
<td>Red on Buff</td>
<td></td>
</tr>
<tr>
<td>Late Classic</td>
<td>3</td>
</tr>
<tr>
<td>Red-Washed Buff Ware</td>
<td></td>
</tr>
<tr>
<td>Red on Buff</td>
<td></td>
</tr>
<tr>
<td>Polychrome Ware</td>
<td></td>
</tr>
<tr>
<td>Postclassic</td>
<td>1</td>
</tr>
<tr>
<td>Tohil Plumbate</td>
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</tr>
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6.10. *Artifact Distribution: Lithics*

Table 6. Distribution of obsidian surface collections, SJC03.

<table>
<thead>
<tr>
<th>Type</th>
<th>Site Total</th>
<th>% Site Collection</th>
<th>% Total Collections</th>
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</tr>
</tbody>
</table>

Table 7. Obsidian distribution by source and tool type, based upon neutron activation analysis sample, SJC03.

<table>
<thead>
<tr>
<th>Source</th>
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<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>Rio Pixcaya</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>% Site</td>
<td>% NAA Sample</td>
<td></td>
<td>% Site</td>
<td>% NAA Sample</td>
<td></td>
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<tr>
<td>Blades</td>
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<td>00.00</td>
</tr>
<tr>
<td>Scrapers</td>
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<td>00.00</td>
<td>(0)</td>
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<td>00.00</td>
</tr>
<tr>
<td>Cores</td>
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</tr>
<tr>
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<td>(1)</td>
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<td>00.00</td>
<td>(0)</td>
<td>00.00</td>
<td>00.00</td>
</tr>
</tbody>
</table>

* Green Pachuca (1) 33.33% of total Pachuca collection

6.11. *Surface Collections Summary*

Of 487 ceramic artifacts collected from the surface of this site, 95, or a little over 20% were diagnostic (Table 5). Preclassic markers included thin, black slip wares suggestive of Ocos, orange sandy wares similar to Pacific Coast Navarajo or Jocotal, and thick sandy wares with light brown paste, a white, or black slip suggestive of Conchos White and Black. Middle Preclassic included a predominance of Semetabaj Brown Ware, with Late Preclassic evidence in red or purple on buff, creme, and white.
Classic markers included red wares, Amatle I, Esperanze, and Amatle Yellow. One polychrome was indicative of Postclassic dating. A prolific number of historic pieces of ceramics were not collected. Obsidian surface collections included 45 blade fragments, 5 macroblade fragments, 3 bifaces, 1 scraper, 1 core, and some 49 flakes (Table 6). Obsidian color ranged from over half granular grey in color to one quarter cloudy streaked/banded grey in color (Table 7). The suggestion is made from surface collections that the site was in an undetermined use from the Preclassic to Classic, with little evidence of use during the Postclassic.

6.12. Excavations

Str. SJC03-01 was the only structure investigated by means of excavation. The purpose of the excavation was to acquaint locals with archaeological methods that would be used during the six weeks of the 1994 field investigation. Since this was the first investigation of its kind in this rather isolated area, it was believed that the more the area residents understood about our endeavors, the less intimidating and intrusive would be our studies. The site was determined to be that of an historic homesite, now rubble. There was evidence of a charcoal-making pit (modern) in the center of the four-sided walled area. Moreover, it was believed that revealing a portion of the west wall of the structure would lead to an understanding of its previous use.

One test unit was placed in the west wall of a four-sided enclosed area atop the eastern perimeter of STR-SJC03-01. The 2.5 m x 1.5 m excavation was chosen in part because of its proximity to the foot-trail utilized by locals in daily traffic to and from San José Chacayá from Las Minas and Cerro Chueminix. The excavation unit was taken to a depth of 90 cm in three levels.

In Unit 01, a zone of humus was followed by a zone of lighter loam, followed by a clayey silt with numerous pumice rock inclusions throughout and yellow sediment
at approximately 80-90 cm. In all levels, only ceramic materials were recovered in screening with one-quarter inch mesh. Although historic debris predominated, we encountered prehistoric sherds in all levels.

The operation was extended an additional 50 cm x 150 cm on the north perimeter of Unit 01 to a level of 65 cm below the surface in order to reveal a flat, irregularly shaped large boulder set in the wall, suggesting an opening to the wall unit. In Unit 02, extensive sherds were encountered, including a nearly complete small historic vessel.

In discussing the area with Ed Shook, we determined that the area might have had, at one time, a significance to local and traveling shamans. Shook has seen similar rectangular placements of rocks in groves of trees alongside well-traveled footpaths, the stoned-in areas signifying a stopping-off place to enact various rituals. Shook suggested we conduct extensive excavation of the area.
CHAPTER VII

LAGUNA SECA (SJC02)

7.1. Location: Grid 9132SW, 9132NW

The remains are located along CA#3 as it continues west along the northern rim of the lake basin approximately 1 1/2 km from San José Chacayá. The small canton of Maria Linda makes up a portion of the site.

7.2. Environmental Setting

The site is named for a seasonally flooded area resting in a gentle sloping ridge which has formed at the base of Cerro Chueminix. Grassy areas cover the basin for the major portion of the year, allowing the grazing of cattle and horses. During the rains, the basin fills to approximately 1-2 feet of water to slowly drain downhill through a human-made canal at the eastern end of the basin. The drainage flows into a small stream that feeds into the Rio Chiscalera. This eastern slope continues its descent approximately 1 1/2 km into the town of San José Chacayá.

7.3. Present Status

Today the site is completely cleared, with wallfalls all that remain of what may have been ancient structures on three sides of the basin area. The road from San José Chacayá cuts across the northern portion of the quadrangular arrangement. In 1993, the widening of this road destroyed half of the northernmost mound. Evidence of ceramics still lie in the road as well as in the ditches alongside the road, but not within
the mound itself. The roadcut has exposed a ceramic scatter of early to early Middle Preclassic ceramics approximately 1/2 m below the existing surface at the north end of the dry lake bed. Adjacent to the bed of the dry lake is a presentday one-room structure, which has been occupied at least since 1991.

7.4. General Description

Naturally occurring and human-made slopes contribute to the relatively compact, approximately 100 m x 50 m quadrangular plaza oriented approximately N20°E. The northernmost area of the basin consists of a wallfall and mound. The western portion of this site is noted by stepped terraces with very poor drainage. During the dry season, an arrangement (10 m x 20 m) can be seen formed in the soil, the arrangement made of four 3 m x 5 m rectangles placed side by side. Growth of vegetation during the semi-wet season gives clear delineation of this pattern.

In 1994, it was proposed to the landowner that we be allowed to execute six shovel test pits in the center of the depression in an attempt to ascertain the significance of a rectangular pattern on the ground surface. We were unable to obtain permission, as the landowner believed his cattle would become endangered in the process. Two rock piles located 10 m to 20 m from the southeast edge of the depression are covered in ceramic remains. Collections were made of these two rockpiles, and from the area adjacent to the depression, across the road. In this area were found numerous sherds, obsidian flakes, and rubble suggesting structural remains.

7.5. Ethnographic Description

Locals remember when the basin was utilized as the soccer ball field prior to the building of the one in current use in San José Chacayá. However, we were informed
that the area of Laguna Seca was at one time (70 or more years ago) used for milpas. A flood covered and lowered the land so that now it is seasonally covered by water and unusable except for grazing cattle. The evidence suggests a prehistoric ballcourt, which would have been common for a Classic ceremonial site in the Highlands.

7.6. Los anales de los Cakchiquelés

A textual model is presently unknown.

7.7. Reconnaissance and Survey

Reconnaissance and surveys of the site were conducted during 1993 and 1994. During 1992, roadbuilding destroyed the northernmost mound and cleared several large cut blocks from the western periphery of the site. Extensive surveys were conducted of this western perimeter during 1994, without locating the cut blocks or any ceramic or obsidian artifact scatters.

7.8. Artifact Distribution: Ceramics

<table>
<thead>
<tr>
<th>Period/Ceramics</th>
<th>Total of Diagnostic Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle Preclassic</td>
<td>18</td>
</tr>
<tr>
<td>Semetabaj Brown</td>
<td></td>
</tr>
<tr>
<td>Late Preclassic</td>
<td>3</td>
</tr>
<tr>
<td>Glossy Black</td>
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7.9. Artifact Distribution: Lithics

Table 9. Distribution of obsidian surface collection, SJC02.

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<th></th>
<th>Site Total</th>
<th>% Site Total</th>
<th>% Total Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blades</td>
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</tr>
<tr>
<td>Macroblades</td>
<td>1</td>
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<td>Scrapers</td>
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</tr>
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</tr>
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</table>

Table 10. Obsidian distribution by source and tool type, based upon neutron activation analysis sample, SJC02.

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<tr>
<th></th>
<th>Rio Pucayaca</th>
<th></th>
<th>El Chayal</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% Site</td>
<td>% NAA Sample</td>
<td>% Site</td>
<td>% NAA Sample</td>
</tr>
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<td>Blades</td>
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<td>(0)</td>
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</tr>
</tbody>
</table>

7.10. Surface Collections Summary

Ceramic artifacts collected from the surface indicate Preclassic settlement use (Table 8). Obsidian tool fragments included a predominance of medial blade fragments and miscellaneous flakes (Table 9) of the color granular translucent grey and cloudy streaked/banded grey typed to Rio Pixcaya (Table 10).
7.11. *Excavations*

Two profiles, P-9132SW-01 and P-9132SW-02 were conducted in a roadcut beside the site. P-9132SW-02 was placed in the proximity of a profile in the same area conducted during 1993 investigations. P-9132SW-02 was excavated 1 m x 2 m to a depth of 90 cm from the present surface, proceeding in six levels.

We encountered a total of three zones from silty loam to hard-packed clay. Levels 01 and 02 were apparently disturbed by the planting of cypress seedlings three years ago, according to the owner of the land. None of the trees lived. Hard-packed charcoal and burning residue appearing in Level 02 made the level hard to clear. At 28 cm below the surface, still within the root zone, we encountered the cultural layer. Ceramic scatters amidst carbon samples in Levels 03 and 04 are of a uniform eroded pottery, sandy paste and orange in color, with punctuated design around the shoulder. Ceramic sherds in Level 04 were in association with burning; carbon samples were collected. Artifact density decreases to sterile at approximately 75-80 cm. Historic pottery was frequent in upper levels, and continued (though in reduced quantity) to the lowermost depths of the excavations. Sherds from the profile excavations, although eroded, have been classified as Red Applique, comparable to traditions dating to the Early to Early Middle Preclassic at Salama Valley sites.

The results of these two profile excavations suggest perhaps the early ceramic materials have eroded from the slope of the adjacent hilltop. The slope continues in a downward manner from the test excavation into the seasonally-flooded basin of Laguna Seca. The sherds may also be remains of a one-time cultural layer. Ceramic samples from both excavations are consistent with similar ceramics found in test excavations in Chicojom.
CHAPTER VIII

CAKBATZULU (SJC01)

8.1. *Location: Grid 9132SW*

The archeological area of Qakbatzulu is located 1 1/2 km southwest of the municipio of San José Chacayá. The area can be reached by taking the road to Laguna Seca that passes directly north of the site at the small canton of Chaquijchoy.

8.2. *Environmental Setting*

The entire area gently slopes to the southeast to form a plateau that overlooks the lake and provides a stunning vista of the three volcanoes surrounding Santiago Atitlán to the south. In general, the terrain is grassland, permitting grazing for sheep, cattle, and horses. Year-round springs cause low-lying areas to remain marshland.

8.3. *Present Status*

A portion of the area is located on vacant land belonging to several absent landowners. The southern portion of the area lies in a no-man's-land between the municipios of San José Chacayá and Santa Cruz.
8.4. **General Description**

The area is significant for twenty carved, pecked, grooved, and/or basined monuments and plain stelae. One large boulder (M-9132SW-01) is carved into a large facial mask which presently rests adjacent to a basined altar stone (M-9132SW-02). Nearby is a fallen, small plain stela (M-9132SW-03). In association with these monuments are a stepped series of terraces, which face the southerly direction. The terraces, utilized for present-day milpa, are determined to be quite old, built with large cut-block boulders.

Below, on the slope adjacent to the village of Chaquijchoy, are numerous boulders carved or pecked in linear designs. One boulder (M-9132SW-06) is pecked in linear, ladder motifs, and is covered with naturally occurring holes (ca. 4 cm diameter, 4 cm deep). The top of this boulder is flattened, drainage from which descends into the interior of the boulder through a small crevice. Midway down the boulder, drainage continues out to the surface of the stone through three large, naturally occurring, triangularly-arranged holes and proceeds to the ground along a groove formed on the surface of the boulder. Another arrangement of five large boulders forms a large platform structure on top of the remains of a walled terrace (T-SJC01-06). The largest boulder (M-9132SW-01) of this arrangement is basined and pecked in triangular and linear designs.

8.5. **Ethnohistoric Description**

There is presently no knowledge of the area's prehistorical significance.
8.6. *Los anales de los Cakchiqueles*

I.


Después de esto llegaron al lugar Cakbatzulú, donde se encontraron con el llamado Tolcom. En verdad hubo terror allí, y el lugar Cakbatzulú tembló. Al principio todos los guerreros empezaron a llegar, pero el temor se apoderó de ellos, no fuero a ser que allí encontraran la muerte. Cuando él llegó allí todos los guerreros dijeron: "Tú llegas hermano nuestro. ¿Qué es esto? En verdad es terrible". Así dijeron, y entonces les dijo nuestro antecesor Gagagüitz: "¿Quiénes sois vosotros ¡oh! guerreros? Veamos vuestros rostros? No podemos luchar? ¿No tenemos arcos y
escudos para hacer una entrada? ¡Oh! vosotros que sois mis hermanos: Así habló él, y mandó a todos que se apoderasen de tolcom. En seguida dijeron ellos: "¿Qué palabras son éstas, ¡Oh! hermano nuestro? ¿No se dice acaso que un gran terror hay allí? Ve tú a ver". Así dijeron todos ellos. En seguida salió él a ver a Tolcom, y en verdad llegó al lugar del terror, en donde la colina temblaba. En el acto imprecó él a Tolcom: "¿Quién eres tú? Tú no eres mi hermano mayor ni menor. ¿Quién eres tú? Este mismo día te mataré". En el instante se llenó de terror y contestó: "Yo soy el hijo del lodoque tiembla. Esta es la caasa que habito, ¡Oh mi señor?" Así dijo él. "Sal de aquí y vive en cualquiera otra parte", se le contestó a Tolcom. Entonces él se sometió y fue hecho prisionero, y llevado en cuerpo, y dijeron los guerreros de las siete tribus cuando se entregó tolcom: "Nosotros hemos hecho glorioso este lugar, mostrad el rostro a nuestro prisioner, y cautivo. Nosotros adoraremos y sacrificarémos a un cautivo. Seremos amigos de él y estaremos de pie cerca y celebraremos así el nombre de este lugar Cakbatzulú, como le llama la gente, ¡Oh! nuestros jefes?" Así dijeron todos los guerreros (Villacorta 1934:209).

Afterwards they came to the place called Cakbatzulú, where they encountered the one called Tolgom. Truly they were filled with dread because the place Cakbatzulú trembled. On arriving, the warriors were frightened, and they did not begin the battle. Once there, all of the warriors said: "You have arrived, brother, but what happens? Truly we are filled with terror." Thus they said. And Gagavitz replied to them: "Who are you, oh, warriors? Let us look him in the face. Perhaps we cannot fight? Have we no bows and shields with which to arm ourselves, oh, our brothers?" Thus he said to them. "What is it that has been said here, oh, our brothers? Already the test has been made and surely it is frightening. Go you and see!" all of them said to him.

Then he went to see Tolgom; he arrived, and indeed it was terrifying to see him and the place was trembling. And he said to Tolgom: "Who are you? You are not my brother nor my kinsman. Who are you? This moment I shall kill you." Immediately
Tolgom was afraid and he said: "I am the son of the mud that quivers. This is my house, oh, Lord!" he answered. "We shall punish you, we shall drink your blood," he said to Tolgom. Whereupon he surrendered, they captured him, they went to seize him, and they returned with him. And after Tolgom had surrendered, the warriors of the seven tribes said: "Let us consecrate this place; let us rejoice at having taken our prisoner, our slave. Let us celebrate and let us cut off the head of our prisoner. Let us enjoy ourselves, let us shoot our arrows, we will consecrate the name of this place, Qakbatzulú, and thus it shall be called by the people, oh, Lords!" the warriors said to all of them (Recinos and Goetz 1953:73).

II.

Oxitiquer ca ru manizaxic ri Tolcom. Ixgüikitaj na, xoc na rucauj; caté caok ixrip rugáchuguach cheélamá ixcac güi. Ok ixtiquer ca xajoj rumá ronojel ajlabal, xagüi Tolcom ru bi bix. Ixquixaj ok ixtiquer ca rucakic; maquí ca jarí chaá tel pa cam, xajari najtik ximaj cheé ixccakbex, chuguí juyú Cakbatzulú ixcagüiixbé na qui chaá conojel. Catéok ixbé ru cha ri ka mamá Gigácgüitz, caní xicóchupum juyú jari Cheetzulú ru bi xucakbjez Tolcom. Caja ixcamizan je caríconojel ajlabal, jalatac oc qui cha, xoc chinajt ixquí cak güi. Queré ri güínak ok ixcam quiy ru quikel xel chirij che lamá: ok ixpej ca ixquipax chuguach ronojel guk amag ajlabal; ixquiyax, ixcatójix rucamic jaok ixgajar ri Uchum, ticó jujún juná, xati ban guaim ucaam, xa que chabín acualá xa tunay chic ru quexguach tiquí cak, bilá ca tuñ ri Tolcom, quechak mam, ojer jixkacajol! Querecá ixkacam güíki ri ruquín Zotzil Tukuché rumáca ru puzru nagual, ru gagal, ru tepegal; xelajibex güíru guach ka tatá ka mamá oj Cakchiquel güínak, mani chacat ajinak güí ru gi jralaxic e ojer ka mamá (Villacorta 1934:210).

Entonces comenzó la ejecución de Tolcom. El se atavió y entró
repentinamente; sus brazos fueron extendidos en frente de un árbol para que le dispararan las flechas. Todos los guerreros empezaron una danza, mientras Tolcom empezaba su cántico. Todavía danzaban ellos cuando comenzaron a dispararle las flechas; pero ninguna llegó a la cuerda, pues estaba lejos el lugar donde se hallaba el árbol, en la colina Cakbatzulú, a donde le disparaban las flechas. A la larga la flecha de nuestro antecesor Gagagüitz fue arrajoda, y pasó por el lugar llamado Cheetzulú atravesando a Tolcom. Entonces todos los guerreros lo ultimaron, algunos con flechas que lo traspasaban desde cerca y desde lejos. Matado de esta manera el hombre, una gran corriente de sangre salió detrás del árbol. Su cuerpo fue cortado en pedazos y repartido entre los guerreros de las siete tribus. Por el sacrificio de su muerte se estableció la fiesta del Uchum, que se celebraba cada año, y en ella eran iguales todos, se comía y bebía y se mataba a los niños disparándoles flechas adornadas las cabezas con flores grandes, lo mismo que a un remedio de Tolcom, según dijeron nuestros padres en la antigüedad, ¡Oh hijos míos! De esta manera obtuvimos el poder los Zotzil Tukuchés, por saber y ciencia oculta; así nuestros padres y antepasados, de nosotros los cakchiqueles levantamos nuestras cabezas desde el día en que obtuvieron el poder nuestros antepasados en la antigüedad (Villacorta 1934:211).

Then they began the execution of Tolgom. He dressed and covered himself with his ornaments. Then they tied him with his arms extended to a poplar tree to shoot him with arrows. Afterwards all the warriors began to dance. The music to which they danced is called the song of Tolgom. Following this they began to shoot the arrows, but no one of them hit the cords (with which he was tied), but instead they fell behind the gourd tree, in the place of Qakbatzulú where all the arrows fell. At last our ancestor Gagavitx shot the arrow which flew directly to the spot called Cheetzulú and pierced Tolgom. After which all the warriors killed him. Some of the arrows entered "his body" and others fell farther away. And then that man died, his blood was shed in abundance behind the poplar. Then they came and completed the division "of
pieces of him" among all the warriors of the seven tribes that took part in the offering and the sacrifice, and his death was commemorated thereafter in the month of Uchum. Every year they gathered for their festivals and orgies and shot at the children, but instead (of arrows) they shot at them with alder branches as though they were Tolgom. Thus our grandfathers related of old, oh, our sons! In this manner we the Zotzils and Tukuchés together gained knowledge of magic science and of greatness and power. (All) humbled themselves before the fathers and grandfathers of us the Cakchiquels; and the glory of the birth of our early fathers was never extinguished (Recinos and Goetz 1953:75).

8.7. Discussion

We located this area by following the ridge up from Tzan Cruz, hypothetically enacting backwards the process which the Cakchiquel warriors, with Gagavitz, used to dispose of Tolgom after his sacrifice. The unique level area of usable land is situated along the otherwise uninhabitable rugged south face of the northern rim.

So far, excavations planned to determine function and dating to the monuments of the area have not been carried out because we have not been able to determine who the land owners are. The area is situated on the boundary of the municipios of Santa Cruz and San José Chacayá. Nonetheless, reconnaissance and surface collections of ceramics and obsidian tool fragments have enabled a preliminary understanding of the site's use and the dates of occupation. We anticipate that, if permissions are never granted, further surveys will help to at least delineate perimeters to the cultural remains.

Meanwhile, through textual analysis, we are beginning to understand what the ritual proceedings were meant to accomplish. The buried meanings to key references in the text are revealed by reconstructing the meaning of the symbolically important
passages. For, as Victor Turner and Claude Levi-Strauss have shown, myths and rituals are composed of complex symbolic links which, like those of dreams, are multivocal and arranged in manifest and deep layers of meaning. Since the purpose of this discussion is to unravel some of the meaning of the importance of the area of Cakbatzulu, it is only necessary to say that an "archaeology of symbols" is "productive of coherent meaning" (Hunt 1977:32), and that these passages in their historical context can be decoded.

It is safe to say that the ritual events at Cakbatzulu are associated with agriculturalists and agricultural practices and were enacted to ensure the livelihood of their crops and the people who depended upon them. Our knowledge of the agriculturalists is based upon knowing that the proceedings occur in the month of Uchum or the fifth month of the Cakchikel calendar. The Cakchikel calendar begins, according to most authorities, on the day corresponding to January 31st or February 1st. According to the Cakchikel Maya, the year is not divided into lunar months, as was the case with hunting-gathering tribes, but is designated according to the solar year, with reference to farming and household incidents. The fifth month of the Cakchikel calendar, figuratively speaking, is the month of re-planting. Chronologically speaking, the fifth month is the period which follows the beginning of the rainy season, usually in late May.

It is not difficult to understand why, as agriculturalists, the Cakchikels would have timed ceremonies occurring at Cakbatzulu to coincide with the planting of the corn. Although the rituals may be the result of a conglomeration of beliefs and practices, they were probably meant to ensure the success of the crops. Rituals associated with arrow sacrifices are suggestive of those known to have occurred among the Maya of Belize. J. Eric Thompson (1930) notes that among these Maya, *Santo Itzam* is venerated when sowing is begun, his devotee telling him, "I am going to wound your breast." *Itzam* is one of four *Mams*, or dieties of the underworld, mountains, valleys, thunder, lightning, rain, fishing, hunting, and agriculture associated
with one of the four cardinal points. In many aspects the *Mams* closely resemble the *Chacs*, who survive in the beliefs of the Yucatec Maya. *Itzam* corresponds to the east. Thompson points out that because the body of *Mam* is the earth, to make holes in it for planting seed may be described as beating or wounding the breast of *Mam* (Thompson 1930:51). There is also a version in which *Mam* is bound in the underworld and that, on moving himself from time to time, produces strange noises that heard at the beginning of rainy season, when the sowing is begun (Leon-Portillo 1988:121)

Apparently ceremonies of arrow sacrifice continued up until the time of the conquest in Highland capitals. "Tree sacrifices" are noted by Carmack (1973:320) and Villacorta (1934:210) among preconquest Highland Maya, and by Orellana (1984) among Tzutujil-speaking Maya in Santiago Atitlán, during which the enemy, or a symbol thereof, is tied to a tree and sacrificed by a circle of warriors who shoot arrows into the body. Borghegyi (1965) believes the Toltecs are responsible for the introduction to the Guatemalan Highlands of the torturing and decapitation of prisoners captured in warfare, and rituals of arrow-sacrifice in which prisoners were tied to a tree, arms extended and shot with arrows (p. 155).

The killing of Tolgom by Cakchiquel warriors is also reminiscent of Aztec customs described by Bernardino de Sahagun (1971, Book III:176-177) account of Aztec customs. Sahagun tells of the yearly ritual sacrifice of Huitzilopochtli, the last son of the Earth Mother Coatique, and the Aztec God of Warfare, shot with arrows by a man called Quetzalocatl. In this instance, the heart given to the chief, the body and pieces of the mouth and lips divided into equal parts and distributed to priests called *calpules*. According to Robert Hill (1992), among preconquest Mesoamerican peoples including the Cakchiquel, an honorable death required that one be captured in order to be subsequently sacrificed by the enemy, the heart torn from the body being used to feed the gods, which in turn perpetuated the cosmic order.

Upon receiving the heart of the sacrificial victim, Aztec *calpules* returned to designated places of service where they obligated themselves, at considerable expense,
for one year to penance and the veneration of a patron saint. *Calpule* was a term used in colonial Guatemala to designate a group leader for a particular settlement, or *parcialidad*; similar service and penance presently exists among the Highland Maya in the form of *cofradías* dedicated to the veneration of a saint particular to their town (Hill 1992:94-95).

Toltec, lowland Maya, and Aztec beliefs and practices evidenced in the arrow sacrifice may have occurred at Cakbatzulu. Nevertheless, similarities cannot be said to be completely the result of forced acceptance of Christian belief on the part of Cakchiquel elders at the time of the transcription of the narration. Arrow sacrifices do appear, however, in western cultural contexts. For example, the crucifixion of Christ is a sacrifice involving piercing of the flesh. Similarly pierced, Job cries out from the torment of a cruel God, "He hath set me up for his mark. His archers compass me round about, He cleaveth my reins asunder, and doth not spare; He poureth out my gall upon the ground. He breaketh me with breach upon breach, He runneth upon me like a giant." (Job 16:12). So too, St. Sebastian is depicted in images of the pierced flesh of martyrdom. Finally, the Germanic divinity Wotan (Otin), god of the berserk, is said to have given an eye to split the veil of the dark. Wounding himself with a spear, he hung on a tree for nine nights in order to obtain that knowledge (Bellows 1923:139).

That there is a similarity among these Toltec, Maya, Aztec, Christian, and German traditions may mean that the practices are associated with deep human psychological and physiological underpinnings. In other words, although myths and rituals are embedded in a society's collective history, common themes of ritual behavior among different culture groups may be the result of common human experiences.

Carl Jung believes the collective image of torment by piercing is symbolic of "man as his own huntsman, his own sacrificer, his own sacrificial knife", where instinct wars against instinct in a self-fertilization, a self-violation, a self-murder; being wounded by one's own arrow signifies a state of introversion (Jung 1989:11-12).

Jung considers an arrow wounding as signifying an abandoning of the
upperworld, and a sinking into a world that is a substitute-- into a world of memories, the world of the child, the paradisal state of early infancy, from which we are driven out by time: "In this subterranean kingdom slumber sweet feelings of home and the hopes of all that is to be" (Jung 1989:12). Tolgom claims that the subterranean is his home, as the son of the quivering mud. Jung explains that the world into which one sinks is the mother, because from her the current of life reaches us. Consequently, "Whenever some great work is to be accomplished, before which a man recoils, doubtful of his strength, his libido streams back to the fountainhead-- and that is the dangerous moment when the issue hangs between annihilation and new life. For if the libido gets stuck in the wonderland of this inner world, the upper world man is nothing but a shadow. But if the libido manages to tear itself loose and force its way up again, something like a miracle happens; the journey to the underworld was a plunge into the fountain of youth, and the libido wakes to renewed fruitfulness" (p. 13). Jung reminds us that Visnu's trance, in Hindu belief, similarly brought forth Brahma (p. 13).

The Cakchiquel text indicates that a significant work has been accomplished by the Cakchiquel warriors. Having overcome their fears, the Cakchiquel warriors celebrate and consecrate the location of this accomplishment to the glory of the birth of the early fathers.

Additionally, Jung (1989) explains the symbols of arrow piercing as primordial images, or archetypes, which represent the process of introversion and regression by which latent unconscious contents become conscious (p. 13). Jung continues by explaining that, whenever a distressing situation arises, symbols, as archetypes, constellate in the unconscious. Likewise, cyclical reenactment of the Cakchiquel events, as ritual proceedings, would allow latent unconscious contents to become conscious. For, as Jung explains, when the repeated experience of the introversion and regression process occurs, or whenever a critical situation arises, the mechanism of introversion is made to function, whether by real means or artificially, through ritual
action, e.g., magical ceremonies, sacrifices, invocations, and prayers (p. 14).

Again, similar images of introversion by which latent unconscious contents become conscious occur in various western and eastern cultural contexts. We can add that the vision of the transformation journey through death and rebirth is found in the Egyptian Book of the Dead. The Book of the Dead was buried with the mummy as a guide to the perils of the way. An early stage of the preparations for the journey includes prescribing the "Chapter of not Letting the Heart of Osiris N. (name of the deceased) be Taken from Him in the Underworld". At this point in the preparation of the mummy, the heart of the dead was cut open and a scarab, symbolic of the sun, was placed with the prayer, "My heart, my mother, my heart, my mother; my heart of transformations" (Budge 1949:147). According to Egyptian belief, the successful completion of a perilous journey, which includes the Soul's assimilation of powers thought to be separate from and outside of it, results in the perfection of the Soul and its return to its true state.

Obviously, further analyses of the meaning to this text, as well as investigations to delineate archaeological significance, are necessary in order to obtain a full appreciation of this area.

8.8. Reconnaissance and Survey

The site was located on reconnaissance during 1992. It was not until survey teams covered the site in 1993 and 1994 that we discover the monuments.
8.9. *Artifact Distribution: Ceramics*

Table 11. Distribution of ceramic surface collections, SJC01.

<table>
<thead>
<tr>
<th>Period/Ceramics</th>
<th>Total of Diagnostic Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Preclassic</td>
<td>11</td>
</tr>
<tr>
<td>Ocos Phase Thin Walled Tecomate</td>
<td></td>
</tr>
<tr>
<td>Middle Preclassic</td>
<td>103</td>
</tr>
<tr>
<td>Semetabaj Brown</td>
<td></td>
</tr>
<tr>
<td>Early Classic</td>
<td>19</td>
</tr>
<tr>
<td>Mahogany Brown</td>
<td></td>
</tr>
<tr>
<td>Middle Classic</td>
<td>5</td>
</tr>
<tr>
<td>Mahogany Brown</td>
<td></td>
</tr>
<tr>
<td>Late Classic</td>
<td>2</td>
</tr>
<tr>
<td>Red-Washed Buff Ware</td>
<td></td>
</tr>
</tbody>
</table>

8.10. *Artifact Distribution: Lithics*

Table 12. Distribution of obsidian surface collection, SJC01.

<table>
<thead>
<tr>
<th>Tool Type</th>
<th>Site Total</th>
<th>% Site Total</th>
<th>% Total Collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blades</td>
<td>53</td>
<td>60.24</td>
<td>04.17</td>
</tr>
<tr>
<td>Macroblistades</td>
<td>3</td>
<td>3.60</td>
<td>05.55</td>
</tr>
<tr>
<td>Bifaces</td>
<td>1</td>
<td>1.25</td>
<td>20.00</td>
</tr>
<tr>
<td>Scrapers</td>
<td>0</td>
<td>0.00</td>
<td>00.00</td>
</tr>
<tr>
<td>Cores</td>
<td>1</td>
<td>1.25</td>
<td>00.05</td>
</tr>
<tr>
<td>Flakes</td>
<td>25</td>
<td>30.12</td>
<td>05.76</td>
</tr>
<tr>
<td>Eccentric</td>
<td>0</td>
<td>0.00</td>
<td>00.00</td>
</tr>
</tbody>
</table>

Table 13. Obsidian distribution by source and tool type, based upon neutron activation analysis sample, SJC01.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Rio Pincaya % Site</th>
<th>% NAA Sample</th>
<th>El Chayal % Site</th>
<th>% NAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blades</td>
<td>(8) 88.88</td>
<td>17.77</td>
<td>(1) 11.11</td>
<td>02.22</td>
</tr>
<tr>
<td>Macroblistades</td>
<td>(5) 83.33</td>
<td>11.11</td>
<td>(1) 16.66</td>
<td>05.55</td>
</tr>
<tr>
<td>Bifaces</td>
<td>(0) 0.00</td>
<td>0.00</td>
<td>(0) 0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Scrapers</td>
<td>(0) 0.00</td>
<td>0.00</td>
<td>(0) 0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Cores</td>
<td>(0) 0.00</td>
<td>0.00</td>
<td>(0) 0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Flakes</td>
<td>(2) 100.00</td>
<td>16.66</td>
<td>(0) 0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Eccentric</td>
<td>(0) 0.00</td>
<td>0.00</td>
<td>(0) 0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
8.11. *Surface Collection Summary*

Ceramic indicators include Preclassic through Late Classic markers (Table 11). Obsidian collections represented appear in Table 12 and Table 13. In general, indicators agree with nearby Laguna Seca ceramic and obsidian collections, and therefore present the supposition that the sites were in use during the same periods for the same general purposes.

However, the diverse assortment of obsidian color types presents an interesting differentiation in the patterning. No conclusions can be drawn at the present time. Of obsidian tool fragments, most are of medial blades and undetermined flakes. Color types range from mainly granular translucent grey and cloudy streaked/banded grey to cloudy translucent grey, clear translucent grey, and opaque black/grey. The obsidian collection from this site was by far the most diverse.
CHAPTER IX

CHUICHITORI (SC02)

9.1. Location: Grid 9132NW

This area is at the point of the summit above the small pueblo of Jaibalito.

9.2. Environmental Setting

A large mound of crystalline was, at one time, located at the peak of the summit. When the area was visited in 1991, there existed remnants of this outcropping of crystal. When the area was visited again in 1993, the crystalline was hardly noticeable. Standing on the summit it is possible to see the entire eastern, southern, and a portion of the western horizon. It is said that fires lit atop this summit can be seen on the ridge above Iximché, some 30 km directly to the east.

9.3. Present Status

A water line runs through the eastern portion of the small ridge top having been placed there in 1992 to transport water from the lake to the villages of Chaqchichoy and Maria Linda.
9.4. General Description

The area is called by locals after the name of the shrine site, a "mundo" or "mesa" where costumbre rituals were at one time practiced (in 1991 the site had been recently used; in 1993, the site appeared altogether abandoned). The shrine site is oriented north to south, consisting of a wooden cross (ref. Yaxché, Chapter X. Tzan Cruz, Ethnohistoric Description: Discussion, this dissertation) located beneath and south of a large tree. The trunk of this tree is split into four sections. The significance of the large tree is unknown. It seems that, at one time, the tree was purposely cut so that the trunk has grown into four large sections pointing northeast, southeast, southwest, and northwest. When the area was visited in August, 1991, two pumice candle holders were on each side of the cross, which itself was north of five large flat stones. These stones were displayed in a pattern, two side-by-side stones followed by three leading south from the cross. At this time broken pot sherds were found associated with the stone in the middle of the formation.

9.5. Ethnohistoric Description

Although present-day ritual significance of this area is clear, prehistoric significance is unknown. That the area represents astrological significance is also unknown, yet highly suspected. Northeast on the horizon at N60°E are the mountains Xilik and Xocamar, near to Sacribal, the purported "Dawning Place" of the Quiché tribe; southeast at N120°E is Volcán de Agua near present-day Guatemala City; southwest at S180°W is the mountain Che Cristalino rising from the shore of Lake Atitlán. Directly west, but covered from sight by the nearby mountainous terrain, is Volcán Santa Maria.

Astrological importance and ritual significance of the orientations, of Venus
risings, and events having to do with the night sky from this particular viewing area are not known. It is suspected that the close nature between religion and astronomy among Maya may have been of importance, that processes originating in a system of cosmological beliefs may have determined the planning, orientation, and consecration of this area (ref. Aveni 1992).

9.6. Los anales de los Cakchiqueles

This area carries significance related in the textual model for Qakbatzulú, and therefore will not be repeated.

9.7. Discussion

Gazananul, or Santa Maria (Recinos and Goetz 1953:69-72), according to los anales, is where First Ancestor "captured the fire" of the volcano, after which the Cakchiquel forefathers went "to the lake". That the Cakchiquel tribe "came from the west" is made clear from the beginning of los anales, in which it is said "we came from the west" (Recinos and Goetz 1953:45). Coming from the west is a curious exception to the account narrated in the Popol Vuh whereby the Cakchiquel tribe is said to have come from the East (Recinos, Goetz, and Morley 1950; 1991:181). An understanding of this contradiction is not yet available (ref. Chapter I. Introduction: The Cakchiquel Text for an explanation of the simultaneous occurrence of past, present, and future in narrative texts).
9.8. Reconnaissance and Survey

The area was located during reconnaissance during late 1991. The area has been visited periodically during the period since 1991; however, since there are no occupational or artifact remains, and since the area was in use for ritual purposes, it has not been mapped.

9.9. Artifact Distribution: Ceramics

There are no ceramics on the surface of this area.

9.10. Artifact Distribution: Lithics

There are no lithics on the surface of this site.
CHAPTER X

TZAN CRUZ (SC01)

10.1. Location: Grid 9230NW

The archaeological area of Tzan Cruz is located on the high ridge approximately 500 meters above the shoreline. The area is on the extremity of this ridge which extends south from Qakbatzulu. The location can be reached by traveling by a very difficult foot path along the precipitous crest. It can also be reached by difficult trek from the shoreline, along an obscure trail.

10.2 Environmental Setting

A rocky shoreline is approximately 20 m below the area, and is accessible only by boat. The water is clear, undisturbed, and utilized occasionally by local fishermen. Fluctuations in the water level, up to 6 m, are both seasonal and periodic. (Archaeological remains across the lake at the settlement of Chuitinimit indicate that the water level during the Postclassic was one meter below the current level of the lake[Lothrop 1933:4]).

10.3. Present Status

The area shows evidence of milpa cultivation. However, in the summer months
of 1993 and 1995, the area was not planted and was very overgrown. A flat area, approximately 50 m x 20 m, located directly behind the boulder, is covered in short grass. There is an additional area of short grass uphill from the boulder approximately 50 m.

10.4. General Description

The remains consists of a large boulder (M-9230NW-01) 6 m in diameter, noted for six circular carved basins (3 are approximately 20 cm in diameter, three approximately 5 cm in diameter). Ceramic scatter is prolific in an area of unknown depth, approximately 100 m by 150 m in a direction to the south of the boulder, towards the lake. Informal analysis of the extensive surface contents has revealed numerous large, flat-lipped rims, which, if extended, form lips up to 32 cm in diameter. Remains of very large handles indicate evidence of ollas, large cooking vessels, or large lipped plates.

Behind the boulder, and somewhat uphill, is a grassy flat area suggestive of a platform. During preliminary reconnaissance conducted in 1991, a recently constructed, crude shrine site with three stacked rocks and a crossed branch around which grass had been twisted into a spiraling pattern was found nestled within several small boulders. At this time, a round, red plastic object, preliminarily determined to be a hood used on fighting cocks, was found on the nearby trail.

Directly to the right of the boulder, if one were standing behind the stone and facing southeast as if behind a table, there are two large masses of boulders aligned alongside each other forming a rather long crevice in a north-south direction. We were able to easily pass between these two tall rows of boulders when the undergrowth was cleared in 1994 and 1995. On the other hand, the crevice is narrow enough to catch the north wind coming from atop the ledge to create a whistle-like noise as the wind passes
through the break in the rocks.

10.5. Ethnohistoric Description

Present-day Cakchiquel names have been given to parts of this ridge. In a progression around and above the lakeshore, proceeding from the westernmost edge of the ridge towards the east, are Tzan Pajibal, Nicaj Siwan, Lotalik, and Tzan Cruz. Tzan Cruz is said by locals to be a "portal" to the "city beneath the earth" where, if one is "unlucky" enough to be present at noon each day, one may hear the sounds of the city as the door opens. Yet, I have had no one admit to knowing about the site's boulder stone and ceramic scatter. In 1993, a stone cross had been erected some 200 m below the area by area Protestants.

Panpati is the name of the ridge and seasonal stream located on the eastern edge of this ridge. Panpati is also the name of a historic settlement territorially ascribed to the municipio of Santa Cruz (Orellana 1984), usually mentioned in the written sources with Payan Chocol. It is said of Panpati residents that "no one could conquer them because they were wizards" (Orellana 1984:52). The church at nearby Jaibalito, although in ruins, has retained its pre-conquest reputation for magic; in 1947, brujos were reportedly continuing "pagan rites" (McBryde 1947:120). We have been unable to locate the remains of this church.

10.6. Los anales de los Cakchiqueles

Ok xepé chicá chirí chu güí juyú, Cakbatzulú, xutsak ka chakap Tolcom chupám choy: ok ixgajar can ri tzam tzakbal Tolcom. Ok xe chacá koycó chupam reé choy, xacá ajilam xicó ix quixibij qui conojel ok ixquituc rupam reé choy. Chiri
xetzakó güí quií pan patí payan Chocol ru bi. Quetzbal quinagual; chílá xeel güí; belej tulul ja ri pa Chitulul. Ok ixtiquer carí coguíc pachoy ronojel ajlabal, xaguí xambey chic ixbé ri Gagagüitz, jun ca raná Chetejauj ru bi. Ixocíe can chirí xetzakó güí que jaritzam Cabouíl: "Abaj ru bi guacamí tok ixbé carí Gagagüitz, kitzij tixibin ok ixbé payá, Zutzúcumatx xujalibej: canicá ixgekumar ru güí ya. Canix paé cagig, cakzut cun chuguí ya, iquiz ca rutuc rupam choy (Villacorta 1934:210).

Cuando estuvieron en el lugar de Cakbatzulú, arrojaron una parte de Tolcom al lago. Así comenzó la fiesta de la nariz de Tolgom. En suguida según dijeron se oyó un ruido en las aguas, y a su paso todos se aterrorizaron cuando hubo movimientos en las aguas. Muchos se reunieron en el lugar llamado Payán Chocol: en donde practicaban las artes mágicas. Nueve zapotes amontonaron en el lugar llamado Chitulul. Entonces comenzaron los guerreros el paso del lago, y les siguió Gagagüitz con su hermana llamada Chetejauj; y se establecieron en el lugar llamado como su Dios: Abaj. Poco después de la llegada de Gagagüitz se efectuó una cosa terrible, cuando él entró al agua convirtiéndose en Zutzucumatx. De repente se obscureció or encima del agua, se levantó un viento y una nube blanca se puso en la superficie, haciendo un circuito en el lago (Villacorta 1934:211).

Next they went beyond the place of Qakbatzulú and they threw the pieces of Tolgom in the lake. Ever since that time the top (of the hill) of the casting out of Tolgom has been famous. Afterwards, they said: "Let us go into the lake." They entered in an orderly manner, and all of them were much frightened when the surface of the water was ruffled. From there they went toward the places called Panpatí and Payan Chocol, practicing magic arts. There they found nine zapote trees in the place called Chitulul. Next all of the warriors began to cross the lake, Gagavitz and his sister called Chetehauh going last. They stayed there and built their houses on the peak now called Qabouil Abah. Afterwards Gagavitz departed; it was really terrible when they
saw him throw himself into the water and change himself into Gucumatz. Immediately the waters became dark, then a north wind came up, and a whirlpool was formed in the water which stirred up the surface of the lake (Recinos and Goetz 1953:76).

10.7. Discussion

The carved boulder, its directional location, the cleared areas next to and above this boulder, together with associated meanings of the ridge's place names are suggestive of a ceremonial site of ritual activity which continues to the present day. The site could possibly include the underwater area directly below the ridge.

I never asked any one about the small cross made of sticks, which is reminiscent of a cross of sticks used by shamans in the Quiche region. Linda Schele and David Freidel explain that among the Maya, a cross is called by the Spanish name, *santo*, "holy thing" or "saint," although Yucatan crosses today are also referred to as *yax che',* "First (or green) Tree." *Yax che',* also the name of the ceiba tree, are naturalistic images from the Classic period which represent the World Tree (Freidel, Schele, and Parker 1993:55). According to these researchers, the working area of the Quiché shamans contains not only the cross but an arbor-table of sacred space upon which are placed magical stones and other paraphernalia.

Photos taken during a visit in August 1991 of M-9230NW-01 and the surrounding area of Panpati inadvertently revealed a wave and accompanying surface pattern on the lake waters which may relate to this passage. The pattern accompanying the 2000 m-long, 150 m-deep wave has been preliminarily determined to be a self-organizing wave pattern forming across the entire surface of Lake Atitlán, dissipating into a large whirlpool when it meets with an underwater obstruction at the center of the lake at approximately 135m depth. Dr. John Logan, Texas A&M University Geophysics Department, believes the wave pattern to have been caused by possible
earthquake tremors, easily verified by seismographic records of the area. The
dissipation, according to an analysis by Dr. James Brooks of Texas A&M University
Department of Oceanography, is similar to circular patterns occurring in disruptions of
self-ordering offshore tidal patterns seen in satellite photographs of the globe. While
such patterns are rare in lake situations, a record of the pattern on Lake Atitlán is
without known precedent. Recinos and Goetz (1953:76) believe the episode in the text
referred to strong winds which blow across the lake, and which today are called
Xocomil, or chocomil.

10.8 Reconnaissance and Survey

The area was discovered in late 1991 after determining that there was the
chance of finding a significant ritual site above the lake waters that might agree with
the ritual site named in los anales de los Cakchiqueles. After several attempts,
Michelle Woodward and I stumbled upon the area and photographed the large boulder
stone before departing. We returned in 1993 to map the area and determine the
feasibility of including the site in survey and excavation plans. The area is of some
ritual use, although we have never found nor heard of any active use during our visits.
Surface collections of ceramic artifacts were made during 1994 and 1995.

10.9. Artifact Distribution: Ceramics

The majority of a profuse scatter of ceramic remains that lies within a 100 m x
150 m area below the altar stone is comprised of handles and rims (diameters extending
from 12 cm to 34 cm). The appearance of red applique ceramic sherds in surface
collections indicates use in the Early Preclassic. Most other ceramics are preliminarily
determined to be utilitarian wares of Classic Period or later in date. It is believed that the area held some ritual significance from the Early Preclassic through the Postclassic period.

10.10. *Artifact Distribution: Lithics*

There are no lithic remains on the surface of this area.

10.11. *Surface Collections Summary*

Ceramic scatters presume ritual use of the altar stone, with the large jars or plates being broken and thrown, or thrown and broken, as they were disposed of in a direction to the south-southeast toward the lake. It is suggested that surface collections indicate that a profuse amount of ceramic debris is probably located beneath the surfaces. Permissions to excavate have not been readily available, as the land supposedly belongs to several different families, while also considered communal property of the municipio of Santa Cruz.
CHAPTER XI
NORTHERN SHORELINE AND SUBSURFACE WATERS

11.1. Location: Grids 8928SW, 8928NW, 8929SW, 8929SE, 9029SW, 9028NW, 9029SE, 9129SW, 9129NW, 9129NE, 9229NW, 9229NE, 9230SE, 9330SW, 9330SE, 9430SW, 9430SE, 9530SW, 9530SE, 9630SW, 9630SE

11.2. Environmental Setting

The water level of Lake Atitlán has fluctuated strongly in the past and changes of up to 10 m have been recorded over about the last fifty years (Newhall et al. 1987:102). Newhall et al. point out that the lake level fluctuates 1 to 1.5 m seasonally due to seasonal changes in precipitation, so some of the change may be caused by climatic factors. Earthquakes can also influence the level of the lake. The 1976 earthquake, for example, caused a drop of 2 m possibly due to the earthquake increasing the permeability of the rocks damming the lake. Finally, inflation of magma reservoirs can result in increases in lake levels. Correlations between rising lake levels and Volcán Atitlán's activity can be noted as occurring between 1820 and 1865 (Newhall et al. 1987:103). High sedimentation rates occur, caused by heavy runoff from annual rains.

Gentle slopes of underwater portions of the northern shore of Lake Atitlán are between 15° and 30°. However, slopes in some places are very similar to the surface slopes, at 70° or greater. Ledges are commonly found on the slopes around points at various depths. The origin of the ledges is unknown, but may be the result of
preferential weathering as a result of joints and fractures.

11.3. Present Status

Given the high sedimentation rates of the lake, it is likely that artifacts eroding into the lake are rapidly buried in a relatively short period of time. Because the deltas are very near sediment sources, the sedimentation rate on their surfaces is probably close to the .8 cm/yr that Newhall, et al. (1987:99) calculate for post Maya sedimentation.

11.4. General Description

In situ artifacts rest in the ledges along the slope as the shoreline disappears into the water. These crevasses between the bedrock slopes and detached bedrock slabs contain several prehistoric and historic artifacts. Wave action may be responsible for depositing the artifacts. More likely, the artifacts may be the direct result of having been washed into the water and catching on the rock ledges. Discovered during an early test dive was a near-complete wide-mouthed deep bowl, similar to an apaste in form. It is possible that buried sites lie in the delta deposits.

11.5. Ethnographic Description

We know the history of the northern lakeshore from written accounts in various historical documents. At the time of the conquest, Tzutujil-speakers controlled the area from just east of Panpati westward and southward to Santiago Atitlán inspite of
numerous Quiché and Cakchiquel invasions. Santa Cruz, as well as the towns west, remained under the jurisdiction of Atitlán, designated as a head town (cabecera). Records indicate that, in 1583, towns east of Santa Cruz were no longer considered under Tzutujil control. Although Santa Cruz remained under Tzutujil control, the populace contained a larger portion of Cakchiquel speakers than Tzutujil (Orellana 1984:128). Probably because of a retention of the former cultural and linguistic ties, and because the villages were remote from large parish towns, people of the northwest lake area escaped Spanish control in the form of demands for labor. Additionally, a scarcity of Catholic priests prevented Christianity from reaching the highlands up until the latter part of the 16th century (Orellana 1984:207).

However, by 1623 the village of Santa Cruz was a congregacion (Orellana 1984:128). Although Santa Cruz and San Pedro were officially listed in historical records of 1623, neighboring San Marcos, said to have been established at the site of Payan Chocol on April 26, 1584 was not (Orellana 1984:191). It is said that the villages of Santa Cruz, Jaibalito, Tzununa, and San Marcos were all further populated by Cakchiquel-speaking residents who, in 1666, fled a plague of bats from San Lucas Toliman.

When San Marcos was destroyed by flood in 1703, Santa Cruz residents ceded San Marcos new land to settle at the site of Panpati. That site was later abandoned after another flood in 1724. At that time the alcalde of Sololá transferred the village to the valley where it now exists, on land granted from San Pablo, Santa Lucia Utatlan, and a family "Sipac" in Santiago (McBryde 1947:129,120).

The present village of Santa Cruz was, like San Marcos, "destroyed by a flood and moved" to its present (1947) location in 1847 (McBryde 1947:121). In 1991, an informant reported to me that Santa Cruz was moved "400-500 years ago" from a nearby plain following a landslide. Santa Cruz became part of the alcaldia mayor of Sololá in the 17th century, losing its Tzutujil affiliations. Maps dated 1728, which indicate Santa Cruz as part of the curate of Sololá, note San Marcos and San Pablo as
part of the curate of San Pedro (Orellana 1984:218-219).

Historic accounts of economic activities give descriptions of the lifeways of the populace living along the northern shoreline. Ropemaking practiced in the lake villages of San Pablo, San Marcos, and Santa Cruz had been noted as reflecting environmental conditions as late as the 1940s (McBryde 1947:103). Agave leaves were being purchased in San Pedro and made into ropes in San Pablo; the ropes were sold at Sololá and Santiago (McBryde 1947:104). Rope spinning from local maguey was still an economic activity at San Marcos in the 1940's, the activity helping them to purchase much-needed corn. Corn could not be raised in the area (McBryde 1947:121).

Although the residents of the northern shoreline make plank board canoes in an age-old tradition (Lothrup 1927), and fish and crab for a living, they have not always shared an interest in the water. Still, Alvarado reports that the Cakchiquel manned over 300 canoes in a cooperative attack with the Spaniards upon the Tzutijils. In the 1940s, Santiago Atitlán and San Pedro were said to be the only places on the lake where canoes were made (McBryde 1947:99). Likewise, the Santa Catarina were second only to Santiago Atitlán as navigators (McBryde 1947:99). Lothrup (1933) reported that the inhabitants of Santiago Atitlán rarely swim, that "while expert judges of weather, they're clumsy boatsmen, often drowning" (p. 4). I have also found the lake dwellers unable to swim nor do they want to learn.

11.6. Los anales de los Cakchiqueles. Discussion

Recinos and Goetz (1953) remark that passages in part one of los anales refer to the division among the Cakchiqueles and the Tzutuhils of the territory bordering Lake Atitlán. Some historians, according to these authors, derive the name of the lake from Atit, a name given in the Popol Vuh to the old woman Yxmucané, the grandmother of
the sun and of all creatures. Others refer to translations of the Nāhuatl meaning "in the water", or "beside the water" (Recinos and Goetz 1953:76).

The lake is still divided linguistically, the south and southwest are inhabited by various peoples of the Tzutujils, including Atitlán. The north and east, including Sololá, is populated by Cakchiquel-speakers. To the west are found Quiché-speaking people, a prehistoric Quiché military drive having pushed as far south as present-day San Marcos (Orellana 1984:49).

At one time, marriages between groups facilitated military alliances. Orellana reports that, in later years, these same alliances, or "bride capture", were used as a means of subordination by rulers (Orellana 1984:41).

11.7. Reconnaissance and Survey

The northern shoreline was surveyed by the nautical team during 1994 and 1995. At that time, the underwater surfaces were determined to be conducive to continued survey and possible excavations in areas of dense scatter.

11.8. Artifact Distribution: Ceramics

Ceramics that have been lifted from the lake waters have been conserved according to specifications for preserving submerged ceramic materials. The artifacts have been stored in the field laboratory in San José Chacayá. Ceramics generally agree with those found in Chigojom.
11.9. *Artifact Distribution: Lithics*

There are no lithic artifacts which have been taken from the underwater surfaces or adjacent shoreline.

11.10. *Surface Collections Summary*

From a sparse collection of ceramics, it is impossible to determine anything more than use of the shoreline in prehistoric times. Ceramics agree to Classic to Late Classic dating, similar to collections coming from Chigojom.
CHAPTER XII

CERAMICS

12.1. Summary

This chapter summarizes the ceramic collection recovered from surface collections and 13 test excavations conducted during 1993 and 1994. As an introduction to the summary of the collection, what little prior knowledge existed of the ceramic industries of the Lake Atitlán Basin is presented first. The ceramic comparatives lend insight into how the project area fits within the overall lake pattern, and how the area compares to sites along the Pacific coastal plain, the northern highlands, and the southern lowlands.

Following the presentation of previous research, the ceramic industry is broken down and discussed. The report of initial classes of pottery or specific sherds from the project area is the result, in part, of work conducted by Frances Meskill during the 1994 field season. Diagnostic pottery sherds, organized into a working temporal sequence based on the study to date, can be compared to established taxa from the region. Results of pottery analyses of the Sololá Project collection are of necessity preliminary, based on limited familiarity with ceramics of the immediate area and difficulty in tying into an established synthesis. The analyses are complicated by the fact that methodologies used in the region are variable: the Kaminaljuyu ceramic report involves classifications stressing "wares", while the Chalchuapa and Salama Valley projects used conventional "type-variety" systems. Fortunately, analyses of the project area's ceramic collection were able to utilize recent comparative studies conducted by Arthur Demarest, Robert Sharer, Marion Hatch, and others of Late Preclassic ceramic assemblages throughout the southeastern highlands of Mesoamerica. These researchers' cooperative efforts have helped to remove the obscurity created by
methodological differences, having identified a tightly knit group of assemblages that make up the diagnostic Providencia and Miraflores ceramic spheres. Preliminary results of analyses of the project ceramics indicate that the project area fits well within these ceramic spheres, while also participating in a regional ceramic pattern, which includes traditions found at sites farther to the west.

The generous allowance for transport to the U.S., made by possible by the Instituto de Antropología e Historia, enabled the completion of cataloguing, as well as photographing, drawing, and analysis of the first field season's diagnostic collection. In 1995, portions of the diagnostic collection of the combined 1993 and 1994 field seasons were allowed exit from Guatemala to undergo neutron activation analysis. Results of the characterization analyses of these ceramics and six clay sources will be published when available. With these results, along with further research of the Sololá area and continuing opportunities to inspect regional collections, the categorization of the project collection will become less problematic.

To close this chapter, a discussion of the association of pottery technology and Maya languages conducted by Reina and Hill (1978) is presented in order to suggest the correlation of a possible basal mold for making pottery found in the project area and early residents of the area. The linking of artifact and the archaeological assessment of the use of the artifact, tied to ethnographic evidence, suggests that early residents of the area were Proto-Xinca or Xinca-speaking people from the Pacific Coastal area.

12.2. Previous Ceramic Research in the Lake Atitlán Area

The Lake Atitlán area is generally not well-known archaeologically, for only a limited number of investigations have been conducted. Shook, Hatch, and Donaldson (1979) carried out a study at the eastern perimeter of the lake at Semetabaj, east of the
Sololá project area. These researchers' work serves as a valuable index. At Semetabaj, a few Ocos phase sherds evidence dates to the Early Preclassic. At that site, the Sacatepequez Middle Preclassic and Miraflores early Late Preclassic phases are well represented, yet little Terminal Preclassic Arenal phase material was found (Shook, Hatch, and Donaldson 1979:16-17, 21-23). A surge of construction activity occurred with the Aurora phase, during the early Early Classic. Subsequently, the site was abandoned, and the Late Classic is not documented in the collection, though Postclassic traces are seen (Shook, Hatch, and Donaldson 1979:21).

An earlier investigation at Lake Atitlán by Lothrop (1933) focused on the southwestern shore in the Atitlán-Toliman district, at Chuitinamit and Chukumuk. Preclassic ceramics reported by Lothrop from Chukumuk include early and middle period ceramics (largely Late and Terminal Preclassic) including Usulutan ware and tetrapod vessels (Lothrop 1933:figs.31-33, 35-37), along with ceramic forms that could possibly be earlier in date (Lothrop 1933:fig.26a). A few incensario sherds were documented for the late phase (Postclassic), along with white-on-red ware (Lothrop 1933:67). Unlike Chukumuk, Chuitinamit demonstrated strength in the Postclassic (Lothrop 1933:88-97). At nearby Pachicotz, a mammiform tetrapod dish reported by Lothrop (1933:97) indicates use during the Protoclassic.

Other published ceramic studies available from the broader region include analyses from the Chichicastenango area by Steward (1977) and Gruhn and Bryan (1976); Los Encuentros (Hatch 1982); Cuidad's (1988) report on the Alto Samala sites of Las Victorias and Agua Tibia, reports from Zacualpa (Lothrop 1936; Wauchope 1975), Kaminaljuyu (Kidder, Jennings, and Shook 1946; Shook and Kidder 1952; Wetherington 1978), Zaculeu (Woodbury and Trik 1953), and Tajumulco (Dutton and Hobbs 1943); Rands and Smith's (1965:95-145) summary of Guatemalan highland ceramics, and records by Gamio (1926-1927), Ciudad and Iglesias (1984), and Wauchope (1950:1970). La Lagunita (Viel 1984; Ichon and Arnauld 1985) and Nebaj (Smith and Kidder 1951; Bequelín 1969) to the north, and piedmont and coastal sites
such as Bilboa (Parsons 1967), Izapa (Ekholm 1969; Lowe, Lee, and Martinez 1982), and La Victoria (Coe 1961), provide other potential comparatives for the Sololá materials, as does Sharer's (1978) report on Chalchuapa. Late Preclassic ceramics of the broader region have been used to study the nature of highland development and their role in the rise of lowland civilization. Robert Sharer and David Sedat's (1987) work in the Salama Valley is the most comprehensive study of interregional trade patterns. Finally, between 1978 and 1981 collaborative efforts to compare ceramic collections from western El Salvador, highland Guatemala, central El Salvador, eastern El Salvador, and western and central Honduras have led to a reassessment of current interpretations of Late Preclassic culture history and highland-lowland interaction (Demarest 1986).

12.3. Pottery

The sherd collection was analyzed by the type-variety system system of classification which identifies ceramic types and closely related varieties representative of particular classes of pottery manufactured in specific regions during specific time periods (Sabloff and Smith 1969). Among Mesoamericanists, recent standardization of a presentation format for ceramic descriptions has simplified intra-regional comparison of pottery collections, aiding in an understanding of prehistoric Maya cultural interrelationships.

Pottery is used in cultural historical studies as an index for spatial and temporal synthesis. Ceramic vessel chronologies are developed and correlated with later radiometric dating techniques to date sites and occupational periods. Ceramic vessel distributions are used to determine cultural relationships through time and space. Analyses of the Sololá Project sherd collection represents an attempt to provide preliminary working categories of the ceramics, to identify special items, and to make
observations of change within and among strata of excavation units.

Ceramics from the project are predominantly surface collections, with remainder portions of the collection taken from two profiles in existing road cuts and thirteen test excavations. The following report of the diagnostic collection of could not have been possible without a methodical analysis conducted by Frances Meskill during the 1994 field season, the report of which appears in the Final Report of the 1994 field season (see Meskill 1995). Through the courtesy of Dr. Marion Hatch, a reference collection from the Semetabaj excavations was made available for the field laboratory during the 1994 season. This collection proved to be helpful in analysis of the project materials.

In general, the yield of surface collections provided a range of variation in pottery of the same and different dates over the project area. A total 8907 prehistoric pottery sherds have been sorted and analyzed. Of these, 940 were separated out as diagnostic sherds, sorted, and classified. In particular, 807 were recognized as Preclassic wares, a majority of the remaining being Early and Middle Classic. Seven sherds were of Late Classic, and 7 sherds were Postclassic Plumbate. Colonial and modern examples, although not collected, were found to be numerous in surface scatters.

The distribution of diagnostic ceramic surface collections is presented in Figure 23. Charted is the percent of the total present in each area for each time period. While all areas were more or less evenly distributed, SJC05 predominated the Late Preclassic, Middle Classic and Postclassic Period. It is suspected that with the inclusion of further excavations, the distribution will appear more evenly distributed.

The Preclassic sherds include Early Preclassic Glossy Black Ware orange sandy wares similar to Pacific Coast Navarajo or Jocotal, thick sandy wares with light brown paste, a white or black slip suggestive of Conchos White and Black, and thin-walled tegomates. Sacatepequez White paste White Ware, Semetabaj Brown Ware, Glossy Orange Ware, Polished Black-Brown Wares, Red-Brown Ware, Utatlan Ware, and
Figure 23. Settlement distribution, based upon ceramic surface collections.

Fine Red-slipped Ware appear as markers of the Middle to Late Preclassic. Comparisons of the project ceramic assemblage with the southeast highlands indicate that the project site lies within the Providencia (400 - 100 B.C.) and Miraflores (100 B.C. - 250 A.D.) sphere limits as outlined by Demarest (1986), with sphere diagnostic black brown, red-orange, Usulutan, and Baul reddish brown paste ware censers similar to markers found at Chalchuapa, Kaminaljuyú, Abaj Takalik, Monte Alto, and Bilbao. While well within the ceramic spheres characteristic of the southeast highland region, the project area includes markers from the more western highlands and Pacific coastal plain.

Protoclassic ceramics include Protoclassic Red on Buff Ware, Black-Brown
Ware, Orange Ware, Red-Orange Ware, Protoclassic Streaky Brown Ware, and Pumiceous Red Paste Ware.

Early Classic markers include Santa Marta Brown Ware, Streaky Brown Ware, Mahogany Brown Slipped Ware, Esperanza Flesh Ware, Amatle I, Coarse Pink Ware, a Miscellaneous Slipped Ware, and a Polychrome Ware. The Middle Classic period may be evidenced as well with Santa Marta Brown Ware, Red on Buff Ware, Mahogany Brown Slipped Ware, Esperanza, Amatle, and Mahogany Brown Slipped Ware.

Late Classic wares include a Red-Washed Buff Ware, Red on Buff Ware, Polychrome Wares, Red Paste Ware, Orange Buff Ware, and a Black-Brown Ware. Tohil Plumbate and Red Paste Ware pinchachas offer evidence of the Postclassic period. Examples of glazed ware were not of general interest to the research plan.

A more limited sherd collection represents eleven test excavations conducted at several locations within the plaza of Chigojom (SJC05). From the excavations, Preclassic markers included two sherds of probable Sacatepequez White Paste White Ware, diagnostic of the Middle Preclassic Sacatepequez-Providencia phase (700-400 B.C., see Shook 1951). Two plain rocker-stamped sherds were also found during the investigations; Marion P. Hatch (personal communication 1994), based on drawing and profile of one specimen, reported that the sherd appeared to be somewhat thick for Early Preclassic Ocos phase material, and was likely later in time. Though relatively little Late Preclassic pottery was identified, presence at the site for this period was supported based on stylistic dating of monuments, in particular the potbelly-like sculpture.

Protoclassic traces were found, along with some indices of Early Classic ceramics. The Late Classic was particularly well represented in the collection, which may reflect the choice of the placement of the excavations, not the temporal use of the structures.

Postclassic materials included a plumbate sherd from this location and several
fragments of appliqued coarse ware incensario fragments, as well as colander sherds, which are possibly Postclassic in date. An additional plumbate fragment was documented from a surface find in the Estrada-Escobar I site (SJC03).

In terms of numbers, utility wares constituted the dominant category in the ceramic assemblage. There appeared to be, in general, three utility wares represented: gray-brown jars and other forms, probable bowls; black-brown jars, generally micaceous; and an orange-buff ware, which included wavy-lined grooved-incised sherds with elusive red wash, apparently diagnostic of the Late Classic (see Buff Ware by Gruhn and Bryan 1976:92-96), Ciudad’s (1988:110-112) Bulux Rojo, and ‘squiggle ware’ by Rands and Smith (1965). Though secure temporal ascriptions were lacking for the majority of the utility wares, at least some of the orange-buff ware was Late Classic in date, as indicated. Decorative modes and forms suggested both Early and Late Classic dates for the other wares, with possible association with Preclassic Semetabaj Brown. A deep-walled comal form corresponded to Early Classic Santa Marta Brown (Shook, Hatch, and Donaldson 1979:fig.8e), which continues into the Late Classic at several sites.

Other distinctive materials included painted Classic red-on-buff or cream wares, along with ritual items such as coarse ware incensario fragments, colander sherds, and censer handles and spikes. It is assumed that censers were used in fowl sacrifice. Residue from one censer handle was determined to be that of a turkey-like species. Decorative modes also included punctated and impressed (finger and tool) designs, incising, and appliqued filets and other elements. Paste inclusions consisted of micaceous particles, pumice, shell, quartz-like, and other as yet unidentified materials. Near-complete vessels were represented by a crudely-fashioned dark red miniature vessel with rounded base, found in a midden-like deposit from STR-SJC05-09, Op.01, and reconstructable fragments from historic vessels.

Comparisons made to the reference collection from Semetabaj indicated that although the sites were in close proximity, the project area evidenced a higher
frequency of Pacific coastal types during the Early Preclassic, extensive lowland activity during the Classic, and overall continuity over time in settlement. Published data from other highland sites, piedmont and coastal sites of Guatemala and eastern Chiapas were used to extend comparisons interregionally. Black brown, fine red, red on buff, and Usulutan types were characteristic of a Providencia and Miraflores ceramic sphere defined for the southeastern highlands during the Middle to Late Preclassic (Demarest 1986). A number of preliminary classes were discriminated, and observations of these were made and recorded. The results were of necessity preliminary and subject to further research and analysis, as earlier noted.

12.3. The Pottery Sequence

This section reports a working temporal sequence based on an initial analysis made of the excavation materials, and supplemental analyses were made to include the surface collections. A limited number of diagnostics are identified and listed as representative samples, sometimes even a single sherd. Possible associated wares and types are also listed, some as they appeared in Meskill's original report, all with connections based on comparisons to other sites and contextual relationships. Observations of several pottery classes have been made in more detail, and these are more fully described.

Early Preclassic Ceramic Wares

Ocos Phase Thin-Walled Tecomate

Context. Surface collections: Chigojom (SJC05) (9232NE), Estrada-Escobar I (SJC03) (9233SW), Laguna Seca (SJC02) (9132SW), Cakbatzul (SJC01) (9132SW), (9133SE).
Description. Wall thickness is 0.4 to 8 cm with a burnished red slip over the wall exterior.

Paste. Texture is medium-fine and is hard-fired. The color is light reddish brown (5YR 6/4) to reddish brown (5YR 4/3) with thick light gray core to yellowish red (5YR 4/6) brown medium textured with sandy inclusions.

Comparatives. Shook, Hatch, and Donaldson (1979:24) mention that their few examples of this ware are indicative of the Ocos Phase along the South Coast of Guatemala, which they indicate is undoubtedly coming into the Semetabaj site as trade wares. The tecomate form predominates the fairly homogeneous region between the Rio Suchiate on the west and the Rio Maria Linda on the South Coast during the Early Preclassic (Whitley and Beaudry 1989:36).


Ocos

Context. Excavation Chigojom (SJC05) STR-SJC05-02, Op.01. LV. 04; surface.

Description. Plain rocker-stamped.

Comparatives. This mode is associated with Early Preclassic Ocos phase at Izapa (Lowe, Lee and Martinez 1982:118-119, but recurs later in time. Dr. Marion Hatch (pers. com. 1994) reports that one Chigojom sherd seems somewhat thick for Ocos phase material.

Cuadros/ Jocotal

Representative sample. 1 rim, 315-11.

Context. Surface Chigojom (SJC05)

Description. Curved wall bowl with a direct rim, the lip extending outward and slightly upward from the rim 1 cm below the rim. The bowl has an all-over burnished pinkish-white (5YR 8/2) slip with a band of red (7.5YR 4.4) paint on the upper rim.

Paste. Gray (5YR 5/1) with inclusions of pumice and sand.
Comparatives. Shook, Hatch, and Donaldson (1979:24) note the evidence of a similar vessel represented at Semetabaj, which they believe to be the remains of trade ware coming from the South Coast of Guatemala. The Cuadros/Jocotal complexes changes only during the Middle Preclassic, when the area is divided into the Naranjo Tradition west of the Rio Nahualate, and the Achiguate Tradition for the eastern region (Whitley and Beaudry 1989:36).

Dating. Early Preclassic (1000 to 900 B.C. from Love 1993).

**Brushed**

*Representative sample.* 1 body 403-2

*Context.* Surface Chigojom (SJC05)

*Description.* Eroded decoration of exterior punctuate decorations on convex band with horizontal brushing; was perhaps slipped at one time.

*Paste.* The paste is a reddish brown (2.5YR 4/3), hard, with micaceous inclusions.

*Comparatives.* The type is similar to Jocotal levels of the Guamuchal Brushed of Salinas La Blanca (Coe and Flannery 1967) at La Victoria, with a strongly convex horizontal zone or band encircling the vessel just below the rim band. These researchers distinguish between the Cuadros phase and Jocotal in that "in Jocotal levels Guamuchal Brushed approaches Suchiate Brushed, as the convex band flattens out and disappears, brushing becomes vertical and down and to the right rather than horizontal, cross-brushing becomes more frequent, and exterior replaces interior finger punching." (p. 28-30). Found in small fragments on sherds at Izapa, the technique has been described by Coe and Flannery (1967) as "after brushing, a strip of clay is placed along the junction of the brushed zone and the polished surface below, then indented"( p. 29).

*Dating* Early Preclassic (1050 - 800B.C. from Ekholm 1969).

**Buff Applique** (Figure 24a)

*Representative sample.* 1 body 287-1
Context. Surface Chigojom (SJC05)

Description. This sherd is very eroded, unslipped, but perhaps at one time part of a well-smoothed surface of the upper body of a jar. Color is buff (5YR 5/6), the color of the paste. Characteristic applique "buttons" appear on exterior of this suspected upper body piece. Thickness 0.08 cm.

Paste. Buff (5YR 5/6) colored throughout, with a medium to coarse texture, frequent micaceous and volcanic ash or pumice inclusions.

Comparatives. Sharer and Sedat (1986:273-274) identify a Chitanil Applique: Chitanil Variety of Beleju Buff at Salama Valley of which this sherd is reminiscent. Beleju Buff dates to the Early Preclassic (Xox Ceramic Complex) and possibly later.

Dating. Early Preclassic.

Red Applique (Figure 24b, c)

Representative Sample. Laguna Seca (SJC02) 274-10, 274-2; Chigojom (SJC05) 300-8; Tzan Cruz (SC01).

Context. Surface collections, Laguna Seca, Chigojom; Profile Laguna Seca, P-9132SW-01; P-9132SW-02.

Description. Large punctated applique fillets on exterior necks and shoulders of unslipped vessels. In the case of the very eroded sample from Chigojom, the decoration was accomplished by jabbing.

Paste. Light red (2.5YR 6/6) to red (2.5YR 5/6) in color, coarse with numerous inclusions of pumice, quartz, sand, with micaceous inclusions at a minimum.

Comparatives. Punctate applique fillets appear in the Salama Valley (Sharer and Sedat 1986:275, 282) on Pachicaj Ceramics, which are very similar to sherds found throughout the project area. The decorations appear on Pachicaj Ceramics of the Salama Valley during the Early Preclassic (Xox Ceramic Complex) and the later Chuachua Ceramics with a buff to light orange color paste during the Early Middle Preclassic (Xox Ceramic Complex, Late Facet).
**Dating.** Early to Early Middle Preclassic.

![Diagram](image)

Figure 24. Early Preclassic ceramics representing the project area.

Preclassic Ceramic Wares.

**Sacatepequez White Paste White Ware** (Figure 25a, b)

*Context.* STR-SJC05-02, Op.01. LV. 8B and LV. 10.

*Description.* The surface is nicely smoothed, with some gold mica specks apparent. Surface color is 5YR 8/2 (pinkish white) to 5YR 8/3 (pink). One sherd is from a thin-walled vessel with small everted rim; the other form is unidentified.

*Dimensions.* Rim thickness is 0.35 cm., and wall thickness is 0.45 to 0.8 cm. Vessel diameter is undetermined because of the sherds' small sizes.

*Paste.* Medium fine-texture, paste color 7.5YR 8/2 (pinkish white) to 7.5YR 8/3 (pink).

*Comparatives.* Sacatepequez white ware is known from Semetabaj (Shook, Hatch, and Donaldson 1979:38), as well as throughout the highland areas.

*Dating.* Shook dates this ware to the Sacatepequez-Providencia phase, ca. 700-400 B.C.
**Semetabaj Brown Ware** (Figure 25c-f)

*Context.* Surface collections Chigojom SJC05, Tzan Cruz SC01.

*Description.* Slip is the same color all over as the paste and is low to well burnished. There is a typical punctuate decoration, occasional incising or modeling.

*Paste.* Medium-fine texture and hard fired. Color ranges from dark brown (Munsell) to reddish-brown to light brown (Munsell), with a thick gray core. Glassy and black particles appear as inclusions.

*Comparatives.* Shook, Hatch, and Donaldson report that this is the most common pottery at Semetabaj during the Preclassic period. These researchers report that in paste, form, and decoration it shows strong similarities to El Balsamo Brown Ware known from the site of El Balsamo, department of Escuintla, during the period equivalent to the Sacatepequez phase in the highlands (p. 25).

*Dating.* Early to late Preclassic.

**Glossy Orange Ware**

*Context.* Surface collections.

*Description.* An all-over slipped orange to brownish-orange and polished to a high gloss. Characteristically there are gray to black firing clouds. Although not evident from the Proyecto de Sololá collections, at Semetabaj, decoration consists of pre-slip and pre-polish grooving and incising, showing Usulutan resist decoration.

*Paste.* Medium to medium-fine texture. Color ranges from brown to reddish brown to light brown to pinkish, occasionally with a gray core. Abundant and conspicuous white pumice and/or black micaceous particles may appear throughout.

*Comparatives.* Shook, Hatch, and Donaldson (1979:29) report that this is a common pottery in the Guatemala Highlands. At Semetabaj this ware is second only to Semetabaj Brown Ware in sherd frequency within the Preclassic levels of excavations.

* Dating.* Shook, Hatch, and Donaldson (1979:29) suggest that the ware begins possibly as early as the Middle Preclassic and continuing into the Late Preclassic. According to Wetherington (1978:125), muted orange to brown hues are distinctive of the Middle
Formative. At Kaminajuyu, locally made buff and orange slipped wares give way to red-orange slipped wares in the Terminal Formative.

Figure 25. Preclassic ceramics representing the project area.

Glossy Black Ware

Context. Surface collections.

Description. Surface has an all-over, thick, dark brown to jet black slip, which is
polished to a high gloss. Shiny particles in the paste show through onto the surface and glisten. Decoration, if present, is usually by pre-slip and pre-polish grooving and incising.

_Paste_. Varies from fine to medium-coarse; color is light to medium brown, to gray, to black. Examples show fine white pumice and shiny particles throughout.

_Comparatives_. The ware resembles both Glossy Black Ware and Glossy Orange Ware from Semetabaj in surface finish, with the black glossy surface color dark brown to jet back instead of orange. Shook, Hatch, and Donaldson (1979:32) remark that this is a common pottery especially in the Quetzaltenango area.

_Date_. Shook, Hatch, and Donaldson (1979:32) suggest the ware probably starts in the Middle Preclassic and continuing at least through the Late Preclassic.

**Polished Black-Brown Fine Wares**

_Context_. Surface Chigojom (SJC05)

_Description_. All-over slipped dark reddish-brown to brown to black and well-polished to a "velvety" glossy finish. Decoration consists of fine incising of hairline thickness.

_Paste_. Fine to medium-fine in texture. Color is usually reddish-brown but ranges to light brown to gray. The past has inclusions of white pumice generously distributed throughout, with occasional tiny flecks of mica.

_Comparatives_. Perhaps the same ware described by Shook and Kidder (1952:68) at Kaminaljuyu and Pumiceous Black-Brown Ware, Type II at Monte Alto (Shook and Hatch, nd). The pottery serves as a hallmark of the Miraflores and Arenal phases at Kaminaljuyu (Wetherington 1978).

_Date_. Late Preclassic, ca. 300 B.C. to 200 A.D.

**Red-Brown Ware** (Figure 25g)

_Context_. A solid nubbin-footed basal sherd is from STR-SJC05-02, Op.01, LV. 12.

_Description_. Surfaces are all-over (jars on exterior only) slipped reddish brown to dark
reddish-brown (2.5YR 3/4) to black-brown to jet black, and are well burnished. One sherd is from the medial section of the vessel wall of an effigy bowl.

*Paste.* Generally fine, but occasionally ranging to medium in texture. Color varies from brown to reddish-brown to black, usually with fine white particles lightly distributed throughout.

*Comparatives.* Sherds are similar to those which Shook, Hatch, and Donaldson (1979:35) categorize as a miscellaneous Preclassic black-brown ware as a catch-all category for polished black-brown fine wares recovered from Semetabaj considered to be Preclassic.

*Dating.* Preclassic.

**Uatatlan Ware**

*Context.* Surface collections.

*Description.* Bowl interior and base exterior are unslipped but well-smoothed and polished, the color ranging from light to dark brown according to the paste. Exterior decorations include red or specular hematite red paint alternating with areas of graphite paint in geometric patterns.

*Paste.* Hard-fired, medium-fine texture, light to dark brown at the edges with thick grey core. Fine white particles are distributed throughout the paste.

*Comparatives.* This pottery, named and described by Lothrop (1933:112) is common in the department of Quiche.

*Dating.* Confined to the Middle Preclassic.

**Fine Red-slipped Ware**

*Context.* Str-SJC05-02.

*Description.* An all-over thick reddish-orange slip which is well burnished. Some might have Usulutan resist decoration.

*Paste.* Fine-textured, charcoal gray in color with abundant very fine white particles.
Comparatives. Late Preclassic Guillen phase at Izapa, ca. 300 B.C. to A.D. 1, (Lowe, Lee, and Martinez 1982:130c). At Kaminaljuyu, the ware is considered to be an import, beginning in the Sacatepequez phase and continuing through the Miraflores and Arenal phases (Shook and Kidder 1952:90). Called Fine Red Ware, only a few sherds were found at Semetabaj (Shook, Hatch, and Donaldson 1979:37). *Dating.* Middle to Late Preclassic (ca. 500 B.C.- 300 A.D.).

Protoclassic Ceramic Wares

**Protoclassic Red on Buff Ware**

*Context.* SJC05-01, Op.01, LV.02

*Description.* Well smoothed with matte to medium burnished buff slip. Red painted linear to curvilinear designs in broad strokes.

*Paste.* Fine to medium coarse texture, color from black to red-brown (2.5YR)

*Comparatives.* Red on buff is said to have occurred along the Pacific Slope as early as the Early Middle formative (900/800-600 B.C.) (Bove 1989a:34). Buff wares at Kaminaljuyu decline from Verbena through Arenal and into the Classic period (Wetherington 1978:131).

*Dating.* Late Formative to Protoclassic.

**Black-Brown Ware** (Figure 26)

*Context.* Excavations, STR-SJC05-02, Op.01, LV. 07.

*Description.* A waxy, black-brown slipped basal sherd with evidence of a bulbous support attachment, likely mammiform in shape.

*Paste.*

*Comparatives.* Bilboa's Ilusiones (Late Preclassic/Protoclassic?) phase Xata Black-Brown.
Dating. Late Preclassic/Protoclassic

Figure 26. Protoclassic ceramics representing the project area.

Orange Ware

Context. Surface, Chigojom (SJC05); excavations, Chigojom (SJC05) STR-SJC05-02, Op.01, LV. 10.

Description. A clear orange (5YR 6/6 to 6/8, reddish yellow) slipped, square-lipped rim fragment, likely from a dish, and two orange-lipped buff ware body sherds from jars with elongated necks and pronounced circumferential ridges at the juncture of the neck and body.

Paste. Light brown (7.5YR 6/4) with inclusions of pumice.

Comparatives. Near-identical to Lowland Protoclassic orange types (see eg. Naranjada Orange in Meskill 1992). It is also similar to Protoclassic Glossy Orange Ware found at Semetabaj, which was a later development of the Preclassic, showing similarities in surface treatment but striking differences in vessel form. All vessels, which are shallow bowls with straight flaring to outcurving walls, the base rounded and a very low basal ridge, and rounded lips, have a thick reddish-orange slip that is polished to a gloss. The paste is medium to medium-coarse gray-brown to reddish-brown throughout. The ware does not seem to continue into the Early Classic at Semetabaj (Shook, Hatch, and Donaldson 1979:46).

Dating. Protoclassic.
Red-Orange Ware

Context. Str-SJC05-02, Op.01, LV.06

Description. A very small orange-red slipped specimen appears to be a basal sherd with evidence of a support.

Paste. Medium to medium fine textured with inclusions of quartz. Color red-orange (2.5YR 4/8 to 5YR 6/4).

Comparatives. Aguacate Orange, or Protoclassic Glossy Orange Ware found at Semetabaj (see above description). Mirador Red Ware at Kaminaljuyu is evidence of later Precassic through Classic with broad distribution through the highlands and beyond. As well, at Kaminaljuyu, red-orange is more common than red after the Terminal Formative through Late Classic (Wetherington 1978).

Dating. Protoclassic (ca. 200 B.C. to 18 A.D.)

Protoclassic Streaky Brown Ware

Context. Surface collections Chigojom (SJC05).

Description. Following descriptions of Shook, Hatch, and Donaldson (1979:47), vessels are all-over slipped orange-brown and burnished. The slip color is uneven and patchy, in some areas being bright reddish-orange but grading into medium to dark brown. These researchers claim that the burnishing causes some streaking of the slip, but this is not as pronounced as it is in Early Classic times.

Paste. Medium texture with small to large white inclusions of quartz and pumice. Color is dark to medium reddish-brown.

Comparatives. Shook, Hatch, and Donaldson explain that at Semetabaj, Streaky Brown Ware apparently begins in Protoclassic times and continues into the Early Classic. The paste and surface finish is consistent with forms differing in later times.

Dating. Protoclassic (ca. 200 B.C. to 18 A.D.).
Pumiceous Red Paste Ware

*Representative sample.* 1 handle fragment 44-1, 1 body 46-2.

*Context.* Surface collections Estrada-Escobar I (SJC03)

*Description.* The surface has an obvious all-over thin unburnished micaceous red (10R 4/8) slip. If the one sample is a handle, it has been constructed as a ring attached on the body of the jar. The body sherd appears to be the base of the neck or the neck where there is a modeled fillet.

*Paste.* Coarse, reddish brown (2.5YR 4/4) with conspicuous white pumice and quartz.

*Comparatives.* Similar samples are found at Semetabaj as Protoclassic Pumiceous Red Paste, as Molina Red Paste Ware, Fuego Bright Micaceous at Monte Alto (Shook, Hatch, and Donaldson 1979, 48), and Baul Reddish-Brown Paste Ware, Fuego Ceramic Group, Fuego Bright Micaceous: Fuego Variety (Parsons 1967:106)

*Dating.* Protoclassic.

Protoclassic Red on Buff Ware

*Representative sample.* Chigojom (SJC05): rim 88-1, rim 221-01, lip 315-8; Estrada-Escobar I (SJC03): lip 228-1

*Context.* Surface collections Chigojom (SJC05) and Estrada-Escobar I (SJC03)

*Description.* Vessels are well smoothed on the exterior and interior. Exterior and interior have a pinkish white (5YR 8/2) wash. Dark red (7.5YR 3/6) painted decoration appears over the slip.

*Paste.* Color ranges from reddish yellow (5YR 7/6) to reddish brown (5YR 5/4), with inclusions of tiny quartz and sand particles. Mica shines on the surface in the light.

*Comparatives.* Shook, Hatch, and Donaldson (1979) report that this ware at Semetabaj is similar to Monte Alto Red on Buff Ware which is common at the site of Monte Alto during the Late Preclassic Arcenal phase. The ware apparently starts there as a local copy of Sacatepequez Polished Red on Unpolished Buff Ware imported from the Guatemala Highlands during the Sacatepequez phase (p. 49). Red on Buff is found on the South Coast of Guatemala during the same time span or slightly earlier.
Dating. Late Preclassic to Protoclassic. (Although the ware shows up in the Early Classic at Semetabaj, the ware has been placed with the Protoclassic due to its status as a minor category at Semetabaj during the Early Classic.) The ware appears at the Sololá sites to extend through to the Late Classic.

Early Classic Ceramic Wares

Santa Marta Brown Ware (Figure 27a, b, c)

Representative samples. Chigojom (SJC05): 1 incensario ladle fragment 91-1; 1 foot 104-11; 1 handle fragment; three body sherds 100-2, 154-1, and 300-15; and one cylindrical-handled comal.

Context. Surface collections Chigojom (SJC05)91-1, 100-2, 104-11, 154-1, 300-15; 9433SW144-3. Excavations Chigojom (SJC05): the reconstructable fragment of a cylindrical-handled, very large, deep-walled comale was found in the dense deposit at STR-SJC09, Op.01, LV. 4-5.

Description. According to Shook, Hatch, and Donaldson (1979), the ware may have origins in the Preclassic Semetabaj Brown Ware, which would explain why the ware resembles the Preclassic antecedent. Otherwise unslipped, these researchers report that if there is a surface treatment, it appears as an orange-brown slip similar to Streaky Brown Ware. Comales are represented in this type at Semetabaj, better smoothed on the interior than exterior, and left unslipped (p. 51-52). A representative comale from STR-SJC09 has a loop handle which projects vertically from a direct rim with impressed (fingernail?) design along the outer edge. The base interior has wide, regular, linear grooving. The wide strapped handle fragment has multiple punctated decoration.

Paste. Medium to medium-coarse, with abundant quartz, white pumice, and black mica. Color ranges from light reddish-brown (5YR 6/4) to yellowish red (5YR 5/6),
rarely with a dark core.

Comparatives. Santa Marta Brown Ware exceeds all other wares at Semetabaj (Shook, Hatch, and Donaldson 1979:51). Chigojom's comale is related to Semetabaj's Early Classic Mahogany Brown and Santa Marta Brown comales (Shook, Hatch, and Donaldson 1979), Zacualpa's (Wauchope 1975) reddish-brown comal form occurring in the Early Classic continuing into the Late Classic, to Late Classic Bulux Rojo from the Alto Samala sites (Ciudad 1988:110-112), and Late Classic Canal Rouge at Nebaj (Bequelin 1969:166). Although a predominance of Late Classic markers appear in the context in which this comale fragment was found (STR-SJC05-09, Op.01. L. 04 - 05), the excavation is still poorly defined. In this preliminary stage of data collection and analysis, the comale is assigned the earlier date, subject to change with further analysis.


Streaky Brown Ware

Representative sample. 4. Chigojom (SJC05): 1 rim 66-10, 1 lip 86-4 1 ladle incensario fragment 102-3; 1 decorated body sherd 84-10.

Context. Surface collections Chigojom (SJC05) 84-1a, 86-4, 102-3, 368-31; 9333NE 66-1a

Description. Vessels are slipped exterior and interior and burnished, leaving easily recognizable marks to no marks. Slip color is dark reddish-brown (2.5YR 3/4).

Paste. Medium fine to medium coarse, with quartz, mica, and pumice inclusions. Color is red (2.5YR 4/6) to reddish yellow (5YR 6/6) and no dark core.

Comparatives. A common pottery at Semetabaj, Shook Hatch, and Donaldson (1979) believe the source of manufacture was nearby. According to these authors, it does not appear to be a familiar trade ware in the Guatemala Highlands. These researchers add that it is so closely related to Esperanza Flesh Ware in certain forms and in surface treatment that in small sherds the two are almost indistinguishable. In other cases, Streaky Brown Ware shows a similarity to Preclassic Glossy Orange Ware, suggesting
that its origins rest to the north of Semetabaj with Glossy Orange Ware, and was already in existence when Esperanza Flesh Ware was introduced from the east (p. 55).

*Dating.* Early Classic.

Figure 27. Early to Middle Classic ceramics representing the project area.
Mahogany Brown Slipped Ware

*Representative sample.* Chigojom (SJC05): 1 body sherd 100-1; 1 ladle incensario fragment 104-13; 1 ladle incensario fragment; 1 handle fragment 368-31; Estrada-Escobar I (SJC03): 1 handle or foot fragment 24-8.

*Context.* Surface collections Chigojom (SJC05); Estrada-Escobar I (SJC03). One open-trough ladle incensario ladle fragment comes from excavations at Chigojom (SJC05).

*Description.* The ware is characteristically known for a mahogany or very dusky red colored (2.5YR 2.5/2) slip.

*Paste.* Medium-fine texture with very fine quartz and black particles without white pumice particles. Paste color is pink (5YR 7/3) to light reddish brown (5YR 6/4).

*Comparatives.* The samples are similar to comales represented at Semetabaj. Unlike the most common at Semetabaj, the handle fragment is horizontal, not vertical, still bearing the finger indentation of the outer edge of the loop handle. Shook, Hatch, and Donaldson (1979) refer to those at Zacualpa (Wauchope 1975) lacking the finger indentations on the loop handle, and assigned to the Early Classic Balam 2 continuing to the Early to Late Classic Balam-Pokom Transition at the site (p. 57). A second comale at Semetabaj is recognized by the presence of "bail" or "market basket" handles attached to the rim at two opposite sides of the comal, forming an arc over the comal in basket fashion. The handles are rounded on the upper surface, flat on the underside. This comale is present at Zacualpa in Early Classic Balam 2, continuing or reappearing in Early to Late Classic Balam Pokom Transition (Wauchope 1975 in Shook, Hatch, and Donaldson 1979:57)

*Dating.* (ca. 200-900 A.D.)

Esperanza Flesh Ware

*Representative sample.* Chigojom (SJC05): 2 foot fragments 105-12, 381-26; 2 lip sherds 113-2; 163-2; 1 base fragment 154-5; 2 basal sherds 151-1 and 161-26.

*Context.* Surface collections Chigojom (SJC05): 105-12, 113-2, 151-1, 154-5, 161-26,
163-2, 381-26; excavations Chigojom (SJC05).

Description. Surface is all-over slipped a reddish-yellow (5YR 7/6 to 7.5YR 7/6) or light brown (7.5YR 6/4) with often blue-gray strokes of burnishing appearing against the "flesh" surface. Elsewhere burnishing appears on interior and exterior. Rim thickness is 0.4 cm; wall thickness is 0.5-0.6 cm.

Paste. Medium fine paste of light reddish brown (5YR 6/3) to yellowish red (5YR 5/6) or reddish yellow (5YR 6/6) with inclusions of mica, the coarser specimens showing obvious white pumice pieces and perhaps other sherds.

Comparatives. Esperanza Flesh Ware is a diagnostic for the beginning of the early Classic period in the Highlands of Guatemala, found at Kaminaljuyu during the Esperanza Phase (Kidder, Jennings, and Shook 1946:174). Shook, Hatch, and Donaldson (1979) report that the manufacturing center for the ware might have been near the modern town of Chimaltenango, and that the presence of such great quantities of the ware at Semetabaj suggests that Semetabaj could have acted as a trade center for the Tecpan-Chimaltenango area and a hub for the later Cakchiquel area speakers (p. 53).

Dating. 400 to 700 A.D.

Amatle

Context. Surface collections 9133SE.

Description. Smooth surface, the same color as the paste.

Paste. Fine texture, volcanic ash, hard and well fired. Color gray to brownish yellow, occasionally with pink cast.

Comparatives. Amatle appears during the Middle to Late Classic at Kaminaljuyu (Wetherington 1978:133-136).

Dating. Middle Classic through Postclassic.
Coarse Pink Ware (Figure 27d,e,f)

Representative sample. 9433NW: 1 partially reconstructable handled vessel, 5 pieces: 76-3, 76-4, 76-5, 76-6, and 76-7; 9133SE 1 daub.

Context. Surface road washout 9433SW.

Description. Unslipped and unburnished, the vessel is the color of the paste, partially burned, and is friable.

Paste. Color is pinkish gray (7.5 YR 6/2) of medium texture comprised of pumice, sand quartz, and mica.

Comparatives. At Semetabaj, the Coarse Pink Ware is confined to the Early Classic, believed to be of local manufacture for ceremonial use (Shook, Hatch, and Donaldson 1979:63)


Miscellaneous Slipped Ware

Description. A few sherds may correspond to a small category of micaceous slipped wares appearing during the Early Classic at Semetabaj, although components of the Sololá wares of this type are not well understood at this time and are subject to further study.

Paste. Medium texture, dark brown to light brown with mica and an unidentified white inclusion.

Comparatives. The small category representing the Early Classic at Semetabaj bear an all-over thin micaceous slip that ranges in color from pinkish-cream to gray to black. Some have, in addition, decoration in thin red paint. The forms represent a simple silhouette bowl and globular jar (Shook, Hatch, and Donaldson 1979:69-70).


Polychrome Ware

Description. Cream slipped interior and exterior, orange overslip.

Paste. Medium fine, pink-orange to light tan.
Comparatives. Shook, Hatch, and Donaldson (1979) report that at Semetabaj there occur polychrome sherds typical of Polychrome basal-ridge bowls from the Peten during the Tzakol Phase, which represent a direct import from that area into the Highlands. According to these researchers, the paste is medium fine, color from pinkish-orange to ruddy to light pinkish-tan with occasional light gray core. Surface is slipped on interior and exterior with light cream underslip and bright orange overslip. Wall exterior has red and black painted decoration. Forms include basal-ridge bowls with direct or slightly outcurving rims, with red painted rim bands, the paint extending from the outer edge of the rim, over the edge, and down .5 cm on the interior and/or exterior; a red and black band encircling .5 cm on the wall interior below the red rim band; a 1 cm black band encircling the wall exterior just above the basal ridge or black paint covering the upper surface of the basal ridge (p. 63).


Middle Classic Ceramic Wares

Santa Marta Brown Ware, Red on Buff Ware, Mahogany Brown Slipped Ware, Esperanza, Amatle, and Mahogany Brown Slipped Ware continue from the Early Classic and have been previously described.

Late Classic Ceramic Wares

Red-Washed Buff Ware (Figure 28a-h)

Representative sample. Chigojom (SJC05); Estrada-Escobar I (SJC03).

Context. Surface collection, Chigojom (SJC05):105-1, 139-3, 293-10, 368.5; surface collection, Estrada Escobar I (SJC03) 12-1.
Figure 28. Late Classic ceramics representing the project area.

Description. Found at several locations in the project area; multiple wavy-lined grooved incising is present on many of the sherds in this category. Zonal incising is indicated with a number of the specimens, and punctations are sometimes seen in connection with the zoned area. Exterior surfaces have a dark red (2.5YR 5/6) to red (2.5YR 4/6) to reddish brown (2.5YR 4/4) wash, which appears to erode readily. The red wash is also present on the interior of some sherds, and these are likely fragments from upper parts of wider mouthed jars. The fairly large-mouthed jars have outflaring,
direct or folded rims, and sometimes high necks. Wall thickness measures approximately 0.4-0.7 cm with rim thickness from one vessel measuring 1.0 cm.

*Paste.* Paste color includes a yellowish red (5YR 5/6) to brown (7.5YR 5/4) of medium fine to moderately coarse texture with crystalline or quartzite, micaceous, and other unidentified inclusions.

*Comparatives.* Gruhn and Bryan (1976:94-96) describe a buff ware from the Chichicastenango area sites as wavy-lined decoration high in frequency at Los Tapiales and Chuabaj while rather infrequent in the other study area. Rands and Smith (1965:101) describe "squiggle ware" associated with Amatle and Pamplona phases at Kaminaljuyu (Kidder, Jennings, and Shook 1946:41) and Alto Samala sites Bulux Rojo (Ciudad 1988:110-112).

*Dating.* Amatle and Pamplona phases extend from the Early Classic through the Late Classic.

**Red on Buff Ware**

*Context.* Surface collections.

*Description.* The surface is distinguished by reddish brown (2.5YR 6/4) to red (2.5YR 4/6) painted designs and/or bands on pink (7.5YR 7/3) slipped surfaces. With brush marks evident, the painting is well executed though simple in design on the rim area of fairly small sherds. One basal fragment has a red band painted on the lower exterior wall. Vessel surfaces are well-smoothed prior to application of slip. Forms include thin-walled direct-rimmed vessels, perhaps bowls. Rim thickness is 0.4-0.5 cm. Wall thickness is 0.4-0.5 cm.

*Paste.* The medium fine paste is light brown (7.5YR 6/4) to reddish yellow (7.5YR 6/6) in color.

*Dating.* The ware apparently extends from the Protoclassic at the sites in the project area. Red on cream slipped wares are known from the Protoclassic at Semetabaj (Shook, Hatch, and Donaldson 1979:49,62) in small numbers from the
Chichicastenango area, noted in Gruhn and Bryan (1976:103-104) at Saquiya, Chuabaj, San Pedro Jocopilas, and Laguneta Chico; from Zacualpa's Pokom-Tohil transition and Tohil phase (Wauchope 1948:139-140), from Chukumuk (Lothrop 1933:40,47), Alta Verapaz II (Butler 1940), and Kaminaljuyu (Rands and Smith 1965).

**Red Paste Ware**

*Representative samples.* A near-complete vessel from Chigojom (SJC05).

*Context.* Excavations, Chigojom (SJC05) STR.SJC05-09, Op. 01, LV. 04.

*Description.* The near complete miniature, red paste vessel appears to be crudely made.

*Paste.* The paste is red (10R 4/6).

**Orange Buff Ware**

*Description.* Found at several locations in the project area, multiple wavy-lined grooved incising is present on this ware, probably similar to the wavy-lined grooved incised ware described as Red Washed Buff Ware occurring during the Early Classic.

*Paste.* Paste color buff.

*Comparatives.* Gruhn and Bryan (1976:94-96) describe a buff ware from the Chichicastenango area sites as wavy-lined decoration high in frequency at Los Tapiales and Chuabaj while rather infrequent in the other study area. Rands and Smith (1965:101) describe "squiggle ware" associated with Amatle and Pamplona phases at Kaminaljuyu (Kidder, Jennings, and Shook 1946:41) and Alto Samala sites Bulux Rojo (Ciudad 1988:110-112) (Lothrop, 1933:34, fig. 15d from Chukumuk).

*Dating.* Amatle and Pamplona phases extend from the Early Classic through the Late Classic.

**Black-Brown Ware**

*Context.* SJC05-01, LV.02.

*Description.* Slipped 7.5YR 4/2.
Comparisons. This ware has similarities to features of the comales described as occurring as Santa Marta Brown Ware during the Early Classic. The ware is subject to further study and may be associated with the Late Classic as well, even though there is no trace of it occurring at Semetabaj after the Early Classic. Zacualpa’s (Wauchope 1975) reddish-brown comale form occurring in the Early Classic continuing into the Late Classic, to Late Classic Bulux Rojo from the Alto Samala sites (Ciudad 1988:110-112) and Late Classic Canal Rouge at Nebaj (Bequelin 1969:166).

Dating. Late Classic.

Postclassic Ceramic Wares

Tohil Plumbate (Figure 29a, b)

Representative samples. 1 neck fragment from T-SJC05-03 at Chigojom, and 1 rim from Estrada Escobar I (SJC03).

Context. Surface collections, Chigojom (SJC05) and excavations, T-SJC05-03 Op.01, LV. 01. Surface collections Estrada Escobar I (SJC03).

Description. The sherd surface has a soft, lustrous, thick, very dark grayish brown (10YR 3/2) to dark grayish brown (10YR 4/2) slip with preslip circumferential incising.

Paste. Paste is from a dark gray (10YR 4/1) to gray (2.5Y 5/1) and is very fine and homogeneous.

Comparisons: Plumbate, a marker for Postclassic, occurs in small quantities at Semetabaj, as reported in Shook, Hatch, and Donaldson (1979:72).

Dating. Wall thickness is .4 to 8 cm with a burnished red slip over the wall exterior.

Red Paste Ware

Representative sample. 4 body sherds of pinchacha: Chigojom (SJC05)82-1a; Estrada-
Escobar I (SJC03)41-1, 46-5; Cakbatzulu 193-3, 275-2.

Context. Surface collections: Chigojom (SJC05) (9232NE), Estrada-Escobar I (SJC03)(9233SW), Cakbatzulu (SJC01)(9132SW), 9133SE.

Description. Wall thickness is .4 to 8 cm with a burnished red slip over the wall exterior.

Paste. Texture is medium-fine and is hard-fired. The color is light reddish brown (5YR 6/4) to reddish brown (5YR 4/3) with thick light gray core to yellowish red (5YR 4/6) brown medium textured with sandy inclusions.

Comparatives. Lothrop calls these vessels "steaming vessels" (1933, 70) found at Chukumuk (ref. p. 89, fig. 56b).

Dating. Postclassic.

![Figure 29. Postclassic ceramics representing the project area.](image)

Historic Ceramic Wares

Several examples of glazed ware, some constituting reconstructable fragments, were among historic ware sherds excavated in the study. These were not of general interest to the research plan, and thus were simply catalogued and stored with the
nondiagnostic collections.

12.4. *Objects of Fired Clay* (Figure 30)

Ceramic beads were found in surface collections at Chigojom (SJC05) and Estrada-Escobar I (SJC03). No articles of adornment were found in excavations.

![Objects of fired clay representing the project area.](image)

Figure 30. Objects of fired clay representing the project area.
12.5. *Miscellaneous Clay Artifacts*

Daubs of clay, called "wasters" were found in surface collections and excavations at Chigojom (SJC05). It is assumed that the daubs, some evidencing the form of the finger which shaped it, are the leftovers of clay from pottery making. Colored clay in shades of red, blue, and purple were found in excavation contexts at Chigojom (SJC05). It is unknown at this time what purpose these served.

12.6. *Clay Sourcing Analyses*

A highly varied geology provides a wide range of ceramic resources potentially available to past potters. The landscape is Quaternary in origin, the area soils being composed of igneous and metamorphic rocks with thick pumice fills. Extensive erosion makes traces of extensive volcanic activity visible. The igneous and metamorphic rock types, as well as sand and ash of pumice falls, give a broad selection of tempering materials. Six clay deposits were located as occurring under the ash layers and exposed in present-day river courses as the result of decomposition and/or fine sorting of fluvial and lacustrine sediments (Figure 31). The variety of clays, a few of which local potters have been able to fire to extremely high temperatures, produce different colors and have different strengths and thermal properties; they are easily obtainable for manufacture of ceramic bodies, slips, or pigments.

The extent to which a prehistoric industry may have developed in the area, and the extent to which we may recognize it in the archaeological record, depends in part on the extent to which the potters perceived this range of resources, how they defined their effective ceramic environment, and how necessary it was that they optimized their relationship with the environment (Rice 1978). Presently, investigations are being made by an American potter from North Carolina to determine the feasibility of
beginning local production of ceramic wares.

Figure 31. Location of area clay sources named in the text.
12.7. *Comparative Property Analyses of Artifacts and Clay Sources*

Color, hardness, texture, and refiring behavior have been shown to be useful comparative properties. Prudence Rice (1978) has found color and hardness to be the most useful property for comparing sherds with clays and drawing inferences as to firing of the original clay. The differences in hardness, and the effect on hardness with the addition of temper, as well as manipulation of firing atmosphere, can be explored.

A similar analysis may prove significant, the diagnostic geochemical properties useful in relating to the nature of pottery production. Non-random associations of particular physical, chemical, and mineralogical properties of the clays and sherds may suggest typological and formal categories of the sherds.

The definition and classification of properties of clay from the region are a necessary step in the determination of which clays may have been used in the manufacture of the pottery under study. Property analyses can be conducted by means of identification of petrographic examination of thin sections. Neutron activation analysis was conducted in mid-1995; the results are published elsewhere (Woodward 1996).

12.8. *Descriptions of Local Clay Sources*

Before describing six clays from the proximity of the survey area, it should be noted that archaeologists have been cautioned not to immediately conclude that potential clay sources were used by the prehistoric inhabitants (Bryant and Brody 1986). Cultural and economic factors in many instances have been found to be more important in the determination of areas which become specialized pottery manufacturing centers (Nicklin 1979:441-443). However, the ready availability of raw
materials for the production of pottery may have a tendency to preselect communities that develop ceramic industries. Ease of access to locally available potting clays is doubtless an important factor in the development of pottery manufacture. Comparisons of results of compositional analyses (NAA) should be able to provide a correlation of clay sources to ceramic product.

1. Location: north slope of Cerro Chuichimuch, on private property of American potter's house.

   Description: white to tan color; fine, almost ash-like; easily crushed into fine powder; pumice and micaceous inclusions, otherwise free from organic materials.

   Notes: the clay has recently been made into pottery and fired by Americans researching the possibility of local ceramic production and trade; they added ground sherds to temper; the locals call the clay "chicle" since it is gummy; adobe bricks are presently made and lay in neat piles to the side of the dug-out area where the clay was being extracted; the local name of this clay is Xaq'ul.

2. Location: north slope of Cerro Chuichimuch on side of private road leading to American potter's house.

   Description: white to tan color; abundant pumice and black and yellow mica; fine, ash-like; easily crushed into powder.

   Notes: Dan, a friend of the American potter, says that the clay has been fired to extremely high temperatures; also presently used for adobe making; since it is more sandy and less adhesive, it is less desirable (adhesive is more desirable) by locals; seems more moist; locals say the vein extends to Totonicapan and through the Highlands.

3. Location: to the south of the main road at Los Tablones.

   Description: white, with large inclusions that make sample pumice-like; no mica inclusions.

   Notes: adobe making was presently being conducted, the bricks stacked to the side of the excavations.
4. Location: to the south of the main road at Los Tablones.
Description: white, harder than Type 3; no inclusions.

5. Location: to the south of the main road at Los Tablones.
Description: pink to flesh color; pumice, sand, and organic inclusions; reddish striations give overall pink tint; easily crumbled; retains moisture.
Notes: from same area as Type 4, different excavation pit.

6. Location: Chuichitori, from the pipeline cut.
Description: red to reddish orange; black, white deposits, with large white pumice inclusions; hard to crumble.
Notes: this reddish material is found throughout the site area, exposed in road cuts and in this pipeline cut high atop the ridge overlooking Jaibalito.

12.9. Local Ceramic Production Techniques

Pottery-making techniques have been found to be correlated to linguistic groups (Reina and Hill 1978). Reina and Hill note that the Quiché and Cakchiquel potters utilize essentially the same production technique of orbiting, the two groups being related linguistically and technologically. In utilizing the orbiting technique, the potter starts with a large mass of clay placed on the ground. Through a variety of methods, the potter forms a concavity in the center of this mass and proceeds to raise the walls by lifting the clay between two hands (1978:23). The evidence of intrusion of this technique into surrounding linguistic groups that utilize different pottery techniques is reiterated by Quiché and Cakchiquel claims to have come from elsewhere (Recinos and Goetz 1953).

It is suspected, however, that Pokoman, the exclusive users of the convex basal mold technique (Miles 1957), preceded the Quiché-Cakchiquel-Tzutujil. Utilizing the convex basal mold technique, a clay disc is pressed against the exterior of a convex
form to give shape. Supplementary techniques are used to complete the vessel (Reina and Hill 1978:22). The convex basal mold technique is used in western El Salvador (Lothrop 1927; Osborne 1965), its widespread use suggesting considerable homogeneity of linguistic affiliation over a long time.

Nonetheless, the convex basal mold technique itself appears intrusive in Guatemala, being surrounded by concave basal mold technology, similar in this way to the intrusive orbiting technique of the Quiche and Cakchiquel (Reina and Hill 1978:205). Potters utilizing the concave basal mold technique begin by patting out a large disc of clay between their hands. The disc is then pressed inside a concave form to shape the lower one-fourth to one-half of the vessel. The concave molds usually produce specialized vessels, leaving most of the shaping process to the individual potter, rotating the mold a bit to work more comfortably on a particular section of the vessel under construction (1978:22).

The concave basal mold technique is associated with the greatest number of highland Maya languages. Importantly, this is the technique used by the speakers of Mam, traditionally acknowledged as one of the earliest Maya languages to become differentiated from the parent stock (Swadesh 1967:99-100). Also important is its use among the Xinca, another group with a long history of occupation in Guatemala and possibly with linguistic affiliations to more southern groups (Mason 1940:75; Johnson 1940:110). The distribution of the concave basal mold in association with these linguistic groups indicates, on this basis, that it is the most ancient of the pottery-making techniques still extant in Guatemala.

It should be noted that neither the Mam nor Xinca claim descent from Toltec origins. The commonality indicates an extremely long and close association between early peoples, the concave basal mold technique being dominant and universal though subjected to later intrusive techniques.

Reina and Hill find the correlation between language and culture in need of validation. With validation, the processes in the relationship explained, data would
reveal significant insights into an aspect of Maya culture, that is technology, which can be noted for its antiquity. The aspect of culture has managed to survive through a long period of time (Reina and Hill 1978:206). In this regard, note is made of a stone artifact located during the 1993 surveys which suggests a mold of some sort (Figure 32). Without the smoothness of a grinding surface it remains uncertain whether the artifact was used in preparing pigment or small herbal powders. However, it is possible that the stone was used in pottery production. Reina and Hill note that concave basal mold techniques utilize molds, and in particular molds upon a work platform. The ethnographic example of San Miguel Acatán in the high mountain valley formed by the Santa Catarina River 30 km northwest of Huehuetanengo serves as a model for

Figure 32. Suspected concave basal mold for ancient pottery-making.
Similar to the northern rim of Lake Atitlán, the elevation of San Miguel Acatán is 2250 m, with archaeological evidence suggesting a long period of indigenous habitation. The region has been exploited since colonial times for its rich deposits of silver and lead. Most of the land today is given over to agriculture, men farming the steep slopes and narrow valley floors in the traditional manner, with corn and wheat being the principal crops. The majority of the population of Kanjobal-speaking Maya Potters is women living mostly in aldeas located in small valleys in extremely rugged terrain adjacent to the pueblo. Reina and Hill take exception to descriptions of the pottery as "old, rather crude crafts," the pottery being among the most aesthetically pleasing and technologically sound of all pottery produced today in Guatemala. This applies particularly to the tinaja produced here, a unique diamond-shaped body with a deep conical bottom a very wide waist, steep conical shouders, and a narrow flaring mouth.

Utilizing the concave basal mold technique, the mold creates the bottom of the vessel, and in some cases carries the same name as the bottom of the vessel. The pedestal-type base allows for stability as the potter works on the vessel. The potter dusts the mold with pumice sand to prevent sticking, patting out a disc of clay between the hands and pressing it into the mold. Walls of the vessel are built upon the base. The mold is turned during the construction process to allow a new section to be placed into position between the hands. The vessel is not removed from the mold until it is leather-hard. At that time the vessel is burnished all over, scraping off the mold scar with a trowel or old knife (Reina and Hill 1978:108-109).

Pottery production techniques are not presently known for our site area. Until verification of the use of such a stone mold for concave basal mold technique is obtained, I can only hypothesize that the very early inhabitants utilized such a technique. I base my supposition upon the knowledge that our ceramic analyses reveal Preclassic settlement, predating Cakchiquel intrusions by some 2000 years. The early
inhabitants of this area have been suggested to be Pokoman, convex basal mold technologists, from references made in the *Popol Vuh* to the Pokoman as the tribe conquered by Quiche speakers, and the reference in *los Anales de los Cakchiques* to the Cakchiquel as sons of the Pokoman.

I would like to suggest that the residents of the early settlements in our site area predate the Pokoman, as the Pokoman were found to be intrusive into the Guatemala Highlands, according to correlations between pottery technology and Maya languages (Reina and Hill 1978). At one time, according to Reina and Hill, it seems that the concave basal mold technique was dominant and probably universal (1978:206). I believe the stone artifact is evidence for the earlier technology. I find support for this hypothesis in Stephen De Borhegyi's (1965) summary of cultural development of the Western and central Highlands of Guatemala. De Borhegyi found the Early Preclassic period (ca. 2000 BC) to be a period during which the Guatemalan highlands were inhabited by Pre- and Proto-Maya groups, the Pacific Coastal area occupied by Proto-Xincas. During the Middle and Late Preclassic (ca 600 B.C.), Xinca-speaking residents, which Reina and Hill found to be concave basal mold technologists, were pushed eastward into El Salvador, when Olmec influences reached the Guatemalan Highlands from Chiapas and the Pacific coastal regions (1965:7-12).
CHAPTER XIII

LITHICS

13.1. Summary

Chapter 13 presents a brief description of the stone artifacts collected from the project area. For two reasons, only the obsidian industries will be discussed. First, obsidian tool fragments predominate the collection. Second, results of analyses of the obsidian industries have bearing on the original research goals in that they help to define the depth of cultural history in the northern rim area, aiding in postulating the area's role in regional and interregional relationships. In particular, preliminary analyses of the obsidian tool fragments suggest that the project area participated in a shared pattern of lithic technology occurring during the early Middle to Late Preclassic period in the southeast highlands.

First, a discussion of the obsidian assemblages from around the lake is presented. Collections from the nearby sites of Semetabaj, Chuitinimit, and Chukumuk are highlighted. Next, a summary of recent studies, organized around specialized analytical techniques for chemical characterization and use-wear analyses of obsidian, is presented. Rapidly accumulating data from these latter studies is resulting in a deeper understanding of the lifeways of early Mesoamericans who employed the tools to insure their livelihood. Utilizing the same methods of specialized analysis is a means of gaining further understanding of the northern rim sites. Following the discussion of comparative research of obsidian industries, the project area assemblage is laid out and discussed. Aspects of the assemblage are compared to the regional pattern occurring in the southeast highlands.
13.2. The Status of Chipped Stone Research in the Area

The only information we have of the chipped stone industries in the Lake Atitlán basin comes from descriptive accounts of materials collected at Chuitinimit and Chukumuk (Lothrop 1933), and Semetabaj (Shook, Hatch, Donaldson 1979). The most recent of those accounts is the report of investigations at the small site of Semetabaj east of the lake. Here, unaltered, primary flake-blades (609) are reported as most prevalent, the fragments being short and wide (length, 7 to 9 cm; width, 1.7 to 3.4 cm) broadening at the striking platform. The presence of cores (expended cores 4.7 cm and 9 cm in length) suggests to the researchers the practice of local blade-flaking. Visual source determination based upon color indicates 91% of the obsidian (including the cores) comes from the Rio Pixcaya quarry source. A light smokey black number (7.5%) are thought to be from El Chayal. A small number (1.5%) of fragments of dark green obsidian found in Early Classic context are believed to be from the Sierra Madre Occidental site of Cerro de Navajas, north of the Valley of Mexico, west of the modern city of Durango. The researchers' surprise at finding the Mexican obsidian is reminiscent of Wauchope's (1975) interest in the 13 of 141 (9.2%) samples of similar obsidian flake blades found at Zacualpa. At Zacualpa, approximately 80 km northeast of Semetabaj, the green blades occur in Early Classic Balam 2, Balam-Pokom Transition, late Classic Pokom, and early Postclassic Tohil. Wauchope surmises that Zacualpa apparently was not under the direct economic domination of Teotihuacan (p. 39), and that the trade avenues from central Mexico stayed open long after the fall of Teotihuacan (p. 37).

In addition to the abundance of flake-blades, numerous "unaltered" chips of obsidian, considered wastage from local manufacture, are catalogued as scrapers by the Semetabaj researchers. While a few have retouched edges, none have been analyzed for use wear, and are dated from excavation contexts to the Middle Preclassic and the early half of the Early Classic.
The only other source of information of the chipped stone industries of the lake area is Lothrop's report from the 1930's, which reflects the standards and practices of an earlier period of investigative research. Lothrop briefly describes the stone artifacts from the site Chukumuk, making the comment that "obsidian blades occur at all depths in the excavations," the blades being the most common find of stone objects (p. 26-27). Two macroblades appear to have been deposited in a shallow burial. At Chuitinamit, obsidian knives, cores, blades with secondary chipping, scrapers, and bifacial points were reported as having turned up in great quantity (ref. p. 87, fig. 54).

13.3. Specialized Analytical Techniques for Chemical Characterization and Use-Wear Analyses

A primary objective of the Sololá project was to catalogue the lithic assemblages of the project area. A secondary objective was to coordinate information on lithic technology into a definition of the early people's activity in the area. Over the past ten years, increasingly sophisticated analyses have been conducted of the Mesoamerican obsidian industry to indicate that the lithics are potentially able to yield such an understanding. For example, the distribution of obsidian tools and fragments can be traced to the quarry source utilizing advances in analytical techniques for chemical characterization. The system of analysis has been found to be a reliable indicator of a number of aspects of the past lifeways in Mesoamerica (Zeitlan 1982).

As a result of chemical characterization analyses used to match obsidian to its source, it is known that obsidians from Guatemala were the preferred resources during all prehistoric time periods in Mesoamerica, except during the Late Postclassic (Clark, Lee, and Salcedo 1989). Beginning in the Late Preclassic, the Rio Pixcaya quarry was the predominant source during the shift from flake technology to pressure blade
technology (Bove 1981; Clark and Lee 1984; Sidrys and Kimberlin 1979).

Moreover, with information on the quarry source, John Clark (1987) demonstrates that "the circulation of prismatic blades was an important metaphor of sociopolitical relationships" (p. 281). Clark has shown that significant changes in obsidian transactions were linked to the equally as important development of complex chiefdoms. Prior to the adoption of blade technology, obsidian exchange consisted of the distribution of unmodified nodules to consumers who fashioned their own tools by means of direct percussion or bipolar percussion, or a combination of the two (Clark 1981). Unlike the widespread use of Rio Pixcaya quarry, however, the adoption of blade technology occurred on a region-to-region basis (Clark 1987:262), as the result of decreased mobility (Parry and Kelly 1987) or for political reasons (Clark 1987). In any case, the requirements for making pressure blades determined the structure of the blade industry, which predisposed the technology toward certain forms of labor organization (Clark 1987:265).

Finally, researchers utilize the basic data on obsidian sources to elucidate significant patterns in trade and interaction changing over time and space throughout Mesoamerica. For Clark, Lee, and Salcedo (1989), sourcing analyses document the major patterns of obsidian distribution and exchange that occurred in the Soconusco region over the past 4000 years. Sourcing analyses enable F.W. Nelson (1985) to attribute the ascension of Kaminaljuyú during the Late Preclassic as the cause for the shift in procurement patterns from Rio Pixcaya to El Chayal (also in Bove 1989b:6). Sidrys and Kimberlin (1979) place the shift at the beginning of the Classic period. Nonetheless, these scholars agree that Rio Pixcaya obsidian was widely distributed during the Middle Preclassic. Its extensive distribution supported the existence of regional trade networks that facilitated the cultural interaction and exchange of ideas (Fowler 1989).

From sourcing analyses we now know that the shifts in source preferences occurred periodically to reflect preference changes in commodity export, i.e. the desire
for macrocores or ready-made blades (Hay 1978). The earliest documented trade in finished pressure blades corresponds to early Olmec developments at San Lorenzo at about 1100 B.C. (Cobean et al. 1971; Coe and Diehl 1980). From the amount of obsidian found at the site, we can also determine a relative assessment of obsidian consumption, as well as who was responsible for procurement. For the Soconosco area, procurement was a "community," rather than an individual effort (Clark, Lee, and Salcedo 1989) between trade partners (Nelson and Voorhies 1980).

In turn, patterns of obsidian trade can be analyzed in association with the transportation and exchange of various elite goods. In his 1984 work, Ken Brown discusses possible trade routes through the Quiché area that existed during the Middle to Late Formative (100-200 B.C.). According to Brown, the Northern Upper Motagua River Valley route is of interest as perhaps the first means established for the transportation and exchange of elite goods (e.g., obsidian, jade). The route "began in Guaytan, ran westward along the Motagua River to its headwaters in the Quiché Basin, crossed the mountains into the Atitlán Basin, and finally passed onto the Pacific Lowlands"; the route "extended northeast along the Motagua River into the Southern Maya Lowlands and/or over the mountains through the Salama Valley" (p. 229). El Chayal obsidian may have been transported on one such elite trade route, carried by canoe up the Pacific coast on the inland waterway (Navarrete 1978) that connected Oaxaca to El Salvador. A transportation advantage to the waterway could explain why there is four times as much El Chayal obsidian as Rio Pixcaya at the southern Chiapas site of Paso de la Amada, while the the Rio Pixcaya source is several days closer in walking distance. It would also explain why El Chayal obsidian had such a tremendous range, traveling twice as far as Rio Pixacay obsidian (p. 247).

In general, Preclassic Maya obsidian distribution and procurement were complex processes, and diversification of sources and supply routes was as common during the Middle and Late Preclassic as during the Classic. The diverse trade contacts in obsidian, ceramics, and ash reflect a long continuous interaction between the Maya

The time frame of trade and interaction can be determined by relative and absolute dating analyses. These results can be employed to construct site and regional chronologies. The empirical means by which hydration dates are obtained have been employed in specific studies of obsidian in the Guatemala area, involving the calculation of a hydration rate, through cross-correlation with other independently derived chronometric data, in order to understand the factors affecting obsidian hydration (Michels 1986). Friedman and Smith (1960) systematically measured obsidian specimens of known origin and antiquity along coastal Guatemala and then calculated various hydration rates based on temperature differences by correlating hydration-rim measurements with radiocarbon dates, ceramic associations, and historical records. Similar approaches have been utilized by Michels (1973), Hurtado de Mendoza (1977), and Murdy (1984) to estimate hydration rates for Kaminaljuyú; Meighan and Vanderhoeven (1978) for the La Joya Quarry, El Chayal; Dillon et al. (1988) for Abaj Takalik; and Neff et al. (1992) for the south coast of Guatemala.

Aside from distribution, a greater understanding of both obsidian and chert manufacturing technologies has enabled archaeologists to determine technological and functional uses of the lithic resources over time (Shafer and Hester 1983; Hester and Shafer 1991). During the Early Formative, people all over Mesoamerica shared simple, expedient tool technologies. The manufacturing method served their function throughout the Preclassic and into the Classic period. The tool kits consisted of no more than numerous small, "amorphous" flakes and large quantities of flake shatter. Whereas these casual, informal tools from unstandardized cores were indeed "early," we now know they were found throughout Mesoamerica, in the Basin of Mexico (Boksenbaum 1978:1980; Clark 1981), the Rio Balsas Basin of Morelos (Grove 1968), the Valley of Oaxaca (Pires-Ferreira 1975), the Olmec area of lowland Veracruz and Tabasco (Cobean et al. 1971; Coe and Diehl 1980), the Isthmus of Tehuantepec (Zeitlin 1979), the Central Depression and Pacific coast of Chiapas (Clark 1981), and the
Pacific Coast of Guatemala (Coe 1961). In particular, at El Balsamo flake technology continued alongside prismatic blade production, evidencing for the Escuintla area a continuation of the less sophisticated technology through the Classic period (Heller and Stark 1989). The otherwise unimpressive flakes of local stone predominated the lithic technologies throughout the Early and Middle Formative periods, and in some areas persisted as the dominant obsidian industry well through the Late Formative.

13.4. *Chipped Stone Industries (Obsidian) of the Northern Rim Project Area*

Table 14. Distribution of obsidian surface collections from project area by tool types.

<table>
<thead>
<tr>
<th>Unifacial Artifacts</th>
<th>1327</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prismatic Blades</td>
<td>1269</td>
</tr>
<tr>
<td>Macroblades</td>
<td>54</td>
</tr>
<tr>
<td>Scrapers</td>
<td>4</td>
</tr>
<tr>
<td>Bifacial Artifacts</td>
<td>25</td>
</tr>
<tr>
<td>Projectile Points</td>
<td>0</td>
</tr>
<tr>
<td>Biface Fragments</td>
<td>5</td>
</tr>
<tr>
<td>Prismatic Cores</td>
<td>20</td>
</tr>
<tr>
<td>Debitage</td>
<td>431</td>
</tr>
<tr>
<td>Flakes</td>
<td>294</td>
</tr>
<tr>
<td>Utilized Flakes</td>
<td>129</td>
</tr>
<tr>
<td>Flake Fragments</td>
<td>8</td>
</tr>
</tbody>
</table>

The flaked tool assemblage recovered by Proyecto de Sololá includes a majority of obsidian flakes (24% of the surface collection) and prismatic blades (71% of the surface collection) (Table 14, Figure 33), with a smaller (no less significant) amount of chert yet unanalyzed. This section of the report of lithic industries covers the results of technological studies of the obsidian. The primary objective is to present a description and typology of the obsidian artifacts comparable to analyses of similar material within the northern highlands (Sharer and Sedat 1987)
Figure 33. Overall obsidian distribution, based upon surface collections.

and the southeastern Maya region (e.g. Fowler 1981; Sheets 1978; Valdez 1986). Indications of use-wear and edge-damage characteristics are presented only as an introduction to a discussion of the function of the materials. It is hoped that the results of later analyses will enable the coordination of terminology and definitions of activities relating to lithic technology already described for the Santa Leticia (Valdez 1986), Chalchuapa (Sheets 1978), and Salama Valley (Sharer and Sedat 1987) assemblages. At the present time, artifact function remains difficult to identify. Nevertheless, both the general trends in obsidian tool type and use are discussed relative to the source determination. At this early stage of analysis, it appears that the predominance of obsidian is reflective of the Middle to Late Preclassic transition from expedient flake technologies to pressure blade technology. However, when the numerous large and small chert flakes, together with additional excavational evidence
are analyzed, the picture may change.

13.5. Analysis Methodology and Procedures

A preliminary classification of the artifacts was carried out in the field laboratory during 1994, 1995, and 1996 based on the technological analysis used by Sheets (1978), Sharer and Sedat (1987), and Valdez (1986). Initial sorting of the obsidian artifacts included separating the collection into traditional lithic groupings, i.e., blades, flakes, cores, core fragments, bifaces, unifaces, etc. Use-wear categories have not been determined.

During 1994, 100 obsidian artifacts chosen non-randomly from 1793 obsidian artifacts from surface collections were subjected to neutron activation analysis (NAA) to determine the provenience of the source (Woodward, 1996). Results of the analyses are represented in Figure 34. The samples were compared with 60 samples collected from the Guatemalan sources of El Chayal, Ixtepeque, and Rio Piscaya and 6 samples from the three source areas provided by the Lawrence Berkeley Laboratory of UCLA. Each sample underwent two irradiations, one thirty-second pneumatic tube irradiation, known as the short count and one long count, 14-hour rotisserie irradiation. Elemental concentrations determined through gamma-ray spectroscopy were organized onto a database and analyzed using the statistical program Gauss. Bivariate analysis of sodium and manganese produced scattergrams to indicate distinctions among the artifact and source samples. In addition, cluster analysis was employed to distinguish three groups representing the obsidian sources. The NAA analysis is the result of thesis research conducted by Michelle Woodward at the Texas A&M Center for Chemical Characterization and Analysis, with guidelines provided by Michael Glascock of the Research Reactor Center of the University of Missouri.
13.6. The Northern Rim Sites' Collection

The following descriptions include 1793 obsidian fragments from surface and excavated contexts. Artifacts are arranged into three major categories (1) unifacial artifacts; (2) bifacial artifacts; and (3) debitage. Sourcing data, where available, was derived from NAA analysis. All dimensions are in centimeters.

Unifacial Artifacts. Unifacial artifacts have been defined by Valdez (1986:211) as those that have been intentionally altered, usually by flaking, on only one surface, i.e., dorsal or ventral.

Included in this category are prismatic blades, macroblades, scrapers, and pointed blades.
(1) **Prismatic Blades.** (Table 15) A prismatic blade is a parallel-sided flake with a length greater than two times its width. The dorsal surface usually has at least two parallel flake scars. Prismatic blades are struck from specially prepared cores (Honea 1965; Crabtree 1968; Hester 1973; Fowler 1981). Prismatic blades recovered from surface collections in the Sololá project area total 1269, comprising 71% of the total surface collection of obsidian artifacts and 94% of the surface unifacial artifacts. Of the surface collection, 21% (366) are proximal, 39% (695) are medial, and 11% (200) are distal segments. There are no complete blades in the surface collections.

<table>
<thead>
<tr>
<th></th>
<th>Proximal</th>
<th>Medial</th>
<th>Distal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>1.0 - 5.6</td>
<td>6.1 - 0.7</td>
<td>3.6 - 1.5</td>
</tr>
<tr>
<td>Width</td>
<td>2.4 - 0.1</td>
<td>2.2 - 0.1</td>
<td>1.3 - 0.6</td>
</tr>
<tr>
<td>Thickness</td>
<td>0.9 - 0.1</td>
<td>0.1 - 1.0</td>
<td>0.4 - 0.1</td>
</tr>
</tbody>
</table>

*no whole blades recovered*

Frequency: 1269 (surface)

Material: Obsidian

Dimensions: (surface) Proximal. L. 5.6-1.0; W. 2.4-0.1; T.0.9-0.1; medial. L. 6.1-0.7; W.2.2-0.1; T. 1.0-0.1.

Context: surface.

Source: Of the 70 prismatic blade fragments (42 proximal, 24 medial, 4 distal) from surface collections that were submitted for NAA analysis, 54 were from Rio Pixcaya, 10 from El Chayal, 2 were green indicating the Pachuca obsidian source, and 4 were unassigned.

Within the obsidian collection, prismatic blade technology predominates. Based upon preliminary observation, all blade fragments show some type of use-wear and/or edge damage. As Woodward (1996) reports, a few blades exhibit lateral edge
secondary retouch, which may have been used as spokeshaves or mounted in hafting elements. One utilized prismatic blade shows evidence of medial smashing, indicating the possible intent of local inhabitants to rework and reuse obsidian to its fullest potential. Similar to Middle and Late Formative population groups at Balsamo (Bove 1989b; Heller and Stark 1989), it appears that the population of the northern rim sites may have continued to use previously employed percussion and bipolar technologies in order to maximize the obsidian. Additionally, although the obsidian blade was apparently a major tool at the project sites, low frequencies of exhausted polyhedral core fragments and modification debris indicate that the blades may have been imported completely manufactured or as macrocores from other areas and perhaps even distributed through some type of economic exchange system.

Use-wear analyses of the blade assemblage are incomplete. Activities associated with obsidian blade use, given the wear types, will help to assess a range of functions, exact functions. Nonetheless, it is expected that the activities will be difficult to determine since several activities produce similar edge damage. Following Valdez (1994), "some of the categories may result from combined activities (e.g., in the edge fracturing group, since we no longer are able to see the damaged or cutting edge, it is difficult to determine whether this artifact served in a soft function before being relegated to the hard activity" (p. 282). As well, throughout Mesoamerica obsidian blade functional efficiency appears relative to the task. Crabtree (1968) points out that the quality of the cutting edge of Mesoamerican prismatic blades is unsurpassed. However, Heller and Stark (1989:48) distinguish the functional inferiority of prismatic blades where bipolar flakes make for better manioc grater teeth (Davies 1975), small hafted microliths for cutting soft materials (Hayden 1973; Flenniken 1981), or wedges for wood or bone working (Clark and Lee 1979).

(2) Macro Blades. Like prismatic blades, macroblades are at least twice as long as they are wide. These blades, considered larger than prismatic blades, are somewhat
irregular, with slightly tapering-sided flake-blades resulting from a difference in mode of production. Valdez (1994:282) has defined macroblades as having been produced by percussion, not pressure flaking, and maintaining several attributes including a large platform, clear bulbs of force, and compression rings. The dorsal surface of these blades usually has several flake scars. The blades are struck from large cores, probably during initial stages of nodule reduction. Note that while Valdez classifies macroblades in the Santa Leticia assemblage as varying in length from 5.23 to 9.65 cm., Sharer and Sedat restrict the classification of macroblades to those from 14-22 cm in length. There are no whole macroblades in the Sololá project collection.

Frequency: 54 (surface)

Material: Obsidian

Source: Of the 18 macroblade fragments from surface collections that were submitted for sourcing analysis, 12 sourced from Rio Pixcaya and 6 from El Chayal.

(3) Scrapers are flakes with secondary chipping along at least one edge, with the determination of the category based upon use wear indicative of a functional use as scrapers (cf. Fowler 1981; Hester 1972, 1978; Sheets 1978).

Frequency: 4 (surface).

Material: Obsidian.

Dimensions: (surface) L. 3.0; W. 1.6; T. 0.5.

Context: Chigojom (SJC05) surface.

Source: One scraper fragment from surface collections was submitted for sourcing analysis and was assigned to Rio Pixcaya.

Use wear: One medial blade fragment has one lateral edge slightly retouched, which according to Sheets (1983:92) would classify as a "scraper". Although not noted in the obsidian collection, one glass flake evidencing modern tool production, with use-wear in the form of nibbling on all edges and step unifacial retouch on two sides, possibly
functioned as a scraper. Accounts have been given of the use of historic glass for tool production (Hayden 1979).

**Bifacial Artifacts.** Bifaces are artifacts worked on two or more surfaces. Included in this category are projectile points, biface fragments, eccentrics, prismatic cores, flake cores, battered pieces, and drills.

(1) *Projectile Points* are flakes or blades bifacially worked to form a triangular point, which may or may not have a stem base.

Frequency: 3.

Material: Obsidian.

Dimensions: L. 4, 4cm (fragment); W. 1.2, 2.8 cm.

Context: (1) STR.SJC05-09, Op.01, LV.02; (2) STR. SJC05-06, Op. 01 surface; (3) surface 9132NW.

Source: Unknown.

(2) *Biface fragments.* (Table 16) These obsidian flakes or blades have been bifacially worked, perhaps functioning as scrapers or knives.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
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<td>280-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-6</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>x</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Segment</th>
<th>Length</th>
<th>Width</th>
<th>Thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>distal</td>
<td>2.5</td>
<td>2.0</td>
<td>0.4</td>
</tr>
<tr>
<td>proximal</td>
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<td>2.6</td>
<td>0.6</td>
</tr>
<tr>
<td>proximal</td>
<td>2.3</td>
<td>2.5</td>
<td>0.9</td>
</tr>
<tr>
<td>medial</td>
<td>3.7</td>
<td>3.3</td>
<td>0.6</td>
</tr>
</tbody>
</table>

only four bifaces were subjected to measurement analysis

Frequency: 9.

Material: Obsidian.
Dimensions: L. 3.7-1.7, Mean 2.7 cm.; W. 2.9-1.1, Mean 1.45 cm.

Context: surface.

Source: unknown.

Use-wear: One interesting medial fragment of a bifacial knife evidences retouch along the lateral edges.

(4) Prismatic Cores. Exhausted conical to cylindrical cores from which prismatic blades were struck.

Frequency: 20 fragmentary.

Material: Obsidian.

Dimensions: L. 5.9-1.8, Mean 3.15 cm.; W. 3.3-1.3, Mean 2.0 cm.

Context: Surface.

Source: Of 5 polyhedral core fragments from surface collections that were submitted for sourcing analysis, 3 were of Rio Pixcaya obsidian, and 2 were of El Chayal.

Use-wear: Low frequency of exhausted polyhedral core fragments and modification debris. Polyhedral core fragments exhibit bifacial flake scars, battering, shattering and step fractures on platforms, and impact fractures on the ends. Modification of the cores, together with evidence of secondary bipolar reduction support the theory that exhausted cores were reworked to produce expedient tools.

Debitage. This category includes material that is generally the result of tool manufacture, discarded flakes and chunks being the primary components (Valdez 1986,211). The surface collection includes a high proportion (17%) of nonartifactual debitage.

(1) Flakes. Flakes must have observable platforms and bulbs of percussion. Defined by Sharer and Sedat (1987), flakes are generally amorphous fragments struck from cores.

Frequency: 302(surface).
Material: Obsidian.
Dimensions: L. 3.0-0.5 cm; W. 2.0-0.3 cm; T. 1.0-0.1 cm.
Context: surface.

(2) *Utilized Flakes.* Each flake in this category displays some form of utilization.
Frequency: 129 (surface).
Material: Obsidian.
Dimensions: L. 3.7-1.8 cm; W. 3.0-0.9 cm; T. 0.5-0.2 cm.
Source: Of 25 fragments of utilized flakes from surface collections that were submitted for sourcing analysis, 19 were from Rio Pixcaya, 4 from El Chayal, 1 was green indicating the Pachuca obsidian source, and 1 was unassigned.

(3) *Flake Fragments.* Nonutilized flakes lacking platforms and bulbs of percussion, with or without cortex. They exhibit no use-wear. Flake fragments exhibit bipolar reduction technique.
Frequency: 8
Material: Obsidian

13.7. *Discussion: The Northern Rim Sites' Assemblage*

The obsidian chipped stone artifacts recovered from the project area are typical of the technologies represented from Semetabaj and the surrounding region including the northern Highlands (Sharer and Sedat 1987), the Pacific coast (Bove 1989a; Clark and Lee 1984; Heller and Stark 1989), and southern Highlands (Valdez 1986). At all of these sites, obsidian dominates the chipped stone artifacts.

The project assemblage is indicative of local blade-flaking utilizing both
Figure 35. Overall site distribution of obsidian tool types, based upon surface collections.

percussion and pressure technology. The technologies occurring at the northern rim sites appear to be comparable to technologies found at El Balsamo (Heller 1986) 30 km
south of the project area, and the Salama Valley sites 100 km to the northeast. The relatively high counts of surface flakes and debitage at Chigojom suggest that this site may have been a domestic workshop for a few skilled craftspeople producing a small quantity of blades (Figures 35, 36).

![Figure 36. Distribution of obsidian tool types, SJC05, based upon surface collections.](image)

Based upon neutron activation analyses conducted on artifacts recovered from surface collections and limited excavations (Figures 34, 37), it appears that overall the sites might have been in operation during the Early Formative, when obsidian tools were crafted from El Chayal materials. A predominance of El Chayal chunks and cores reflect residue of flaking techniques not intended to control the form of the resulting flakes. The cores would not have been preformed or prepared, being struck almost randomly, and shattering into pieces of variable size and shape which would have been, in Parry and Kelly's words, "with all the finesse of a man cracking walnuts" (p. 287). Boksenbaum (1980) describes the dominant technique of the Early Formative period as "nodule smashing", there having been no distinction made between tools and waste; tools were selected by empirical test, the pieces chosen according to the specific use.
The tools were seldom modified, and discarded rather than being retouched to reshape or resharpen. Support for the Early Formative use of the Chyal materials comes from Early Formative sites in Chiapas where El Chayal (with Tajumulco) sources supplied the majority of obsidian users (Clark and Lee 1984).

![Graph showing obsidian tool type source distribution and percent of total surface collection.]

Figure 37. Obsidian tool type source distribution and percent of total surface collection.

During the Middle to Late Preclassic, the more highly refined blade technology probably made its way into the project area along with its spread throughout Mesoamerica during that time. None of the chunky fragments that would have resulted from the expedient technology at the project sites was sourced to the Middle to Late Preclassic-popular Rio Pixonaya quarry, and the artifacts which were include almost all of the prismatic blades sampled (91%), more than one-half of the macroblades (66%), and all of the bifaces (100%) and scrapers (100%). Research conducted by Nelson
(1980, 1985 in Driess 1988:47-49) in the Maya lowlands indicates the Rio Pixcaya source was the major source of obsidian for the Middle Preclassic (1000B.C. - 400B.C.). Obsidian procurement and exchange studies conducted by Clark and Lee (1984), within Chiapas, indicate the same, Rio Pixcaya, source during the Middle to Late Formative.

It is suspected that the project sites' blade collection represents the more highly refined blade technology of the Middle to Late Preclassic, comparable, and almost identical to the Santa Leticia collection. Seventy (70%) of the Santa Leticia assemblage is in the form of prismatic blades and blade fragments; less than 5% is accounted for by formal tools, i.e., scrapers, bifaces, etc., the balance of the material is primarily in the form of flakes, flake fragments, and chunks. It appears that formal tools at the northern rim sites were the result of standardized cored refugation and are not considered to have been expedient tools.

Advantages to blade technology include the possibility of resharpeming and reusing the tools repeatedly in a variety of tasks. However, Clark (1987) describes the necessary prior conditions to produce pressure blades consistently: (1) the availability of good obsidian, (2) large pieces of obsidian, preferably pre-tested or preformed at the quarry, and (3) a specialist knapper (p. 166). According to Clark, the fact that few groups had access to suitable obsidian became a critical factor in the spread of blade technology in ancient Mesoamerica. As well, groups were constrained by "costs"; the farther away the source, the higher the "costs" involved in transport and "packaging" to prevent damage in travel. As far as the northern rim sites, secondary retouch in the form of notched blades used as spokeshaves or mounted in hafting, together with medial smashing, indicate that the inhabitants were reworking and reusing obsidian perhaps to its fullest potential.

Based upon the low percentage of cortex found at the northern rim sites, obsidian was probably imported during the Middle to Late Preclassic as preformed cores. Similar to the situation at El Balsamo and Santa Leticia, the preforming was
probably conducted at or near quarry sites to facilitate transport (ref. Heller and Stark 1989:51; Valdez 1986:216). According to Heller and Stark, "further reduction or reshaping would have produced occasional large flakes or blades, shatter, and exhausted cores. Such pieces, while not suitable for further blade production, could have served as cores for the production of numerous bipolar flakes as in Chiapas [Clark and Lee 1984:255]" (p.1989:50). There is not available evidence at the project area sites to suggest that the blades were exchanged or redistributed within the center, to a rural support area, or regionally.

The predominance of Rio Pixcaya obsidian in the project area's surface collections may, however, represent not only a shift in blade technology, but also a source procurement pattern supportive of theories of complex exchange and cultural interaction between populations in the Northern Highlands and the Pacific Coast during the Preclassic period. As Woodward (1996) has indicated, proximity of the project area to the Pixcaya source is not reason to assume economic efficiency for choosing the source. Research has proven (Zeitlin 1982) that "social and political factors frequently override more practical economizing considerations in structuring the long-distance movement of commodities" (p. 272). A northern Upper Motagua River Valley trade route may explain the relationship between the site, Rio Pixcaya obsidian, and influences from the upper Pacific Coast, northern highlands and lowlands reflected as well in ceramics, architecture and monumental structures (ref. Chapter XVII, this dissertation).

While it may not be true for the project area, the spread of the blades, together with the adoption of blade technology in Mesoamerica, is said to have been a result of the emergence of complex chiefdoms (Clark 1987:260). For the Chiapas region, Clark and Lee (1984) distinguish the Early Formative from the Middle to Late Formative by a change in obsidian procurement associated with the development of controlled access to the obsidian sources (p. 260-261). While during the Early Formative access to the sources was unlimited, access in the Middle and Late Formative was controlled by
surrounding polities.

According to Nelson and Voorhies (1980), Rio Pixcaya continues to supply the majority of obsidian until El Chayal obsidian begins to predominate during the Late Preclassic (400B.C. - A.D. 200). Nelson attributes the shift to the ascendance of Kaminaljuyú. A contemporaneous change from Rio Pixcaya to Chayal obsidian also occurred in the Maya Lowlands, the Guatemalan coast, and the interior of Chiapas. There were corresponding changes in ceramic, art, and architectural styles. In the Chiapas interior and the Soconosco region, the change was a consequence of a change from the importation of macrocores to trade in ready-made prismatic blades (Clark and Romero 1989). At Kaminaljuyú, blade specialists were exporting finished blades (Hay 1978).

The shift at the project area sites is represented in the El Chayal-sourced macroblades that make up a surprising one-half (50%) of the El Chayal-sourced artifacts. Comparatively speaking, macroblades recovered from the Salama Valley ritual deposits date to the Late and Terminal Preclassic, while from general contexts the large blades date from the Classic (ref. Smith and Kidder 1943:163-164). The fact that the same type of large blades appears at Chalchuapa through much of the Preclassic era (Sheets 1978:10-11) presents some questions. Yet, while large blades were found at Chuitinimit in ritual contexts of undetermined date, there are no macroblades referred to in the assemblage at Semetabaj, which was abandoned during the Early Classic, around 400 A.D. Although it is not apparent in the project area's assemblage, a shift to the El Chayal source at the Sololá project sites could reflect the unstable and highly competitive period among local lineages at Kaminaljuyú, which Hay (1978:150-153) describes for the Late Preclassic and Early Terminal Preclassic (500B.C. - 0. A.D.).

During the Middle Classic to the Early Postclassic, Rio Pixcaya obsidian again became predominant in the Soconosco region. The popularity corresponding to a shift from finished blades to large polyhedral cores was significantly different than the interior of Chiapas and the Maya lowlands where El Chayal obsidian continued as the

The presence of a small number (3) of Pachuca-sourced artifacts at the project area is significant if only in agreement with the Mexican obsidian found at Zacualpa and Semetabaj discussed earlier. The Mexican sources also predominated in the Soconosco region during the late Postclassic, specifically obsidian from Pachuca, Hidalgo, and Pico de Orizaba, Veracruz. The Mexican obsidians do not appear to have reached the coastal sites of Guatemala in significant quantities (Clark, Lee, and Salcedo 1989:276).

While obsidian dominates the chipped stone assemblage, chert artifacts may hold the key to our understanding of the earliest peoples residing in the project area. A preliminary visual study conducted of surface collections of chert artifacts indicate that the tools represent early paleoindian technologies (S. Ericastilla, 1994 pers. com.). Further archaeological investigations, including additional reconnaissance of the upland areas and site specific excavation, will be necessary to fully understand the earliest northern rim area population's participation in the rather lengthy and complex development of lithic industries and exchange.
CHAPTER XIV
MONUMENTS

14.1. Summary

Monuments located in the project area are in the form of plain, or pecked, carved and/or basined and are located in the proximity of concentrations of cultural debris and structural remains. The plain stelae are reminiscent of Preclassic period markers reported at many sites in the highlands and on the Pacific slope of Guatemala (Shook 1971). Although the function of the stelae in the project area is unknown, one similar grouping at Monte Alto is believed to have served as ritual-astronomical purposes (Bove 1989). While stelae are not characteristic of the Classic and later periods in the highlands, they are found in fill as re-used foundation material (Kidder, Jennings, and Shook 1946:102-104). It is postulated that some of the Preclassic highland stone monuments were intentionally smashed, scattered, and thrown into dumps (Borhegyi 1965:26). On the other hand, carved stone monuments of the project area concur with Preclassic period sculptural art reported in quantities on the Pacific coast and slope.

Descriptions of the following monuments follow the format utilized by Sharer and Sedat (1987) in discussing the Salama Valley in the northern highlands. In order to establish consistency, the terminology also follows Sharer and Sedat (1987), having been based upon prevailing usage in Maya archaeology. Stelae refers to upright stones which may be plain or sculpted; altars refers to generally rectangular or circular stones, in these cases not decorated but usually carved to form a central depression or basin; pedestal sculptures refers to anthropomorphic figures carved in the round surmounting a plain shaft; boulder sculptures refers to rock outcrops modified primarily by carving, pecking and/or grinding; and a miscellaneous category refers to a residue of monument
fragments, usually representing either anthropomorphic or zoomorphic figures, or pieces too damaged to be reliably assessed as to type. All monuments were left in situ after being recorded by photographs and scaled drawings.

14.2. *M-9132SW-01*

*Class.* Boulder sculpture (Figure 38a, b, c).

*Dimensions.* H.100, L.200, B.100 cm.

*Condition:* Exposed surface is badly eroded. The monument is slightly tilted, apparently having shifted from its original position.

*Context.* Unknown.

*Provenience.* Qakbatzulú; 14°45'29.9"N, 91°13'27.8"W.

*Associations.* The carved boulder is presently situated approximately 2 m from an altar stone.

*Description.* This generally round boulder is divided into two areas for analysis. The lower portion is sculpted into the facial portion of a large human or feline (Figure 38a, b). The upper flattened surface of the boulder is plain; the slope of the backside of the monument is pecked and grooved into basins (Figure 38c). Almost completely exposed above the earth, the boulder faces southeast. It is this southeast face that is carved into a facial form. The eyes are deeply carved into concentric circular impressions that continue as linear impressions extending downward to disappear into the earth. The base of the monument is below groundlevel. Two more lines run parallel to this extension of the eyes, giving a "whisker-like" appearance. A nostril form is evident; however, the lines are severely eroded. There is no obvious mouth, but one could have existed at one time where the linear lines come together underneath the nostrils. Lichen growth and discoloration appear on the eastern portion of this monument, similar to other boulders in the vicinity. The upper surface of the boulder is naturally flattened or has been leveled perhaps to form the basin arrangement. The back side of the boulder extends at an approximate 45-degree angle downward from
Figure 38. M-9132SW-01.
this flattened area. This portion of the boulder is pecked and carved into two basins that each have drainage channels extending downward and across the boulder. The entire pecked and grooved arrangement is symmetrical suggesting their application...
occurred at the same time. The function of this boulder is at present unknown.  

Discussion. As for the carved portion of this monument, Borhegyi (1965) notes that during the Middle and Late Preclassic (600 B.C. - 200 A.D.) monumental stone sculptures representing large human or jaguar heads and potbellied individuals were present that may have served as "chac mool"-like altars in front of temple mounds. Vertically tenoned stone sculptures from the Guatemalan highlands represent monkeys, crouching jaguars, or feline monsters, the exact significance unknown. However, Borhegyi postulates that these smaller, exquisitely carved, tenoned sculptures may have served as portable markers during ceremonies or games. That human or animal sacrifice was practiced in the region during this period is known from the presence of skeletal remains of animals and human retainers in tombs (p. 16). 

Comparisons. Although at the present time this monument is the only known boulder sculpture of its kind in the Lake Atitlán area, the carving indicates a close stylistic similarity to the "jaguar head" monuments of the southeast highlands, and to the jaguar/shaman boulder sculptures tenoned into outer temple walls at the Andean site of Chavin in north-central Peru (ca. 850 - 200 B.C.).

As for the pecked and grooved portion of this monument, Sharer and Sedat (1987) have analyzed such "cupulate" elements on monuments that date to the Middle to Late Preclassic transition (ca. 500 - 200 B.C.) in the northern highlands. According to these researchers, the act of forming cupules may have been for the purpose of magically acquiring some of the boulder's "power". As time passed, more cupules were added, the original cupules becoming larger and deeper as if to allow the grinding of some substance used in rituals. Although ritual significance of this monument cannot be assumed, the markings appear to be intentionally arranged. Following Sharer and Sedat, the extensions may simply allow drainage from the basin forms; or the arrangement may denote intentional signs or characters of a writing system, even maps of the terrain or sky (p. 379). A series of other monuments with comparable cupulate and grooved markings exist outside the area, on the Pacific coast, and in the
central highlands and Gulf Coastal areas of Mexico (p. 381).

14.3. M-9132SW-02

Class. Altar (basin) (Figure 39a, b).

Dimensions. L. 167, W. 100, D. 40 cm.

Condition. Exposed surfaces are badly eroded.

Context. Unknown.

Provenience. Qakbatzulú; 14°45′29.9″N, 91°13′27.8″W.

Associations. This altar stone is presently situated approximately 2 m west of M-9132SW-01. Surface surveys of a 1 m area surrounding the altar stone revealed an almost complete obsidian prismatic blade (approximately 8 cm in length).

Description. M-9132SW-02 is a medium sized, elongated slab of gray, coarse-grained schist, noted at this time as sculptured on one face. A cluster of shallow basins is located over the upper surface of the stone. Almost completely exposed above the earth, a single linear indentation encircles the entire stone’s edge. The function of this stone is suspected to be for grinding or ritual purposes.

Discussion. Carved basins are suspected to have been used for grinding small herbs or ritual hallucinogens or for the collection of ritual fluids (Lothrup 1933). Smaller basin markings have been assigned the purpose of symbol systems (Sharer and Sedat 1987). The markings on this stone are not arranged into any particular pattern; however, triadic sequences could be assumed.

Comparisons. Lothrup (1933) notes several boulders at Chuitinamit with circular pits or rectangular basins cut in the upper surfaces. Lothrup believed the basins served to collect the blood of human sacrifice (p. 79). On the other hand, Sharer and Sedat (1987) found several monuments with "cuplike dots" in nonrandom designs that they believe to be a form of notational system. These researchers note that pecked slabs are
found at the Protohistoric site of Pueblo Viejo-Chicaj in eastern El Quiché. Sharer and Sedat carry a complete discussion of this tradition, noting other comparatives with secure archaeological contexts outside the northern highlands, including cave walls of Actun Ceh and Loltun in northwestern Yucatan; monuments with similar motifs have been dated to the Early Preclassic at Xochipala, Guerrero, and Chalcatzingo, Moralos (p. 366).
14.4. **M-9132SW-03**

*Class.* Stela (plain) (Figure 40).

*Dimensions.* H. 65, W. 36, D. 22 cm.

*Condition.* Exposed surface is eroded. The monument has fallen, and rests on its face.

*Context.* Unknown.

*Provenience.* Qakbatzulú; 14°45'29.9"N, 91°13'27.8"W.

*Associations.* The small stela was located some twelve meters below M-9132SW-01 and M-9132SW-02 on a terraced plateau.
Description. Small, evenly shaped elongated slab with a partially preserved linearly carved line, which encircles the slab.

Figure 40. M-9132SW-03.
14.5. M-9132SW-06

Class. Boulder sculpture (Figure 41).


*Condition.* Exposed surfaces are badly eroded. The monument is perhaps in two parts, the original boulder having split in half, the separation exposing the ground surface.

*Context.* Unknown.

*Provenience.* Qakbatzulú; 14°45'21.8"N, 91°13'25.5"W.

*Associations.* M-9132SW-08 is approximately 45 m to the northeast.

*Description.* The southern face of this crude boulder exhibits three distinguishing motifs. The first is a naturally occurring triadic arrangement of deep holes that perforate the boulder approximately 10 cm. This arrangement is connected via an undersurface channel that carries runoff from the upper portion of the boulder downwards in fine channels, the runoff disappearing into the interior of the boulder at a small incised opening in the boulder. Drainage continues in the interior of the boulder, then out through the lowermost hole of the triadic arrangement. The upper portion of this strange boulder is flattened, but grooved to permit the drainage to proceed down the channel into the exposed rock surface.

The second consideration of motif on this boulder are vertical ladder-like incisions in several areas of the south face. Although the runoff of the rock surface proceeds down these areas, the motifs are believed to have been incised or pecked and not naturally occurring.

The third consideration involves small holes on all surfaces of the boulder, which appear in twos, the distance between approximately 3 cm. Many of the paired holes are connected by tiny passageways through which a thin rope may be passed. It is believed that these holes are naturally formed. The exposed area on the ground surface between the split boulder was scraped and screened, revealing a few ceramic sherds, and a definite discoloration in the soil at a depth of approximately 5 cm. At
approximately 5 cm below the boulder at the southeast corner were also found ceramic sherds.

Discussion. This boulder is significantly strange. The three large holes that appear on the south face are reminiscent of a face. When water was poured on the flattened top of the boulder, it proceeded downward and out the lower hole as if it were coming from a
mouth. When sufficient water was poured, the additional liquid proceeded out from what appears as nostrils. This side of the boulder is also pecked in linear motifs. The arrangement of double holes is curious, reminiscent of small nostrils all over the stone's surface. What significance the holes represent, or what function, for example if ropes were passed through the center of these holes, are both unknown. Local residents could not lend aid in these determinations. Excavations are proposed to reveal function, dating, and relationship to the overall site.

14.6. M-9132SW-08

Class. Altar (basin) (Figure 42).

Dimensions. L. 100, W. 100, D. 50 cm (apprx.).

Condition. Exposed surfaces badly eroded.

Context. Unknown.

Provenience. Qakbatzulu; 14°45'25"N, 91°13'22.3"W.

Associations. This stone is in association with four other large boulders, seemingly interconnected by what remains of a once-constructed wall. The boulders are atop a small terrace.

Description. This large stone is generally round in shape, with rough corners. The top is intentionally carved into basins of various sizes in irregular patterns of singular, double, and triadic arrangements that are connected by channels. A few of these channels drain off to the edge of the boulder surface.

Discussion. Basined boulders have been discussed in relation to M-9132SW-02, and therefore will not be discussed further. Excavations are proposed to reveal significance relative to function, date, and site.
14.7. *M-9230NW-01*

*Class.* Altar (basin) (Figure 43a, b, c).

*Dimensions.* L. 150, W. 150, H. 100 cm (appx.).

*Condition.* Exposed surface eroded. Basins have evidence of dried residue (Figure
47c), which was collected in 1991 for possible analysis.

Context. Unknown.

Provenience: Tzan Cruz; 14°44.18.1°N, 91°12.51.5°W.

Associations. There are no known structural associations. However, adjacent to this boulder is a flattened area with little or no plant growth, suspicious of a structural floor. Below and to the west, approximately 10 m is a large crevice formed by a line of
boulders.

Date. Unknown. Surface sherd accumulation of utilitarian jars have been collected and preliminarily assigned to the Early Preclassic through Late Classic period.

Description. This very large boulder is carved with at least three noticeably large basins (24.2 cm, 20.5 cm, 17.8 cm diameters) and three noticeably smaller basins (7.5 cm, 5 cm, and 5 cm diameters) (Figure 43 a, b). One larger basin appears in the middle of the boulder, two other larger basins contain drains which lead off of the edge of the
boulder. In 1991, a small greenstone was found placed in the smaller centralmost basin. Somewhat oval in shape, the boulder's edges are rough and unmodified. Of one stands on the northern edge of the boulder, the boulder is table height.

Comparisons. Basined boulders have been discussed in relationship to M-9132SE-02 and M-9132SE-08.

14.8. M-9232NE-01

Class. Boulder sculpture (Figure 44).

Dimensions. Boulder was not measured; the sculpture atop the boulder is L. 26, W. 17.5 cm.

Condition. Eroded, with lichen growth over parts of surface of boulder.

Mutiliation. A portion of the southeast surface of the top of this boulder is recently carved in a motif similar to the deeply carved mask on the adjacent side. It is common knowledge that looting has occurred within the last twenty years, removing ancient artifacts (of unknown content, but said to be silver or gold coins) buried beneath the large boulder.

Context. Believed to be in situ. If not, the large boulder has merely shifted position due to its tremendous size and the fact that it rests at the approximate summit of a platform mound (Str-SJC05-09).

Provenience. Northeast perimeter of Chigojom; 14°45'52"N, 91°12'34"W.

Associations. This boulder rests amidst other large boulders. The area is covered in recent vegetation growth. During a visit in early 1993, several cut boulders were noted directly to the south of the boulder on the slope that continues to form the northern perimeter of the platform mound, Str-SJC05-09. The north face of this platform mound forms a portion of a very steep decline of boulders. From the top of this boulder, it is possible to view the entire northern horizon, the eastern horizon to Sololá,
and Cerro Las Minas to the west.

*Description.* Called *Holom Achi,* "the face of the Man," this boulder sculpture is a clear replica of a facial mask: slit-eyed, large down-turned lipped, with large ears and a curled head adornment. Measurements are proportional, as if schematically planned.
The sculpture appears solitary on the boulder top.

Discussion. It is said that there were once dances atop this boulder when it was part of a larger platform. Locals relate a legend about a woman with a goiter who lived in the area, and from whom the name of the area is derived. Locals say that similar dances are now performed in association with the fiesta of nearby San José Chacayá on the first Tuesday after Easter.

Borhegyi (1965) distinguishes small (3-6 m diameter, 2 m high) platforms used as dance platforms or altars for offertory or sacrificial purposes that were particularly common during the Protohistoric (A.D. 1200 - 1530) and resembled the size and function to Postclassic Mexican offertory shrines known as momoztli. The comparable platforms have been found in the center of plazas, frequently in front of a major structure. Figurines of the Middle (600 - 300 B.C.) and Late (300 B.C. - A.D. 200) Preclassic periods often show such abnormalities as goiter, harelip, hunchback, and pop-eyes (Kidder and Shook 1961:figs. 1-3).

14.9. M-9232NE-02

Class. pedestal sculpture (altar) (Figure 45).

Dimensions. L. 32, W. 32, H. 45 cm.

Condition. Very good, and was in use for costumbre ritual until it was stolen in early 1996.

Context. Unknown.

Present location. Unknown.

Previous Provenience. Eastern perimeter of Chigojom; 14°45′51″N, 91°12′33″W.

Associations. Up until the time of its disappearance, the sculpture is found in association with pine boughs and paraphernalia of ritual significance. Ceramics, including beads, and obsidian are prolific in the milpa area directly to the west and
continuing onto the site of Chigojom.

*Description.* This boulder is carved on all sides. The western face is sculpted to depict a face with arms which cross beneath the face. Atop the face is a basin, with drainage to the backside of the sculpture, or to the east.

*Discussion.* The sculpture is called "San Ysidro," said to have once received child sacrifices and propitiations made to insure the rains. It is unknown when current

![Image of the sculpture](image-url)
practices of ritual were being held, although traces of burning were evident in mid-January of 1993. The sculpture faces the western terraces of Chigojom. Locals remark that the monument is celebrated in association with Holom Achi, the former being the female and the latter the male. Petitioning both monuments, in unison, insures that their prayers will be heard. The prayers are necessary, they say, because they are very poor people in great need.

*Comparisons.* There are no known similar structures in the lake area. "Potbelly" monuments appear throughout the southeast highland region and along the Pacific coast.

14.10. M-9232NE-03

*Class.* Miscellaneous sculpture (Figure 46).

*Dimensions.* 40 cm in diameter.

*Condition.* Eroded, however pecked motif is still evident.

*Context.* Used as a portion of retaining wall of agricultural terrace.

*Provenience.* Southern perimeter of Chigojom, on Str-SJC05-06; 14°45’45.9"N, 91°12’36"W.

*Date.* Unknown.

*Description.* This perfectly round boulder is pecked in a linear dot motif, which winds horizontally around the exposed surface of the boulder. The boulder was not removed from the terrace wall to determine the extent of the motif. The boulder was pointed out by children who live in the area. The children did not know of other such boulder motifs in the area.
14.11. *M-9232NE-04*^7^ 

*Class.* Stela (plain) (Figure 47).

*Dimensions.* L. 100, W. 180, Circumference 200 cm.

*Condition.* Unknown, as much of the monument remained buried during analysis.

*Context.* Buried approximately 1 m below current surface.
Provenience. T-SJC05-03 in eastern perimeter wall; 14°45'45.9"N, 91°12'36.0"W.

Associations. Ceramic and carbon associated with underside of monument @222 cm, dated 895 to 1235 A.D.

Discussion. This large evenly worked stone was found in the level with a mano fragment and cache of obsidian below a reddish clay floor. With plain stelae being reminiscent of Preclassic period time markers reported at many sites in the highlands and on the Pacific slope of Guatemala (Shook 1971), this monument may be dated to the Preclassic period. The function of the early stelae is unknown, although one
grouping at Monte Alto may have served as ritual-astronomical purposes (Bove 1989). Since stelae are not characteristic of the Classic and later periods in the highlands, found instead in fill as reused foundation material (Kidder, Jennings, and Shook 1946:102-104), Late Classic to Postclassic period dating for the ceramics and carbon associated with this monument lead one to believe that the monument served no use in the time with which it may be contextualized. It could be that if this is a Preclassic period monument like other highland stone monuments of the period (see Borhegyi 1965:26), it was thrown into the wall fall and was incorporated in the retaining wall of T-SJC05-03. The monument was unmoved and was backfilled to allow for the continuation of milpa production.

14.12. M-9233SW-01

Class. Miscellaneous sculpture (Figure 48).

Dimensions. L. 120, W. 50 cm.

Condition. Exposed surface is badly eroded. This carving was covered by plant growth, and was discovered with the help of the landowner. Whether or not this carving was part of a larger repertoire is unknown.

Context. Believed to be in situ. If not, it may have fallen from the slope above some time in the distant past.

Provenience. Estrada-Escobar I (SJC03), Grid 9322SW.

Associations. The motif appears on a boulder which rests to the edge of a water collection area, formed by drainage from the west, off of the northern slopes of Cerro Chuiminix, as well as from suspected springs. The boulder is approximately 200 m from carretera departamental #3 and the municipio of San José Chacayá.

Description. This boulder is carved in a vertical ladder or stair-like imagery. The boulder is located among other large boulders which surround a standing water source.
Discussion. Ladder or step-like motifs are relatively unknown from the lake area. However, one similar pecked motif appears across the lake on the north face of Chuitinimit. The motif from the northern rim is carved on the east face of a large boulder believed to be in situ. The motif's association with other boulders in the
proximity, and with the water source, is unknown. 

Comparisons. Arthur Miller (1983) notes similar iconographic association with freshwater sources in Quintana Roo and the Basin of Mexico. Miller suggests that the icons may have been incorporations of knowledge about the water flow from land, and the control, in a symbolic sense, of the source of the water. Ladder or step-like motifs have been located at the sacred cenote of Tancah where they appear inside the mouth of a shallow cave and where the water source of the area has a distinct west-east orientation. The carving is on the east ledge of the cave, sloping away from the entrance of the cenote and facing the dark water below. The stepped or ladder-like motifs seem to reinforce the directional movement up and to the east from the water which is below and to the west. Glyphlike images in association with the stepped or ladder-like motifs include the Lamat glyph, a hieroglyph for the planet Venus, and I Ahau, the cyclically repeating date on which the heliacal rising of Venus occurs. Together the calendrical signs Lamat and I Ahau can be read as Morning Star during the first five days of the heliacal rising, emerging from the land of the dead, which is expressed by the water in the darkness of the cenote.

Miller explains that Postclassic Maya myths concerning Venus as Morning Star and the theme of rebirth are fairly well understood, the symbols indicating a sense of anxiety concerning what is now understood as cyclical astronomical events, and natural water flow. For the Maya, according to Miller, action was necessary to ensure, and to control the life-giving natural cycles: "carved images are part of the symbolic process which ensures that the water will continue to flow out of the underworld to the surface where it is needed" (p. 8). Comparing ladder or stair-like imagery carved on rocks over an ojo de agua above Texcoco in the highlands of Mexico, the iconography is attributed to Venus as Morning Star as part of a Quetzalcoatl cult originating in the highlands and spreading to the lowlands. Collaboration with Miller could determine whether findings in the project area are indications of highland iconographies associated with the ojos de aguas.
14.13. *M-9233SW-02*

*Class.* Stela (plain) (Figure 49).

*Dimensions.* H. 400, W. 210, D. 150 cm.

Figure 49. *M-9233SW-02.*
Condition. This stela is covered in lichen growth in an area heavily wooded and shaded from sunlight. The top of the stela has been broken and is slightly displaced.

Context. Believed to be in situ.

Provenience. On the western periphery of Estrada-Escobar I (SJC03).

Associations. The stela is part of a very large boulder fall which forms the northwestern edge of Cerro Las Minas. In association with this stela and surrounding boulders are numerous small (3-5 m in height) mounds of undetermined significance.

Description. This very large stela, otherwise plain, evidences indentations identical on each side that give the monument its shape. The crude shallow grooving is associated with the curved, sloping lateral walls to suggest carving of this large boulder to give it an elongated shape, its greatest wider at the base. There is no evidence of mutilation other than the noted breakage. The ground surface under this stela is quite soft, an opening below the boulder being somewhat suggestive of a cavity of undetermined depth.

Discussion. There is no known significance to this stela. There are no structural remains present that would lend suggestion of representational significance. The stela rests at the western periphery of the remains noted as Estrada-Escobar I, or at the west end of a quadrangular arrangement formed by the slope of Cerro Las Minas and a culturally-modified boulder fall. There are no known associated ceramic or obsidian artifact.
CHAPTER XV
ARCHITECTURE

15.1. Summary

This chapter summarizes ancient architectural forms in the project area, capitalizing on the site of Chigojom (SJC05) where excavations were conducted. While the relationship of materials to structural design is not precisely known, a consideration of possible construction materials and methods of construction is presented. Major local and regional similarities and differences are summarized.

15.2. Building Location and Layout

Together with Chigojom (SJC05), five areas of structural remains have been identified along the northern rim. The areas are aligned along 2000 m (apprx. 1 1/4 mile) of a high plateau drained by the Rio Chiscalera. The sites follow the flat tableland aligned approximately N 30°E. It is within the context of the geographical and ecological setting that the settlement areas are best understood. The gently sloping, somewhat leveled plateau would have been easily modified, with simple earth-moving operations, to accommodate both structures and terraces. While the efforts would have necessitated a motivated populace, it appears that the construction of any aspect of these sites did not necessitate sophisticated skills.

A relatively compact area, 500 m x 150 m, Chigojom is almost totally confined to one ridge on the eastern edge of the plateaued backside of the rim. The settlement area backs into a caldera which formed out of the ancient volcano, Tecomate. There is only one structure apart from this ridge. The largest and most northern, a conical
mound, rests below and adjacent to the rest of the settlement. Evidence of past lifeways in the settlement area can be identified by scattered debris, which remains after years of disturbance.

The remains of a compact arrangement presume an ancient coherent sociopolitical organization, which was based upon residential unity and community integration. Comparatively speaking, it was not until the Middle to Late Preclassic that society evolved from a series of interrelated, but basically egalitarian communities, to a system dominated by a recognizable elite. Prior to this time, societies surrounding small, residential centers were linked by intra- and interregional interaction (Brown 1984; Sharer and Sedat 1989; Shook, et al. 1979).

Structures in the area follow the northeast to southwest alignment of the settlement's layout and the topography of the terrain. Along the northern rim, excavation is the only way to detect prepared surfaces and/or evidence of clearing prior to actual construction, as well as determine the means by which the site structures were constructed.

15.3. Materials and Methods

Although the ancient structures are now rubble, it is possible to posit that local raw materials represent, without exception, the components of area construction. The remains of naturally-occurring and/or human-made earthen or rock-pile construction are all that exist today of substructural platforms and superstructures. On the other hand, a few cut-block stones were buried in the foundations of the present-day terrace walls and were utilized in the construction of the Catholic church in San José Chacayá. For the most part, the evidence of all construction has eroded and/or been reworked into agriculture practices making it often difficult to ascertain the precise method of construction.
It is clear, however, that construction modification of the earth has been practiced for a long period of time. For example, it is suspected that the structure elevation in the Estrada-Escobar site (SJC03) was achieved by selectively excavating the natural terrain and piling up the excavated materials, to form a platform for building use. The method was probably similar to the technique noted at the nearby site of Semetabaj where the cut-away areas as a platform for building sites. As well, at Chigojom (SJC05), earth was probably cleared from the plaza area and then placed onto a naturally occurring rise of boulders. The piled-up earth accentuated the already-elevated boulder area to create Str-SJC05-01. Finally, it is possible to imagine that Terrace SJC05-01 extended over what we now define as T-SJC05-02 and T-SJC05-03, making the area a huge plaza connecting Str-SJC05-06 and Str-SJC05-01 and extending to the northeast of Str-SJC05-02. The terrace was probably constructed of fill and beaten earth. The only internal structural features were large, naturally-occurring boulders, which remain as hints of the ancient construction. Most of the terrace has probably been disrupted by earthquakes, while the earth has been stripped away by rain and agricultural practices. Surface collections conducted downhill and away from the area produced a quantity of sherds and obsidian that probably originated in the upper terrain.

In ancient reconstruction, earth was also taken from prior construction and incorporated in the fill of new construction. As a consequence, occupations were constantly being disturbed and redeposited. The chronological placement of structures, based on pottery and other artifactual content, has therefore presented itself to be a difficult task.

Known to have been utilized in highland area site construction, talpetate has not yet been found in a great quantity to enable describing the material as structural in nature. However, clumps of the hardened gray ashen soil were found in excavations SJC05-09, Op. 01; T-SJC05-03, Op. 01; and Str-SJC05-03. River cobbles were found as fill; yellow river sand found at Level 10 in Str-SJC05-02, Op.01 appeared as the
remains of either a possible floor construction or as eroded remains of a wattle and daub material. Stone slabs are prevalent, both on the surface and in excavations. Numerous sizeable boulders are also present. However, it is indeterminate whether slabs or boulders served a particular function other than support. Finally, loose volcanic ash appears as fill, sometimes in great quantity. As exemplified in Str-SJC05-01, fill of this nature is unstable, not structural, and perhaps served only for the purpose of cover.

15.4. Walls

A number of walls remain as indicators of ancient building methods in the area. Two thick (ca. 1.5 m) non load-bearing construction walls were located below the present surface on the southeast side of the platform Str-SJC05-09 and Str-SJC05-06. At these two locations, the walls were excavated to 1-1.5 m.

With similar construction as that exemplified in Str-SJC05-09 and Str-SJC05-06, walls are currently utilized in agricultural terracing (tablones) throughout the site. During 1994, local farmers built an elaborate terracing arrangement for vegetable gardens (not milpa), aligning rocks into two parallel walls approximately 1.5 m in total width, 1 m deep, and filling (with garbage, unwanted rocks and materials in the field) between the two walls. Modern wall construction incorporates, whenever possible, previous construction and materials, including numerous cut-block stones which were already in place. On the other hand, it is assumed that walls constructed of perishable materials have been destroyed.
15.5. *Comparisons. The Local Patterns*

Prior surveys of the surrounding locale have been conducted by John Fox (1978) and Robert Carmack (1981), and Ken Brown's Quiché Basin Archaeological/Ethnohistorical Project to provide valuable comparatives for a study of the project area’s architecture. From these researchers' descriptions, it is possible to make comparisons of site layout and construction between the nearby Quiché sites to the north and the project sites.

For example, Fox, Carmack, and Brown found that Preclassic centers were almost, without exception, built on the flat valley floors, in contrast with the Classic and Postclassic period sites. The later sites were typically situated on hillside or hilltop locations. The sites of the project area differ, as does the Preclassic Cor site in the Quiché Basin (Brown 1984). Both the northern rim settlement and the Cor site were located on a hilltop. Generally, the hilltops do not seem to have been conducive to large settlements. Although the habitable area of Chigojom totals over one square km, the overall settlement remains of the project area suggest that only one-quarter to one-half of that area is an appropriate estimate of living environment due to the steep slopes of the rim's face. This and the compact settlement remains suggest that the Chigojom area served a modest community.

In agreement with John Fox's (1978) descriptions of the Quiché Postclassic sites, Chigojom and the project area sites follow the linear pattern of earthen mounds atop a steep narrow ridge, an arrangement that occurs throughout this area of the highlands (at Quia, Chirijox, Cojonob, Xabaj, Semetabaj) in the Early phase of the Late Postclassic Period. John Fox (1978) believes the Quiché arrangements may be representative of populations prior to the Epi-Toltec sociopolitical systems, but contrast with Mexican-influenced enclosed patterns seen elsewhere, reflecting instead the typical Mexican-influenced patterns of groups along the Gulf Coast. With the lack of an enclosed pattern, Fox concludes that the immigrants were absorbed by the already
established highland community (Fox 1978:193-194). Their sites, therefore, evidence the earlier and not Epi-Toltec traditions.

While the northern rim site orientation generally follows the contours of the leveled plateau surface, similar to Postclassic arrangements surveyed by Fox (1978), the alignment of the site more closely resembles the Formative settlements surveyed by Brown (1984). If the orientation differs from the Central and Western Quiché and Cakchiquel Postclassic settlements (Fox 1978:115; Lothrop 1936), the delineation, N10°- 30°E, is comparable to the nearby sites of Chuitinamit-Atitlán and Semetabaj. Without further investigation, all that can be surmised is that the discrepancy in alignment practices probably represents distinctions in cultural traditions.

While the general layout of settlement along the northern rim follows a north to south alignment, an east and west orientation to the structures may have had relevance to astronomical routines. The situationing was fundamental to many Mesoamerican religions (see Earle 1986; Freidel, Schele, and Parker 1993). Once again, the arrangement does not conform with Fox's descriptions of Quiché area site layouts from the Postclassic. If site layouts were to agree, we would find two temples facing each other from the east and west sides of a plaza with a west-facing temple and an enclosed, rectilinear plaza arrangement. Instead, we find the arrangement of two "back to back" civic plazas with one temple each, an arrangement Fox noted as earlier in time and evolving into the single civic plaza of the later phase (p. 65).

In general, we also note a variation of the structural material used in the project area, which disagrees with general construction material patterning for Postclassic sites in the locale. In the locale, earthen construction was present during the Preclassic, while Classic and Postclassic period constructions utilized stone materials that became available when the sites were moved to higher elevations. Substructural fills, terrace walls, and building walls at Chigojom evidence the modification of naturally occurring stone and earth throughout the time span from the Preclassic through Postclassic. Fox (1978) argues that Quiché forebears were unfamiliar with stone-block construction and
were unable for a time to adapt to the conditions of the area. According to Fox, the use of roughly shaped schistose slabs to finely dressed pumice and limestone blocks ushers in the Early Postclassic Quiché settlement components, which included increased size in civic structures. To Fox, the change implies the presence of specialized masons, as well as a procurement system for the materials (Fox 1978:65). Therefore, in the Quiché region, dressed stone masonry, that is, stone masonry laid in mud mortar and dressed with pumice blocks, is a marker for Late Postclassic (p. 200).

While it seems strange that the northern rim Cakchiquel sites apparently did not benefit from the same presence of specialized masons and procurement systems for materials that occurred among the Quiché during the Postclassic and Late Postclassic, equally puzzling is why early inhabitants settled the remote elevations in the first place. Ken Brown (1984) speculates that people remained in the higher locations until, sometime around 500 - 400 B.C., when, together with populations from the Pacific Lowlands, they moved down to the valleys. Brown believes the lack of diagnostic Middle Formative ceramics outside of the Early Preclassic Cor site in the Quiché region suggests that it was not until 500 to 400 B.C. that ceramics- and obsidian-using populations began to reside in the basin floor of the Quiché region (p. 227). Brown believes that the move was spawned by different environmental conditions produced subsistence resources on a somewhat different seasonal schedule. Perhaps, he speculates, hallucinogenic mushrooms attracted the establishment of a symbiotic exchange network with regions such as the Pacific Coast. But, by the Early Postclassic settlements apparently required the fortification offered by the higher and steeper location as the epi-Toltec forebears of the Quiché began to introduce a militaristic system (Fox 1978:66).

Not precluding the existence of prior settlement, the dates obtained from radiocarbon sampling of Str-SJC05-09 correspond to the emergence of new political systems following the approximately simultaneous collapses of Chichen Itza in the Yucatan and Tula in Highland Mexico. In noting that Quiché sites resemble the
Chichen Itza-associated architecture, Fox does not rule out that the builders may have moved into the highlands during the Late Classic. Brown (1984) suggests that as early as the Middle and Late Formative, and throughout the Late Classic, ideas were introduced into the Quiché area from the outside and contextualized within local belief systems (p. 223).

To summarize, from the architectural evidence it is possible to only suggest aspects of cultural development in the locale, including the origins of the population. On the other hand, monuments, found in association with the architectural debris, offer more conclusive evidence from which to postulate early population affiliation. Stelae located at Chigojom and the northern rim (see Chapter XII: Monuments) agree with the finding of stelae at the early mound site of Cor in the Quiché Basin area (ca. 1000 B.C.). Whereas comparative agreement can be found between project site stelae and stelae found in Preclassic contexts in the Salama Valley (Bruchez and Carlson 1994), it is also possible to find agreement Pacific coast monuments. Brown (1984) also found Quiché Basin stelae to agree with major Pacific Lowland traditions (p. 226).

The architectural traditions, together with monument styles, are now discussed as part of regional comparisons between the project area sites, the Valley of Guatemala, the Pacific coastal plain, and the southeastern periphery in the area now known as El Salvador.

15.6. Comparisons. The Regional Pattern

Comparison of the project area's architectural features with those of more distant sites allows testing and refinement of the description of the architectural features mentioned above. Elements, such as the positioning and alignment of structures, can be studied by direct comparisons of situational patterning in the surrounding region of the northern, central, and southernmost highlands. In particular,
comparison with sites along the Pacific coastal plain lends understanding to the relationship of the project area and the highly developed Preclassic sites to the south. Identifying patterns in the archaeological data will continue to help derive and test hypotheses about the ancient behavior, events, and cultural processes of the more southern region, some of which have bearing on the development of lowland Classic period lifeways.

Demarest (1986) finds reason to suggest that the similarity and overall parallels between the sites of Santa Leticia, Monte Alto, Kaminaljuyu and Chalchuapa during the Middle to Late Preclassic, coupled with parallel ceramic and sculptural traditions, define specific cultural correlates. Arthur Demarest (1986) with Robert Sharer (1986) in a review of intersite ceramic comparisons for the Late Preclassic, provides a comparative framework for analyzing problems of the development of complex society in the southernmost highland region, relative to Pacific coast and northern highlands. It is possible to relate shared components of architectural traditions in order to gain an understanding of how the project area fits into the overall pattern of development outlined by Demarest and Sharer. For example, Chalchuapa, settled on the Pacific coast during the Early Preclassic, was apparently subject to influence from the both the Gulf Coast and central highlands during the Middle to Late Preclassic. Patterns in architectural traditions noted at Chalchuapa, Santa Leticia and Kaminaljuyu are recognized in the project area's architectural traditions. The similarities include (1) site alignment, layout, and construction techniques, (2) nucleated ceremonial centers, and (3) the association of similar sculptural traditions.

The project settlement alignments, site layouts, and construction techniques generally agree with patterns noted by Demarest and Sharer as occurring in the northern and southeastern highlands, not the western highlands, to which the site is considered to belong geographically. For the northern highlands, Sharer and Sedat (1987) remark that "this regular orientation implies that concepts of social order and cosmological meaning were manifest in the organization of architecture and in the
activities that took place within each center" (Sharer and Sedat 1987:423). For the southeast highland region, structures were planned carefully with reference to an axial line, resulting in bilaterally symmetrical platforms. The symmetry was, in some cases, of ritual importance and seems to have guided the placement of caches and monuments (p. 405).

Site layouts in the northern and southeastern highland region included mound complexes constructed in long, linear plaza arrangements that appeared during the Las Charcas period and became well developed during the Providencia phase in the Valley of Guatemala (Borhegyi 1965:9; Brown 1984). Borhegyi believes the low, rectangular, earthen structures built by the end of the Las Charcas A phase (1000 - 600 B.C.) supported shrines for minor public or family (clan) ceremonies (p. 9). Generally, temple or burial mounds were not constructed during the period. While mounded platforms appear in the Valley of Guatemala, their dating to the Middle Preclassic in the Salama Valley may preclude their appearance at Kaminaljuyú (Sharer and Sedat 1987:412). The construction of earthen pyramidal platforms and associated lower structures, together with elite residential platforms, appears at Kaminaljuyú in the Late and Terminal Preclassic.

At Chalchuapa, the large, but little known early pyramidal structure at El Trapiche, has been dated by pottery content of its fill to the Middle Preclassic (ca. 900 - 500 B.C.) (Sharer 1978), careful to not associate the presence of the impressive 20 m high structure with a level of sophistication that would be necessary to support a model of Olmec-emulating local elites, does believe the structure indicates the beginnings of the development of large-scale ceremonialism and social stratification typical of later societies of the area (p. 209). At Chalchuapa, there is no evidence of further ceremonial construction until the Late Preclassic (ca. 400 - A.D.200), when the pyramid at El Trapiche was rebuilt. During the Late Preclassic, massive earth-moving and leveling created an extensive artificial plaza that was surmounted by a complex of ceremonial platforms.
Massive earth-moving and leveling, which created the plazas and terraces for
the ceremonial platforms, was a tradition shared throughout the southeast highland
region. At Santa Leticia, a huge artificial terrace was raised in an unusual 1,400-m-
high setting atop a ridge along the Pacific coastal corridor. According to Demarest
(1986), the earth-moving feat that produced this terrace was a leveling operation. From
the natural slope to the west, earthen fill and domestic debris were extended to the east
and beaten or tamped to create a wide, level terrace strengthened by large stones and
perhaps logs (p. 43). The earth-moving creation of the large terrace, along with the
terrace's eastward orientation at Santa Leticia, is reminiscent of T-SJC05-01 at
Chigojom.

As well, the earth-moving and leveling techniques dominated construction
practices in the northern highlands. On the other hand, the cutting down of the natural
talpetate and white ash to various depths, which served as foundation cores for
Preclassic structures at Kaminaljuyú (Shook 1941) and Semetabaj (Shook, Hatch, and
Donaldson 1979), has not been found in the project area in significant amounts to
warrant describing the materials in construction techniques. Stone or talpetate chunks
were also less commonly used in Preclassic constructions in the Salama Valley and
underlay the hard reddish-yellow soil and clay that marked the pre-occupation surfaces
at Santa Leticia.

Earthen fill and wattle and daub architecture are construction types found
throughout the highland and Pacific coastal areas (Sharer 1978; Sharer and Sedat 1987;
Shook 1971; Shook and Kidder 1951; Smith 1955). Earthen construction continues
into the Classic at Quirigua (Jones, et al. 1983). In such cases, earth, used in the fills of
structures, was mixed together with water and volcanic ash or sand to ensure strength.

Block masonry and plastered walls, utilizing talpetate and adobe, appear at the
Salama Valley sites. The plaster may have contained river sand, an organic varnish, or
received burning to harden surfaces. Deterioration of these earthen constructions
apparently necessitated reapplication of adobe plaster in multiple coatings (Sharer and
Sedat 1987:405). In the Salama Valley, constructions involved massive amounts of volcanic ash fills. These fills were loose and contrast with previous construction at the site. Their unstable nature suggests that they may not have been substructures, but were instead attempts to hide from view, or ritually terminate, the previous structures (p. 405).

The use of stone began in the Salama Valley during the Late Preclassic, and increased in the Terminal Preclassic. The frequency was probably related to the expanding control over valley resources and labor and not evolving constructive techniques (p. 405). Stone slabs were utilized in the formation of Middle Preclassic and Middle-Late Preclassic transition crypt burials. While long schist slabs have been found on the treads of the steps, the slabs may have previously been used as ritual objects. In other cases, river cobbles were used as the foundations to walls and as surfacing.

Together, structures aligned along paralled avenues or elongated plazas in open plateaus were common to the Middle and Late Preclassic period of the highlands (Borhegyi 1965) and created what are believed to have once been ceremonial centers, which were spread throughout the Pacific coastal plain. Demarest (1986) believes that Kaminaljuyú and Chalchuapa served as pilgrimage centers (p.183). On the other hand, Borhegyi (1965) claims that, because the Middle and Late Preclassic ceremonial centers number as many as potential Early Preclassic village sites, the ceremonial centers were simply Early Preclassic domestic hamlets that developed their own nucleated burial and ceremonial centers during the Middle and Late Preclassic.

Nevertheless, the sites are believed to have been important nodes of social and ideological networks with long-distance interregional ties. The long-distance interactive networks involved religious as well as traditional lore, the southeast highland chiefdoms developing the communication systems and art styles that are among the hallmarks of Maya civilization (Demarest 1986:183-184) (see Graham 1971:1979; Lowe 1977, 1978; Miles 1965; Parsons 1979; Willey 1977).
Sculptural traditions, associated with the architectural traditions, are seen as part of this network, the distinct forms comprising a strong connecting link that reflects shared ideological concepts. The unusual sculptural styles of M-9232NE-01, M-9232NE-02, and M-9132SW-01 of the northern rim remains are reminiscent of sculptural traditions found in southeast highland and Pacific coast sites, as well as the Salama Valley sites. The widely distributed Late Preclassic boulder figures, known as "Monte Alto Style Full-Round Potbelly Sculpture" (Parsons 1979), are evidenced in M-9232NE-02. The northern rim's monument is found in strikingly similar stylistic detail at Kaminaljuyú, Bilbao, Chalchuapa, Monte Alto, and Santa Leticia (Lothrop 1926; Miles 1965; Parsons 1967; Anderson 1978; Parsons and Jenson 1965). Contextual evidence places the Santa Leticia sculptures at around 400 B.C. - 100 A.D., the same approximate temporal placement found for the Monte Alto monuments (Parsons 1979).

M-9132SW-01 evidences another distinctive sculptural style of the Pacific coastal, southeastern highland region, the "jaguar heads" first named by Richardson in a 1940 survey of northern Central American sculptures (1940:400-401). Since the time of Richardson's survey, "jaguar head" monuments have been found at Santa Leticia, Monte Alto, Kaminaljuyú, Palo Gordo, Izapa, Chalchuapa, and other Middle and Late Preclassic sites of the highlands and Pacific coast. Demarest (1986) suggests that the consistent association of these "jaguar head" monuments and potbellies at Preclassic sites suggests the possibility of a relationship between the two styles. The distribution of both potbelly and "jaguar head" sculptural traditions follows the architectural traditions and a distribution of ceramic spheres throughout southeastern Guatemala and in the departments of Ahuachapan, Sonsonate, and Santa Ana in western El Salvador. The markers provide the parameters for the Providencia and Miraflores ceramic spheres proposed by Demarest (1989) and discussed in Chapter XII of this dissertation.

The similarity of architectural traditions throughout the southeastern region, including Kaminaljuyú and the Salama Valley sites, has suggested to Demarest and others that the region shared cultural interaction several centuries earlier, with similar
traditions occurring in the lowlands, to offer a framework for multidirectional interaction between "two developing foci of civilization" (p. 181). The final part of this dissertation offers a means to understand the early settlement of the northern rim sites in relationship to a broad southeast highland region and Maya lowland development.
VOLUME II
CHAPTER XVI

REGIONAL PATTERNS

16.1. Introduction

The goal of this dissertation research was to formulate a preliminary understanding of the early cultural development along the northern rim of Lake Atitlán. In particular, investigations were a means to validate the site's early significance, as claimed in the Cakchiquel account of a mythical heritage. A relationship of the area to highland, Pacific coast, and lowland Maya settlement and development was proposed.

The research has produced data which suggests settlement along the northern rim of the lake basin as early as the Preclassic (ca. 1000 B.C. - 200 A.D.). Predating the Cakchiquel by almost 2000 years, the remains indicate early Maya community-oriented activities at a time when the transition to agriculture was being experienced in an area of close proximity, along the Pacific coastal plains. Monuments along the northern rim, dedicated to anthropomorphic gods rather than individuals, suggest that those in authority mediated between the gods and the people. Monumental motifs, together with architecture, suggest that the residents lived in close relationship with ordering principles of earth and sky. Moreover, site location, layout, and orientation suggest the use of natural topography as a model of the perceived cosmos. Finally, traditional styles, appearing in assemblages from the northern rim, were shared throughout the southeastern highlands, suggesting that the region's population remained ethnically distinct.

This chapter is the first of two which, put together, form a model which makes sense of the significant patterns in the northern rim's evidence. In this chapter, I arrange the collection of material and environmental data, pointing out their relationship to morphological characteristics and iconographic styles that were shared
throughout the southeast highlands during the late Middle Preclassic to Late Preclassic. The broad pattern is measured against the Olmec and Izapan evidence occurring at or around the same time in Mesoamerica. An hypothesized ideology, which may have been represented in the patterning, is outlined in Chapter XVII.

16.2 The Southeastern Highland Culture Area Defined

The southeast Maya highlands has been a term used to define the southern periphery of the Maya cultural and linguistic populations. More recently, a southeastern highland culture area has been defined as having developed during the Preclassic period in a more closely defined geographic area of southern Guatemala, northwestern El Salvador, and southwestern Honduras (Bishop, Demarest, and Sharer 1989; Demarest 1986) (Figure 50). In particular, the area of the lower piedmont and interior Pacific coastal plain hold evidence of the important transition to a subsistence strategy which could support complex social systems. Along this narrow elevational band, with heavy rainfall and well-drained soils, Preclassic period residents utilized the piedmont's potential for reliable agriculture, all the while accessing the coastline for salt and aquatic fauna.

Though the transition to agriculture began throughout Mesoamerica during the Archaic period, Preclassic populations continued to revert to full time foraging during periods of unusual stress (see Macneish 1972); the episodes of accelerated growth and regression characterized a spatially and temporally discontinuous process (Butzer 1990:308). Throughout Mesoamerica,

Even when once established, agricultural subsistence was a dynamic adaptation. Agriculture did not necessarily provide more and better food at less cost. Agriculture is labor-intensive and demands
population. Furthermore, the high-starch and poor-quality-protein diet

Figure 50. Southeast highland region and proposed southeast highland culture area (adapted from Demarest 1986:152).

was not ideal and often was unreliable, and nucleation promoted
crowding, poor sanitation, and disease, thus reducing fertility and
increasing mortality. Generalized farming, complemented by wild
foods, provided a better diet and greater flexibility, but it could support
only a smaller population, and it required large resource spaces.
Specialized farming (e.g. irrigation) could support larger populations on specialized, less nutritious diets, but it was susceptible to severe fluctuations in production and was carried out in restricted areas favorable to the periodic ravages of epidemic disease as well as decimation by endemic parasites [Butzer 1990:308].

Life along the Pacific coastal region has been described for groups of semi-sedentary fishers and shellfish gatherers who chose to occupy sites in shallow coastal lagoons, close to their food source, when at the same time early farmers chose settlement further inland, along the coastal plain and within the 100 - 200 m elevation belt. Situated next to permanent water sources in rivers, the ever-increasing number of farming settlements favored the rainfall belt in the upper coastal plain, factoring the difference between the resource zones of the northern piedmont and lower volcanic slopes and south coast (Bove 1989b:79). Archaeological evidence of the increasingly settled lifeways is found throughout the region.

For example, the growth is marked by ceramic evidence, indicating the elaboration of two distinct complexes during the Middle Preclassic. The complexes, which had once been a fairly homogeneous pattern, strengthened and continued parallel independent developments until the end of the Late Classic.

One of these ceramic complexes originated with the sudden introduction of Olmec-related stylistic elements and elite objects, which made their way into the south coast area during the Middle Preclassic. Limited to the western portion of the region, the ceramic traditions remained with the population when the Olmec traits disappeared at around 600 - 500 B.C. (Hatch 1989:36-37). Moreover, with technological continuity, the traditions slowly spread eastward. However, these western traditions never made strong connections with ceramic traditions that had already begun to develop farther to the east (Bove 1989:80).

The eastern ceramic traditions, from which the southeastern highland regional
pattern is believed to have emerged, were associated with the denser and more structurally organized settlements located away from the Nahualate River (Bove 1989:79). First recognizable during the Middle Preclassic, eastern ceramic traditions were shared together with sculptural styles, distinctive regional figurine types, lithic assemblages, and site layouts. Arthur Demarest (1986) suggests the southeastern highland cluster of Middle to Late Preclassic traits literalized various social and/or economic material and information networks that produced a perceived unity of material culture (p. 169).

Demarest (1986) has explained for the region that "the information encoded in styles reflected and helped to define norms, ethnic boundaries, and social networks that either facilitated or inhibited other forms of interaction" (p. 182). Accordingly, the material culture reinforced ethnic boundaries; stylistic messages, transmitted through the use of the materials, facilitated social or economic interaction. Demarest believes that the "rigid conservatism and consistency of regional styles and local traditions" from 400 B.C. to A.D. 200 corresponded to a period of the ascendance of stratified chiefdoms (p. 182). It is well known that, prior to this time, egalitarian societies in the southeastern highlands surrounded small, residential centers linked by intra- and interregional interaction (Brown 1984; Sharer and Sedat 1989; Shook, et al. 1979). Comparatively speaking, it was not until the Middle to Late Preclassic that Mesoamerican society evolved into a system dominated by a recognizable elite. Although the earlier communities were interrelated, they were basically egalitarian.

The tightly knit group of eastern ceramic assemblages, believed to have reinforced ethnic boundaries and transported stylistic messages, spread as far as Kaminaljuyú in the Valley of Guatemala and Chalchuapa in western El Salvador (Demarest 1977, 1981; Fowler 1981; Sharer 1978:126). Together, the traditional styles agreed with the Providencia (ca. 400 - 100 B.C.) and the Miraflores (ca. 100 - 250 A.D.) ceramic spheres, to provide the chronological parameters for the proposed culture area. In Chapter XII, I defined sherds from the project area, which fit well
within the confines of the defined parameters, with a high frequency of the black-
brown, fine red, and red on buff markers of the southeast highland pattern.

That the tightly knit ceramic assemblages patterned a common denominator in
language has been suggested by Robert Sharer (1974). Through analyses of the
traditional styles in the two major sites of the region, Kaminaljuyú and Chalchuapa,
Sharer determines a degree of commonality in the material culture during the Preclassic
"sufficient to indicate that the two populations were speakers of the same language" (p.
175). Languages spoken in the southeast highlands are suspected to have been either
Pokom (Kaufman 1976), Cholan and Mam (Josserand 1975) and/or proto-Xinca-Lenca
(Feldman in Sharer 1974:175). Reina and Hill's (1978) study of the pottery technology
in the Guatemalan highlands reinforces suspicions of a very early correlation between
the people of the area and a regional language.

As Reina and Hill explain, Mesoamerican traditions were associated with
costumbre, or the conservation and repetition of ethnically distinctive behavior (p. 231-
251). Chapter XII of this dissertation concluded with the suggestion that the northern
rim sites were occupied during the Formative period (ca. 2000 B.C.) by Proto-Maya
groups. Utilizing correlations between pottery technology and Maya language groups,
I speculated that the earliest residents would have predated the Pokoman. The
supposition agrees with Borhegyi's (1965) belief that the Guatemalan highlands were
occupied by pre- and proto-Mayan groups during the Early Preclassic period (ca. 2000
B.C.). The residents may also have been descendants of an Early Preclassic proto-
Xinca speaking people along the Pacific coast. We know that Xinca-speaking residents
were pushed into El Salvador during the Middle and Late Preclassic (ca. 600 B.C.),
when Olmec influences reached the Guatemalan highlands from Chiapas and the
Pacific coastal areas (Borhegyi 1965:7-12).

A shared costumbre of the southeast highland region, which defined similar
ceramic assemblages associated with certain Formative language groups, apparently
also resulted in identical styles occurring in lithic technology. The evidence suggests
that the region experienced the transition from expedient flake to pressure blade technology during the Middle to Late Preclassic. The transition was similar to that which occurred throughout Mesoamerica during the same time. In the domestic contexts of sites within the region, both percussion and pressure technology are found characteristically associated with blade-flaking industries. In Chapter XIII, I discussed characteristics in association with the northern rim sites' technology, suspected to have been in operation since the Early Preclassic.

Along with similar ceramic styles, language, and lithic technology, the regional evidence suggests similar architectural styles. In Chapter XV, I outlined the homologous styles which included site location, alignment, and layout. While the significance of the surroundings to early residents of the region is unknown, Chigojom was perhaps assigned to acclaim the natural setting. The site's large public mound or pyramid facing a plaza, flanked by two long, linear mounds, modeled the terrestrial landscape, and perhaps also patterned the perceived celestial environment. At Chigojom, naturally occurring topographic features were culturally modified to create a predominant northern structure and a south platform group at the extremities of the centrally placed terrace. The arrangement was backed up to the lake basin's rim. The site's structures patterned the site's relationship to the lake. In both, the northern opposition was associated with the highest elevation. Alignment arranged N10°-30°E also patterned events in the sky.

In other words, human landscape patterns deliberately incorporated the natural environment of the lake basin. Similarly, Anthony Aveni (1992) explains that Maya architecture served as a pipeline to convey celestial messages as a means to bind oneself to the mythic past as a means to derive power directly from nature (p. 113-110). Chigojom's site arrangement was comparable to plazas shaped by north-south mound groups, found elsewhere in Mesoamerica by 500 B.C. While Chigojom capitalized upon the natural setting, elsewhere plazas were sunken, flooded, or paved in hematite to represent lakes or heavenly seas; mosaics, polished to a mirrorlike finish,
are believed to have once represented a body of water and/or mirror the heavenly plan (Freidel, Schele, and Parker 1993:224). Within these central plazas, chiefs expressed their pivotal roles (Grove and Gillespie 1992:33). By 700 A.D., the expression through architecture of north as up or zenith, and south as suppressed, or the Underworld, was a propelling ideological pattern throughout all of Mesoamerica (Ashmore 1989:283). According to her,

At least some Maya rulers chose to use the site-planning template to depict the structure of the Maya cosmos and to emphasize graphically their own and their family's importance within that cosmos. The main gallery of dynastic monuments was placed in the heavens, on the north, with the earthly residence of the rulers below, to the south. The placement of a ball court likewise to the south, but north of the palace compound, might be taken as an alternative expression of the nine-doorwayed building, to represent the Underworld, scene of the ancient ballgames involving the Hero Twins. The ball courts also served as conduits used by the Hero Twins to move between the natural and supernatural worlds...The juxtaposition of the residence of the sovereign with this symbolically critical access point implies his control over such communication, and thus serves to underscore his position as one of the consummate powers [Ashmore 1989:279].

The curious terrace and flanked linear mound arrangement, found throughout the southeast region, would have also patterned the path of the weather that creates the climate and patterns in the vegetation in the region. In Chapter IV, I described the weather pattern of the lake basin, which would have also reflected the regional pattern. Then, as now, tropical air formed over warm surface waters, fed by the northern extension of the ocean currents that stretched along the western side of the continent
(West and Augelli 1976:39). A summer rainy season was ushered in on the northward movement of low pressure, called today "the doldrums." Tropical air, converging with rising warm, unstable air fed by the trade winds of the northern and southern hemispheres, formed intense thunderstorms during the afternoon and night (p. 42). The same currents carried the air north into the lee of the trade winds to the higher elevations of the lake basin.

In combination with predictable rainfall, the soil found throughout the region was the most fertile of all soil types. Then, as now, azonal soils, extremely complex in type and distribution, occurred as the accumulation of alluvial sediments. The same soils once attracted farmers to the Caribbean coast of Central America and parts of the eastern escarpment of Mexico (Bove 1989b:19; West and Augelli 1976:48). Similar to the Mexican plateau, basins of old volcanoes contained another mature, dark-colored chernozemlike soil, derived from ancient lake-deposited alluvium (West and Augelli 1976:53). Recognized also for its fertility, the soil was rich in calcium and organic material.

Finally, as I described, mountainous relief above 1500 m in the lake basin would have afforded a density of a variety of wild vegetation found in oak, conifer, and evergreen forests. The unique vegetation pattern occurred as a result of location, situated at the southern extremity of the temperate vegetation zone and northern extremity of the tropical vegetation zone. Species of North American pines, associated with more temperate climate, are not found much farther south of the Pacific highland area. Today, pine boughs and needles are necessary for every ceremony in the project area; the air in the pines is considered "medicinal." Farmers still plant underneath to protect the tall trees, or reserve their agriculture for tablones (raised-bed agriculture in the runoff gulleys).

The higher elevations would have also afforded a greater variance of vegetation in an altitudinal sequence. The pronounced gradation in the lake basin caused changes in the terrain similar to those caused by latitudinal changes. Grass and scattered oaks
on the basin floors graded into forests of evergreen, deciduous oak and pine, at around 2000 m, hiding grassy meadows ideal for settlement and pastures. Relief, exposed to natural cycles of wind and sun allowed for a greater density of a variety of wild vegetation found in the oak, conifer, and evergreen forests. On the windward slopes, at elevations of 2500 m, a "cloud forest" was continually enveloped with moisture which naturally dripped from the forest trees (p. 51). The site of Chigojom was located near the 2650 m summit of the northern rim, near to the present day community of San José Chacayá. Chacayá, according to locals, means "hidden water." Higher still, above the 3000 m level, the terrain resembles a tundra.

Settlement surveys of the Pacific coast and piedmont have emphasized the impact of the region's unique geological, climatological, and natural resources (Bove 1989a, 1989b; Hatch 1989; Love 1993; Voorhies 1976) of the 100 m to 300 m zone. The resources along the coastal plain favored the production (without fallow) of products such as maize and beans (Sanders 1978 in Bove 1989:65), and supported the development of early ranked societies, which marked the beginnings of settled life, calendrical and writing systems, and major art styles. While matched by social development in the highlands of Chiapas during the Middle Formative, 2300 B.C. dating from the coast and coastal plains of Pacific Guatemala and Chiapas indicates that complex societies developed at a date and a rate matched by few other regions in Mesoamerica (Blake 1991; Clark 1991; Love 1991, 1993).

Still factoring the difference between the resource zones of the northern piedmont and lower volcanic slopes and south coast, present-day residents make season journeys between the highlands and the coast for produce and ritual (pers. comm. M. Saunders 1995). The travelers follow the same path as that of the weather. The migrants' trail, marked in the landscape, also resembles the Milky Way as it was seen at dusk and dawn in the February and August skies in 590 B.C. (Figures 51, 52). During the same year, at dawn in the August sky and dusk in the February sky, Orion's belt followed the same alignment (Figure 53). Maya epigraphers know the Milky Way by
its name Sak Be (White Road) or Xibal Be (Road of Awe). It is unknown whether early inhabitants of the region, like it has been supposed of the Classic period Maya (Freidel, Schele and Parker 1993; Schele and Freidel 1990), saw the Milky Way in early August turn into a great canoe which delivered First Father to the place of creation; or whether in February of each year, they saw the Milky Way become the Wakah-Chan, or Raised-up Sky Tree. Locally, the Milky Way is called "Via de Santiago," incorporating the name of the town south of the lake (1995 field notes, M. Saunders). The village, Santiago Atitlán, celebrates its annual festival July 25th each year, on the day of Santiago, which is also the local's name for Venus (Remington 1979:81).

Regional site orientation, which followed the path of the weather, the migrants' journeys, and the stars' alignment, agrees with Formative settlements surveyed by Ken Brown (1984) in the Quiché area. But without an enclosure, which one expects from the Epi-Toltec population (see Fox 1978:115, 193-194); Lothrop 1936) which settled the Quiché territory during the Late Classic and Postclassic, the arrangement in the lake basin continued to remain distinct. In the southeast highland region, site alignment often guided the placement of caches and monuments. Regional mound complexes, appearing during the Las Charcas period, supported shrines for minor public or family (clan) ceremonies (Borhegyi 1965:9). According to Sharer (1978), a large pyramidal structure at El Trapiche in Chalchuapa indicates that the Middle Preclassic (ca. 900-500 B.C.) marked the beginnings of the development of the large-scale ceremonialism and social stratification that became typical of later societies in the area (p. 209). But at Chalchuapa, the ceremonial construction was precocious; not until the Late Preclassic (ca. 400 B.C. - 200 A.D.) did massive earth-moving and leveling create the more extensive artificial plazas surmounted by the characteristic complex of ceremonial platforms.

While the intent of the ancient residents' structural layout remains speculative, the earthmoving and leveling in Late Preclassic mound complexes throughout the region evidence the labor-intensiveness of a motivated populace. The Santa Leticia
Figure 51. The Milky Way in the August night sky, 590 B.C. (adapted from Whitney 1989)
Figure 52. The Milky Way in the February night sky, 590 B.C. (adapted from Whitney 1989).
Figure 53. Orion at dawn in the August sky, and at dusk in the February sky, 590 B.C. (adapted from Whitney 1989).
artificial terrace was raised and leveled on a 1400 m-high ridge, to overlook a stretch of the Pacific coastal corridor. At Abaj Takalik, constructions of earth were arranged upon terraces that were stepped up a sloping gradient (Graham 1981:165). Similar to the region's distinctive site layouts, terrace construction along the northern rim is one of the clearest indicators of commonality with the northern, central, and southern highlands of Guatemala and El Salvador, as well as with many Mexican sites, as opposed to the western highlands, to which the lake area has long been believed to geographically belong.

Within the broad southeast region, the artificial terraces often supported potbelly and "jaguar head" monuments. The unusual sculptural styles of M-9232NE-01, M-9232NE-02, and M-9132SW-01, found at the northern rim sites, are reminiscent of peculiar sculptures recovered in the southeast highland, Pacific coast, and Salama Valley sites. M-9232NE-02 is evidence of the widely distributed late Middle Preclassic boulder figures, known as "Monte Alto Style Full-Round Potbelly Sculpture" (Parsons 1979). Potbelly sculptures were placed at Kaminaljuyú, Bilbao, Chalchuapa, Monte Alto, Santa Leticia, and Copan in western Honduras, occurring in the same distribution as Usulután pottery recognized by distinguishing "clouds" formed in the firing. The suggestion has been made that the potbellies and Usulatán pottery went together, as part of a Late Preclassic complex or cult tradition (Hatch 1989:25).

Potbellies assigned to Late Preclassic to Classic period at Monte Alto (Hatch 1989), and the Late Preclassic period at Santa Leticia (Demarest 1986), were aligned in the north-south pattern, similar to regional structure alignments. The set-up, especially at Santa Leticia where three potbellies are surrounded by three volcanoes, reminds one of Orion's belt as it appears in the constellation during the August and February skies. Curiously, the belt stars in Orion's belt, when viewed at these times from the ground, are aligned in the manner of the three ancient volcanoes, Paquisis, San Marcos, and Tecolote, which surrounded Lake Atitlán prior to the formation of the Atitlán caldera. Like the Milky Way, the constellation Orion is believed by epigraphers to have had
significant importance in the Maya account of creation (Freidel, Schele, and Parker 1993). At Chigojom, M-9132SW-01 evidences the distinctive sculptural style of the "jaguar heads" found at Santa Leticia, Monte Alto, Kaminaljuyú, Palo Gordo, Izapa, Chalchuapa, and other Middle and Late Preclassic sites of the southeast highlands and Pacific coast.

Because both the potbelly and "jaguar head" sculptural traditions characteristically occurred in context with similar architectural traditions and similar ceramic and lithic technologies, Demarest (1986:183) believes that the Middle to Late Preclassic southeast highland sites were refined Early Preclassic domestic hamlets that developed their own nucleated burial and ceremonial centers.

Whether the region's ethnic and cultural similarities defined economic, political, and religious networks remains to be proven (Bove 1989b:9). Nevertheless, common linguistic and cultural activities would have defined a closely-knit ethnic group. Demarest contends that, for the entire southern region, "the commonality is understood in terms of the increasing interaction and interdependency of developing highland chiefdoms and their control over long-distance and local trade networks" (Demarest 1986:173). Demarest is not alone in suspecting that the sites were involved in interactive networks of religion and lore, and developed communication systems and art styles that are among the hallmarks of Maya civilization (Graham 1971, 1979; Lowe 1977, 1978; Miles 1965; Parsons 1979; Willey 1977). Critical to the successs was that, as it gained strength, the closely defined ethnic group of the southeast highland region remained distinct from the Olmec.

16.3. The Olmec Area Defined

While the developing southest highland chiefdoms remained distinct, the residents were also contributors in, as well as recipients of, Olmec culture. Ceramics
and sculpture indicate that the late Olmec culture in the Veracruz, Tabasco heartland received influence from proto-Maya people of the southeast highlands and coast during the early Middle Preclassic (Demarest 1976, 1986:139). Likewise, by the Middle Preclassic, influences from the Olmec area had reached the Soconusco region along the Pacific coastal region of southern Mexico (Voorhies 1989), and by the Middle to Late Preclassic had spread into the Guatemalan highlands (Borgehyi 1965:7-12).

Speculation surrounding La Venta ceramic traits, which showed strong similarity to Olmec-related assemblages of Pacific coastal Guatemala and Chiapas, has led to considerations of Olmec trade routes into the area with a major Olmec outpost in western El Salvador (Sharer 1974:170).

The Olmec-related traits have created a controversy among analysts of the potbellied and "jaguar head" traditions. The traditions, reminiscent of the full-round Olmec sculpture, are argued to have been Olmec, pre-Olmec (Drucker 1952; Covarrubias 1957; Graham 1979; Miles 1965), or Izapan (Coe 1977). Some argue that Olmec monumental art style originated on the Pacific coast and slopes of Guatemala and El Salvador, was refined at sites such as Abaj Takalik, and became the full round monumental Olmec style at San Lorenzo and La Venta. Evidence of a seriated sequence of ten potbellied sculptures and one jaguar head sculpture, at Monte Alto, suggests a late Middle Preclassic sequence of sculptural styles (Hatch 1989). Secure contexts of three potbelly sculptures, in association with "jaguar heads," found at Santa Leticia, confirm a later Late Preclassic date (400 B.C. - 100 A.D.). The Monte Alto and Santa Leticia evidence argues against western El Salvador beginnings of the Olmec style. Meanwhile, others argue that the styles represented a long traditions of sculptures that began earlier and persisted through the Preclassic (Graham 1979:81). This argument assumes that the late context of these sculptures was the result of their having been moved to their present location, or reset in the site's history (p. 168).

As I previously noted, southeast highland and Olmec architectural layouts shared a basic design, which had occurred by ca. 700 B.C. on the Gulf coast at San
Lorenzo, La Venta, and in a more general area along the Pacific coast of Chiapas, the Chiapas highlands, and Oaxaca (Grove and Gillespie 1992). Both utilized a large public mound or pyramid facing a plaza, which was flanked by two long, linear mounds. La Venta residents varied the arrangement by aligning two long mounds eight degrees west of north, and terminating the plazas with a large mound south of a smaller mound more-or-less to the north. The larger mound to the south has been described as a human-shaped "volcano," having been constructed with a series of ten depressions and salients, which were symmetrically build from the top to the base. Serpentine mosaics, not water, paved a submerged plaza. The authority Kent Reilley (1989) believes the simulation at La Venta reconstructed the cosmic setting.

Both culture groups shared an emphasis of personality and power of individual leaders, activities of warfare and humbling of captives, the ball game, incense burners, ceremonial bloodletting, the use of jade and mirrors. Similar to the southern highland region, construction of Olmec architecture utilized earth and colored clays.

The Olmec three-dimensional sculptural art, however, was in sharp contrast to the essentially flat southeast highland region sculptural art. The Olmec worked large chunks of jade into figures to be seen from all sides, while the southeast highlanders produced small, headlike objects with one-sided relief. Olmec leaders were modeled in stone; stone for the southern highlanders was a medium upon which to model an event in which their leader participated.

Similar to the disappearance of Olmec ceramic traditions, any strong thematic continuity with Middle Preclassic Gulf Coast art had been lost on monumental stone art on the Pacific coast by the Late Preclassic period (Grove and Gillespie 1992:35). In particular, the Pacific coast monuments (Parsons 1979), including those of Izapa (Prater 1989), lacked the Gulf coast singular focus on the identified ruler and his power symbols. Moreover, an analysis of attributes on a selection of sculptures during Late Preclassic and Protoclassic periods, from Kaminaljuyú, El Baúl, Abaj Takalik, and Chocolá, demonstrates that these sites' sculptural styles differed in formal attributes
from even the Izapan low-relief sculptural art.

16.4. *The Endurance of the Southeast Highlands*

Similar to the ceramic evidence, the sculptural evidence suggests that Olmec and Izapan styles did not exert extensive influence on the southeast highland region's sculptural arts (Prather 1989). Although Lowe, Lee, and Martinez (1982) differ, Adriadne Prather (1989) argues that, if both once shared certain basic stylistic features, none of the meanings appear to have ever been shared (p. 125).

In the end, both Olmec and Izapan style were lost. According to Prather, by the Late Preclassic, Izapan sculpture exemplifies ill-defined, ill-proportioned, and distorted human forms; the movement rendered was a static quality. The Izapan compositional style, described as "narrative" or "thematic" (Miles 1965; Norman 1976), implied instructions of mythical episodes or whole myths.

In contrast, Kaminaljuyú carvings were in a less condensed relief; the carving plane depth was real, not implied, as if to give the impression of a greater "real" depth. Representative of the southeastern highland traditions, the Kaminaljuyú motifs and images appeared to be in the same frontal carving plane, with no implied qualities of space. Serving as a background plane against which the images and motifs existed, the three-dimensional aspect of the composition was actual, not notational. The forms were precise and well-defined, and there was no ambiguity as to what was represented by each element, although some movement was implied. Finally, all elements received equal emphasis and shared equal importance (Prather 1989:128-129).

It seems to me that the Kaminaljuyú sculptural art style represented a more precisely-defined southeast sculptural tradition which depicted or implied human action. The style was in direct contrast to Izapan compositional style that implied expressions of mythical episodes or occasionally whole myths (Miles 1965:240).
While being described as "narrative" or "thematic" (Miles 1965; Norman 1976), Izapan style left out the story-like or "narrative" composition which included the interaction of human figures with other human or nonhuman figures. Instead, the human figure alone represented the focus of the composition, dominating the representation both physically and thematically (Prather 1989:131). Moreover, if Kaminaljuyú art depicted or implied action, the style also taught one how to repeat an action, and hence how to ensure future action. To Adriane Prather (1989), the changes in style represented between Kaminaljuyú and Izapan traditions are highly sensitive spatial-temporal indicators used to define the continuity and change in the Olmec, Izapan, and southern highland art (p. 132).

In seeming agreement, Fred Bove (1989b) suggests that,

sufficient evidence now exists to adopt more realistic paradigms for the development of ranking on the coastal plain of southeastern Mesoamerica in the Early Formative, earlier that the Veracruz Olmec centers, as well as the evolution of major Middle Formative complex sites uniformly distributed in the same region, but devoid of Olmec features or artifact assemblages [Bove 1989b:6]

It seems safe to say that the precocious monumental style over the entire southern highland region was part of a suite of traditions which provided a tangible model of lifeways. During the Preclassic period, the model was expressed in art and architecture. More than that, "real" action, depicted on monumental sculpture, may have taught an explicit process that was patterned in site alignments and arrangements of mound complexes. The pattern followed the lay of the land, fashioned by the way of the wind and the water, and was seemingly guided by the constellations of the night sky.

In other words, it is now difficult to imagine that residents of the northern rim
and the southeast highland region were aimless in their systematic patterning of site location and structure layout. Nor is it possible to think that iconographic style was random. Instead, it is highly likely that, beginning in the late Early Preclassic, human lives literally followed the pattern and process of wind and cloud movements upon which their livelihood depended. Based upon evidence in the regional sites' spatial morphologies, during the late Early Preclassic, increasing numbers of residents utilized the northeast-southwest course of the rivers, moving between the contrasting resource zones which permitted early agriculture while also maintaining their previous foraging lifestyles (Bove 1989b:79). By the Middle Preclassic, ceramic evidence indicates that there was a developed complex associated with sedentary existence in the north-south corridor between the northern piedmont and lower volcanic slopes and coastal lagoons. These same ceramics were part of a suite of traditions that were apparently deliberately shared by an increasing number of people during the Middle to Late Preclassic.

Presented next is a proposed southeast highland regional ideology, hypothesized to have begun as a commonsense knowledge of principles of the natural order of the terrestrial and celestial world. It is suggested that the knowledge of natural creative processes could have supported the planning of site location, layout, and orientation with the natural landscape, so that the human processes of life concurred with ordering processes found in wind, water, and cosmology. Repeated in ideology, knowledge of the area's strategic location that included soil, wind, and prevailing cloud patterns was capitalized upon. As a means to increase understanding and to facilitate communication, the spread of a knowledge of the creative processes of the natural world could have underlain shared ceramic and lithic traditions, and become a driving force in the development of economic and political networks of the social world. It is suspected that the profane knowledge was profound and deemed sacred, and consequently became incorporated into a creation mythology some 1000 years later, during the Classic period (ca. 200-900 A.D.).
CHAPTER XVII

A PROPOSED IDEOLOGY

17.1. Introduction

The preceding chapter included a presentation of the environmental aspects of the southeast highland region, along with shared cultural traditions that occurred in the area during the early Middle Preclassic to Late Preclassic. The review focused upon patterns in the natural and human landscape that possibly represent a regional ideology. In this chapter, I continue the discussion by proposing the evolution and development of an ideology, based upon knowledge of naturally occurring processes of creation. The information would have been common sense among people residing very early in the northern rim sites. I suggest that the development of a belief system was based upon common wit. Moreover, I propose that the belief system was driven in part by the deliberate need for values and interrelated ideas that could provide the members of the region with an identity. The increased need for a feeling of belonging was necessary during the period of transition from hunting and gathering to agriculture. In discussing their incentives, I include the members' active search for an understanding of their relationship to the environment, which was inextricably linked to their dealings with one another and outsiders. I then explain the social connectedness to the natural world and the cosmos, as those ties were exemplified in Maya creation mythology. I explain that, as a rationale for existence, the natural world would have laid out the basic rules for acting in accord with these relationships.

It is suggested that morphological characteristics of site remains and iconography reflect patterns of symbolic thought that reiterated natural ordering principles of earth and sky. Individual lives articulated the natural processes in the human landscape; the processes were simultaneously carried out in a temporal model
and a celestial reality. The developing social organization would have been called upon to enter into the same discussion. I presume that by the Late Preclassic (500 BC), the discourse was a powerful means to increase understanding and communication. As well, I assume that an ideology explaining creation also defined the leader as both a structure of, and an agency, to a practice that offered clear insight into a necessary and real process of growth. We know that by the Classic period, Maya kings were living symbols of a creation event which had by then become a mythic process.

17.2. Shared Motivation for Ideology

Traditions of the southeast highland region, discussed in the preceding chapter, have been hypothesized to have spread to the lowlands during the Preclassic and Protoclassic. Early formulations of the theory of the rise of Maya civilization, including those of Lothrop and Vaillant (Lothrop 1927; Merwin and Vaillant 1932; Vaillant 1930), have emphasized the relationship between the lowlands and the highlands to the south. Demarest suggests that the relationship was a subtle and complex pattern of influence and interaction, occurring along a broad geographical front over a long period of time. Influence consisted of modes of ceramics, monumental art, iconography, writing, and ceremonialism, with the highland traditions appearing earlier in the southeast region than in the lowlands (1986,176-181). Unlike Demarest, Freidel (1979) suggests a rapid imposition of highland-modeled ideologies and accompanying material baggage, including writing, calendrics, and sculptural styles. Not being viewed as an intrusion, the growing power of elites during the Late Preclassic might have made allowance for this influx. Having overcome the conservatism of lowland norms, Freidel believes elites in power adopted the borrowed elements in response to the needs of lowland cultural evolution.
Yet, before they reached the lowlands, highland-modeled ideology and traditions had been made explicit on precocious monumental art, and ceramics, in writing and calendrics, and as ceremonialism. I propose that the ideology that motivated the southeast highland region and apparently spread to the lowlands was never far removed from actual conditions of existence. Following Robert Carneiro (1992), what motivates people to act in new and different ways need not be symbolic but, instead, may be the result of a direct perception of reality or necessity. Seen not through symbols, the new and different may be nothing more than insight gained merely by a clear or different perspective (p. 179). According to Carneiro, an ideology arises as changes take place. The ideology prompts acceptance for the changes, thus providing order and stability to the society undergoing them.

To a greater extent, I believe that the ideology offered an incentive that stimulated human output, the human action modeled upon natural creative processes. Carneiro believes that, in Mesoamerica, an ideology began in the service of militant, or for expansionist villages rising to chieftdom status. While Carneiro believes a Mesoamerican ideology mobilized people to fight, I believe a southeast highland ideology generated the action. As Robert McC. Adams (1992) puts it, "a qualitatively different degree of commitment and intensity affecting the work force as well as the ruling elite" characterizes the initial stages of state formation, the labor-intensiveness almost certain to have a common ideological basis (p. 216). Politico-military hierarchies gradually came to be seen more as "expressions of the will of human elites and less as those of otherworldly forces or deities for whom human attendants were mere mouthpieces" (p. 216).

Clues to a development of human volition must be found in the Early Preclassic (1500-900 B.C.), the evidence left in the remains of tremendous changes that occurred among early agrarian communities. In the following discussion, I demonstrate that many of these changes would have necessitated an active interest in an emphasis of accepted boundaries and identities. Production, land use, and the integration of social
groups within larger population concentrations meant "societies would have searched for order at a time of social disorder" (Grove and Gillespie 1992,25). Following Robert Carneiro (1992), "an ideology would have arisen aimed at gaining acceptance for [those] changes thus providing order and stability to the society undergoing them" (p. 179).

To begin, a shared ideology for the southeastern highland region during the Preclassic period has been inferred from evidence of an increasing interaction and interdependency between developing highland chiefdoms that had control over long-distance and local trade networks (Demarest 1986). It has been suggested that the various social and/or economic networks were defined by shared elements of tradition, including ceramic styles, figurines, clay artifacts, ground stone, obsidian tools, sculptures, architecture, and burial practices. In turn, the material similarities, together with language and ethnicity, are said to have been maintained by means of continual communication and interaction. In particular, patterns in the potbelly and jaguar head sculptural styles, common coarse-ware ceramics with local pastes, similarities in domestic features, ceremonial architecture and site layouts, ceramic artifacts of personal adornment, clay stems, and unusual and complex mortuary patterns produced a perception of social unity, which is reflected in a regional archaeological pattern. According to Demarest, an inferred unity of ideology is supported by (1) close similarities in most aspects of the artifactual assemblages at each site, (2) clear differences with sites outside the southeast highland region, and (3) the negation by activation analysis of the hypothesis that specialized production and long-distance trade were the primary cause of the shared ceramic assemblages (p. 173).

A shared ideology means that the beliefs would have incorporated values and interrelated ideas that provided members of the region with a group identity. Among southeast highlanders, ideas of selfsameness would have included an understanding of the relationships to one another, outsiders, and the natural world extended to include the entire cosmos.
In the preceding chapter, I outlined the development of a proposed southeastern highland culture area during the period prior to and during the Early Preclassic, when small agrarian communities were utilizing and adapting to changes in their environment, while making the transition to living in confined, earth-bound villages. While they were settling for less nutritious diets in restricted areas and unsuitable environments, subsistence practices may have caused irreparable deterioration (see Butzer 1990:310). If status competition, leading to intracommunity disputes and relocation, meant limited duration of the settlement centers, an "orderly" genealogical succession of leadership, active or fictive, impelled continuity (see Heller and Stark 1989:59).

It has been said that a degree of internal and external instability characterizes the "chiefdom" level of society (Helms 1979; Sahlins 1985; Taylor 1975). The breakdown of the clan's homologous authority, and the loss of the supreme jurisdiction of their gods, encourages the realization of differences. As a result, a person's truth about their own thoughts, opinions, and delusions becomes unfounded when suddenly separated from the truths of people with different beliefs and different gods, or among strangers who speak differently, have opposite opinions, and behave unusually. On the other hand, ethnicity, which becomes strengthened by communication and interaction, and stimulated by increasing interaction and interdependency, leads to an ever-increasing need to be able to perceive ever-increasing limits of those experiences.

It is therefore reasonable to expect that chronic environmental uncertainty and rapid inexplicable social change, which caused general instability among Preclassic southeast highland residents, would have necessitated a primary ideology to reduce stress, encourage positive hope and expectation, and facilitate determination of culturally relevant information (see Winkleman 1992:532). As a rationale for existence, values would have included rules for acting in accord with these relationships.

The most enduring function of ideology, according to Carneiro (1992), is the
way in which it helps to run a society, once it is established. Carneiro believes that an ideology organizes social groups by imparting order, stability, and coherence, especially if the group consists of disparate antagonistic elements recently brought together (p. 193). As a coercive factor, the ideology makes the members of a society "feel that the ideas they are quietly absorbing from around them, which lead them to act for the good of the state--often to their own detriment--are their ideas" (p. 195). The subtle, enhanced differentiation and increasing order in material and mental realms also evidences the domination of the conscious over emotion and unconsciousness (Keightley 1987:93-94).

There is reason to believe that the natural environment of the Lake Atitlán setting provided a particularly important subtle source of logic upon which to ground a supportive rationale for an ever-increasing awareness brought about by the changes that occurred during the Preclassic period. The accomplished natural processes of the lake basin laid out a plan for human fabrication; participating in the processes actualized the concept. It is not unreasonable to propose that the commonality of the southeast highlands was at first based upon the resourceful wisdom of the natural processes and the positive effect of actualizing them into one's own life.

I suspect that common wit organized social groups all over the developing areas in Mesoamerica prior to, and during, the Preclassic. For example, an early knowledge of celestial events appears in primary symbols at La Venta (see Freidel, Schele, and Parker 1993). Additionally, natural climatological events along the Pacific coast and piedmont would have been well understood by the early southeast highland residents. Knowledge of the natural environment evolved into basic ideology expressed as Maya Creation mythology, which explained order by means of clear representations of the natural processes (Freidel, Schele, and Parker 1994:39). Similarly, present-day shamans speak of quickening in the blood, modeled upon lightning activity observed in the natural surroundings; movement in the human body enables the conducting of generative and regenerative ceremonies (see Tedlock 1982). Throughout Maya history,
human ordering processes have re-created patterns identified in the world of nature and the sky.

It is therefore not unreasonable to suggest that site layouts in the southeast highland region modeled how celestial events and hydrologic processes of the cosmos work. Combined with the historical knowledge, myth, and practical experience, the creative processes were humanly recreated through ritual. In short, the symbols that authenticated the human process merely reinforced what was otherwise the natural "orderliness" of these people's world.

17.3. Evidence of a Creation Mythology

The preceding discussion proposed that an ideology was driven in part by a determined need for values and interrelated ideas that could provide the members of the region with an identity during the period of transition from hunting and gathering to agriculture. I suggested that relationships in the natural world were a rationale for human existence. As a continuation of the discussion, I now discuss a proposed ideology modeled upon natural processes. The system of thought established the rules for acting in accord with both natural and human relationships. Beliefs about natural environmental processes made sense, and social organization was cast in their mold. As a structure, the ideology emphasized deliberate boundaries and self-determined identities while encouraging the growth of understanding and communication of the ideology during the period of a transition to agriculture. It is suspected that, as agency, the ideology became a power. I suggest that the ideology was referred to in Maya creation mythology.

It seems to me that the ordering processes of the lake basin's natural environment, like the primary symbols in Maya Creation mythology, reflect the ideology. To review, the Maya mythological rendition of creation, spelled out on Stela
3 at Quiriqua, states

Under the aegis of First Father, One-Maize-Revealed, three stones were set up at a place called "Lying-Down-Sky", forming the image of the sky. First Father entered the sky and made a house there. He also raised the World Tree so that its crown stood in the north sky. And finally, he gave circular motion to the sky, setting the constellations into their dance through the night (Freidel, Schele, and Parker 1993:75).

Creation, according to the Quiché version recorded in the Popol Vuh was accomplished by,

The fourfold siding, fourfold cornering,
measuring, fourfold staking,
halving the cord, stretching the cord
in the sky, on the earth,
the four sides, the four corners,
as it is said
by the Maker, Modeler,
mother-father of life, of human kind,
giver of breath, giver of heart,
bearer, upbringer in the light that lasts
of those born in the light, begotten in the light
worrier, knower of everything, whatever there is:
sky-earth, lake-sea [Tedlock 1985:72].

According to the Cakchiquel narrative, recorded in los anales de los Cakchiqueles, we know that,
From four places the people came to Tulan. In the east is one Tulan; another in Xibalbay; another in the west, from there we came ourselves, from the west; and another is where God is. Therefore there were four Tulans, oh, our sons! From the west we came to Tulan, from across the sea and it was at Tulan where we arrived to be engendered and brought forth by our mothers and our fathers. So they told us [Recinos and Goetz 1953:43].

And, as the rendition of the Cakchiquel founding ceremony on the shores of Lake Atitlán reads, "It was really terrible when they saw him throw himself into the water and change himself into Gucumatz. Immediately the waters became dark, then a north wind came up, and a whirlpool was formed in the water which stirred up the surface of the lake" (Recinos and Goetz 1953:76).

In each of these versions, the creation event, First Father, the World Tree, and the circular motion which sets the cosmos in rhythm, as well as Lying-Down-Sky and Three-Stone-Place can be regarded as having referred to places and processes occurring around and in the waters of Lake Atitlán.

Conforming to the description of the Creation events, three ancient volcanoes, San Marcos, Tecolote, and Paquisis once flanked the west end of Lake Atitlán. The volcanoes were destroyed 84,000 years ago during the Los Chocoyos eruption, which resulted in the collapse of the Atitlán III caldera and the formation of the modern lake. Either the knowledge of the ancient volcanoes, which erupted for the last time 150,000 years ago, or of the three geologically young volcanoes, Nimajuyú (3020 m, 9,925 ft), Atitlán (3537 m, 11,500 ft), and Toliman (3134 m, 10,350 ft), which today rise from the south end of the lake, may have provided the literal grounds for Three-Stone-Place. The arrangement of the existing volcanoes forms what is considered today to be the sacred space of the Tzutujil-speaking Maya, who inhabit the confines.
Based upon current thought and belief, natural processes are a central paradigm of local Tzutujil culture (Carlsen and Prechtel 1991). According to the residents, the growth of vegetation, the human life cycle, kinship, modes of production, religious and political hierarchy, conceptions of time, and even celestial movement are unified in a symbolic physical center called Kotsej Juyu Ruchiliew, or "Flowering-Mountain-Earth (p. 27). Manifested as a maize plant or tree, the sacred center is literally fed, to provide sustenance, through a hole called r'muxux, or "umbilicus" (p. 27-28).

Elsewhere, since the Formative period, Mesoamericans have identified sacred space within the landscape, legitimizing community "rights" to the land by "metaphorically converting nature to culture and community, and perhaps by linking the people to supernatural patronage" (Grove and Gillespie 1992:18). The present day volcanoes resemble the three stones of the family hearth fire, seen by the nearby Quiché as the stars Alnitak, Saiph, and Rigel in the constellation Orion (Tedlock 1996:236). Members of this same tribe bury the umbilical cord of the female child in the center of the hearth (Tedlock 1982). On the other hand, following the north-south alignment of Orion's belt in the August and February night skies, the more ancient volcanoes may hold a deeper significance to the meaning of Three-Stone-Place.

As an ideational center, Lake Atitlán is located along the confines of either the three ancient or the three present-day volcanoes. Presently 1900 m (6175 ft) below the summit of the existing volcanoes, the lake's waters may have provided a rationale for Lying-Down-Sky; in the lake's crystal-clear waters would have appeared its mirror image, Raised-up-Sky. The lake's name, Atitlán, is said to have been derived from the Cakchiquel word atit, or "grandmother" (Recinos and Goetz 1953:76-77). The grandmother of all gods, according to the Popol Vuh, is Xmucane. As a midwife, she together with her husband, Xpiyacoc, a matchmaker, divine by a cycle older than that of the sun (Tedlock 1996:32). The adventures of her sons and grandsons are presented in cycles locationally, not chronologically, based:
The first cycle deals entirely with adventures on the face of the earth, while the second, though it has two separate aboveground passages, deals mainly with adventures in the underworld, a region named Xibalba or "Place of Fear." If the events of these two cycles were combined in a single chronological sequence, the aboveground episodes might alternate with those below, with the heroes descending into the underworld, emerging on the earth again, and so forth. These sowing and dawning movements of the heroes, along with those of their supporting cast, prefigure the present-day movements of the sun, moon, planets, and stars. [Tedlock 1996:34].

According to Dennis Tedlock (1996), the cycles of the twins and their fathers, like the cycles of the planet Venus, and the sun and the moon, and the cycles of human birth and death, are metaphorical creative processes for plant production (p. 225-226).

As I noted in the previous chapter, the lake basin is geographically situated in an area of some of the finest agricultural land in Mesoamerica, unmatched in climate and variety of native vegetations. Along a narrow strip of the Pacific coast of Guatemala, at 1000-1500 m, is located the only true rainforest in western Central America (West and Augelli 1976:45). The area of tropical wet climate is surrounded by a larger area characterized by a short dry period sufficient to induce a seasonal rhythm in plant growth. The coastal low pressure belt of calms, called the doldrums to present-day meteorologists, together with sudden storms, and light unpredictable winds, ushers in the summer rainy season. The climatological patterns that set off the rains are reminiscent of a trip through the Maya underworld, which was entered into through a depression, cave, or still water (for reference to creation as occurring as growth in water in a state of inactivity or stagnation, see Tedlock 1996:223).

In combination with predictable rains, the soil in the area is the most fertile of all soil types. While locals are able to recognize the area around Chigojom as a former
lake bed, rich in ancient lake-deposited alluvium, we know from geological surveys that a 14 million-year-old lake preceeded the present-day Atitlan III caldera (Newhall 1987). Preclassic to Classic period area construction techniques sculpted and then built upon the underlying hardpan of lime called talpetate. The climatological events which lead to the formation of the area's "cloud forest" reminds one of the forces of Maya Creation, which according to Tedlock (1996), occurred gradually, unfolding much the way clouds form around mountains. Commenting upon the account of creation noted in the Popol Vuh, Tedlock explains that creation, according to the Quiché, meant that "the primordian world was revealed little by little, as the clouds part much like when water passes in a rainstorm and then clears as a vapor coming out from among the trees" (p.226).

As I have explained, the path of the weather, which creates the climate and the patterns in the vegetation of the lake basin, and delineated ancient site structure arrangements, follows present day foot trails and resembles the biannual alignments of the Milky Way and Orion's belt. When the clouds are not around--on unusually clear and calm nights--the events of the sky are mirrored in their reflection on the lake's waters. One and the same, the Milky Way as the Sak Be becomes a white road that enters the terrestrial plane as Xibal Be, the path through the underworld. Actualized as a full circle, the events in the sky are contemporaneous to events occurring in the water. Like Chortis of the Copan area, described by Freidel and Schele (1993:116), area residents today believe the natural events involve giant snakes, some multicolored. Rituals in the not-so-distant past, included the gathering of snakes from area caves. Like the area residents, Chorti call the Milky Way, the "Road of Santiago" following the custom in Spain. Among Mesoamerican residents, Santiago is believed to be the god of storms who, in addition to controlling the Milky Way, sends the thunder and commands the rains.

While the surface of the water records the activity of the night sky, patterns recorded in the movement of the lake's water model how naturally-occurring states of
matter originate, ones that reflect the interaction of a system with its surroundings (Prigogine and Stengers 1984). As I explained in Chapter X, a self-ordering wave, seen in 1991 from the site of Tzan Cruz, dissipated into a whirlpool as it met an obstruction, rising 186 m from the 325 m depth, midway across the lake. On the depth charts, the obstruction resembles a large stalagmite. In the skies, the whirlpool is patterned in the vast, swirling, gaseous clouds of the Great Nebula. The gaseous clouds link the stars and nebulae linked with quadruple stars of the Trapezium in the center of the stars Alnitak, Saiph, and Rigel in the constellation Orion. The formation deep in the lake enables the self-organizing process that orders the lake waters.

As the Cakchiquel tell it, First Ancestor entered these waters and transformed himself into Plumed Serpent; likewise, the Classic period Maya explain the journey of First Father into the waters of the underworld whereby he returns full circle to set up the Raised-up-Sky-Tree. The Tree set up out of the water not only resulted in a transformed First Father, but a transformed cosmos, which, in Freidel and Schele’s words, "started the constellations moving in the circular motion that sustains the very vault of heaven until the end of time" (Freidel, Schele, and Parker 1993:112-113). The same tree, to the Tzutujil, is today a "flowering mountain earth". Carlsen and Prechtel say grandparents call their grandchildren tzej jutae, which means "sprout". Perhaps the most respectful title that can be given an Atiteco is Nim Chie Nim Kam, "Big Tree, Big Vine" (Carlsen and Prechtel 1991:29).

To summarize, I have suggested in this chapter that the southeast highland social organization originated with a precocious conception of how social and cosmic order intermeshed. Elsewhere, by the end of the Preclassic period, Maya social organization reflected how elite status was related to supernatural power, and how the role of the elite was manifested in the cultural order (see Grove and Gillespie 1992). The differences in thematic content and iconography of the southeast highland region have led researchers to designate the southeastern highland style very early as "frontier" (Grove 1984, 1987; Grove and Kann 1980). From the studies of the broader
area, it is suspect that a southeastern highland ideology was powerful, spreading throughout the region and into the lowlands. Among the Classic period lowland Maya, power began to be portrayed in the World Tree (yax te [che]) which raised the sky, facilitating communion between the supernatural and natural worlds (Freidel 1992:120). According to Freidel (1992), the "basic building blocks" of Maya civilization included "the stone buildings, monolithic stelae, and related materials registering power over collective labor and pertaining to the Maya definition of central authority, the k'ul ahau, holy lord or spirit master" (p. 115).

I believe that social order for the Maya world began in the lake basin as a knowledge of natural order. In particular, order was modeled in the celestial events of the night skies, which included biannual north-south alignments of the Milky Way and Orion's belt. Before they were modeled in the human landscape, the celestial events were able to be spelled out as they occurred in the natural topography and climatological events in and around the lake basin. Today, I believe that social order, together with the knowledge of celestial and climatological events can be inferred from the archaeological record by means of a site settlement survey of the lake basin. Because the lake basin has never been subjected to an intersite site reconnaissance, there is reason to suspect that many more sites are present than the few which have been reported. The evidence could include remains of the earliest residents who, as foragers subsisting off of the resources in the area, imagined themselves inseparable from the natural world. We know that later agriculturalists, faced with "a contradiction between an egalitarian ethos and the actuality of hierarchy and inequality" (Freidel 1992:129) would have begun to manipulate the environment. Like farmers today, they would have been forced to see the needs of the natural world and themselves as a continuum.

A regional survey is argued to be a valid means to not only determine whether residents were knowledgeable in the weather patterns prior to the building of their settlements, but also appraise the use of natural resources and the ways human
perception placed values and subtle constraints on such use. Certainly, if
understanding the universe was a matter of listening to the voice of the earth and sky,
wisdom meant knowledge of the facts, as well as connecting a living importance to the
facts. Wisdom meant insight.

As the Quiché Maya explain in the Popol Vuh, "the first human beings saw
perfectly. Like the gods, their knowledge was limitless and they could see through
everything, "through trees, through lakes, through seas, through mountains, through
plains... all the way out to the four sides of creation, to the four corners of the sky and
on the earth" (Freidel, Schele, and Parker 1993:111). "To be human, however, the
creations were necessarily marred by the Heart of the Sky. They were blinded as the
face of a mirror is breathed upon. Their eyes were weakened. Now it was only when
they looked nearby that things were clear" (p. 112).

In terms of Preclassic sites in the lake basin, a systematic settlement survey
would provide a full appreciation of the possible evolution of an ideological system
that became as familiar to the Quiché as it had been to the Classic period Maya
residents. A systematic settlement survey would, at the same time, focus on the import
of site suitability during the period of transition from hunting and gathering to
agriculture. Indeed, the site settlement survey is a means to understand the Cakchiquel
account, which directed my attention to, and subsequently guided my investigations
along the northern rim of the lake basin. We might say that in their unprecedented
search for the living importance of their habitat, the early agriculturalists of the lake
basin looked at the world for the first time. In their eyes, it was a brand new world. In
time, their words expressed the experience of their creation.
CHAPTER XVIII

CONCLUSION AND SUGGESTIONS FOR FURTHER RESEARCH

18.1 Introduction

In the preceding two chapters, I put together a model from configurations of environmental phenomena and prehistoric cultural remains located along the northern rim of the Lake Atitlán basin. The model, which organizes the Preclassic materials collected to date, presumes that patterns in the artifacts reflect compliance with a population's perception of the environment. While it may not afford an interpretation of mythic ancestry, the model offers a preliminary understanding of some of the early lifeways. The organized data provides a theoretical framework for interpreting the site's role in the southeastern highland and lowland Maya regions during the period.

In this chapter, I discuss application of the model in terms of a settlement pattern study of the Lake Atitlán basin, covering site distribution and including environmental information. Considering the relationship between sites, and of sites to resource space, site morphology could be expected to reveal a high degree of spatial regularity. It is proposed that site siting resulted from the residents' common sense knowledge of the region's natural environmental processes; their understanding of celestial events, wind, and especially water was reinforced in location and layout arrangements. I argue that a settlement pattern study is a means to appraise the use of natural resources unique to the lake basin, and to understand the ways human perception placed values and subtle constraints on such use. An intersite settlement survey of the lake basin also would be a valuable contribution toward the understanding of the basic cultural and historical events of lake area in their relationship to the Pacific coastal plain.

I explain that, archaeologically speaking, the suggested plan for site settlement
study focuses on context, i.e., the location, function, and patterns through time. By emphasizing a locative approach, the analysis not only examines the utilization of natural resources, but considers, as more important, the subtle constraints placed on such interactions by human perception. Because perceptions of site suitability during the Preclassic period in Mesoamerica belonged to humans undergoing a transition from hunting-gathering to agriculture, the approach provides a full appreciation of the suitability of a site, relative to the group's own adjustment (see Davidson and Shackley 1976; Crumley 1979). In short, the approach considers the site's location to be a function of economic, and social, as well as symbolic and aesthetic factors.

But more than that, the plan considers the archaeological record in the context of a theater. It is generally known that humans perceive their environment in terms of motives, preferences, modes of thinking, and traditions drawn from their sociocultural context (Kirk 1963). We often forget that as in theater, what is real, or is perceived to be real, in an environment may and may not have to do with an objective reality; the motives, preferences, modes of thinking, and traditions of those perceiving may be both sensible and magical.

18.2. The Argument for Settlement Survey

While the concept of "settlement archaeology" and "settlement pattern" was first systematically applied to archaeological evidence by Gordon Willey (1953), archaeologists of the New World generally agree that settlement archaeology is the study of social relationships; archaeological data is evaluated in terms of the effect of the natural environment, level of technology, and social interaction and control. It is common knowledge that, while there is an expected correspondence between site and social unit, the task of archaeological research is to demonstrate the relationship. Along with the location, size, spacing, activities, and material culture of the settlements, the
interaction of the residents and their environmental, together with economic and technological determinants, are examined. Following Tringham (1972), in order to reconstruct the prehistoric activities,

The set of ecological factors cannot be studied in isolation from the products of human activities (the tangible remains of the community--the archaeological settlement); and the social factors cannot be isolated from the landscape of which the society was a part. The factors--ecological, economic, technological, socio-cultural--which cause variation in settlements and settlement patterns are to a great extent interdependent and interrelated [Tringham 1972:xxii].

Tringham also points out that settlements and settlement patterns continually change. Most frequently, changes occur slowly, and are so minute as to be indiscernible either to the living population or in the archaeological record. Only when change is swift is it made more clear to the community and modern observers. As Tringham explains, obvious changes are reflected in clear modifications of settlements or patterns of settlements. Nevertheless, changes which occur slowly and do not become visible to the living population can be reflected in the archaeological record. In particular, those undergoing the changes during the 1500 years or so of emerging sedentary agricultural settlements in Mesoamerica were probably unaware at the time of the magnitude of the consequences, while the archaeological record informs us of the effect of the changing natural environment and economies. The information is further enhanced when combined with spoken and written records, which provide the details of social and political activity (see Tringham 1972:xxi-xxii).

Settlement patterns plot cultural and social institutions, in order to determine not only the effect of changing natural environment and economies, but also the range of the people's activities distributed over the landscape. In Chapter XVI, I presented
cultural assemblages collected from the northern rim, and grouped those into relationships with known assemblages from the surrounding area and region. I suggested that people, purported to have been the Cakchiquel ancestors, shared a commonality with others living throughout the southeastern highlands during the Middle to Late Preclassic period. In Chapter XVII, I indicated that the regional commonality may have also expressed a more important ethnic identity. Granted, further chronometric data is needed to estimate calendric values for the temporal dimensions of the northern rim chronology. Nevertheless, from the model organized in Chapters XVI and XVII, I postulated a group perception of the natural environment that not only enabled adaptation, but also distinguished the region during the Middle to Late Preclassic period.

A settlement pattern study of the lake basin could test this hypothesis by analyzing site distribution, combined with environmental information. By comparing the information of the lake basin to the Tisquisate data (Bove 1989a), the Escuintla data (Bove 1989b), and the southeast highland data (Demarest 1986) (Figure 54), the plan is a means to appraise the entire region’s use of natural resources and the ways human perception placed values and subtle constraints on such use during the critical transition to agriculture.

18.3. Locative Approach to Settlement Survey

Based upon accumulated information derived from patterns in the Preclassic remains along the northern rim, a settlement survey could identify a number of sites in the lake basin that may portray similar patterns. It is highly probable that both ecological and human factors explain the morphology of the sites in the area that were established during the emergence of sedentary agriculture. Consequently, a landscape approach to settlement survey could possibly pin point the factors that affected site
Figure 54. Regional site settlement surveys, southeastern highlands (adapted from Bove 1989a:66).

location. Although, as archaeologists, it is the material remains with which we must concern ourselves most often, it was a conceptual model and its relation to the place and the space that once anchored people's views to a specific place. Whatever its etymological root, among Mesoamericans the word for "town" was most often
associated with an idea of orientation and orthogonality (Tate 1992).

In the first place, cities throughout Mesoamerica were distinct in both form and function. They shared the concept of the sacred center as an organizing principle for society. Joyce Marcus points out that in Nahuatl, the term for "city" is *altepetl*, meaning "mountain/water", and glossed as "people or town, all the people together, king, province," making it difficult to remove the city's natural landscape from its cultural context (Marcus 1983:207). According to Marcus,

For the Yucatec Maya, the basic term was "cah", town, place (Martinez Hernandez 1929,164). A city or large town of importance was "no cah", a small town "chan cah", while a village was "chan chan cah". A larger unit was "cacab", a town and the land belonging to it, a township, a commune, while "baalcah" meant world in which they live, and the town and its inhabitants (Brinton 1882,262). Once again we see that the land, people, and minor settlements controlled by one ruler who lived at a city or major town was the meaningful unit [Marcus 1983:207].

On the other hand, to the Cakchiquel, cah meant "the sky"; qaj was translated to mean "the number four". The word cah served as the root for numerous other words, including xecah, meaning "the world". Today Cakchiquel residents of the project area refer to their town simply as ulew, or "land". The word tinamit is reserved to refer to a very large city.

As Marcus puts it, the diversity of perception meant that to the Mesoamerican,

a city contained "populated places," simply referred to as "big" or "little" or as "small places subject to big places." The city dweller did not verbally distinguish himself from the rural dweller as did the Roman urbanite from whom our notion of "city" comes. The capital was where
the ruler's palace was, the religious hierarchy began at the largest
temples, and the markets could be several or none [Marcus 1983:242].

But even more, where religion penetrated every level of urban society, the
"center" of the Mesoamerican town was the place one looked to for paradigms of order
on all levels of existence (Marcus 1983:239). Carolyn Tate considers Maya
communities "locative" cultures,

where the city is not primarily a range of possibilities and services for
personal achievement, but is an urban ceremonial center, a landscape or
theater for the replication by each individual of the cognized structure
inherent in all creation. Persons living in cultures with locative points of
view consciously try to enact in their social, political, and physical
surroundings those structures which reproduce the order of the cosmos
as they perceive it. In a locative society, exchange serves to reestablish
and reinforce a sense of place in the hierarchy. It is extremely important
that exchanges be equivalent in order to retain one's position [Tate
1992:27].

As I previously noted, the development of communities in the southeast
highland region began appearing, along the Pacific coast of Guatemala, in the form of
temple mounds during the Las Charcas phase of the Formative period. The low,
rectangular earthen structures supported shrines for minor public or family (clan)
ceremonies (Borhegyi 1965:9), and may indicate the beginnings of the development
of large-scale ceremonialism and social stratification typical of later societies in the
southeastern highlands (Sharer 1978:209).

As Schele and Freidel (1990) explain, the earliest Maya temples were "stage
fronts" for the performance of important public rituals, the purpose of which was to
forge coherence in society and legitimize the status of those who shouldered the burdens of office (p. 547). Schele and Mary Miller (1986) describe the architectural features, which had dynamic aspects as well as static ones. The Maya temples served as stages for performance of rites and ceremonies by priests and kings, with activities which were designed to reinforce messages of divinely mandated power. It was not until the Classic period that the emphasis of public art shifted from the sacred context (i.e., buildings in which the ruler performed the ritual) to the individual who filled the office (i.e., portraits of the rulers themselves) (Schele and Freidel 1990:547-567). Throughout, legitimacy remained grounded in a sacred context of the environment. From roots extending well into the Preclassic period, Wendy Ashmore describes a pattern that "spoke of the divine mandate for authority and invoked elements of creation myths to underscore the primordial and immutable nature of that authority" (1992:173).

18.4. Site Settlement as Theatre

While an evolving social complexity throughout Formative period Mesoamerica is indicated archaeologically by the marked increase in public architecture, houselike public structures, distinguished from residences, temple mounds, large artificial plateaus and huge sunken patios, indicate different, independent evolutionary paths. Nevertheless, from each it can be inferred that the architecture functioned as a backdrop for ritual displays important for the community. As Grove and Gillespie (1992) explain, because "they may have had an ideological content, these projects identify sacred space within the landscape and thereby legitimate community rights to the land by metaphorically converting nature and wilderness to culture and community, and perhaps by linking the people to supernatural patronage" (p. 18).
It has been said that, archaeologically "the physical record is more than a spatial and temporal backdrop. Site formation and destruction are culturally controlled and predicated, and the reciprocal relationships between people and their environment are reflected both within the site and in its containing landscape" (Butzer 1990:37). Consequently, the environment is not considered synonymous with a body of static, descriptive background data (Butzer 1990:4). Specifically, contextual archeology studies socioeconomic and spatial systems by examining both site and environment, as well as the interactive processes as part of a human ecosystem. Within an environmental framework, communities are considered to have once interacted with the environmental matrix in subsistence-settlement systems that can be studied in space and time. The study of such systems includes the consideration of constraints placed on such interactions by information, technology, and human perception.

For example, prehistorical perception of optimal or marginal environments, and of suitable or non-suitable site locations, is considered to have been fundamentally different for hunter-gatherers and village farmers (Butzer 1990). Among hunter-gatherers, the distribution of resources in the environment determines spatial and temporal variations in populations. The environmental, combined with sociocultural factors influence the patterning of agricultural-pastoral settlements. While both hunting and gathering and more sedentary strategies consider geographical, operational, and modified environments as a real environment, that which is not included in the society's perceived environment has no relevance to decision-making and spatial behavior (p. 253).

Recognized in the archaeological record, site determinants for preagricultural settlements were often a matter of proximity to water and access to hunting and collecting areas, whereas the concerns of agricultural communities were focused on suitable soils and cultivatable terrain (see Davidson 1972 in Butzer 1990:253). Additionally, while the relationship between perceived and real environments seems to have been critical to adaptation (see Gibson 1970 in Butzer 1990:255), decisions made
with respect to perceived needs and anticipated future conditions may or may not have coincided with objective reality (see Flannery and Marcus 1976 in Butzer 1990:256). Analyzing sensible planning methods emphasizes the available evidence, but often neglects the obscure magical and religious rituals that may have been important, but now seem irrelevant.

In sum, site patterning should be evaluated in terms of concentration in specific landscape units, in relation to potential resources that may have included favorable physical conditions. What was considered to have been favorable may have been the result of a variety of factors, including that which was believed to have been transmitted through the good will of the divine powers. As was the case among ancient Maya, rulers utilized the landscape via invoked elements of creation myths. Carved out on monumental architecture, elaborate sculpture, hieroglyphic inscriptions, personal regalia, and in public ceremonies were pointed statements that reinforced the strength of their primordial and immutable sovereignty in the minds of peers and subordinates (Ashmore 1992:173).

According to Wendy Ashmore (1992), a reinforcement of the primordial divine incarnate during the Classic period can be inferred from the settlement pattern, including (1) a strongly marked north-south axis; (2) mutually complementary, paired functions for construction and spaces at north and south ends of that axis, in which north stands for the celestial supernatural sphere, and south, for the underworld or worldly; (3) the appendage of subsidiary eastern and western units to form a triangle with the north; (4) the common but not invariant presence of a ball court as mediator between north and south; and (5) the frequent use of causeways, or paved roadways, to underscore the linkage between various elements and thereby stress the symbolic coherence of the whole (p.174). Cosmological tenets expressed in the architectural plan include (1) conceptions of a multilayered universe, with a many-tiered heaven above, wherein the ancestors reside, and a similarly stratified underworld, home of various other supernaturals and the scene of primordial ordeals involving the legendary
Hero Twins; (2) unification of these layers in time via cyclical movement of the sun, moon, Venus, and other deified entities through the upper and underworlds; (3) explicit vertical connectors in space between the earth and other cosmic domains, such as the four bacab deities holding up the corners of the sky, mountains mediating between sky and earth, and caves linking earth with the world below; and (4) a horizontal division of the world into four cardinal quarters (plus a center), each with color and life-form associations (p. 174).

Evidence of a similar cosmological plan that occurred in the southeast highland region during the Preclassic period includes (1) the strongly marked north-south axis; (2) mutually complementary, paired functions for construction and spaces at north and south ends of that axis, in which north stands for the celestial supernatural sphere, and south for the underworld or worldly; and (3) the appendage of subsidiary eastern and western units to form a triangle with the north. The presence of a ball court as mediator between north and south does not appear in the region until the Early Classic. Although causeways do not show up as evidence in the southeastern highland region, I suspect their appearance in the lowlands has as much to do with an earlier understanding of the role of water control systems as it did with the various new kinds of irrigation agriculture. In other words, the knowledge of water control systems originated with an understanding of natural processes in the environment, along with changes that would have occurred during the early growth of nuclear communities (see Macneish 1972:91).

18.5. Settlement Analyses for the Southeastern Highland Region

To reiterate, cultural remains from the Formative period along the Pacific coast and slope have helped us to understand the area's strategic location, rich soils, secure rainfall, and proximity to contrasting environmental zones during a time when early
villages, ranked societies, and complex settlement systems marked the beginnings of settled community life, calendrical and writing systems, and major art styles. Matched by the highlands of Chiapas and Guatemala during the Middle Formative, it appears that the Pacific coast had a slight "headstart" in the Early Formative (Marcus 1989:xvi).

As Michael Love (1991) puts it, during the period from 2300 B.C. to 600 B.C., complex societies developed at a date and a rate matched by few other regions in Mesoamerica (Blake 1991; Clark 1991; Clark and Blake 1989; Love 1991). Interest in the Pacific slope of Guatemala, instilled largely by Edwin Shook, has resulted in data from coastal Guatemala (Shook 1979), the Naranjo drainage of Guatemala (Hatch 1989; Love 1986), the Escuintla data (Bove 1989b); and the Tiquisate survey data (Bove 1989a). The investigations share, as a goal, the understanding of the evolution of the cultural system by independently measuring changes in settlement types. Moreover, interpretations of cultural sequences across the entire coastal range of southern Mesoamerica have helped to better our understanding of complex societal evolutionary processes (Bove 1989b,3). In particular, the Tiquisate area of the Pacific coastal plain of Guatemala was studied by Fred Bove (1989a) for the role of the environmental diversity in the evolutionary development of the area, from the beginning of the Formative.

While Bove's study of the Tiquisate region was designed to examine the effects of changing social and economic organization on settlement patterns, he evaluated locational models in relation to both emerging social hierarchies and states. Bove focused on the natural elements that emphasized the unique geological, climatological, and natural resource impacts on specific environmental zones in order to consider the critical effects of seasonality and crop scheduling in settlement location.

Bove emphasized differences between the coast and upper piedmont, including threefold increases in average annual rainfall as one moves inland from the shoreline 45 km to the upper plain, and five times from the shoreline to the volcanic escarpment. Moreover, the rainfall on the coast and coastal plain is sporadic. On the coast, there
can be five months of drought, whereas on the coastal plain, 90% of the annual rainfall occurs within the six-month period of May to October. Bove pointed out that the most fertile soils for would-be agriculturalists occur in the upper portion of the coastal plain where the less sporadic rains have weathered recently deposited alluvial fan sediments and young volcanic ejecta.

Bove also noted that while the lower coast provided salt, fish, and various food resources associated with mangrove swamp vegetation, the coastal region from 100-200 m elevation has been determined to have been ideal for maize production. For agriculturalists, the average temperature allows a 90-100 day period for the complete maize cycle, from planting to harvest, which could be met twice a year. The rich, deep, continually replenished soil, coupled with adequate rainfall points to the Pacific Coastal Plain as one of the most agriculturally productive regions in the world. Bove concluded that the Pacific Slope region was a greatly favored location for the evolution of highland productive subsistence and other resource systems during the critical Formative Period and later.

As a means to understanding the evolutionary development of complex society in the southeast highland region, the cultural development of the Pacific coastal plain, nevertheless, cannot be separated from its relationship to the adjacent volcanic escarpment.

In fact, a study of the adjacent highlands, including the unique and diverse environment in the higher elevations, may be a more reliable foundation for assessing complex societal evolutionary processes and a unity that is said to have developed among residents of the southeastern highlands by the Middle Preclassic. While the coastal zone appears to have developed ranking and major sites with formal architecture earlier than in the adjacent highlands (Bove 1989:6), the adjacent lake basin may hold evidence of the early beginnings of the important transition that resulted in the more developed sites along the coastal piedmont. I argue that the soil and the climate, which deemed the Pacific piedmont ideal for agriculture, has much to
do with the lake basin; the higher elevations offer a terrain familiar to the earliest travelers from North America, as well as a variety of foodstuffs which would have been necessary for the original residents' foraging livelihood.

18.6. Settlement Survey of the Lake Basin

I argue that an understanding of the evolutionary development of complex society in the southeast highland region, which now hinges on stepped-up interest in the cultural development of the Pacific coastal plain, is dependent upon knowledge of the coast's relationship to the unique and diverse environment in the adjacent higher elevations (Figure 55). Moreover, a study of cultural development in the lake basin, relative to the coastal plains, provides a more reliable foundation for assessing the value of the region from the inhabitants' standpoint. More fundamental than a distinction between optimal or marginal environments of the Pacific coast and piedmont is the definition of a perception of suitable or non-suitable site locations, which, as has been explained, was fundamentally different for hunter-gatherers and village farmers who apparently settled in the region.

A study is proposed for that portion of the volcanic escarpment along the Pacific coast of Guatemala that includes the basin and tributaries of Lake Atitlán where Archaic hunters and gatherers perhaps lived. Considered on the southern edge of the Guatemala highland region, the lake basin lies where the Pacific coastal plain terminates with a piedmont region of well-drained soils derived from three volcanoes, Atitlán, Toliman and San Pedro, which today skirt the south end of the lake waters. Area soils consist of volcanic igneous and metamorphic rocks of the Quaternary with thick pumice fills. Although the volcanic caldera consists of 400 meters of volcanic ash and debris that has weathered and redeposited over the last 10 million years, nothing is known of the most recent 12,000 years of geological history of an area rich in water
Figure 55. Proposed survey area of the Atitlán lake basin relative to the Pacific coast and coastal plain.
resources and natural foodstuffs. In fact, the only evidence for the Paleoindian period for the entire Central American continent consists of some fluted points and a campsite located in the highlands of Guatemala at around 10,000 - 8,000 B.C. (Coe 1960; Gruhn and Bryan 1977); possible later sites from the Late Archaic (3000 - 2000 B.C.) are noted to exist in the Quiche basin (Brown 1984).

Moreover, while the late prehistoric history is known from native documents, the later prehistory is imperfectly known because relatively little archaeological work has been carried out in the lake basin. Semetabaj, the only other systematic archaeological investigation conducted in the area, was noted for its environmental value to Preclassic period residents. According to Edwin Shook, Marion Hatch, and Jamie Donaldson (1979), "the availability of adequate soil for the production of corn and beans, plus the ready supply of water were the basic conditions for ancient settlement of Semetabaj" (p. 11). In particular, the year-round moisture laden clouds and fog, which roll from the south across the lake and over the otherwise seasonally defined area, are responsible for the conditions.

In sum, all previous work in this area of the Maya highlands consists of a handful of site-specific, rather than regional, studies. Consequently, any generalizations made about the regional developments are based upon inadequate and incomplete data. More than that, any generalizations made about the Pacific coast and piedmont settlements are based upon data that has not considered earlier highland populations who might have been living in closer touch with the region's natural environment.

In particular, the lake basin area has never been subjected to site reconnaissance. While few archaeological sites are known to be present, there is reason to suspect that Archaic and Formative period sites are present that have never been reported. It is believed that sites can be located relatively systematically, by perhaps asking local inhabitants about the locations. I believe the rapport established during the past ten years of my research in the area now enables me to discuss the whereabouts of
some of the previously unknown sites of cultural remains.

However unsystematic the reconnaissance may sound, it is far more systematic that random transects which may or may not be found to be traversable, and far more reasonable taking into consideration the suspicions raised trying to move closed-rank crews with equipment through the sensitive area. During 1996, we successfully mapped Chigojom with two people, hip chains, an altimeter, and a GPS. It is not unreasonable to think that a team of three people, guided by locals, could move swiftly through much of the area mapping site remains, recording the locations and arrangements, and noting surface collections. The time to do this is in late May to early June, prior to the heavy rains, but after the grounds have been prepared and planted.

Site patterning can then be evaluated by analyzing the morphology of existing structure mounds and their situationing and layout alignments. I have proposed that patterning, which concurs with events such as hydrology patterns, should be evaluated in terms of a relationship to potential resources perhaps once deemed favorable by the divine powers. As we know was the case among ancient Maya, leaders used the landscape to reinforce the strength of what they considered was their immortal sovereignty (Ashmore 1992:173). Information collected during site surveys can be combined with environmental data that has already been collected through on-going research conducted in the lake basin by outside organizations.

18.7. Some Speculations on Factors in Site Selection during the Early Formative

As a means to further the investigations of the lake basin, I suggest the following questions be asked of the archaeological record. The questions may draw attention to the various subjective factors that affected prehistoric site selection during the Formative period (see Rykert (1989):
What are the locational parameters of known sites in the area? For the Maya, we might say that the location of a settlement site considers the fixing of a place from directionals associated with, but not limited to east to west, north to south, and in relationship to the heavenly sky, which may form a vault or dome that can be assumed to become inverted at night. Landmarks bind this perspective, as well as provide the format upon which the location can be contemplated and united.

Therefore, what are the site and possibly regional boundaries, and how are they marked? Do the boundary markers indicate rules for their maintenance, and/or consequences for moving boundary markers, which might be equal to an infringement of a divinely ordered compact between sky, earth and human, a breech which might threaten the whole community? Because boundaries are vulnerable, boundary markers are also vulnerable; curses that protect them get more severe as the general political and social guarantees decline. As such, in addition to spatial changes, what are temporal changes occurring in boundaries? What are the consequences for those changes? Finally, where are there marked openings in the boundaries that may have once served also as an ideological passage from outside to inside, and from one condition to another?

What are the relationships between the location and the environment of the area. Among the Maya, relationships have been determined to exist between the inhabitants and their environment with reference to natural systems in the sky, above the ground, and underground. The named relationships order perspectives, points of view, or outlooks, hence the point from which the relationship is established is considered a sacred enclosure. The cosmography creates a diagram of universal order from the extent of the ordered being to what is beyond being. Embued with designs of significance, the relationship becomes a program for planning and a prophecy of what is going to be built on the site. In the naming of the landmarks, these relationships are identified. As is the case among Atitecos in the lake basin, the relationship of the community with the world-picture is a relationship between the world-picture and the
human body, implicit in the divining system. Among other Maya, relationships to cardinal points and the celestial heavens are transferred from perception to the landscape for the purpose of establishing a relationship between the general order of the sky to a particular place. For example, a "temple" of the sky is put into form and then projected on to the tract of land by ritual formula.

With these considerations, is there evidence of an outline of, or a shape to the relationship between residents and their environment? Is the organization of the human landscape recognized in patterns? Was the human landscape divided? Was it kept intact, i.e., internally by means of trails, and externally by means of trade routes?

How have geomorphic, hydrological, and biotic conditions influenced site selection? While we know that among Maya, the choice of a site was in accord with divine prophecy, was site selection left to the decision of the gods? Or, did site selection sustain intervention through the agency of a sacrificial animal or a creature pertaining to the earth, such as a snake, a swarm of bees, or thunder or the motion of the clouds? Perhaps placenames define the divine relationship.

18.8. Final Considerations

This final part integrates into an operational format the data presented in this dissertation. The synthesis makes sense of the data accumulated in the research, relative to the claims made by the Maya. A settlement pattern study is proposed as a means to appraise the use of natural resources and the ways human perception placed values and subtle constraints on such use. It is believed the approach will begin to help us understand the earliest residents in the lake basin. It is apparent that what was real, or perceived to be real, by the residents had an objective reality which has until the present escaped the western mind's grasp; their motives, preferences, and modes of thinking and traditions were based upon ways of perceiving that incorporated a large
bit of common sense accompanied by a profound sense of magic.

When the Cakchiquel Maya settled in southeast Guatemala during the Postclassic period, they moved in on a 2000-year old Preclassic way of life. A study of the lake basin as part of the southeastern highland region may help us appreciate the evolution of a regional ideological system, by focusing on the import of site suitability during the period of transition from hunting-gathering to agriculture. It is probable that a regional ideological system originated in the minds of migrant foragers living in the basin, only to prevade the thinking of later agriculturalists along the coast and piedmont who found themselves inextricably linked to their predecessor's first-hand knowledge of nature. The lake basin data, compared to the southeast highland data would be a first attempt to define, for the region, a perception of suitable or non-suitable locations, which would have been fundamentally different for hunting-gathering populations and village farmers. For the region, the hunter-gatherers are the least understood of the former residents of the area. But then, western thinking more closely resembles what went on in the minds of village farmers.
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