SPANISH MERIDA
OVERLAYING THE MAYA CITY

By

MARK CHILDRESS LINDSAY

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<td>Instituto Nacional de Arte e Historia</td>
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<td>INEGI</td>
<td>Instituto Nacional de Estadística Geografía e Informática</td>
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<td>MCL</td>
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Abstract

Abstract of Dissertation Presented to the Graduate School of the University of Florida in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

SPANISH MERIDA
OVERLAYING THE MAYA CITY

By

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This study examines several characteristics of the laying of a provincial Spanish capital over an existing, abandoned Maya urban center at Merida, Yucatan, Mexico, in 1542. Evidence was found that the Spanish city plan and an associated methodology for sustaining European-style civilization in a region with few valuable natural resources was similar in several aspects to comparable planning and sustainable urbanism as practiced by urban Maya. Late medieval characteristics were found in the Spanish idea of “city,” in their relationship to tributary non-Christian, non-European peoples, and in physical planning for urban settlement. Numerous characteristics were encountered also of a parallel Maya idea of “city,” concepts of feudal tributary relationships, and associated ideas and methods for physical planning and architecture.
The methodology for conducting research was shaped by the author’s experience as a practicing architect. Data from historical buildings, both Hispanic and Maya, and from urban planning geometries from the two cultures studied was compared to traditional historiographic data. Some evidence was encountered which has not been isolated to date.

There is evidence that the Hispanic urban fabric has continued through time into the present to a significant degree and has retained several major characteristics of the underlying Maya substrate, even though no significant Maya buildings remain intact in the historical center. There is also evidence for syncretism between Hispanic and Maya urban fabric, both at the urban scale and at that of early colonial vernacular architecture. Finally, there is evidence that two important purposes of the urban morphology among both Spaniards and Maya were planning and design for shading and garden-type agriculture, both of which characteristics were important in sustaining civilization in Yucatan’s hot, infertile ecology, for Hispanics and for Maya alike.

In addition to its usefulness as a historical study of multi-cultural syncretism in the context of urban ideas and geometries, this paper has relevance for contemporary architecture and urban planning. The study of Merida and the continuity of its urban environment through numerous centuries of occupation demonstrates ideas which have relevance for developing a methodology for sustainable urbanism in the U.S.
CHAPTER 1
INTRODUCTION

Thesis of the Dissertation

There was an encounter at Merida between two ideas of city and two associated urban geometries, Spanish and Maya. Part of the function of the resulting built urban environment was to symbolize and to sustain the Indo-Iberian city. Spaniards settled at the site of their new colonial capital in 1541. It was on the large, abandoned center of the Maya city of Tihoo, also called Ich caan si ho, or simply Ho, and is the present site of Merida. In January 1542, the new Spanish city was formally chartered; the new city council approved a formal plan which was drawn on parchment; the site was prepared for surveying; and surveyors laid out the city.

Maya city centers were traditionally seats for cosmological and calendrical ritual, but when the Spaniards arrived, Tihoo’s center was overgrown with brush and trees. There was evidence that its suburbs contained Maya residents at the time of the Spanish settlement. Its architecture impressed the Spaniards with its size, crafting, and symbolism.¹

This study will demonstrate evidence that the original Spanish city plan was probably intended to be a regular, repeating grid like numerous other colonial models. The grid at Merida was rectilinear in most parts, but consisted of a range of block shapes.
The anomalies in the intended grid resulted from the Spaniards laying their grid over that of the Maya city and selectively incorporating elements of that Maya grid.

The Maya grid was not rectilinear and repeating, as was the Spanish grid. In other aspects, however, there was evidence of similarities between the two types of cities, that of the Europeans and that of the Meso-Americans. Further, there was evidence in Encounter-era chronicles by both Spaniards and Maya that each recognized the settlement of the other as a “city,” within their respective traditions of urbanism. This study explored two culturally distinct ideas of “city” and the two associated urban geometries. It studied also the encounter at Merida between those two types of cities and the consequences of their encounter contained in the historical built environment.

The Spanish and Maya cities were perceived by and utilized by their respective builders in some similar manners. Monumental urban centers and partly agricultural vernacular homesteads were common to both urban traditions. The Hispanic land subdivision pattern was implemented in all parts of the colonial city, although it was shaped by both Spanish and Maya geometries.

There is physical, geometric, and documentary evidence of two ideas of “city.” Spaniards recognized Maya capitals as “cities” in the Spanish sense. Maya scribes recognized Merida as a “city.” The nature of that recognition is part of this paper. Transcultural recognition of “city” assisted adduction of the perceived meanings of each and their association with geometry and architecture. There was evidence in the urban fabric of two Spanish methods of relating to the Maya city. The first means was domination; the second was succession. Examples of each type were examined in this research.
The initial Hispanic settlement pattern and vernacular type of minor civil architecture became a repeating typology over time. The type was utilized by upward mobile, Indo-Iberian peoples in the early colonial city’s working and middle-class suburban periphery and was continued after the elite Spaniards had abandoned it for more elaborate housing. The Hispanic vernacular homesteads were similar to their traditional Maya counterparts, as will be demonstrated in Chapter 7.

Two successive Spanish capitals occupied the sites of two separate Maya capitals. Each of the latter was abandoned at the time of Spanish settlement. Spaniards were only able to settle after forming mutually strategic alliances with regional Maya feudal states. Those alliances served Maya interests initially, but later Maya scribes regretted the choice. Merida functioned as a designated Maya capital for ritual and calendar during the colonial period independently of its function as a Spanish colonial capital. It has remained the capital of Yucatan continuously to the present time.

The author is a practicing architect and was a Peace Corps Volunteer architect in Colombia in the late 1960s, immediately after undergraduate education. Colombian cities and towns with sixteenth-century origins were observed for a phenomenon not present in contemporary United States urbanism: There was evidence that the traditional urban centers and central neighborhoods retained prestige and function over time. A visit to Cuzco, Peru challenged the author's Eurocentric ideas of continuity in urban fabric. The city demonstrates clear evidence of a Spanish Renaissance city laid over a partly-intact Inca capital, as shown by surviving street patterns and the architecture from the two cultures. The two urban fabrics encountered each other as a type of physical syncretism.
Cuzco’s built environment implied that two ideas of urbanism had encountered each other at one location. That phenomenon raised two issues: First, the interaction between two physical forms of city implied an interaction between two distinct ideas of “city.” Second, the overlay of the Inca city by that of the Spaniards implied that the Renaissance was philosophically different in nature from its portrayal in the author’s university education.

Political unrest in Peru in the 1990s, together with two established U.S. university programs in Yucatan directed me to study another example of syncretism between two ideas of “city:” that of Merida, Yucatan, Mexico. Evidence that Spaniards chose consciously Maya urban centers as sites for Spanish settlements in the sixteenth century was the subject of the author’s master’s research, demonstrating that parts of the Maya city had been preserved in fact by the Spanish grid. Evidence that physical vestiges remained as parts of the Hispanic city center, together with a range of research by other scholars, were reasons to focus additional study on Merida, employing data and methodologies from several disciplines, including architecture, Spanish colonial history, and archaeoastronomy.

An underlying assumption of this dissertation was that the physical built environment of a city was a record of at least two factors. The first was a methodology for meeting the material needs of citizens and residents. The second was an abstract idea of “city.” This study assumes that not only were the two factors present in the record of the built environment, but also they influenced each other.

The first relationship examined between a physical urban fabric and a hypothetical idea of “city” was symbol. As expected, evidence for symbolism of both domination and
succession was adduced from the Spanish act of laying their capital over the abandoned Maya capital. Evidence was found for other relationships as well. A sixteenth-century Spanish idea of “city” was encountered. As will be shown, it was based on a concept of the material “common good” of the designated Spanish citizens, similar to the English term “commonwealth.” There was a paradox between that ideal and the imposition by Spaniards of themselves as the new lords within an existing Maya feudal system. Evidence was found also for a corresponding Maya idea of “city,” present at the time of the Columbian encounter.

**Methodology**

The research for this work combined architectonic, historiographic, and other types of data, assisted greatly by the author’s architectural experience which has been based primarily on training in the recognition and manipulation of geometric patterns and forms in two or three dimensions. Architects are also trained in materials and methods of construction, which helped the author recognize and examine geometric patterns at an urban scale in Merida. The examination of geometric patterns at the urban scale was then cross-referenced with historiographic data and data from other disciplines. An example was recognition of a grid anomaly at the core of Merida’s historical center. A seventeenth-century historiographic source identified the anomaly as a revision of the Spanish grid in order to fit it to the existing Maya grid.

Another geometric anomaly required data from the discipline of archaeoastronomy in order to understand the phenomenon. Data from architectural history, anthropology, Maya studies, and others were also utilized. A perceived geometric pattern with implications for social, economic, or other patterns was not considered significant if it was
not identified or implied reasonably in written document sources. An interdisciplinary approach thus contributed to this work's basic research methodology.

The Idea of City

Convincing evidence was found of an idea of "city" in both early colonial Spanish historical chronicles and surviving Maya documents describing the period of the Columbian encounter. This study distinguishes between the terms *city* and "city" as follows: The adduced and documented perceptions by early colonial Spaniards and Maya scribes differed from each other and from the contemporary English meanings. The term "city," in quotation marks, refers to the idea of city present in a selected culture and/or time frame. The study permitted the author to expand his comprehension of meanings associated with the idea of "city" by Spanish historical chroniclers.³ (The contemporary idea of "city" among Spanish speakers is probably different from that of sixteenth- and seventeenth-century Spanish speakers, but that analysis is outside of the scope of this work.)

An important theme in this dissertation is the distinguishing between cause and effect. The Spanish idea of "city" was intact already when Spaniards settled at Tihoo. The Spanish settlement implemented in built form an idea which had evolved elsewhere. This author's lack of Maya linguistic skills, together with the absence of published archaeology of the underlying Maya city center, limited the possible scope of examining that Maya city.

The physical built environment was part of the methodology employed by sixteenth-century Spaniards in implementing their "republic," or idealized type of city. This work demonstrates how the physical city has characteristics of the Spanish republic:
First, its geometry was a symbol of Judeo-Christian civilization. Second, its purpose was to serve the common good of its designated citizens. Those characteristics shaped the physical urban fabric. An example was vernacular housing, a type of means of economic production as well as a type of residence. Those functions served the common good and, therefore, served the idea of "city." Spaniards recognized selected physical characteristics in Maya capitals as evidence that those places were "republics" and "cities" in the Spanish sense. A corresponding Maya perception of physical form was implied in their recognition of Spanish Merida as a Maya "city."

**Characteristics of Merida**

The principal distinguishing characteristic of Merida was the layering of two cities with two culturally-distinct ideas of "city," as described above. Several other characteristics of Merida shaped this study, as follows: First, the period of settlement was a time of transition. Spain was in its transition from the late medieval period to the early Renaissance, similar to but very distinct from northern Europe. Several defining characteristics of the Spanish settlement can only be understood in the context of the European late medieval period. An example was the tributary relationship between the new Spanish lords and their feudal Maya tributaries (see notes to Chapter 5). This work will examine documentation of Spanish transition from dependency on medievalist tribute to early modern commercialism as European disease devastated the tributary peoples and impoverished the Spaniards.4

There was a second historical transition. The early colonial abuse by Spaniards of the conquered peoples in the Caribbean and the near extinction of the native peoples there caused the reformer Bartolomé de las Casas to lobby successfully at the Spanish court for
reform. The New Laws, a type of civil rights legislation, implemented in the 1540s, which in theory protected tributary peoples from Spanish abuses, were implemented during the same period in which Merida was founded. Either coincidentally or as a result of changing attitudes, the hostility by Spanish colonists described by Remesal in Guatemala toward Las Casas was not described in Yucatan's chronicles. The hypothesis of this dissertation was that the issue had already been debated and the Yucatan settlers simply had accepted Carlos V's reforms. That did not, of course, imply that abuses did not occur in Yucatan, either during the settlement period or later.

Another characteristic of the Spanish settlement of Merida was its concurrence with a series of idealized utopian writings and experiences in the Spanish world. Among them were experiments in central Mexico of a idealized social type, based on the visionary (non-Spanish) Roman Catholic theologians Erasmus, New Testament scholar and critic of both Protestant and Catholic orthodoxy, and Sir Thomas More, author of *Utopia*. Another was a work by a sixteenth-century Spaniard, Fray Alonso de Castrillo, who produced the only Spanish treatise on urbanism from that century encountered to date. There was significant evidence of idealized civic theory associated with the Spanish settlement at Merida, as will be demonstrated in this study.

A final characteristic was ecological. Spanish and Maya systems of settlement and urbanism in Yucatan both had to cope with ecological limits. Spanish hopes to the contrary, Yucatan possessed no minerals or metals of special value. The Maya had previously evolved a methodology to sustain urbanism in Yucatan. Spaniards also possessed techniques for sustaining urbanism in hot, dry climates.
Yucatan was characterized by a hot, tropical environment without soil capable of European style cultivation and without surface sources of water. Parallel traditions existed among both Spaniards and Maya for cultivation in arid landscapes. A significant part of the methodology employed by both peoples was a type of urban homestead with irrigated orchards and gardens and a surrounding periphery of lands for grains and livestock. The Spanish and Maya chronicles implied that, aside from different plants and animals, the two methodologies were similar in nature.

Principal Historical Sources

This study utilized a set of chronicles by Spanish and Maya scribes as the starting point for historiographic research. The first group included early colonial Spanish sources, two of which were written in the sixteenth century, “Report on the City of Merida,” written by Martín de Palomar, and “Report on the Things of Yucatan,” by Fray Diego de Landa. They were published in the same collection of reports, Volumes 11 and 13 of the work Documentos Inéditos de Ultramar, published circa 1580. Those two volumes described Yucatan and are called also the Reports on Yucatan, (Relación de Yucatán) or RY. They were responses to a series of questions directed by the king to selected Spanish landlords in the Yucatan colony. The questions included descriptions of the colony, its natural resources, and characteristics of the conquered Maya people.

The third Spanish chronicle utilized was Historia de Yucatán, written by Fray Diego López de Cogolludo in 1656 and published in 1688, describing events in the sixteenth and seventeenth centuries. A fourth work was utilized to compare histories of Yucatan with contemporaneous events in colonial Guatemala, the General History of Chiapa and Guatemala, by Fray Antonio de Remesal, published in 1619.
The most useful early colonial chronicle for this study was Cogolludo’s *Historia de Yucatán*. Detailed descriptions of the founding and planning of Merida were expanded sometimes by other chronicles, but they introduced no themes not already present in Cogolludo’s work, which documented sources for his descriptions of the city’s formal founding and planning in 1541. The city’s records had disappeared, but Cogolludo obtained a certified copy written in 1578.  

Finally, Fray Alonso de Castrillo’s sixteenth-century treatise on urbanism, *Tractado de República*, published in 1521, contained ideas comparable to central themes in all Spanish colonial works examined for this dissertation, especially themes by Cogolludo and Remesal. Castrillo quoted numerous ancient Greek and Roman philosophers, as well as St. Augustine and other medieval Christian theologians.

Surviving Maya literature included two works, regional variations of the same work, which described Maya and Spanish Merida: English translations of *The Book of Chilam Balam of Chumayel* and *The Book of Chilam Balam of Tizimin*, translated and annotated by Munro Edmonson. The oldest surviving manuscripts dated from the first half of the nineteenth century, but Edmonson cited evidence that they were derived from oral or written histories with significantly older dates of origin. They described events beginning in the tenth century, with the most detailed histories describing events starting in the fifteenth century. The text was poetic in nature, and consisted of both myths and historical chronicles.

**Characteristics of the Research**

The distance in time and culture between sixteenth-century Spaniards and the contemporary North American author required reconstruction of word meanings which
were probably considered commonplace by sixteenth-century Spaniards. The author's lack of Maya language skills shaped the research: with Maya language skills, a comparison between sixteenth-century Maya and Spanish ideas of "city" would have been more detailed. The author's professional background added a unique dimension to historical research. As a trained architect, the author was able to recognize patterns in architecture, in the urban fabric, and in geometric sequences which became useful historiographic data. That skill may have compensated for not having been a native resident of the city.

There were limitations to each type of available data. One example was limits on mapping data: The earliest surviving city plan of Merida dated only from the second half of the nineteenth century. Requests were denied twice for unstated reasons by the city public works office during two years for access to contemporary engineering plans from the city public works department for comparison with historical maps.

Demolition of major Maya and colonial buildings during the city's history resulted in limitations on understanding the colonial and Maya cities. Losses included the principal pyramid, demolished in the sixteenth century, and San Benito, a layering of historical buildings including a Maya pyramid, Franciscan monastery, three colonial churches, and a castle, demolished during the late nineteenth and early twentieth centuries. Reconstructions of probable urban configurations depended on historical descriptions; nineteenth-century photographic archives and historical drawings, the 1864-5 Topographic Plan of Merida, two eighteenth-century drawings of San Benito, and field data compiled by the author and by other researchers.14
Sources of Special Concepts

Several works or concepts by contemporary scholars were the origins of major ideas in this study. The concept of the "Indo-Iberian" city and the concept of the survival of Hispanic vernacular buildings in smaller cities in Yucatan was based on conversations with Merida architect and scholar Edgardo Bolio during July 1996, June 1997, and July 1998. Several definitive concepts relating to the dates of colonial urban morphology and building characteristics were based on conversations with Merida archaeologist and historian Luis Millet in June 1997 and July 1998. The concept of retardataire architectural detailing and the risks associated with undocumented dating estimates was from personal correspondence with Dr. Miguel Bretos, Counselor to the Secretary for Community Affairs, Smithsonian Institution, Washington, D.C.

The concept of upward mobility and hispanicization of Merida's seventeenth-century working-class people with few resources was based on the 1974 study by Marta Espejo-Ponce Hunt, examined in Chapter 7. An understanding of the relationship between dominant Spaniards and tributary Maya was from the 1984 book by Nancy Farriss. In particular, her work was utilized to understand sixteenth-century documentation by both Spaniards and Maya of the alliance between the Maya Xiu and the Spaniards, which allowed the Spanish city of Merida to be settled.

The probable Maya origins of streets radiating from the former San Benito complex in Merida were adduced utilizing research in the discipline of archaeoastronomy published in 1986 by Richard Aveni and Horst Hartung. Finally, medieval origins for parts of the Spanish idea of "city" were understood principally based on works by Thomas Glick (1979) and David Vassberg (1984). The guidance of the dissertation committee,
especially Chair William Tilson and historian Murdo MacLeod, were essential in shaping and editing ideas.

**Historiographic Method**

Historiographic methodology employed in this paper was of the traditional type, as examined and described in the 1984 work *Justifying Historical Descriptions*, by C. Behan McCullagh, which contains the most reasoned theory of historiographic methods encountered to date. McCullagh described several methods which can be used to demonstrate the probable truth of a historical hypothesis which he calls “justification of historical descriptions”. Two of McCullagh’s methods were used in this work – first, “arguments to the best explanation,” in which the hypothesis “must be of greater explanatory scope; greater explanatory power; more plausible; less ad hoc than others; disconfirmed by fewer accepted beliefs and it must be so explanatory that there is little chance of revision;” and second, justifying singular descriptions with the use of statistical inferences. Generally, the historiographic method utilized herein was based on a rigorous method for questioning available evidence, similar to that described by McCullagh.
NOTES

1. An example was the statement by Fray Diego de Landa, "If Yucatan were ever to gain fame and reputation for the quantity, grandeur, and beauty of [its Maya] buildings, as have achieve other parts of the Indies with gold, silver, and riches, it would extend its [fame] as did Peru and central Mexico, because in the matter of buildings and their quantities it is the most remarkable of all the things discovered to date in the Indies . . ." "Report on the Things of Yucatan" (RY 13:354).


3. Variations of a historical idea of "city" are described in or were adduced from a wide range of sources. They include medieval Spanish chronicles of the conquest of Muslim Valencia in the eleventh and thirteenth centuries and medieval urban charters. A series of sixteenth- and seventeenth-century Spanish sources were examined and were the principle historiographic sources. One of them was an early sixteenth-century Spanish treatise on urbanism. In the Spanish sources were evidence of both late medieval and Renaissance ideas.

Another group of sources focused on Maya civilization, including Maya historical documentation of the encounter between Maya and Spanish urbanism and ideas of "city." That series of sources were interdisciplinary and included works by anthropologists, and archaeoastronomers. A final series was secondary sources in the fields of history, architecture, and urbanism, which included tests, photographic, and other graphic archives.

4. The economic impact on Spaniards as a consequence of the devastating mortality rate among Maya serf worker peoples was documented by Juan de Urrutia (circa 1580) in "The Townships of Chuaca and Chechimila" (RY 13:68).

5. Fray Antonio de Remesal described Spanish hostility to Bartolomé de las Casas, the sixteenth-century reformer, in his work Historia general de las indias occidentales y particular de la gubernación de Chiapa y Guatemala (orig. pub. 1619. Repub. México: Editorial Porrua, S. A., 1988). At one point Las Casas feared a death threat against himself (II:43). Remesal reproduced a letter from the King to Las Casas in
1549 which recognized the “persecution” which Las Casas had experienced in his service to the Mesoamerican peoples (II:240).


CHAPTER 2
THE FOUNDING AND PLANNING OF A SIXTEENTH-CENTURY SPANISH CITY LAID OVER AN ABANDONED MAYA CITY

Merida, which was the third Spanish capital city for the province of Yucatan, was settled permanently at the site of an abandoned Maya "cycle city," or capital, by the son of the Adelantado, or King's delegated colonial colonizer, Francisco de Montejo. The permanent settlement by Spaniards had three significant characteristics which will be examined in this chapter. They were examined together because of historiographic evidence that the characteristics were factors which acted on each other, as perceived by both the Maya and the Spaniards at the time of their encounter. The first characteristic was the presence among the Spaniards of a conscious sequence of acts which defined the formal founding of the Spanish city. The second was the continuing perception by Maya that the city retained a Maya nature, a special function within Maya society, and a relationship with Spaniards based upon the Maya welcoming Spaniards to Yucatan and being in alliance with them. The third was the relationship of Maya tributary serf peoples in suburban neighborhoods to the Spanish feudal lords in the center. There was contradictory evidence of two types which was examined to determine if the mostly Meso-American suburbs of sixteenth-century Merida were or not in fact a type of congregación, a voluntary or forced relocation of tributary peoples for idealized motives.
FIGURE 2.1
Map of Yucatan.
Characteristic One: A Sequence of Spanish Acts

The founding of the Spanish city consisted of a series of acts whose purpose was to expand late medieval feudalism, increase the number of Roman Catholic people, and implement idealized civic theories at an actual site. A consistent theme in the motives was the concept of "common good" and "republic." The meanings implied by those terms was examined in Chapter 4.

The process of founding the city, as described in the chronicles, was authorized by two documents. The first was a decree issued by the King to Montejo the elder in 1526 which granted Montejo the right and duty to "discover, conquer, and settle . . . and build two fortresses . . .". Montejo was instructed to establish settlements of no less than one hundred men at locations which he would choose.\(^1\) Montejo was to grant to the settlers "settlements [sus vecindades], and two measures of [rural] land [caballerias de tierra] and two urban house lots." After four years of residence, the settlers would then own legally the land and possess the right to sell it. Half of the crown revenues for five years would be spent on hospitals and public works.\(^2\)

The second document which authorized Spanish colonization was written instructions from Montejo the elder to his son in 1539, delegating and instructing him to found and settle Merida. First, he instructed his son to establish a city council and municipal government for a "town and city . . .". He then instructed the son to grant feudal labor and tribute privileges (repartimiento) to no fewer than one hundred citizens in order that they would possess sufficient military strength to maintain domination of the Maya peoples.\(^3\) By using the term city, the instructions implied that the settlement was designated as the capital, as will be examined in another section.
Finally, Montejo the son was to make certain that all citizens built their houses and
*granjerias* [enterprises] and *labranzas* [farms] . . .*" The description of “enterprises and
farms” documented one economic motive of the colony. It implied that feudal tribute
received from conquered Maya serf workers was not intended to be the only sustenance of
the daily needs.

**Establishment of a Temporary Spanish Settlement, a Strategic Alliance, and a Battle**

The following is a brief historical review based principally on narratives by
Cogolludo and Chamberlain. Its purpose is to show acts by Maya and Spaniards which
influenced the Spanish settlement at Maya Tihoo. Since the laying of Merida over Tihoo
influenced the city’s urban fabric, it is relevant data for this paper.

The Spaniards secured the region of Tihoo militarily in 1541; occupied the
abandoned Maya city; and established a watch tower on top of the principal pyramid.
They were then approached by a large delegation of Maya bearing a great gift of food.
The group was led by Tutul Xiu, Maya feudal lord of Mani, who had assisted Montejo the
elder in the settlement of Chichen Itza in 1533. Tutul Xiu made a great gesture of
humility upon the steps of the pyramid in front of Montejo the son; he offered friendship
with the Spaniards and obedience to the Spanish king; to the astonishment of the
Spaniards, he then expressed a desire to convert to Christianity. The visit coincided with
the Christian holy day of San Ildefonso, since it was a holy day, Cogolludo implied that
there had been divine intervention. The purpose probably was less religious than strategic:
advantageous alliances were a continuing pattern among warring rival Maya city states in
the period after the collapse of the unified post-classic Maya state whose capital was
Mayapan.
The Spaniards accepted the friendship of the Maya of Maní on that “happy day.” They and their new Maya allies then celebrated their alliance for three days with a festive hunt. During the festivities, envoys of the Xiu, sent to nearby Sotuta, were murdered by the leaders of the Cocom, a rival lineage in eastern Yucatan. The enemies of the Xiu then proceeded to attack the Spanish settlement with between forty and sixty thousand troops. The battle coincided with another Spanish holy day, that of San Bernabé. Superior Spanish technology defeated the Maya army with great loss of life among the latter. Spaniards celebrated the victory, which was the decisive military battle associated with Spanish settlement.  

A Series of Acts

First Act: Founding the City

The Spanish city of Merida was formally founded on January 6, 1542, the religious Festival of the Holy Kings. The act consisted of several parts. First, the legitimacy of the authority to found the city was justified by Montejo the son, who recorded legally a text in the presence of the designated scribe which documented the founding of the city “in the name of and for the service of the King.” That text described how he was authorized by his father to found and construct a city of one hundred citizens; officially bestow the name of the city; and perform a religious dedication to Our Lady of the Incarnation. He concluded that his act was at the service of the Deity, His Majesty, and “the good of the native peoples.”

The second part was the endowment of its name, “City of Merida,” and the invocation of religious sanction by naming the city in honor of a saint, Our Lady of the Incarnation. The act included also selection of a site on which to found a church, “... in
the best [place] in the layout." The church location in the “best place” implied that an idea of the physical plan was already present, at least in conceptual form. The final part of the act was the organization of the new municipal government:

“He [Montejo] named [two people] as the first judges [alcaldes or “mayors”]; twelve councilmen . . . The chief justice [then] gave the ‘staffs’ to the alcaldes and then to the council members . . .”

People were named to the posts of scribe, custodians, field overseer, attorney general and constable.

Several statements in the description implied that a new Spanish municipality was designated by the term “republic.” Other descriptions implied that a characteristic of a “republic” was to serve the “common good.” When the founding activities were complete, Cogolludo described the city as a “formed republic.” In another, he stated that “the republic of Merida had been established . . .”

The relationship between the terms was implied in the statement that “nothing is lacking in a republic which celebrates the common good.” Four councilmen were named at the formal founding and charged with “giving much attention to the common good . . .” The inference that “republic” and “common good” were associated in meaning and that the meaning corresponded with the term “commonwealth” was consistent with Castrillo’s treatise on urbanism and “republics,” published in 1521 and referenced previously. That comparison is the subject of another chapter.

Second Act: Implementation of the “Republic”

The new municipal government implemented an initial series of decrees to promote the common good. In one, the council decreed that no one could enter the city with arms “for offense.” In the second was another means of promoting the common good of the
citizens: Since the city was beginning to "enjoy tranquility," the council approved methods to punish wrongdoers. It authorized a public gallows and a "knife of punishment," which were announced by the town crier "in a loud voice." Those examples demonstrated that part of the function of the city government was to protect the citizens and to promote the common good. They were similar to portions of medieval Spanish charters, examples of which are cited in Chapter 4.

Another of the initial decrees by the city council requested a formal city plan. The permanent construction of the city was "not hurried" in order to avoid antagonizing both Maya allies and Maya enemies. The stated reason for implementing a city plan was to allow building construction of "the best design possible," since the citizens "suffered much discomfort by living in shacks, as in a military camp." That reason implied that the "common good" was the motivation.

The cause of the impermanent quality of the buildings was a fear of being at risk. As a result, "on the 29th of December the city council met and requested of Francisco de Montejo [son] that a city plan be mandated by the council "so that the citizens could build houses and residences . . . with no risk." The only reasonable inference from the text was that, in the absence of a city plan surveyed into being on the ground, people who constructed buildings were at risk that their buildings would be either on the property of another or would be in the public right-of-way; it was, therefore, an issue of the common good of the citizens.

Third Act: Presentation of a Graphic City Plan

Montejo the son responded to the council request for a plan. He:
"took out a large parchment (pergamino grande) which carried a drawing of the city (donde traia dibujada la cuidad), signed his name, and submitted it to the cabildo. It carried the name of each [citizen] in the house lot designated for that person. Later five hundred paces was assigned at the perimeter for the common-use garden greenbelt lands (ejido y arrabal), with the condition that it could be enlarged if needed; later it was mandated that no one could build in that space, on pain of losing [personal access] to it . . . "

The author of the plan was unstated since it was already drawn when presented; since Cogolludo credited Montejo typically with acts performed by him, the text implied that the drawing was drawn by another person. There was evidence by implication of a possibility that Montejo the elder produced the plan, as shown in the end note.

Cogolludo stated that the plan was "ordered," with streets which were wide, equal and straight. City blocks contained four house lots. The grid was

"... divided into equal blocks ... In the middle of this is the principal plaza ... It is entered from eight straight streets, two to the east, two to the west, ... north, and ... south, equally proportioned."  

The only reasonable explanation for the description was that it was a regular, repeating, rectilinear grid, centered on a plaza and with square blocks. As stated, each block was divided into four lots. Cogolludo did not state the number of blocks surveyed, or describe the limits of the original layout. The latter characteristics are examined in detail further in another chapter.

The second significant characteristic of the physical plan was the peripheral district which was dedicated to the uses of common lands and suburb. It was 500 paces (pasos) in width. Its existence through history was documented by brief verbal references and some graphic documents and is examined in another chapter. The following is a recapitulation of its characteristics: The suburban periphery was present probably through
Merida’s colonial history as a ring of neighborhoods and religious functions, including the San Benito citadel complex. There were no additional references to common land (ejidos) after 1542; Cogolludo documented that the city possessed no municipal lands (propios) by 1656.22

Second, its principal characteristic was its low density and vegetated nature, probably caused to a significant degree by traditional Maya homestead gardens and orchards, as described in Chapter 6. There is evidence that it was surrounded by a wider ring of grain lands and pastures. The pattern was probably similar to the image described for Moorish Valencia by Spaniards in the middle ages, at the time of the Spanish reconquest. Third, it continued to serve the common good of the city indirectly; Maya and Hispanic household gardens probably provided produce to the city by way of street vendors and public markets in the colonial period as they continue to do in the 1990s.23

Fourth Act: Surveying the City

The formal plan possessed popular support among the citizens. Because of that support, the city council notified the public with a town crier that all those who had lots in the city layout were to clean and clear them within twenty days, “. . . in order that the appointed ones [diputados] could measure the city and orient it with a compass [medir la ciudad y compasarla].” The planned grid, according to Cogulludo, gave the citizens “great pleasure” because of the design of its grid, which provided streets which were “wide, equal, and straight.” By implication, the perceived common welfare of the citizens was, therefore, served.24

The site was then prepared for the delegated surveying team. Cogulludo described field conditions at the site of Merida. In preparation for the survey, the site was to be
“cleared of growth (desmontado)”. The site contained Maya ruins; Cogolludo stated that the “principal pyramid was one of many that had been made by hand.” The principal pyramid was “full of trees and brush.” As stated, a war with Maya enemies had just been concluded, which implied that continued insecurity might have been present. The surveying methodology is examined in Chapter 3.

**Characteristic Two:**

**Maya Perceptions of Maya and Spanish Merida**

Maya observers documented Merida’s perceived function as a Maya city after the Spanish settlement. The Maya historical source which contained the most extensive and detailed descriptions of Spanish settlement at Merida was the *Book of Chilam Balam of Chumayel*. Maya chroniclers observed and documented the Spanish occupation and settlement of Tihoo/Merida. The surviving manuscript was written in the first half of the nineteenth century; it recorded events in historical form as early as the eighth century AD. Extensive descriptions began for the fifteenth century, with dates as correlated to the Maya calendar by translator Edmonson. The surviving manuscript was recopied probably from much older written or oral sources. The Maya work was organized into time periods which corresponded to cosmological cycles related to the Maya calendar. Edmonson correlated Maya dates with the European calendar and stated that the exact dates of those cycles were disputed among the Maya. Some cannot be verified by modern scholars.

The *Book of Chilam Balam of Chumayel* was written by and for Maya peoples in the western part of Yucatan, dominated by the Xiu noble lineage. Tihoo/Merida was within their area of dominance. This section will demonstrate evidence that the Maya
text implied that European settlement there served the political purposes of the Xiu. It fulfilled also a prophetic change in religious faith.

The alliance between Spaniards and Xiu Maya was seen by the scholar Farriss as being beneficial to the Xiu within a continuing pattern of rivalry among Maya city states and regional confederations. Xiu motives were, therefore, independent of the political and evangelical motives of the Spanish crown. The Xiu utilized the alliance with Spaniards therefore for strategic reasons even as Spaniards utilized it for Spanish purposes.28

The Chumayel text described the Maya city as possessing calendrical/religious prestige at the time of the European encounter: "[Ich caan ci hoo] was the seat of the [calendar cycle called] katun at the arrival of the foreigners, . . . the bearded ones who came from the east . . .". The Xiu people accepted Spanish settlement at Merida and accepted also the religious faith of the Spaniards: "Coming are our older brothers, the people of the capital [Merida, per Edmonson note]. Accept and welcome them, the bearded people . . . the diviners with the sign of God."29

The Chumayel text implied a change in the fabric of cities as well as recording dual taxation. "They will enter into Christianity: the great towns and the settlements of householders, the great people of the towns . . .". "The whole of this country of ours has the expense of the cycle seat and cycle tribute . . ."30

The text described afterwards Spanish exploitation:

"[The arrival of the Spaniards was] the beginning of the creation of many factions, the beginning of forced seizure for debts, . . . the beginning of forced labor for the Spaniards, . . . These were the very poor who did not rebel at the oppression that was inflicted on them . . . This was the Antichrist here on earth."31
The Chumayel text contained a probable description of the relocation by Franciscan monks, either voluntary or coerced, of Maya peoples from traditional townships into new, Spanish styled towns with rectilinear grids centered on churches, called *congregación*: “And the fathers of our souls [Franciscans?] came, and brought together the towns, which were divided into factions . . .”32 The description in the Chumayel text was significantly less critical of the forced relocations than were Spaniards who described it, examples of which are quoted in another section.

**Maya Interest in Spanish Architecture**

The Chumayel text described also Spanish architecture. Maya interest in Spanish architecture was parallel to Spanish interest in Maya architecture, which is demonstrated elsewhere in this paper. The Maya text stated, “[The fathers of our souls] began . . . erecting and decorating the house of God . . . piles of work in the middle of town . . .”. “There will arrive the fathers of the god house that is in the center of the town of Merida . . .”33 The text described also the laying out of a church; the text implied that Maya builders performed the work: “On 13 ch’en (13) Eb there occurred the pacing of the great church in the 4 Akab House, the great church in heaven. Thus it was paced off.”34

**Merida’s Prestige as a Maya City after the Spanish Occupation**

The Maya text continued to perceive Merida as a Maya city of significant prestige during the colonial period. Its prestige was associated with its function as a religious center for both the old and the new religions. The phrasing was poetic in nature, but a perception of prestige was clear, as demonstrated below.

One narrative compared the cities of Campech (Campeche), Calkini, Ytzmal (Izamal), Conkal and Tihoo (Merida) during the seventeenth century. It stated, “The
middle city of Merida is the primate church, the fiery house.\textsuperscript{35} During part of the sixteenth century, Merida was the seat of the \textit{katun}, a calendrical cycle of religious and cosmological significance. The text stated, “At Heaven Born Merida, Yax haal was lord . . . Descended from heaven will be its perfume. Sounded will be its drum, . . . That the great one might be installed.”\textsuperscript{36}

\textbf{Characteristic Three:} \\
\textbf{Early Colonial Suburban Periphery. Was It \textit{Congregación}?}

The description of the suburban periphery and other evidence implied a possibility that the suburban district was in fact, if not in theory, a type of congregación at the capital. The most convincing evidence was from the nature of its urban form, as documented by the chronicles. A group of semi-self governing townships designated for Meso-American peoples, including Nahua-speaking allies of the Spaniards, existed within the suburban periphery and outside of it. They were a type of social/ethnic segregation which resulted from the idealistic program of Franciscans to limit exploitation of tributary Maya peoples by Spanish feudal lords. They were described in works by scholars Hunt and Farriss. The presence of Meso-Americans there may have predated the Encounter. Research by the scholar Restall demonstrated the probability that Maya townships existed within that district prior to the European settlement. That there were Maya living in Santiago prior to Spanish settlement was an oral tradition in Merida.\textsuperscript{37}

The suburban periphery was surveyed into a grid of narrow lanes to match the Spanish core by 1865, as documented by the 1864-5 Topographic Map of Merida. An examination by this author of the built environment found no architectonic evidence that a Maya settlement pattern was present, except at those anomalies documented elsewhere in
this paper. The best explanation was that the configuration of those narrow lanes was Hispanic, not Maya, based on the absence of checkerboard grids in pre-Encounter Maya cities. The lanes were, therefore, probably Hispanic, and were widened during the nineteenth and twentieth centuries. The resulting suburban configuration, together with its associated churches and plazas, matched the morphology of *congregación* townships, as documented below.

**Congregación: Idealistic Purpose; Devastating Results**

The phenomenon of *congregación* was the forced relocation of Maya peoples from traditional towns and rural areas into Spanish-style grid townships surrounding churches. The purpose was idealized and was implemented typically by religious orders. It facilitated social control, evangelization, tax collection, and assimilation into the Hispanic mainstream. It was at least coincidental with the reforms of the New Laws, a civil rights program which originated with the reformer Fray Bartolomé de las Casas.  

A sympathetic history of the process of congregación was found in Remesal’s *History of Guatemala*. Remesal quoted Felipe II’s instructions to the viceroy of New Spain in 1595: “The Indians have been relocated into towns in order to be more comfortably served for religious doctrine, maintained in justice, and to live in company with people of reason . . .”

Remesal stated that the process was introduced in Chiapas by monks utilizing a methodology of attraction to the idea in lieu of coercion. Under the royal judge Gonzálo Hidalgo de Montemayor, the following occurred:

“. . . the fathers began to try to combine the villages and put them in the form of a ‘sociable’ republic in order that [the residents] could attend
mass more quickly and have their needs for government met. [a repeating
grid was laid out around a plaza on which fronted a church] . . .

[Unfortunately] the Indians did not want to remain in it, because
this nation loves its shacks . . . [and] the woods where they were born . . .
The fathers began little by little, and with much tact tried to convince them . . . because this did not need to be done with force, but because the people
wanted it.”

The passage clearly described the idealized motives associated with the civic theory of
“republics.” It described also the lack of desire by the tributary peoples to be a part of the
experiment.

There were several descriptions of the results of the experiment as perceived by
secular Spaniards in Yucatan. The following was a description of congregación at Chuaca
by the mayor of Valladolid, Bartolomé Martínez Espinal:

“Spanish friars depopulated the town, gathering the people into a
new township around the Spanish chapel . . . they died and many fled . . .
there were only twenty Indians at the new township . . .”

There was a description of congregación by another lay Spaniard in RY:

“In order that it be understood what the great diminishment among
these Indians has brought, [I hereby state] that the labor grants to
[Spaniards] have not been worked, [which is important] because in this
land there are no gold or silver mines . . . Their complete destruction has
been [caused] by their being moved from their traditional locations,
reducing many towns to one, and this [done with] too much and too
barbarous rigor [by the Franciscans].”

The narratives implied two opposing social programs: Franciscans sought to
assimilate Maya peoples into Hispanic culture and religion; lay Spaniards were principally
interested in the health of feudal tributaries for motives of personal income. Regardless of
those motives, the Maya mortality and flight in eastern Yucatan was clearly documented.
Absence of Historiographic Evidence for Congregación at Merida

The lack of descriptions at Merida similar to those for Valladolid de Chuaca was evidence that congregación probably did not exist at Merida. The chronicles did, however, imply that other aspects of Spanish colonialism were present. There was in them a clear reference to feudal labor and tribute duties on the parts of the subject peoples; the following was an example by Martín de Palomar:

"The commercial trade in this land is in cotton cloth and wax which the Indians give to Your Majesty and to the landlords in tribute, and with these they pay for merchandise . . ." 43

There was also a description of Christian religious practice in the Maya townships around Merida:

"... there are eight or ten priests who minister to the native peoples in the towns closest to this city . . ." 44

There was other historical evidence which implied that the suburban periphery of Maya townships did not constitute a type of congregación. The neighborhood of San Cristóbal was adjacent to the Franciscan monastery, which was a part of the probable dedicated periphery. It was the documented residence of Nahuatl-speaking allies of the Spaniards in the conquest, who settled there with the Spaniards after 1541. Cogolludo described it as the "best neighborhood for native peoples in the city." There was no reference to resettlement for reasons of evangelism or "republic." 45

The best explanation was that the suburban periphery did not have origins as a congregación, for the following reasons: A settlement of Nahuatl allies had probably little similarity to a resettlement of conquered Maya town folk or rural peoples. Cogolludo described the resettlement and resulting deaths and flight at Chuaca but not at Merida.
Cogolludo's precision in numerous descriptions implied that the absence of reference to congregación at Merida probably coincided with reality. That absence is, therefore, reasonable justification that congregación did not exist at Merida as an official policy of resettlement. There is no documentation to date which contradicts that assessment.

Restall stated that San Juan and Santa Lucía, the remaining neighborhoods within the probable designated periphery, were Spanish, not Maya, in terms of documented Maya self-government. Palomar described the chapels of San Juan and Santa Lucía in c. 1579 as being “outside of the city.” Palomar frequently identified Maya people in his narrative. The absence of such identification with those chapels implied that any community nearby was not noteworthy, and, therefore, probably Spanish. Finally, there was no reference to congregación in Hunt's descriptions of those neighborhoods in the seventeenth century.

**Analysis of the Probability of a Link with Congregación**

The best explanation of the data was that congregación was present at Chuaca and absent at Merida. There were three variables associated with its presence. First, the two cities were founded by two distinct individuals. Merida was founded by Montejo the son; Valladolid was founded by his cousin. There were documented differences in the settlement process at each site. Principally, Merida was laid over an existing capital; neither of Valladolid's two sites was a capital. The first site for the latter city was near a coastal Maya market town; the second was laid over an occupied provincial city whose defeated inhabitants were expelled. The differences between the sites for the two Spanish cities implied that personal preferences of the founders could override details in the Adelantado's program.
The second variable was the reporting of the acts in the chronicles. It was possible that Cogolludo and Palomar omitted references to congregación at Merida for unknown reasons. Since Cogolludo was a Franciscan, there was reason for him to gloss over harmful aspects of a church policy. Since he was candid about the negative results, and since his assessment resembled Palomar's, then reporting by each was, therefore, probably credible.

The third variable was the presence of monumental Maya buildings at Merida where there was no documentation of congregación. Conversely, there were no monumental Maya buildings at the Spanish site for Chuaca; there, congregación was imposed. There was not sufficient data to determine if the presence of those buildings was a cause or was only a coincidence. Given Spanish attraction to those buildings, a link between the two phenomena was at least implied.

**Summary**

Usually architectonic evidence supported other historiographic data. For the determination of a presence of congregación in Merida, the architectonic data implied the presence of congregación and, therefore, contradicted that of other types. Historiographical sources implied that there was probably no official congregación activity in Merida. Because of the conflicting data, the need for more research is implied.
NOTES

1. King Carlos V's instructed Montejo in “Capitulación celebrada en Granada, a 8 de diciembre de 1526 entre Carlos V y Francisco de Montejo, para la conquista y colonización de Yucatan,” republ. by Eligio Ancona in “Document Number 2,” in Historia de Yucatán desde la época mas remota hasta nuestros días (Barcelona: Jaime Jepus Roviralta, 1889), Vol. 1, Appendices 1:390.

2. Ibid., 1: 393.

3. Robert S. Chamberlain quoted Montejo the elder’s instructions to his son in The Conquest and Colonization of Yucatan 1517-1550 (Baltimore: The Lord Baltimore Press, 1948). There were ten items (197-9). Item Five described the establishment of a city administration without, however, enough detail to compare with Castrillo’s concepts. Item Seven stipulated that there had to be one hundred settlers, owing to the need for military defense. Division of the territory into feudal lordships, called “repartimiento,” was to be made. Grants of feudal territories were to be given to the one hundred settlers, to Montejo the elder, and to any others chosen by the king (198).

4. Item Ten of Montejo’s instructions, quoted by Chamberlain, described how enterprises and farms were to be built by the citizens (198).

5. Cogolludo described the Spanish camp and the visit by Tutul Xiu (I:258-9). Landa stated that subjects of Tutul assisted Montejo the elder in establishing that settlement in or about 1526 (RY, 13:298).


8. Ibid., I:265.

9. Ibid., I:266.

10. Ibid., I:266.
11. Ibid., 1:266-7.

12. Ibid., 1:267.

13. Merida was a “formed republic” (Ibid., 1:268). The “republic of Merida” was established (Ibid., 1:277).

14. Merida was a republic which “celebrated the common good” (Ibid., 1:271). Four councilmen were named to attend to the “common good” (Ibid., 1:267).


16. Ibid., 1:268.

17. The material living conditions of the citizens were a part of the physical common welfare. It was, therefore, a part of the “common good” (Ibid., 1:268).

18. Ibid., 1:271.

19. Ibid.

20. Cogolludo’s narrative demonstrated his intention to assign clearly responsibilities and credits for personal acts. An example was the explicit description of legal justification to found Merida, with statements quoted from the King, Montejo the elder and Montejo the son. Since Cogolludo explicitly omitted crediting the son for the drawing, it can be inferred reasonably that the son did not draw it.

There was a description of the King’s approval in 1523 of a design for a coat of arms submitted by Montejo for Veracruz, a city of which he was one of the first two mayors. That act implied a possibility that Montejo designed that emblem, which contained a pattern of stars, as did his seal, although the patterns were dissimilar. It was described in the work by Manuel B. Trens, Historia de la H. Ciudad de Veracruz y de su ayuntamiento (México: Ayuntamiento de Veracruz, 1955), 15-18. His seal is illustrated in another chapter. If Montejo designed such an emblem then a possibility could be reasonably inferred that he designed and drew the city plan for Merida. That possibility was discussed with Merida historian Dr. Juan Francisco Peón Ancona on July 9, 1998, at the Hemeroteca of the Diario de Yucatán, in Merida. Dr. Peón had a special interest in Spanish colonial heraldic insignias. He stated his opinion that it was very unlikely that Montejo designed any type of graphic insignia or city plan. Dr. Peón stated that they all originated probably in Spain.

21. Cogolludo stated that the plan was “ordered; blocks contained four lots (I:283). The blocks were equal; the grid was centered on the plaza” (Ibid., 1:365).
22. Cogolludo described the dedicated periphery (I:27). The city possessed no municipal lands (I:365).


MCL observed numerous street vendors selling small amounts of fresh fruits or vegetables, seated typically at doorways in the market district of Merida during field research in 1996, 1997 and 1998. Vendors were typically older women or very young women. Many purchases of such produce were observed along the densely crowded streets of that district. The market district was an example of continuity of a documented colonial function: The late colonial grain and fish markets faced the former San Benito open space; their buildings are still in service as markets, although not for foodstuffs. Espadas documented the late eighteenth-century construction dates of the two surviving market buildings (74).


25. Ibid.

26. Heaven Born Merida and Its Destiny: The Book of Chilam Balam of Chumayel, trans. and annotated by Munro E. Edmonson (Austin: University of Texas Press, 1986). The text of the surviving Chumayel manuscript was written between 1824 and 1837 (Chumayel, 2). Edmonson summarized and examined historical descriptions in the Maya text which corresponded to the tenth through the nineteenth centuries (Ibid., 37-47).

Edmonson describes the dispute between Maya Xiu and Itza lineages over the exact beginning of the cycle (Chumayel, 9). He stated his belief that the cycle began on “1 Kan,” indicating lack of agreement among modern scholars about the dates of cycles (Ibid., 6). The earliest fragment of the Chumayel text observed by him was dated 1556, as stated in The Ancient Future of the Itza. The Book of Chilam Balam of Tizimin, trans. and annotated by Edmonson (Austin: University of Texas Press, 1982), xii.

27. Edmonson describes the regional affiliation of the western Xiu Maya with the Chumayel text. Ibid., 2. He described the political relationship between Merida and the Xiu region (Chumayel, 37-47).
28. Farriss described Xiu motives for the alliance with the Spaniards (20-25). Cogolludo described the Spanish/Xiu victory, following their alliance, against a huge army of enemies soon after the Spaniards encamped at Tihoo (I:257-64).

29. Merida was the cycle seat when the Spaniards came (Chumayel, 115). The Maya were instructed to welcome “our older brothers” from Spain (74).

30. A description of Maya people living in Spanish style cities was part of a lament about a Maya tribute to pay for the cycle seat expenses: It implied dual taxation by both Spanish and Maya lords (Ibid., 78). The cycle seat in the latter quote was not defined; another sixteenth-century passage stated that it was Chichen Itza (Ibid., 117).

31. Ibid., 110.

32. The Spaniards “brought together the towns” (Ibid., 128).

33. The Spaniards began erecting a “house of God” with great amounts of work in the center of town (Ibid., 128-9). The “fathers of the God house” in the center of Merida will arrive (Ibid., 136).

34. Ibid., 194.

35. Ibid., 195.

36. Ibid., 114.

37. Matthew Restall found documentary evidence in surviving archives after 1713 that traditional Maya neighborhoods, called “cahob” (“cah”, singular), existed probably at the time of the European settlement. Restall argued that they constituted in fact the Spanish suburbs documented by Cogolludo and studied in this paper (108-121). Hunt describes an oral tradition in Merida that Santiago was inhabited when the Spaniards arrived.

38. Las Casas landed at Campeche in 1545, was received with gifts by Montejo the son, and was invited to Merida, which invitation Las Casas declined (Cogolludo, I:308-9). Las Casas’ reforms were examined by Lorenzo Galmés in the work Bartolomé de las Casas. Defensor de los derechos humanos (Madrid: Biblioteca de Autores Cristianos, 1982). Las Casas had demonstrated the non-coercive evangelization of Tezulutlán and been rewarded with being named Bishop of Chiapas in 1539. His reform movement criticized Spanish cruelty toward feudal Indian serf workers by the “encomendero” class of feudal landlords. The movement was rewarded by enactment of the “New Laws” in 1540-43 (121-141). Remesal documented implementation of “congregación” as a method of compliance with the teachings of Las Casas (I:220). Secular Spanish antipathy to Las Casas at
one point focused on his leaving the cathedral staffed with only one priest, resulting in difficulties among Spaniards in receiving religious services (II:144-5).


40. Ibid.


42. Juan de Urrutia, Ibid., RY, 13:68.

43. Palomar, RY, 11:70.

44. Ibid., 11:72.

45. Restall found evidence that Maya resided there prior to the Nahuaatl settlers, 116; Cogolludo described the neighborhoods, I:375.

46. Restall stated that San Juan and Santa Lucia had no documented semi-autonomous Maya township governments (115-6). Palomar stated that the chapels of San Juan and Santa Lucia were “outside of the city” (RY, 11:72-3).

47. The principal differences in the settlement of the two cities was in the selection of sites. Montejo the son followed his fathers instructions, and precedent, to settle the provincial capital laid over an abandoned Maya capital, as described by Cogolludo (1:257-67).

Montejo the nephew settled his city at two consecutive sites, neither of which resembled the abandoned capitals favored by Montejo the elder. The first site was across a lagoon from a coastal commercial town of significant size and urbanism. The town was abandoned forcibly and burned. Disease caused a new site to be selected. A period of warfare with the Maya city-state of Saci was described by Bartolomé Martinez Espinal in “Report on the City of Valladolid.” He described the result: its Maya inhabitants were removed and the Spanish settlement was laid over what had been an occupied Maya city of regional prestige (RY, 13:12-14).

48. Cogolludo documented the abandoned monumental Maya buildings at Tihoo/Merida (I: 257,267,268,283,372). Martinez stated that the Spanish settlement at Chuaca was an “imitation of that large native township. . . at the other part of lagoon,” and was therefore not described as being laid over a Maya city center (RY, 13:8).
Two Patterns in the Spanish Grid at Merida

The sixteenth-century city plan for the Spanish core of Merida consisted of two distinct patterns. The first was the formal Spanish city plan. It consisted of a rectilinear grid centered on a plaza; a subdivision into one-quarter block urban lots for households; and a periphery which consisted of common lands and suburbs. The second pattern was distinguished by a series of anomalies in parts of the regular Spanish grid. The principal anomalies in the Spanish grid of the sixteenth-century city were actually parts of the Maya city which Spaniards selectively adapted and reused. The physical plan of early colonial Merida was therefore the result of a Spanish geometric grid laid over a different Maya geometric grid.

The Sixteenth-Century Spanish City Plan: Characteristics and Sources

The Spanish city plan of 1542 was a drawing on parchment which was presented by Montejo the son to the new city council, as documented by Cogolludo, described elsewhere. In the absence of the original drawing, the surviving documentation of the city plan is present in descriptions by historians in the early colonial period, principally Cogolludo, Landa and Palomar. Numerous scholars have studied the Spanish plan for
Merida. This chapter has recapitulated some basic data and demonstrates results of research for this paper.

The description by Cogulludo contains much precise data about the geometry and configuration; his verbal description equals almost a graphic plan. In particular, it documents the Maya origins of one major anomaly in the grid; that description was the motive for the remainder of this paper's investigation of the underlying Maya city.¹ Because of the number of designated citizens to be housed, who were all Spaniards, the original configuration was probably a grid which measured five blocks by five blocks, as will be demonstrated and has been suggested in a conversation with Edgardo Bolio, June 1996. Evidence will be demonstrated that it was surveyed in two phases for unknown reasons; the first phase consisted of a core of three blocks by three blocks, with probable symbolic significance.

There is significant evidence from the locations of sixteenth-century buildings whose footprints have been documented by others that the sixteenth-century grid for the Spanish core and for the original suburbs was basically consistent with the Topographic Map of 1864-5, stated by Antichiw to be the oldest surviving graphic plan of the grid. Two eighteenth-century drawings survived for the San Benito complex of Maya pyramid, monastery, churches and citadel.² Figure 3.1 illustrates major surviving colonial buildings, whose footprints were documented by others as being continuous through time and which provide evidence for the continuity of the sixteenth-century Spanish grid, except for some minor revisions, including street widenings and the addition of some cross-streets such as that between the cathedral and the former bishop's residence. Figure 3.2 is a reconstruction of the city center in approximately 1610.
FIGURE 3.1
Existing buildings with documented or probable colonial dates of construction (central Merida). Those which defined the edges of colonial streets are evidence that the 1542 city plan continued through time.

Legend

- Buildings constructed in sixteenth or seventeenth centuries
- Buildings constructed in eighteenth century

1. Cathedral
2. House of the Bishop
3. House of the Montejos
4. House of the Bracamontes
5. Nuns' Convent
6. "Leaping Dog" Building
7. Jesuit Church of the Third Order
8. Juárez House
9. Chapel, Hospital of San Juan de Dios
10. City Hall
11. House of "Alfonso López"
12. Cano House
13. Seminary
14. Present Hotel Sruilla
15. "House of the Countess"
16. Present "Albert's Restaurant"
17. Quintana Roo House
18. Former Grain Market
19. Former Fish Market
FIGURE 3.2
Reconstruction of the Spanish core of Merida, circa 1610, showing vestiges of Tihoo.
The Existing Maya City at the Time of the European Encounter

The Maya city center, over which was laid the sixteenth-century Spanish city, consisted of numerous stone buildings, some of great monumentality. The center was abandoned and covered with brush and trees, as described previously. That Maya city center, including the design and construction of several buildings, was described by early colonial Spanish chroniclers. One monumental building was drawn in plan by Landa; a copy of his drawing is shown in Figure 3.10. All of the major Maya buildings of the center were demolished by the late nineteenth and early twentieth centuries. A probably speculative reconstruction was drawn by Tomassi in the mid-twentieth century; a model based on Tomassi’s work exists in the city historical museum, the former chapel of San Juan de Dios Hospital. Its major characteristic is the hypothesis that the present Calle 60 was also a major Maya sacbe, or raised, paved avenue or roadway. This study found evidence for Maya sacbes at Merida, as is shown in another chapter, but there was no evidence found which supported Tomassi’s theory regarding Calle 60.

It is possible to adduce parts of the Maya city using historical descriptions, especially from Cogolludo, Landa, and the Book of Chilam Balam of Chumayel, described previously. Descriptions in the latter were poetical in nature, but contained significant data relative to the city center. A second source of data was from studies of Maya urban centers in Yucatan by scholars in the discipline of archaeoastronomy. Data from studies of other sites were compared with grid anomalies in Merida and with historical data in order to support other hypothesized elements of the Maya city.

The study of the encounter between two urban configurations results in an emerging picture of historical continuity of a type with relatively limited examples in Latin
America. Better known examples of the type are the dual cities of Cuzco and Tenochtitlán/Mexico City, in which architectonic vestiges of both urban layers are still visible. Research for Merida has demonstrated that the phenomenon of layering cities from two cultures left a record in the built environment, even though Maya buildings no longer exist in Merida. An example is the Spanish buildings and grid laid over the Maya city at San Benito, illustrated in Figures 6.7.

**Part One: The Original Spanish Plan of Merida**

This section has examined the configuration of the Spanish city which was surveyed in 1542. To repeat, Cogolludo stated that the plan was “. . . ordered, . . . [with] streets adequate, equal and straight, . . . [with] blocks of four lots.” The urban fabric was divided “in blocks by equal [dimensions] (divididas en cuadras por igual).” Both the east-west and north-south dimensions of the main plaza were equal. It was oriented to the cardinal directions.  

The only reasonable meaning of the statements is that a rectilinear, repeating grid existed whose blocks were nominally square. That meaning is supported further by the description of preparation to “measure the city and lay it out with a compass (medir la ciudad y compasarla).” The presence of a mechanical device of an unspecific shape is consistent with the definition of compas (“compass”) in Diccionario of the Real Academia. It was referenced also in Oviedo’s History of the Indies, publ. 1535. That grid configuration complies with the instructions by King Fernando to Pedrarias Dávila in 1513 for the planning of Santo Domingo, as demonstrated below:
The King’s Instructions to Dávila in 1513: Implication of a Grid for Santo Domingo

Fernando’s instructions to Pedrarias Dávila for the founding of Santo Domingo in 1513 were examined by the scholar Dan Stanislawski. Pedrarias Dávila was instructed to choose a site which was “healthy . . . close to arable land.” It was to be planned with a “definite arrangement . . . started with form.” He stated that “. . . the manner of setting up the urban lots (solares) will determine the pattern of the town.” The description implied a rectilinear, repeating grid. Stanislawski stated that a similar text was contained in royal instructions for new settlements by Jeronymites in 1518 and “for the province of Amichel” in 1521. He implied that those texts were factors in the configurations of rectilinear, repeating grids in 1528 at Villa Real, Chiapas and in 1531 at Puebla. The investigation by Stanislawski is evidence of a precedence for repeating, rectilinear grids in the New World, even though other characteristics varied. Sixteenth-century grids published in Planos Existentes includes examples whose blocks were rectangular like Puebla’s, square like Merida’s, irregular and a mix of shapes.

Symbolic Significance of the Rectilinear Grid Among Spaniards in the Early Colonial Period

There is evidence in the early colonial chronicles that Spaniards perceived regular, rectilinear grid plans as indications of idealized civic virtue. The absence of such plans indicates the lack of such civic virtue, whereas the presence of a rectilinear grid was, therefore, a symbol of a Spanish city. An example was the following quote from Remesal:

“The Indians, prior to their religious conversion, lived in different towns,... [with] different lords, different government, different idols,... and because the towns were not ordered by streets and neighborhoods as in Europe, houses were here, there, and beyond, without any correspondence among one another. . . the priests under Gonzálo Hidalgo de Montemayor began to try to enjoin the towns... in the form of ‘sociable’ republics,...
for this they first made a grid [planta] in order that all [lots?] be uniform for building. The first was given as a place for the church . . . All the rest of the town was divided with a [measuring] cord, the streets straight and wide, north to south, east, west, in the form of blocks.\(^9\)

The narrative is a description of the process of congregación, or the relocation, forcibly or voluntarily, of native peoples from existing townships into gridded towns of a European type, centered on squares with churches described previously. It describes clearly also the symbolic link between grid town plans and “republics,” or idealized municipalities.

**Evidence that the Grid of Merida was Symmetrical Around the Plaza**

As stated, the size and shape of Merida’s Spanish grid has been studied by numerous scholars. The following section includes a passage from Cogolludo and an examination of the actual geometry of the plan. Sources for the latter were the 1864-5 Topographic Plan of Merida and the city street map by INEGI, (Institute Nacional de Estadística Geográfica Informática) dated 1995.\(^{10}\) Cogolludo stated that the principal plaza was surrounded by the city blocks “. . . la plaza mayor hoy, y sus cuadras en contorno . . .”\(^{11}\) The only reasonable inference for the statement is a central plaza, surrounded by a layer of blocks, probably arranged symmetrically around the plaza.

Numerous descriptions by Cogolludo are characterized by geometric precision. An example was his citation of dimensions of the cathedral (231 by 110 “geometric feet”).\(^{12}\) Because of his precision, it is reasonable to infer that his description of the grid was also precise.

There was additional evidence from a study of the geometry of the grid prepared for this paper. The blocks of the center were skewed slightly off of true 90° corners. The
variation from that angle and from an average block size were approximately consistent in a central core of nine blocks which was centered on the plaza. Blocks surrounding that hypothetical core were characterized by an increasing variation from probably standard dimensions. See Figure 3.3. The evidence was based on the following assumption: The city grid in 1865 was approximately identical to that of 1542.

**Adducing the Size and Shape of the Spanish City Plan**

Cogolludo did not state the number of blocks surveyed in 1542 nor the location of the city’s perimeter. He did state that the grid was surveyed to provide house lots of one-quarter block size for seventy settlers. It is possible to calculate the minimum number of blocks required to house the settlers and the other urban functions described in the chronicle. See Figure 3.4. The typical lot was one-quarter block in size. Several complete blocks were granted to single owners; the plaza consisted also of one complete block.

Documentation for the granting of several complete blocks was present or implied in the sources. Cogolludo implied that the plaza was one block in size in his detailed descriptions of the blocks surrounding it, on which were sited the cathedral, the royal houses, and Montejo’s house. Since two of those buildings described by him are still present, there is no other reasonable conclusion. Palomar’s 1579 narrative stated that each of those three buildings occupied one block, and the remaining block, at the west side of the plaza, was occupied by the Maya pyramid. There is additional documentation. By at least the eighteenth century the western portion of the block facing the plaza on the north side was owned by José Cano, the city’s “Alguacil Mayor,” evidence that the block by then was owned by more than one owner.
FIGURE 3.3
Repeating block skew and probable surveying sequence of Spanish crew in 1542.

Legend

A. Corner angle of 88° 20' (± 20' variation)
B. Line of straight street, 3 blocks in length, probably original Spanish alignment
C. Line of straight street, 5 blocks long, prob. orig. Spanish
D. Approximate location, Maya pyramid base
E. Open, level space, existing at the Spanish settlement

\( \rightarrow \) Adduced path of Spanish survey crew in 1542, based on existing repeating angles and their probable continuity since 1542.

F. \( \nabla \) Corner angle of 90° (± 20' variation)

G. \( \nabla \) Corner angle of less than 88°
FIGURE 3.4
Probable plan configuration to accommodate seventy
Spanish households: 5-block by 5-block grid.

Legend
- Probable 3-block by 3-block central core
- Probable colonial grid
- Probable one-quarter block subdivision
  added from 1864-5 Map
- Hypothetical one-quarter block subdivision
- Great Pyramid base (hypoth.)

A  Plaza
B  Pyramid
C  Cathedral
D  Royal Houses
E  Small Plaza
1  Montejo Residence
2  Alfonso López
3  70 Remaining 68 settlers (70 total,
   including Montejo)
There was convincing evidence that the block occupied by the cathedral was wholly owned by the church during the colonial period. The cathedral and the bishop's palace were both constructed in the sixteenth century; a seminary was built at the rear of the bishop's residence during the eighteenth century. Since those buildings occupied almost all of that block during the colonial period, it is reasonable to infer that the whole block was granted initially to the church.

The block south of the plaza was described by Palomar as being occupied by the "houses" (plural) of Montejo the Son; which implied that the block had been subdivided but had remained in 1579 in single ownership. The block northwest of the plaza was granted to Alfonso López in exchange for his demolition of the pyramid. The demolition did not actually occur at that time; López died in 1545-6 and vestiges of the pyramid were still standing in 1656.14

The total minimum number of blocks which were granted was as follows:

<table>
<thead>
<tr>
<th>Function</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal Plaza</td>
<td>One complete block</td>
</tr>
<tr>
<td>Church</td>
<td>One complete block</td>
</tr>
<tr>
<td>Francisco de Montejo</td>
<td>One complete block</td>
</tr>
<tr>
<td>Royal Governors</td>
<td>Approximately one-quarter block</td>
</tr>
<tr>
<td>Alfonso López</td>
<td>One complete block</td>
</tr>
<tr>
<td>Remaining Settlers</td>
<td>One-quarter block (68 settlers x .25)</td>
</tr>
<tr>
<td>Total</td>
<td>Approximate Blocks</td>
</tr>
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<td></td>
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</tbody>
</table>

**Adducing the Shape of the Original Spanish Grid**

Evidence has been cited that the grid surrounded the central plaza. The grid perimeter can be inferred further from another sixteenth-century description written by Martín de Palomar who stated that the Franciscan monastery was located "outside the walls" of the city. The probable meaning of the term at Merida was "suburban," since
Merida was never surrounded by a defensive wall of military type. There is documentation of a colonial periphery composed of suburbs in which walled orchards and gardens were present. Both Spanish and Maya residential lots were traditionally walled. See Chapter 6. The presence of mostly Maya vernacular homesteads in the suburban periphery was documented into the 1930s. Since that typology utilized typically the unmortared rubble stone walls associated with it, there was a probable visual difference between the architectonic textures of Spanish walls ("mamposteria" or mortared rubble stone) in the city core and mostly Maya walls in the suburbs, as described in Chapter 6.

If the grid were adequate to house functions requiring an area of twenty-two blocks and if it were symmetrical at both axes around a central plaza, then the smallest square shape capable of housing the functions is one which measured 5-blocks by 5-blocks. See Figure 3.4. The shape of the grid is summarized as follows: location of the monastery was outside of and adjacent to the corner of a hypothetical 5-block by 5-block grid centered on the principal plaza (See Figure 3.1); the configuration of that core was centered on the plaza, as cited. It was surveyed with nominally square blocks, except at one documented anomaly; and the blocks had nominally 90° corners. The grid was aligned nominally to the cardinal directions, as cited. The location of the grid was not otherwise documented.

The hypothesis of this chapter is that the original Spanish grid was probably 5-blocks by 5-blocks in shape. There are two types of evidence which support further argumentation for that 5-block by 5-block shape. The first is the presence of numerous 5-block by 5-block grids with square outlines in new Spanish cities in the sixteenth century.
The second is evidence that the square outline had probable theological significance in sixteenth-century New Spain.

**Incidence of 5-Block by 5-Block Spanish Grids with Square Perimeters in the Sixteenth Century**

A search was made in published sixteenth-century city plans in the work *Planos Existentes* for examples similar to the hypothetical shape of Merida’s grid. The work contains plans with sixteenth-century dates for twenty new cities founded by Spaniards. Among those city plans there is a series whose perimeter was square and whose pattern was symmetrical around one or two axes and surrounding a central plaza. That series consists of twelve examples, out of the total of twenty sixteenth-century city plans. The proportion of symmetrical plans with square or rectangular outlines is, therefore, significant and it implies a frequently repeating characteristic.

Three of the sixteenth-century plans show characteristics which matched those hypothesized for Merida. The plans for Mendoza, San Juan de la Frontera and La Palma each consist of five-block grids with a central plaza and one-quarter block homestead lots. A probably agricultural periphery was shown surrounding the city in the 1561 plan for Mendoza. It corresponds to the probably suburban and common land periphery around Merida, documented in another chapter. There is geometric evidence, similar to that of Merida, that the city plan of Santiago de los Caballeros, Guatemala, resurveyed in 1543, possessed probably a 5-block by 5-block core of square blocks. That plan was significant also for the presence of dimensions, not available in modern units of measure on the other sixteenth-century plans described above. Blocks at Santiago’s center scale 72± meters on a side, compared to Merida’s standard blocks which scaled approximately 119 meters.
The variance in sizes is evidence that, even though grid patterns had similar patterns, block sizes were not standard. Additional research is needed to compare block sizes for a range of similar Spanish colonial cities. See Figure 3.5.

Evidence of a Theological Reason for a Square Perimeter

There is documentation of a probable theological factor related to the phenomenon of square outlines for numerous sixteenth-century Spanish city plans in Central Mexico. Since Montejo had political and financial links with central Mexico, including his service under Cortez, it is reasonable to hypothesize a theological factor for the Spanish plan of Merida, similar to that which was documented by other scholars in central Mexico, as demonstrated below. Note: This investigation is not complete. Sufficient data exist to justify the following description.

There was evidence of several early colonial Mexican examples in which study of and application of sixteenth-century ideal city theory influenced actual colonial policies and urban design. In the first example, a series of scholars, including Mexican researchers Tovar and others and the North American Kubler had examined a copy of the work Utopia by the English philosopher Sir Thomas More, which was printed as part of an edition of Erasmus’ writings, published in 1518. The volume was part of the library of Juan de Zumárraga, appointed first bishop of Mexico by Charles V in 1527. Ideas from More were demonstrated as probable factors, in church-sponsored congregación policies in central Mexico.

In another example, the bishop’s friend, Vasco de Quiroga, developed later two idealized rural communities based on social ideals described by More. Because of the central Mexican data, it is reasonable to quote More and then the probable Biblical origin:
3.5A
Plan of probable 5-block by 5-block core of Merida in 1542.

3.5B
Plan of probable 5-block by 5-block core of Santiago de los Caballeros, Guatemala, sixteenth-century.

FIGURE 3.5
Comparison between the plans of Merida and Santiago de los Caballeros, Guatemala.
More described Amaurot, the principal city of Utopia: "... its figure is almost a square .... The town is compassed by a high and thick wall .... The streets ... are well sheltered from the winds ...."24

Two sources are implied as origins for the description. First the square shape of the city probably originated in a New Testament Biblical description of an idealized city with Judaic origins. In the book "The Revelation of John" 21:2-27 was stated, "I saw the holy city, new Jerusalem .... It had a great high wall, .... The city was built as a square .... Nothing unclean shall enter, nor anyone whose ways are false or foul, ...."25 The passage documented not only the geometry but also its ideal social nature. The second source implied in More was the reference to designing the city in order to shelter it from winds. That theme was identical to a major theme in The Ten Books of Architecture by Vitruvius, republished in the sixteenth century in Spanish.26

Evidence for a 3-Block by 3-Block Central Core at Merida

The chronicles and the 1864-5 Topographic Map provide data for another hypothesis: The original core was probably surveyed in two stages. The first was a pattern of three blocks by three blocks, with the center block being the plaza. That pattern of surveying is supported by an analysis of variations of the nominally 90° corner angles of the blocks. The 1864-5 Map contains repeating irregularities in the block shapes and corners, which were nominally square and right angled. Instead of being actually right angled, they are each slightly skewed, as described previously. That skew is present also in the 1995 INEGI Map, demonstrating that it was not a drawing error on the 1865 document.
Cogolludo described the use of a compass or a similar device to survey the city, as documented elsewhere. Whatever device or method was used was subject to frequent readings of 88°20', probably unintentionally, as shown on Figure 3.3. The evidence of skewed angles is useful to this study as data to adduce two probable phases in the survey. There is evidence of increasing variation in the sizes of the angles as distance increased from the plaza. The most reasonable explanation for the phenomenon is the following:

Block skews were roughly uniform for a group of blocks forming a square of 3 blocks by 3 blocks in area. Outside of that square, the block skews increased. The data imply two phases in the survey. The first phase consisted of a 3-block grid centered on the plaza. Another surrounding layer was then added, resulting in a 5-block by 5-block grid.

The evidence was based on the following assumption: The city grid in 1865 was approximately identical to that of 1542, as argued previously, based on the continuity of colonial buildings at street corners in the historical core. Another analysis has been made of the geometry of the Spanish city center, which supported evidence of a surveying sequence limited to a 3-block by 3-block area initially. The actual sequence of surveyors in the field in 1542 has been adduced utilizing geometric data familiar to practicing design professionals. It is presented as a hypothesis regarding sixteenth-century surveying methodology, summarized as follows:

Adducing the Surveying Sequence

Cogolludo stated that the Spanish plaza was located in front of the principal pyramid and that the grid was centered on the plaza, as cited previously. That data imply that the survey utilized the pyramid as its starting point, or “bench mark.” The geometry of the nearby blocks supports that hypothetical starting point as follows: There was a row
of three practically straight, aligned blocks east of the southwest corner of the pyramid (See Figure 3.3). The only other row of straight, aligned blocks is one five blocks long, located two blocks northward. In between was the row of blocks documented by Cogolludo as blocked by the pyramid. The most reasonable assumption is the following:

The surveyors began at the southwest corner of the great pyramid; proceeded in a straight line for a total of three blocks. They relocated two blocks northward, surveying westward, and thus established another line, almost parallel to the first, back to the pyramid. Later, the line was extended one block at each end, for a total of five straight blocks. Evidence of a three-block interval associated with the hypothesized surveying sequence further supports the probability of a 3-block by 3-block central core of blocks. The pattern has a parallel in plans for new Spanish cities in central Mexico and Guatemala.

3-Block by 3-Block Grid as Symbol: Buitrón and Istapa

There is significant evidence, although still inconclusive at the time of writing, that a pattern present in the sixteenth century in New Spain was associated with the Adelantado Francisco de Montejo and was also a symbol. The pattern was first observed in a series of plans for new Spanish cities in the sixteenth century which possessed square plans. Drawings for two new cities showed a 3-block by 3-block grid.

The method of depiction with visual graphics accentuated the geometries significantly more than was needed to simply illustrate a town plan. The drawings were perceived by the author as possessing symbolic content. The subjects are Buitrón, a suburb of Veracruz in the sixteenth century, and Istapa, a Spanish settlement in Guatemala. Both plans were republished in the work Planos Existentes; the plan for Buitrón was dated 1590, that for Istapa was 1598.27 There was a historical connection
between Veracruz and Montejo the elder. He was a founder and one of the first two *alcaldes* or mayors of Veracruz. This link implies a common symbol shared both by Montejo and the plan for Buitrón.

The alleged seal of Montejo was discovered in a ruined sixteenth-century house in 1932. See Figure 3.6 for its geometry. Even though any commonality among the hypothesized first phase for the grid of Merida, the plan of Buitrón, and the seal of Montejo has not yet been demonstrated convincingly, each graphic formed a square perimeter. The presence of a symbolic representation of the Biblical New Jerusalem and/or More’s *Utopia* is the most reasonable explanation for the similarity in shapes.

The geometry being considered is one with a known history: the 3-block by 3-block pattern had significance in the architectural planning for early-Christian and Byzantine churches and Muslim mosques, in addition to Renaissance buildings. Research by Helen Rosenau implies that the module was associated in the late antiquity with a hypothesized plan of Solomon’s Temple in Jerusalem. Evidence was medieval drawings identified as the New Jerusalem which resembled the pattern. The similarity of the sixteenth-century Spanish colonial drawings to the hypothesized plan of Solomon’s Temple may have been coincidental. Additional research would clarify more the hypothetical symbolism of the 3-block by 3-block colonial city plan.

**Part Two: Anomalies in the Spanish Grid: Evidence of Maya Origins**

The colonial grid of Merida was characterized by three significant geometric anomalies. They were in addition to minor variations in block sizes and corner angles. One was documented as being an intentional adjustment of the Spanish grid in order to accommodate part of the Maya infrastructure of Tihoo. See Figure 3.7.
3.6A
Istapa, Guatemala, shown in 1598 (no scale).

3.6B
Buitrón, Mexico, shown in 1590 (no scale).

3.6C
Montejo’s Seal, recovered in 1931, documented by Rubio Mañe. as forming the pattern of the Basque stirrup of the Salazars.

FIGURE 3.6
Comparison of Geometries, Buitrón, Istapa, Montejo’s Seal.
12° East of North: Anomaly Two

Anomaly One
Anomaly Three

FIGURE 3.7
Anomalies of the regular, repeating Spanish grid of Merida
There is evidence that the other anomalies in the grid had also Maya origins. Because of those probable origins, Merida's urban grid was another example of a special type of sixteenth-century Spanish city. It was one of that type which was laid over and which incorporated parts of existing native-American cities. Other examples include Mexico City/Tenochtitlán, and Cuzco, as cited previously. A study of those cities as a group was outside of the scope of this paper.

There is evidence in the chronicles that the grid was a symbol of "republic," as was shown in a quote from Remesal in this chapter, implying that the intention of Spaniards was to plan gridded cities without such anomalies. As a result, the presence of anomalies in the grid of Merida is perceived in this study as an act of special significance, requiring careful examination.

**Anomaly One**

The first anomaly was a row of blocks adjacent to the plaza which were significantly wider (c. 32%) than the rest of the blocks in the original layout around the plaza. The anomaly was the first grid characteristic noted and investigated by the author because of its marked prominence as an anomaly in the Spanish grid. Research has showed that it was explained in an initially-incomprehensible paragraph by Cogolludo. Once the passage was understood, it clearly described a sixteenth-century adjustment to the formally designated Spanish grid. That adjustment was the subject of a lengthy process: Presentation and approval by the city council and a formal resurvey by officially designated surveyors. That process supports the hypothesis that the grid possessed special significance as a symbol of the Spanish municipality.
The anomaly was associated with two separate issues relating to the sixteenth-century grid. Both were issues because of the presence of the great pyramid in front of which was laid the Spanish central plaza. Cogolludo stated that:

"Next to where the plaza is now, among other cerros, one was called 'the largest' . . . and because Alonso López was to tear it down . . . at his own cost, . . . they gave him the whole block of four lots, in order that the streets be straight . . . "31

The statement documents that the pyramid blocked at least two streets. The narrative then states:

"One street continued over the great cerro, which was next to the houses of the lieutenant governor. [It] was a reason for losing lots and closing streets, without there being continuity from beginning to end, as had been proposed. In order to avoid that, . . . Juan de Sosa, who was committed to measuring the city, was petitioned to adjust it."32

The narrative requested an official resurvey to avoid discontinuity in the grid. The civic significance of a regular and repeating grid was clearly implied. The best explanation for the statement is that the present Calle 61, which defines the north edge of the plaza, could not be extended in a straight manner without demolishing a portion of the great pyramid (See Figure 3.2). The narrative states then:

"On February 23 it was resolved that the street would be below the cerro, although the lots of the blocks would become larger, because the street would continue where it had been surveyed, and straight."33

The best explanation is that the modern city center contains a row of blocks which are wider (c. 156 meters) than the normal width (c. 120 meters), resulting in rectangular shapes in lieu of the normal square block shapes. That row conformed to the location of the blocks described by Cogolludo. The width of the base of the great pyramid can be inferred: It was probably identical to the revised block width.
The descriptions of streets passing "over," then "under," the great pyramid were not comprehensible until the probable intention of Cogolludo's description is understood: The street passed "over" and "under" the pyramid in a figurative, not a literal, sense. Another interpretation was proposed by Murdo MacLeod in a conversation with the author, April 1998; he suggested that the term was figurative in the sense of "adjacent to."

When Lopez demolished the pyramid sufficiently to allow the street to pass, the result was its passing "below" the side of the former pyramid.

**Anomaly Two**

The second anomaly was a variation of geographic alignment of the grid from true cardinal coordinates. Cogolludo described the grid as aligning with those cardinal coordinates. The actual north-south orientation of the grid is c. 12° east of true north, as shown on the official city map published by INEGI. There is evidence, cited below, that the alignment was Maya in origin. Cogolludo described the location of the Spanish plaza in front of the principal Maya pyramid. The most logical implication from that statement was that the plaza was aligned with the front of that large building (See Figure 3.3.) The hypothesis was supported further by studies in the discipline of archaeastronomy:

The archaeastronomer Richard Aveni prepared a study of alignments of major Maya buildings. Aveni demonstrated that most buildings in the Puuc region during the late Post-Classical period were skewed in orientation 14° east of north. This region was adjacent to the region of Merida; data from all Maya regions demonstrated that the skew varied and was dependent on specific locations. Regardless of the location in Yucatán, a pronounced skew similar to that of Merida was evident. Alignments of several towns in the Merida region were measured from INEGI regional maps. Several towns with
documented or probable late Post-Classical Maya origins were skewed in orientation, similar to the Puuc skew. See Map in Figure 2.1. Preliminary results were as follows:

<table>
<thead>
<tr>
<th>Town or City</th>
<th>Orientation East of North</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abalá</td>
<td>13.5°±</td>
</tr>
<tr>
<td>Acanceh</td>
<td>14°±</td>
</tr>
<tr>
<td>Chapab (Prob. Maya)</td>
<td>17°±</td>
</tr>
<tr>
<td>Dzan</td>
<td>10°±</td>
</tr>
<tr>
<td>Euan</td>
<td>18.5°±</td>
</tr>
<tr>
<td>Mama</td>
<td>19°±</td>
</tr>
<tr>
<td>Mani</td>
<td>17°± (varies)</td>
</tr>
<tr>
<td>Otzkutzcab</td>
<td>5°±</td>
</tr>
<tr>
<td>Tahmek (Prob. Maya)</td>
<td></td>
</tr>
</tbody>
</table>

The survey was preliminary; evidence of Maya origins was from one governmental survey of municipalities in Yucatan (*Municipios de Yucatán*). Results supported a preliminary correlation between Aveni’s hypothesis and the orientations of a significant number of towns and cities in the Merida region as the justification for additional study. There were two possible reasons for the anomalies at Merida and numerous other cities with Pre-Columbian origins. Either the Spaniards were not capable of accurate alignments or Spaniards aligned regular European grids on existing Maya buildings or other landmarks.

Cogolludo documented the presence of a compass at the surveying of Merida. A compass was documented also at the surveying of Santo Domingo. Evidence for that technology was examined previously. The data implied that Spanish orientation skills were capable of significant accuracy. The best explanation for the data is the following: Based on documented Spanish surveying skills, it is probable that Merida’s orientation was not a Spanish error but was the result of aligning the Spanish grid with the principal pyramid.
Anomaly Three: The Southern Edge of the Spanish Core

The third anomaly associated with the sixteenth-century Spanish core was the southern edge of the core, whose southern edge was bounded in the early colonial period by the original Spanish road to Izamal, now Calle 65.\textsuperscript{38} See Figure 3.7. At the southeast edge of the Spanish core, that road was the edge also of the district later called the Citadel of San Benito. San Benito contained a sixteenth-century Franciscan monastery, several churches and a fort built over a large Maya pyramid base. The complex was surrounded by a seventeenth-century wall with projecting bastions for cannon. The entire complex was demolished in the nineteenth and twentieth centuries.\textsuperscript{39} See Figure 6.6 for a reconstruction of its appearance in the colonial period.

The former Izamal road, present Calle 65, extended west of San Benito, and was the northern boundary of the San Juan neighborhood. The next street southward is the present Calle 67, which runs also roughly east-west. An examination of the city map will demonstrate a significant geometric anomaly. The two streets, 65 and 67, are neither parallel to the east-west streets in the Spanish core nor are they parallel to each other. They actually appear to radiate from a pair of axes near the former Franciscan monastery.

This study has found significant evidence that the non-parallel, changing geometry of those two streets, together with the San Benito complex itself, constituted probably a significant part of the Maya city. The hypothesis of this section is as follows: Calles 65 and 67 had origins as Maya \textit{sacbeob}, or paved ceremonial avenues, which radiated from the Maya pyramid. See Figure 3.8.

The pyramid itself is well documented in early colonial Spanish chronicles, as cited below. A curious statement by Landa was the probable documentation of at least one of
the pairs of hypothesized sacbeob. Finally, the Maya Book of Chilam Balam of Chumayel possesses a description of a building complex which showed preliminary evidence of corresponding to San Benito.

**Historical Descriptions of San Benito**

Cogolludo described the Franciscan monastery: “... and at the eastern part, our monastery was built, in order to be close [to the Spanish city].”

“The principle monastery ... is commonly called S. Francisco de Merida although its title is Resurrection of Our Lady [was founded in] 1547 ... It is situated on a small pyramid (cerro) of the many which had been made by hand in this land, ... where there had been some ancient buildings, whose vestiges today are present below the main dormitory ...”

Landa stated:

“The second group of buildings which are the largest and most ancient are those of Tiho ... it is a rectangular seat of much grandeur because it has more than two horse tracks from the eastern part ... [in the] flat part above, begin the buildings in this manner: [There are] three well-built masonry pyramids. ...”

Landa’s reference to “more than two horse tracks” (carreras de caballo) implies a pair or more of special or unique streets. The description can reasonably be understood as a description of two or more formerly Maya paved roads. It is not his only reference to a Maya roadway at Merida, “...there are signs today of a beautiful paved highway [calzada] between [Tiho and Izamal].”

In order to support the hypothesis that Calles 65 and 67 had origins as Maya sacbeob, their alignments were measured. The geometric orientation of the two streets showed evidence of a pattern: They appear in actuality to radiate outward from points within the former San Benito/Franciscan complex and the public square surrounding it. They are shown in Figure 3.8. The alignments of those streets was then compared with
FIGURE 3.8
Comparison of existing streets with Maya urban infrastructure
published tables of alignments of Maya buildings and spaces prepared by the scholars Aveni and Hartung in the work *Maya City Planning and the Calendar*, cited previously. The alignment of Calle 65 west of San Benito complies closely with the published "solar zenith passage" angle on August 17. Alignment of Calle 67 west of San Benito complied closely with solar zenith passage angle for September 10. Alignment of Calle 65 east of San Benito complies closely with published solar zenith alignment of August 8. That part of Calle 65 east of San Benito does not comply with any published solar zenith angles but matches the alignment of another existing Maya building – a surveyed building at Zkichmool.44

The evidence described above is significant enough to indicate probability that archaeological excavation would encounter evidence of paved Maya *sacbeob* below the present Calles 65 and 67. Further, the intersection points of the street center lines may be evidence of minor Maya structures marking the points and used for astronomically-related ritual. A reconstruction of the location of the pyramid has then been made. The only surviving drawing of the pyramid was prepared by Landa in the sixteenth century. It is not indicated on the 1865 map, although a nearby Maya pyramid was shown. (See Figure3.9.) It is also not shown on the 1751 architectural drawing of the castle/monastery/parish church complex.

There is evidence that Landa’s drawing could be utilized as a scaled drawing: It contains a notation that a terrace was “more than thirty feet” which was used as an indication of actual graphic scale. Based on that data, Landa’s sketch was recopied and its scale was adjusted slightly to allow it to conform to photographic documentations of the pyramid’s shape in the late nineteenth century. The photographs were republished in the
study of San Benito by Merida architect Raul Alcalá, published in 1998. The pyramid, as
drawn originally by Landa and as adjusted for scale, described above, is shown in Figure
3.9. A reconstruction of the San Benito neighborhood in the eighteenth century is shown
in Figure 6.6.

The reconstruction of the pyramid provides significant support for this paper’s
hypothesis that Calles 55 and 57 had Maya origins. It is recognized that the hypothesis
can be supported definitively only with archaeology. In its absence, the following evidence
is as close to definitive, in this author’s opinion, as is possible with historical sources.
Landa’s drawing, adjusted to comply with other documentation, showed architectural
evidence for Maya origins for the two parts of Calle 67. At the starting point of the two
diverging center lines of present Calle 67 were two distinctive Maya buildings illustrated
by Landa. Their exact correlation can only be reasonably understood as architectural
elements marking those street alignments. The research was the first utilization known to
this author of Landa’s famous drawing as an actual scale drawing. The results were
unexpected support for the hypothesis.

The assumed center of the principal pyramid documented as facing the main
Spanish plaza was at a 45° angle from the reconstructed San Benito pyramid. There is, to
date, no evidence that such an angle had significance among Maya; the relationship is
assumed to be coincidental and of interest only to modern architects. Further support
came from the Book of Chilam Balam of Chumayel, which documented a “mat,” defined
as a throne. It implies a major building associated with a religious prophet. The building
group on the pyramid base of San Benito was, based on Landa, the largest at Tihoo. It
is reasonable to infer that the “mat” complex occupied a site similar to that of San Benito.
FIGURE 3.9
Landa’s Drawing of the San Benito Pyramid utilized as a Scaled Drawing and Laid Over the Former San Benito

Note: Drawing was a hand copy by MCL of Landa’s original hand drawing. Size of the pyramid was adduced in order to approximate Landa’s note of “more than thirty feet.” Size and location were adduced further to conform to documentation by others of the pyramid’s location.

Legend:
A. “Chapel,” noted by Landa, drawn as oval in shape, with front stair.
B. “Stair,” noted by Landa.
C. “Landing,” noted by Landa.
D. “Very beautiful patio,” noted by Landa.
E. “Cells,” noted by Landa.
F. Apparent sloped wall, probably textured.
G. Non-noted special structure which aligned approximately with the center line of Calle 67 west of the pyramid.
H. Non-noted special structure which aligned approximately with the center line of Calle 67 east of the pyramid.
I. Outline of Citadel walls, from 1864-5 Map.
J. Center line, Calle 67 west of San Benito.
K. Center line, Calle 67 east of San Benito.
The Maya text stated also “... the coming of the face of the deity ... in the four changes of the road.” The principal characteristic of the San Benito pyramid was precisely four changes in road directions. The text probably referred to a building complex such as that at San Benito.

The final piece of data which supported the hypothesis is connected to a conversation with a Maya man named Rivero in June, 1997 in the historical town of Euan. He stated that the name “Ich caan si ho” meant “Merida, Eye of Heaven,” and not “Heaven Born Merida,” as stated by Edmonson. The description was examined in another chapter. Rivero’s statement can be compared to orientations of probable sacbeob radiating outward from San Benito. Based on their existence, a function for the site may be adduced: it was logically an observatory, with lines of sight oriented to four separate astronomical/cosmological phenomena.

Summary of this Section

Architectonic and historiographic data, supported by data from other disciplines, are evidence of Maya origins for an anomaly in the regular grid of the Spanish core, centered on the formal citadel of San Benito.
NOTES

1. Cogolludo, 1:283.

2. The 1864-5 Map was stated to be the oldest surviving depiction of Merida in separate conversations with Edgardo Bolio, June 1996, and with author Michel Antichiw, July, 1998.

Two eighteenth-century drawings of San Benito complex in Merida exist. The first, “Plan of the Citadel of Merida, Yucatan,” dated 1751, was republished in the work Planos de ciudades Iberoamericanas y Filipinas existentes en el Archivo de Indias, collected and with introduction by Fernando Chueca Goitia and Leopoldo Torres Balbás (Madrid: Instituto de Estudios de Administración Local, Seminario de urbanismo, 1951), Plate 239. The second was “Plan of the City (sp.) Of San Benito in Merida, Yucatan,” by Rafael Llobet, 1788, repub. In Antichiw, Historia Cartográfica de la Península de Yucatán (Campeche: Centro de Investigación y de Estudios Avanzados del I.P.N., Grupo Tribasa, 1994), 263.

3. Leopoldo Tommasi López, La ciudad de ayer, de hoy y de mañana (México: Editorial Cultura, 1951).

4. Cogolludo described straight streets and one-quarter block lots (1:283). He described the square shape and orientation (1:365).

5. Cogolludo described the method for measuring the city (1:283). One meaning of the term “compasar” was defined in Diccionario de la Lengua Española (Madrid: Real Academia Española, 1992), s.v. compasar, as the act of measuring with a compass. Fernández de Oviedo described the laying out of streets in Santo Domingo in the early sixteenth century with a rule and compass in tape, in Natural History of the West Indies, transl. and edited by Sterling A. Stoudemire (Orig. pub. Toledo, 1526. Repub. Chapel Hill: The University of North Carolina Press, 1959), 11.


7. There were royal instructions (Ibid., 97). Those texts probably influenced grids at Villa Real and Puebla (Ibid., 100). The official process of implementing straight streets and rectilinear grids in sixteenth-century Spanish Peru was documented by

8. An example of a grid of rectangular blocks similar to those of Puebla was the plan of Campeche (1658), repub. in *Planos existentes* (Plate 024). An example of square blocks was Lima in 1626 (Ibid., Plate 305). Irregular grids with a mix of shapes included Santo Domingo in 1608 (Ibid., Plate 310).


12. Ibid., I:368-9.

13. Cogolludo stated that lots were one-quarter block in size (I:283). He documented 64 settlers and cited a previous source for most of them (I:299). Palomar described seventy settlers total (11:40).

14. Documentation for the granting of the blocks and lots was as follows:

   A. Plaza: one block. Cogolludo’s description of the blocks surrounding it could only be reasonably explained by a 1-block space (I:365).

   B. Cathedral, Royal Houses, and Montejo’s House were described by Cogolludo as facing the plaza on the north, east, and south sides respectively. The text implied that they each consisted of 1-block sites. Ibid. Palomar’s narrative stated in 1579 that the three blocks on the north, east, and south sides were occupied by one owner; the block at the west side was occupied by the Maya pyramid (RY, 11:54).

   C. Block north of the plaza. There was documentation that by the eighteenth century at least the western portion of the block facing the plaza on the north side was owned by José Cano, the city’s “Alguacil Mayor”. The construction date for the arcade in front of the building was October 7, 1783. An examination of the arcade demonstrated that it was built after the adjoining building, because the roof construction was tied into an existing projection at the west end. Michel Antochiw stated in a personal conversation in July, 1998 that later in the colonial period most of the northern half of the block was owned probably by other owners, except for an extension from the Royal Houses parcel. The documentation of the probable sale of those portions by the municipality has not been studied.
D. Block east of the plaza. There was convincing evidence that the block occupied by the cathedral continued to be wholly owned by the church during the colonial period. The cathedral’s construction in the late sixteenth century was documented by Cogolludo (I:367-71). García Preciat documented the sixteenth-century origins for the Bishop’s Residence “Historia de la arquitectura” (Enciclopedia Yucatanense, pub. under the direction of Carlos A. Echanove Trujillo, México: Edición Oficial del Gobierno de Yucatán, 1944), IV:432. García documented also the eighteenth-century construction date for the seminary at the rear of the Bishop’s Residence (IV:429-30). All of that block was therefore documented as church-owned during the colonial period.

E. Block south of the plaza. The block was described by Palomar as being occupied by the “houses” (plural) of Montejo the Son (RY, 11:54). He implied that the block had been subdivided but had remained in 1579 in single ownership.

F. Block northwest of the plaza. The block was granted to Alfonso López in exchange for his demolition of the pyramid. His death in 1545-6 was documented by Pacheco (94). Cogolludo described vestiges of the pyramid still standing in 1656. The description was present in the 1971 Graz edition but not in the 1954 Campeche edition, for unknown reasons (Graz:1:406).

15. Palomar in RY, 11:72. Murdo MacLeod stated that the term signified probably “suburban”, personal conversation, Spring semester, 1998. There was no evidence that the city was ever walled. Ancona Mena described the city gates as “colonial adornments. . . , they signaled the city limits . . .” (1:31).


17. Palomar’s only statement was that it was “well proportioned with good streets. . .” (RY, 11:54).

18. Planos existentes republished sixteenth-century plans for twenty separate cities which were contained in the Seville archives. Some cities were represented by multiple plans. The absence of Merida’s sixteenth-century plan was evidence that not all plans from that century were present in the Seville archives. The plans from that century contained in that archive were as follows: Buenos Aires, Arg. (1583); Mendoza, Arg. (1561, 1562); San Juan de la Frontera, Arg., (1562); Cartagena, Col (1571), 1594); La Palma, Col (1581); Havana, Cuba (sixteenth century); Saint Augustine, USA (1594); Istapa, Guat. (1598); Buitrón, Mex. (1590); Coatepec, Mex. (1579); Chicoaloapa, Mex. (1579); Huaxutla, Mex. (1580); Mexico City (1596, end of sixteenth century); San Juan de Ulúa, Mex. (1590, 2 each); Teotenango, Mex. (1582); Valladolid, Yuc., Mex. (1579); Zimapán, Mex. (1579); Nombre de Dios, Panamá (1541); Portobelo, Pan. (1567); Santiago de León, Ven. (sixteenth century) (Index, II:341-345).
19. Of the twenty cities whose sixteenth-century plans were republished in Planos Existentes twelve were square in outline and were centered on a plaza. They were: Mendoza (Plate 17); San Juan de la Frontera (Pl. 24); La Palma (Pl. 52); Istapa (Pl. 174); Buitrón (Pl. 201); Teutenango (Pl. 259); and Santiago de León (Pl. 349). That of Chicoaloapa (Pl. 216) and San Juan de Ulúa (Pl. 251) were symmetrical but not square.

20. The plan for Mendoza showed a periphery of large lots surrounding an undivided inner periphery. That inner periphery surrounded the 5-block by 5-block city. The large lots at the outer periphery were equal to or greater than six city blocks. The land pattern clearly described a periphery of commons and private farms surrounding the city (Ibid., Pl. 18).

21. There was geometric evidence as follows: The plan of the city in 1541 was shown in a map by Verle Annis in the work The Architecture of Antigua, Guatemala, 1543-1772 (Guatemala: University of San Carlos, 1968). The colonial core consisted of a central core 5-blocks by 5-blocks, composed of blocks approximately equal in size and shape. Surrounding that core was a layer of blocks which were different in size and shape. The most reasonable explanation for the phenomenon was that the blocks of equal sizes were surveyed at the same relative time (6). The plan was shown at a graphic scale (Ibid., xxiv). Merida’s blocks were scaled from the INEGI 1995 Map of Merida.

22. Tovar et al. described a series of examples in which there was evidence that idealized civic theories influenced the colony (19-90). George Kubler examined some of those examples in Mexican Architecture of the Sixteenth Century (Westport, CT: Greenwood Press, Publishers, repub. 1972).

23. Tovar el al., 69-90.


27. The plan for Buitrón (1590) was republished in Planos Existentes, Plate 20. That for Istapa, Guat. (1598) was republished, Ibid., Plate 174.
28. The alleged seal of Montejo was described by Luis Ramírez Aznar in *De Colón a los Montejo* (Merida: Ediciones UADY, 1992), 98-9. He described it as being found in an excavation in 1932 at a sixteenth-century house in Dzidzantún. It was examined by Rubio Mañé, who stated that it represented the “Basque stirrup of the Salazars” and was the coat of arms of the Montejos (98). If Rubio did actually verify the seal, then its veracity and significance was probably real.

29. An example of a Byzantine church building was Church of the Prophets, Gerasa, 530-1 AD. It was shown in the work by Cyril Mango, *Byzantine Architecture* (NY: Harry N. Abrams, Inc., 1981), 35. A variation of the pattern characterized the principal form of St. Sophia, Istanbul, completed 537 AD, Ibid., 109-11.

Feris Alfaraidy, while a PH.D student at College of Architecture, University of Florida, Gainesville (now Ph.D. and practicing architect in Saudi Arabia), stated in a conversation with MCL in September, 1996 that the 3-square by 3-square module was the traditional planning module for mosques. That statement was supported historically by the appearance of the pattern in published floor plans of a series of mosques, including those of Damascus, c. 1750; Istanbul, Sultan Ahmet, early seventeenth century; and the Mosque of Toledo, about 1000 AD. They were shown in the work *Architecture of the Islamic World*, ed. by George Michell (NY: Thames and Hudson, 1978), 215-66.

Examples of Renaissance building whose plans show evidence of the 3-bay by 3-bay pattern were the series of villas by Palladio, which are illustrated schematically by Rudolf Wittkower in *Architectural Principles in the Age of Humanism* (London: alec tiranti, 1962) 73.

30. Helen Rosenau demonstrated evidence in the work *The Ideal City* (NY: Methuen & Co., first pub. 1959, 3rd ed. 1983) that medieval Christians believed that the 3-square by 3-square pattern was that of the ancient Jerusalem. She stated: “...the most important theme during the Middle Ages seems to have been Jerusalem, and this in its earthly and celestial aspects...” (26-7). Temple of Solomon. An illumination from the *Beatus* of St. Sever resembled that pattern (27).


32. Ibid.

33. Ibid.

34. Cogolludo described the orientation as being to the cardinal points (I:365). The INEGI 1995 Map of Merida, demonstrated its actual orientation.

35. Cogolludo stated that it abutted the square, which implied clearly that their orientations matched (I:283).

37. The study utilized hand drafting tools with adjustable angles and three maps published by INEGI: Izamal F16C53, pub. 1986; Ticul F16C72, pub. 1986? (copy damaged in field); and Merida F16C52, pub. 1986, reprinted 1995. Maya origins were documented in the work Los municipios de Yucatán, Roberto Galván Ramírez, coord. (Mexico, D.F.: Talleres Gráficos de la Nación, 1988). Abala: Maya origin was implied (17); Acanceh: Maya origin documented (21); Chapab: documented history begins at 1700 as encomienda, its name is Maya (98); Dzan: Pre-Encounter settlement (130); Mama: Pre-Encounter settlement (233); Maní: Pre-Encounter capital (238); Otzutzcab: Pre-Encounter settlement (290); Tahmek: Pre-Encounter settlement are (376). The Maya origins of Euan were described in a conversation with a Maya speaker in June, 1997.

38. Calle 65 was the roadway to Izamal in 1864-5, according to an analysis of the 1864-5 Map by Aercel Espadas Medina in “La Nomenclatura de Mérida”, in Cuadernos de Arquitectura vol. 4 (Autumn, 1991) 4:8.


41. Landa described two “horse tracks”, etc. (RY 13:361-2).

42. Landa described a Maya highway to Izamal. (Ibid., 13:358).

43. Anthony Aveni and Horst Hartung described “hypothetical solar zenith passage” dates for five regions continuing Maya buildings in Maya City Planning and the Calendar (Philadelphia: Transactions of the American Philosophical Society, Vol. 76, Part 7, 1986). The Puuc and Rio Bec regions corresponded most closely with the latitude of Merida. Each region possessed sixteen “zenith passage” dates. The dates varied, dependent on the latitude. The thirteenth occurrence was on August 13 in the Puuc region and on August 17 in the Rio Bec region. solar angles associated with the sunset at those dates varied also. The “azimuth of orientation: was 286°09' and 284°43', respectively; the data implied that exact latitudes would be necessary for definitive angles and dates for any specific site. (Table 3, 84-5).

44. There was approximate geometric conformity between several angles documented by Aveni as factors in urban and architectural orientations and those present at the four streets which radiate outward from the former San Benito complex. Calle 65 west of San Benito conformed approximately with August 17 Puuc “zenith passage” 75°16’. Calle 67 west conformed approximately with September 2 Puuc, 81°01’. Calle 65 east was similar to August 31 Puuc, 278°58’ (Ibid., Table 3, 84-5).
Calle 67 east was not similar to a “zenith” but was similar to the orientation of another documented Maya building, Building 1 at the urban complex at Xkichmool, 288°41' (Ibid., table 1, 81). The astronomical calculations were outside of this architect’s scope of expertise. My ability to distinguish between coincidence and scientific probability was slight. In spite of that limit, the data appeared to justify further research in the field of archaeology or archaeoastronomy.

45. There was a “mat”, or throne (Chumayel), 61. Landa implied that the Maya complex there was the largest in Tihoo, RY, 13:358-62.

46. Chumayel, 141.
Comparing the Two Ideas of "City"

There is evidence in the early colonial chronicles that the founding and planning of Spanish Merida possessed a central motive: its founders consciously sought to implement an idealized model of theoretical urbanism. That model was probably a Spanish variation of a Renaissance European phenomenon. The term "ideal civic theory" will be utilized in this paper as the best description of the phenomenon. That idea was compared with the parallel Encounter-era Maya idea of "city," for which there was evidence in both Spanish and Maya chronicles. A definitive investigation of the Maya idea was outside of the scope of this paper, but major elements of it could be identified utilizing translations of Maya literature by other scholars and by adducing meaning from early-colonial Spanish chronicles which contain descriptions of Maya architecture and urban culture.

Among the motives for the founding of Spanish Merida was a philosophical one: the implementation of an idealized civic theory which implemented at an actual site a Spanish Renaissance theory of "city" and "republic" whose origins were the Biblical "New Jerusalem" and the idea of "republic" from ancient Mediterranean philosophers, especially Plato. The Maya idea of "city" was parallel in some parts to the Spanish idea and therefore early colonial Spaniards perceived an embodiment of their idea of "republic"
when they observed Maya architecture and urban culture. There were numerous examples in early colonial Spanish chronicles in which Spaniards recognized Maya capitals as "republics," as will be demonstrated in this chapter. Maya recognized their idea of "city" when viewing the Spanish center of Merida.

Part One: Evidence of Ideal Civic Theory in The Spanish Idea of "City"

Spanish idealized civic theories were a part of a Renaissance phenomenon examined by Helen Rosenau: the desire to create ideal cities. They resembled the medieval idea of "New Jerusalem," in which Judeo-Christian religious beliefs were the principal motives present in a society located in another dimension of reality, as examined in the previous chapter.¹ The central idea had a complex philosophical base as well as geometric ones, examined previously. The idea was present in descriptions of the founding of Merida and other colonial cities as well as sixteenth-century Spanish theoretical work on urbanism and society. Each type of documentation is examined in this chapter; in each were concepts of idealized societies from both the medieval and the Renaissance periods. Two types of concepts were present, one was religion-based, the other was philosophical in nature. The presence of both demonstrated the probability that sixteenth-century Spanish thought was in transition between the two periods.

A special theme is present in a study of ideal cities in New Spain. As cited previously, Mexican and North American scholars had demonstrated significant evidence for the influence in Mexico of two northern European Catholic ideal theorists: Erasmus and Thomas More, especially the work *Utopia* by the latter, as well as other Renaissance theorists, including Alberti. The ideas of Erasmus and More were shown to have influenced resettlement and evangelization of Meso-American peoples by Mexico's first
bishop, Juan de Zumárraga. They acted also on the career of Viceroy Antonio de Mendoza, who read also Alberti’s *De Reaedificatura*. Those ideas influenced his acts in founding a college and university and designing a model for monasteries. The third example was the career of the Spaniard Vasco de Quiroga, who, influenced by the ideas of Erasmus and More, founded two idealized hospital towns, Santa Fe, in 1533, and another in Michoacán. Those towns were designed to be simple Christian communities, with frugal housing, gardens for vegetables, and a socialistic lifestyle in which all residents received what they needed. Workers rotated between living in the town center and in the surrounding rural area.\(^2\)

Renaissance works on idealized cities and societies contained two characteristics: the first was a special geometry. It was an implied symbol of the second, which was an idealized society. The degree in which each was emphasized was a major distinguishing characteristic. The work *Utopia* was an example. It focused on the nature of the idealized society and contained a relatively brief description of an idealized urban geometry. It may be compared to Campanella’s *City of the Sun* in which the idealized urban geometry was a major part of the description of which the following was an example:

“It is divided into seven rings . . . named for the seven planets”; each ring was ornamented to reflect aspects of science, such as mathematical figures, flora, fauna, and “mechanical arts.”\(^3\)

**Distinguishing Between The Meanings of Two Sixteenth-century Spanish Ideas: “City” And “Republic”**

The early colonial chronicles contained three terms which were significant for this paper: “city,” “republic” and “common good.” The narratives implied that their meanings were associated in an undefined manner. In the following example from Cogolludo’s
chronicle, written in 1656 about events in 1542, it was stated that “nothing is lacking in a republic which celebrates the common good.” He then described Merida as both a “city” and a “republic,” implying that the terms were interchangeable. The use of the terms to describe Spanish cities founded in the sixteenth century was not unique to Cogolludo. Remesal described the founding of Guatemala’s capital, Santiago de los Caballeros (now Antigua), in 1528:

“and although this new Republic had citizens, judges, and council members . . .

“the care of . . . the common good . . . and the citizens were not bothered in any case that might exceed reason and justice.”

The probable meanings of the terms is demonstrated by evidence in three works. The first was Castrillo’s 1521 work, Tratado de República a sixteenth-century treatise on urbanism and ideal society, cited previously. The second was Cogolludo’s history; the third was one of numerous works quoted by Castrillo: The Republic by Plato. Meanings in those works were examined below.

“City” in The Early Colonial Period

The term “city” was utilized in the early colonial chronicles in such a manner that several meanings were implied. First, it had probably a general sense identical to “city” in both contemporary Spanish and English usages. It possessed another probable meaning as well: it designates a capital and also an urban place of special prestige. It was used also by Landa to describe an abandoned Maya capital, Chichen Itza, as is shown in this chapter. It was used to designate Merida, while another term “villa” designated the other Spanish settlements in the 1540s in Yucatan; it was used to designate the viceregal capital of
Mexico City. The special prestige implied that the designated place was the recipient of special privileges.

Support for the thesis is in a description by Remesal: He described the settling of San Cristóbal de los Llanos. The name was granted by the king, thereby “ennobling this settlement with title of city.” The naming allowed it to benefit from “the preeminencies, prerogatives and immunities which it ought and could benefit by being a ‘city’.”

Cogolludo described how Merida was also formally named and its name was “the city of Merida.” No special privileges were recorded for it which were not recorded for other Spanish cities in Yucatan, with one exception: Merida was one of few colonial city with a dedicated periphery which included a municipal commons.

The chronicles imply that “city” described the status of a capital in sixteenth-century Yucatan. Among the Spanish settlements in Yucatan only Merida was called “city.” The other settlements were designated as “towns” (“villas”). Landa described both Maya capital cities of Chichen Itza and Mayapan as “cities.” The descriptions of each focus on the presence of a noble lineage of rulers, one of whom, Cuculcan, named the new city of Mayapan to document Maya heritage and not to glorify himself or his family. The description implies both an idealized kingship of a European type, and also the presence of a capital similar to a European capital.

**Definition of “City” by Castrillo**

Although there is no documentation that Castrillo influenced Cogolludo or Remesal, the use of the terms “city,” “republic” and “common good” by the two latter writers is consistent with Castrillo’s work in almost every quote. That phenomenon was evidence that either Castrillo influenced later writers or that his treatise was similar to
another work (or works) which was the probable model. Castrillo defines “city” in several passages. First, it is defined by implication: it is associated with the highest human values. He stated, “among all gatherings of peoples ... only the company of the city is felt by us to be the most noble and of highest merit ... [all other things] ... are of less dignity ...”

Second, the city is associated with sustaining human life and good government. Castrillo quotes Aristotle, “the city is not just anything, except that which is sufficient for life. When the city is poorly governed ... the discords grow ...”

Third, the city is defined as the top of a hierarchy of urban settlements. Castrillo quotes Marcus Aurelius, “In ancient times only Rome was a city. All other places were called towns and to be a citizen of Rome was a thing of great honor.” By implication, in Castrillo’s time, a place which possessed the qualities of ancient Rome and which was in a commanding role among a hierarchy of other urban places would deserve the designation of “city,” even though it was not the capital of an ancient empire.

Fourth, the city is described as one part in a continuum from the human individual to the whole world. Castrillo refers to the definition of city by Saint Augustine who states that it is one of three “principal levels of the human company.” The first level was the family house; the second was the city; the third was the whole circumference of the earth. The idea was supported by a quote from Isidore who states, “the house is the abode of the whole family, the city is the abode of a whole people, the world is the abode of the whole line of humanity.” Castrillo states, therefore, that a “city” was a place of special prestige and that it was associated in literature with a capital. The meaning of the term “city” in quotes by Cogolludo, Remesal and Castrillo was, therefore, basically identical.
Republic

The narratives by Cogolludo and Remesal imply that a “republic” was a Spanish municipality in the sixteenth century whose founding principles were based on a theory of idealized cityhood. That idealized civic theory was in part defined by the term “common good.” There is considerable evidence in support of that hypothesis.

Linguistic Evidence of Correlation Between The Meanings of “Republic” And “Common Good”

The Latin meaning of the term “de res publica” was researched at the suggestion of Murdo MacLeod. The term’s Latin and Old French meanings, among others, were “common good” and “common welfare.” The Latin and Old French meanings correspond to the English term “commonwealth.” The meanings of the term imply physical common welfare, rather than spiritual, intellectual or other abstract types. The etymology of the words support the hypothesis that the sixteenth-century Spanish idea of “republic” was associated with the term “common good.”

Cogolludo’s narrative implies that a “republic” was an organized society and government whose justification was two-fold: implementation of the physical common welfare for the designated citizens and establishment of a government based on the concept of “justice.” That idea is consistent with the definition of “republic” in both Castrillo’s treatise and in Plato’s Republic, as follows:

Cogolludo’s Description of a “Republic”

Cogolludo describes the installation of Merida’s first municipal government: among the list of officials were four council members names as deputies of the city whose charge was to “place much attention on the common good.” He then states, “... Thus
was the republic of Merida being settled, and in order to improve it. . . they. . . petitioned
that Montejo [the son] commission a layout for the city . . ."13

The narrative implies several pieces of data: the new municipality was considered
as being both a “city” and a “republic” and the physical plan for the city was considered to
be a part of the “common good.” In another description, Cogolludo states that “in a
formed republic, which was beginning to enjoy the tranquility that so many desired, that
[no] excesses be permitted.” He then describes appointing a town crier and setting up a
gallows on a nearby pyramid, stating, “. . . it is extremely certain that there is no better
security for the conservation of a republic than the observance of justice and laws.”14 The
description is evidence that the idea of “republic” included the provision of municipal
justice.

Castrillo’s Definition of “City” and “Republic”

Castrillo defines the historical and religious origins of his theory by stating that the
first societies which were “republics” were ancient Israel and Greece. The thesis was
supported then by quotes from ancient philosophers and early Christian theologians,
especially Aristotle, Marcus Aurelius, Saint Augustine, and the Spaniard Isidore, examples
of which are quoted below. Castrillo defines “republic” in a quote from Aristotle: “The
republic is a certain order or manner of living instituted and chosen among those who live
in the same city.”15 Castrillo expanded then the idea of republic by defining an idealized
form of citizenship. He implied that the presence of that citizenship was the same quality
as Aristotle’s “certain order of living,” quoted above.
Characteristics of Idealized Citizenship

The first characteristic of citizenship described by Castrillo was the possession of some measure of political power, described by way of a quote from Aristotle: “[He/she] who will be a citizen, [will be defined] through participation in the power to judge and determine [issues] publically.” A list of additional characteristics of citizenship was contained in a quote from Marcus Aurelius. Justice, equality, desire for simple living, peace and honesty were implied as attributes: “... in truth the citizen can live in justice and in equal rights with his [fellow] citizens ... and then desire in his Republic those few things which are peaceful and honest ...”

Citizenship for Castrillo implies a special quality of civilized life. Its three main characteristics were defined by the Spanish priest and philosopher Isidore and were companionship, justice and security in the quote: “Citizens are so called because they live together, because the common life is more composed, adorned and secure.” It is noted that justice is inferred from his terms “composed” and “adorned”; the concept of justice was supported further in quotes from Plato, an example of which is in another paragraph.

Attributes of citizens were defined in Castrillo’s work. They included many characteristics associated with the highest human values. Conversations were to be “just and honest, and not inflammatory.” The personal manner of citizens was to be “engaging [which] is more noble than being hateful.” “Being equal and clean in conversation ... [will] sustain our human company.” “... the just life and gentle conversation ... have more virtue than the grandeur of the city.” The motive for idealized citizenship could be inferred from Castrillo’s work: it consisted of the “common good.”
Actual Paradoxes Did Not Negate The Idea

Since the idea of "republic" was an ideal, paradoxes might be present in actual urban examples. The presence of paradoxes in real life did not negate the idea. Recognition of that fact was seen in a quote by Cogulludo: "The founders of a republic cannot leave all things in the perfection which was requested."

Similar Ideas in Plato’s Republic

Plato describes four characteristics of the ideal city. First, the city was to possess a political constitution and would be led by a group of "perfect guardians," whose purpose was to think about the city as a whole and not about particular issues within it. Second, citizenship was defined by a series of exemplary qualities: temperance, self-control, courage, generosity, avoidance of either wealth or poverty, and education. Third, the ideal city was defined by the presence of justice. In addition, there was a series of special characteristics with no relevance to this study, such as an educational system in which were mixed music and gymnastics; spouses, marriages and children were held in common, etc.

Comparison Among Ideas of Castrillo, Cogolludo, and Remesal

Neither Cogolludo nor Remesal describes the qualities of citizenship in a "republic" with the same detail as Castrillo. There are, however, two principal similarities: First, in a "republic," the designated citizens possessed some political power. New Spanish municipalities in Yucatan and Guatemala were characterized by elected city councils and municipal governments and were, therefore, consistent with Castrillo’s theory.
Second, the principal function of a municipality, or “republic,” was to implement and protect the “common good,” or physical welfare, of the designated citizens, including implementation of justice. That theme was present in each narrative, including the focus on “justice.” An example was Cogolludo’s statement that “nothing is lacking in a republic which celebrates the common good.”

**Rectilinear Grids as Essential to a “Republic”**

There are two principal differences between Castrillo’s work and the early colonial chronicles examined for this paper. The first is evidence that the colonial chroniclers perceived rectilinear physical planning as an essential element of a “republic.” Palomar contrasts Maya townships after the conquest with Merida in separate statements. First: “... the settlements [pueblos] which are now populated with Indian people do not have form, nor can they have streets, because the houses are of wood covered with straw. In contrast was Merida: “... well proportioned with good streets and houses of stuccoed rubble masonry.”

Cogolludo justifies the citizen request that Merida be planned and surveyed after its formal founding: “Thus was being seated the republic of Merida, and in order to improve it, since the citizens lived with much discomfort, ... the council ... requested that Montejo [the son] mandate a formal city lan ...” Remesal justifies the congregación, or resettlement, of Maya people into Spanish style townships because of the indigenous urbanism:

“The Indians lived in different settlements before evangelization, ... which was caused by not giving order to the settlements with streets and neighborhoods as in Europe, ... Among each other there was little social life; ...”
"[Because of that,] the priests began to . . . join the settlements . . . in the form of sociable republics."  

The only similar references to the form of cities in Castrillo's work are in an abstracted, philosophical manner. An example was the statement that they were parts of a social continuum which included houses and nations (quoted above).

**Maya Urban Centers as "Cities" And "Republics" as Defined by Spaniards**

There is evidence in the chronicles that the sixteenth-century Spanish ideas of "city" and "republic" were not limited to prescribed geographies or religions. A part of the work *Relaciones de Yucatán* is the essay by Fray Diego de Landa, "Report on the Things of Yucatan." Landa describes two Maya urban centers, Chichen Itza and Mayapan, as "cities" (*ciudades*). He also refers to Mayapan as a "republic," "Cuculcan gave the Cocom family the principal leadership in order that the republic might endure . . ." He states also that after the last lord died, " . . . there began to be factions in the republic." He then implies three probable reasons for its description as a republic: It possessed an elite class capable of making decisions based on the perceived "common good" (cited previously); it was surrounded by a periphery of fertile lands, like medieval Spanish cities; and it contained monumental buildings constructed to honor the Diety.

There is also documentation that a more modest Maya township in the colonial period was perceived by a Spaniard as a "republic." In the report entitled "Report on the city of Valladolid" Bartolomé Martínez Espinal stated, "in these two towns of my land grant, the native people have a chieftain and scribes for whomever engages in the trade of their republic." The description implies that republics were associated with Spanish municipal government, even though the citizens were Maya.
Medieval Charters Granted to New Municipalities in Resettlement Areas in Medieval Spain

There was a traditional method of founding new municipalities by expanding Christian kingdoms during the Spanish Reconquest. The process occurred in the depopulated border regions between the warring Christian kingdoms and Islamic city-states after the breakup of the unified Islamic kingdom in the eleventh century. The scholar Thomas Glick demonstrated how new cities were founded along defensible strategic lines in regions capable of supporting traditional Spanish style agriculture. Charters were granted to settlers by kings, nobles and the church, often competing for prospective colonists. Included in them were mutually-supportive rights, duties and privileges, including the right of elected city councils and municipal governments.

A series of medieval charters has been examined for this paper. They contain written acts in two broad categories: material welfare and administration of law and justice. The following examples document specific acts which illustrated those categories.

The charter of the “Council of León” was dated 1020 A.D. It states that León was “depopulated and held captive by the Moors in the time of the King’s father . . . , it was being [re]populated [in 1020] . . . ”30 One act required that “in cities in which judges are chosen, they are to reveal lawsuits to all of the public.” Other items describe the penalty for murder; penalty for altering weights of bread and wine; costs for marriages; and fees for selling merchandise in the market plaza in Leon.31

The Charter [Fuero] of Guadalajara was granted by King Alfonso VI in 1133 to the settlers of the new municipality. It states that “all . . . who receive houses [homestead lots?] and personal lands [heredades] . . . after one year . . . can sell them,” and relocate to
another new settlement and receive new land at the second location, without penalty.\textsuperscript{32}

The central theme in the charters which were examined is the presence of reciprocal rights, duties and privileges, matching, therefore, the theme described by Glick. That theme approaches a conscious concept of "common good" in which the total sum of the reciprocal rights and duties served the good of the whole kingdom.

A part of the Spanish Medieval pattern was elected self government in municipal councils. In the work \textit{The Village and the Outside World in Golden Age Castille}, David Vassberg states that "virtually all Spaniards lived under a similar type of municipal government" in Castille and the rest of Spain in towns and cities subject to both royal and noble landlords. That government was "elected village council ... an administrative/juridical entity whose members had the right to make and enforce decisions concerning all aspects of their communal existence." He states that "local offices should be held by local citizens." He then stated that the introduction of that tradition was one of the first acts of Spanish settlers in the New World.\textsuperscript{33}

Glick stated that there was a "limited" incidence of formal urban planning by Christian kings associated with founding new towns and rebuilding conquered ones of which the examples were the planning of rectilinear grids by James I of Aragon centered on cathedral squares at Castellón de la Plana (1251), Villarreal (1274), Nules and Almenara. James' autobiography, examined for this paper, describes his negotiations at Nules and Almenara but does not refer to physical planning there.\textsuperscript{34}

\textbf{Similarity Between Sixteenth-Century and Medieval Descriptions}

There is a reference in Remesal which resembled the reciprocal rights and duties described in medieval Spanish charters. He describes the founding of Villareal in 1528:
"The town crier announced publically that all persons who desired to stay permanently and become citizens should become noted in the council book of records, in order that they receive and enjoy all the [land] grants, rights, and liberties which they are due and which are enjoyed by citizens in other towns and cities in New Spain."  

The similarity was evidence that a part of the process of founding new cities in the sixteenth-century was medieval in origin.

**Part Two: Adducing the Maya Idea of “City” During the Early Colonial Period**

Maya chronicles with origins in the early colonial period have been examined for evidence of an idea of “city.” The examination was limited by necessity to translations and commentaries by other scholars: proficiencies in Maya language and literature were outside of this author’s scope of research. A significant characteristic of Maya language is the evolution of Maya words over time and their possession of numerous meanings. One such meaning will not negate others.

Three major Maya texts were examined: the *Book of Chilam Balam of Chumayel* and the *Book of Chilam Balam of Tizimin* are two of a related series. They both contain numerous references to Tihoo, Merida’s Maya predecessor. The descriptions in those works were compared with descriptions of the settlement of cities by Maya in Guatemala, which was in part the subject of the third work, the *Popol Vuh*. Edmonson describes how the texts of the first two were written in the existing form in the early nineteenth century. Those texts imply that a continuous record had been accumulated either in written or oral form; the works contained detailed historical descriptions beginning in the tenth century.
The sixteenth-century historical descriptions of the arrival of Spaniards and the acceptance of them and their religious faith by the Xiu confederation in western Yucatan, including the establishment of their capital at Tihoo, conform mostly with Spanish histories, although the focus of the Maya historical descriptions is different: the works and presence of the Spaniards was remote and of little consequence, except for their part in introducing the new religion. An example is a sixteenth-century chronicle, "Ceremonial of the May." Of its 670 lines, none referred to Spaniards, although one reference to God used the Spanish "Dios."³⁸

A distinguishing characteristic of the Maya chronicles is the poetic, imprecise nature of the narratives. In spite of that characteristic, evidence of the idea of "city" is present and its perceived meaning can be adduced. The descriptions of cities, including Tihoo, are similar in several characteristics to Spanish descriptions of cities. There is an association between the terms "capital" and "city." In a description of the destruction of Mayapan in the tenth century, the narrative states, "...The area of the capital, called Cycle City."³⁹ The text implies that among Maya speakers writing about the early colonial period, the terms "city" and "capital" were basically synonymous, as they were probably among Spaniards in Yucatan.

There is a description of fields and town lands associated with Maya cities which is similar to Cogolludo's description of common lands and suburbs planned around Merida in 1542 and similar also to medieval Spanish and Moorish descriptions, as shown elsewhere:

"...[God] named the lands of their towns, ...named the villages [and] fields of their towns..."⁴⁰
As among the Spaniards, the Maya recognized a hierarchy of towns. The Maya had also designated surveyors. The Maya recognized the cardinal directions, like the Spaniards. There is evidence that the Maya perceived urban space and geometry as a symbol of abstract beliefs. The narrative describes the founding of Mayapan by the Itza lords in the tenth century and the raising of an object, probably a building, “When they seated the land of the Plaza called Cycle City . . .” and raised the Tan Xuluc Mul.41

Characteristics of the Maya Idea of “City” Not Present in that of the Spaniards

There are two components of the Maya idea of “city” which are not present in the early colonial Spanish idea of “city.” First, there is a conscious association between architecture, urban design and the complex Maya calendrical system. Edmonson shows evidence that the calendar was much more of a factor in Maya life than it was in European life, even considering European Christian holy days and seasons. During and after the Columbian Encounter, a succession of major Maya cities were designated as urban “seats” for designated calendrical cycles based on the “tun,” a year of 360 days as described by Edmonson. A “katun” was twenty “tuns;” a cycle of thirteen “katuns” was a “may.” A cycle of twenty “katuns” was a “baktun.” The latter two were approximately 260 and 400 years long, respectively. Documented cycle seats were Uxmal, Merida, Mayapan, Chichen Itza and Valladolid.42

The Chumayel text documents intentional destruction of Chichen Itza and Uxmal at approximately 400-year intervals for calendrical reasons before Merida was designated. The Books of Chilam Balam documents civil war and the destruction of the cycle seat at Mayapan in 1451 at the end of a cycle.43 The calendrical motive for establishing and then
abandoning political capitals which was documented in the Maya texts was part of an idea of “city” which was not present among the Spaniards.

Another component of the Maya idea of city is related to the first. Tihoo, like several other sites, was the seat on several occasions for a less significant event, the twenty-year katun cycle. The Chumayel text states that Merida was the seat of the “katun” at the arrival of the foreigners [Spaniards]. The katun was seated at Merida later in the sixteenth century, during the rule of Yaxal chac, lord of Merida, 1579-99: “Yaxal Chac . . . seated the ‘katun.’ [He] was the face in the lordship in the position of the sage.”

Edmonson states that there was an official prophet at each designated katun cycle site, who was entitled the “jaguar.” There are several references to the “mat of the Jaguar” at Merida, including the following: “. . . they gathered together there in Ichcaansiho, which also had the mat for the Jaguar, which was like the lordship, the Jaguar Spring throne . . .” The term mat is defined as a throne. It compares also to other forms stated by Edmonson to represent monumental buildings and urban spaces. He demonstrates how the term “front stone” defined the capital city; the term “white flat stone” defined the plaza at Merida/Ichcaansiho. The text implies the probability that the mat was a throne associated with a monumental building.

Several other references occur which imply geometric or architectonic characteristics. During the katun period in the late sixteenth century, the Chumayel text describes “. . . the coming of the face of the diety in the four changes of heaven, in the four changes of the road.” Another katun period was located in Merida in the early seventeenth century. The Chumayel text states that “there will be ignited a fire at the goat
horns in Heaven Born Merida . . . before the plaza . . . Lamented is the bean bowl at the four divisions of the road . . . at the gates of the city.”

There is then another reference to the mat: “A big city was the mat to be seated during the lordship.” There are references also to Merida in the Book of Chilam Balam of Tizimin. Since it was written by and for Itzas, not Xius, the references to Xiu-allied Merida were not numerous. The Itzas were shocked at Maya behavior in sixteenth-century Merida: “There was lust and adultery . . . Very mad behavior was the behavior of Heaven Born Merida.” One portion of the Tizimin text resembled a description on the Chumayel text: “The faces of the holy, in the four changes of heaven, in the four changes of the road.”

The texts describe a set of four special points associated with roads. They imply that a physical building was associated with the “mats” of the throne for the prophet/historian. They imply also that part of the Maya idea of “city” was a special urban geometry and architecture which were related to the calendar. Abstractly, the Maya use of urban geometry as described in the texts resembles the Spanish perception of symbol in the use of a rectilinear grid centered on the cathedral. Like those of Spaniards, Maya religious processions, as documented in the texts, were associated with public streets and plazas. In concrete terms, it was different from the Spanish idea of city, because the resulting urban geometries were distinct: Maya cities were not planned with checkerboard grids. Another chapter will describe an architectonic phenomenon in Merida whose characteristics conform to part of the descriptions in the Maya texts. The purpose was to demonstrate significant probability of a relationship for which only an archaeological investigation could show definitive evidence.
Maya Names for Merida

Two Maya names identified the monumental city over which Merida was built: “Tihoo” and “Ich caan si ho.” A variation of the first is “Ho.” Numerous scholars and other people have examined the meanings. One Maya artisan in Merida stated that the name was “Ho,” not “Tihoo and that it means ‘five’.” Scholar Allan Burns states that “‘Ho’ . . . is a root of a verb meaning ‘to pull out’.”\(^{50}\)

The meanings of the name “Ich caan si ho” have also been studied extensively. The accepted probable meaning is presented by Yucatecan scholar Josep Ligorred Perramón. He cited numerous hypotheses, including one in which the term “caan” was translated as “serpent,” which implies power in the Maya culture. Ligorred cites Edmonson’s definition of the term as meaning “Heaven Born Merida.” Ligorred also presented his preferred translation, “those of the ancient lineage” (los de rancio abolengo), which he states was a reference to an ancient lineage of priests with origins among the Guatemalan Quiché Maya.\(^{51}\)

A distinct definition was encountered in field research for this paper when I visited the historical town of Euan near Merida. An older Maya-speaker named Rivero engaged in a conversation in Spanish about the Maya buildings there and stated that Euan contained twenty pyramids. He then asked if I spoke Maya. I replied that I spoke a few words, including the name for Merida, Ich caan si ho, adding that it was defined by the scholar Edmonson as meaning “Heaven Born Merida.” The man strongly denied that meaning and stated that it meant, “Merida, Eye of Heaven.” I repeated that conversation with another Maya acquaintance. He confirmed its meaning as stated by the former man.\(^{52}\)
Another chapter will examine an architectonic phenomenon in Merida which showed evidence of conforming to the meaning of Merida as “Eye of Heaven.” Regardless of the meaning of the name, the significance of Merida among the Maya was supported by a statement in the Chumayel text: “The heart of the land is at Maní, Calkini, and . . . Merida.”

**Descriptions in the Popol Vuh Which Supported Ideas of “City” Found in the Books of Chilam Balam**

In the *Popol Vuh*, there is evidence of an idea of “city” similar to that found in the *Books of Chilam Balam*. First, a city was the center of religious worship: “This was the name of the city called [Tulan-Zuiva, Vucub-Pec, Vucub-Zivan] where they went to receive their gods.” The narrative describes four travelers who then founded a city at a place with a pyramid called *Hacavitz*. The description implies an astronomical or cosmological significance: “This was their town; here they were, too, when the sun, the moon, and the stars appeared.”

Later, many other towns were founded close to roads built by the Maya settlers. The theme of Maya roads was of interest to this paper, as was shown in an examination of anomalies in Merida’s Spanish grid. Mayanist Sylvanus Morley described raised limestone roadways called *sacbe*, which were constructed by Pre-Columbian Maya people. Allan Burns shows argumentation that the term “road” among Yucatec Maya was, and is, a symbol of both life and marriage.

One city described in the Popol Vuh was named Chi-Izmachi. In it, a line of kings “. . . developed their power and constructed buildings of mortar and stone . . ., [it] was the beautiful city which they had built.” The description resembled references to
monumental urban architecture in the **Books of Chilam Balam**. Another chapter examines Spanish descriptions of Maya monumental architecture and evidence that Maya urban centers were perceived as “cities” of an idealized European type by some early colonial Spanish historians.

**The Maya Idea of “City:” Summary**

The Maya idea of “city” which was probably present among culturally Maya people in the early colonial period was similar to parts of the Spanish idea of “city.” Both ideas shared the use of a special geometry as a symbol and as a tool for organizing urban functions. Both ideas associated the term “city” with that of “capital.” Finally, both associated a periphery of fields and suburbs with the idea of a “city” or major urban place. The Maya idea of “city” contains some parts which were different from those in the Spanish idea. First, there was a concept of calendrical cycles of several types which had a specific influence on the histories and urban design of Maya cities which differed from those in Europe. Second, there were probably specific components of Merida’s physical urban form which were associated with two concepts: the *mat* of the Jaguar prophet/historian and four special points associated with roadways in the city.
NOTES

1. Cities based either on idealized geometries or on other idealized models were referenced by several terms. As examples, the urban historian E.A. Gutkind described city plans based on special geometries as “ideal cities” in the work Urban Development in Southern Europe: Italy Vol. III, Urban Development in Europe series (NY: The Free Press, 1967), 111-133. Plans based on special geometries and Judeo-Christian cosmology were entitled “ideal cities” by Helen Rosenau in The Ideal City (New York: Methuen, 1983), 11-40. Philosophers of idealized societies such as Thomas More, as well as Cicero, who wrote or were read in the Renaissance were called “civic humanists” by the scholar Gerard B. Wegemer Thomas More: on Statesmanship (Washington, D.C.: The Catholic University of America Press, 1996), 110. Those idealized societies were entitled “utopias” by Tovar de Teresa and others in La Utopia Mexicana del siglo XVI.

2. George Kubler described the presence in Bishop Juan de Zumarraga’s personal library in Mexican Architecture of the Sixteenth Century (Westport, CT: Greenwood Press, 1972) of a hand-annotated copy of a work by Erasmus which contained More’s Utopia. Kubler stated that it contained notes written with the bishop’s “heavy, rapid, agitated” hand (11). Tovar de Teresa and others described that evidence and a series of other examples, including the career of Viceroy Antonio de Mendoza, whose library contained Alberti’s De Reaedificatura, pub. In Paris, 1512; and evidence of interest in More and Erasmus (27-30). Tovar and others demonstrated also the influence of More’s ideas influenced the acts of Vasco de Quiroga at Santa Fe and the other hospital town in Michoacan (69-90).


4. Cogolludo interlinked the terms “republic” and “common good” (I:271). Cogolludo made numerous references to Merida as a “city” (“ciudad”.I:269) and as a “republic” (I:271).

5. Remesal, I:8.
6. Landa described Mayapan as a "city" and implied that Chichen Itza was also a "city" in "Report on Things in Yucatan" (RY 13:282). Landa referred to Merida as a "city" (13:280). Palomar described Mexico City as a "city" in RY (11:53).

7. Remesal described the granting of the name by the king (I:421). He described the privileges of the city (I:422).


9. Castrillo stated that the city is "noble" (19); he quoted Aristotle (22).

10. Ibid.

11. Fray Alonso de Castrillo stated that the city is "principal level . . . " (14); it is "abode" (17) in Tractado de Republica (orig. pub. 1521. Republ. Madrid: Instituto de Estudios Políticos, 1958) 19.

12. Murdo MacLeod defined the linguistic origin of the term "republic" as originating from the Latin phrase "de res publica", in a conversation, Spring semester, 1998. Linguistic research was made in Cassells New Latin Dictionary (s.v. de res publica, D.P. Simpson, M.A., NY: Funk & Wagnall's Company, 1959). The best implied meaning for the term was "the peoples' wealth", which implied the English term "commonwealth". The Oxford English Dictionary (Oxford: Clarendon press, 1933) defined "commonwealth" (s.v.) as equivalent to the Old French "bien commun"; to the Latin "res publica".

13. Cogolludo listed four deputies for the common good (I:271); the council requested a city plan (I:271).

14. Cogolludo described how "no excesses permitted" (I:268); how security conserves the republic (Ibid.).

15. Castrillo, 28-9

16. Castrillo quoted Aristotle (25); he quoted Marcus Aurelius (25-6).

17. Ibid., 28.

18. Ibid., 26-8.

19. Argumentation was as follows: The term "common life," stated by Castrillo to be more "composed, adorned, and secure," as cited above, implied the material good of the designated citizens.
20. The term “ideal” was defined in The Oxford English Dictionary as “... a thing conceived in its highest perfection, or as an object to be realized or aimed at ...” The definition implied that the absence of achieving that perfection did not negate the existence of the ideal.


22. Cogolludo, 271.

23. Palomar described unplanned Maya townships (RY, II:49-50). He described the geometric order of Merida (11:54).


27. Landa described how Cuculan named Mayapan not for himself, as was done at Chichen Itza, but to honor the Maya people, and was therefore an act for the common good (RY 13:282-3). The agricultural perimeter and the monumental buildings were associated by him with an elite lineage of “great honesty,” who “lived without women.” That lifestyly seemed probably to Landa like that of the Franciscans (Ibid., 362-3).


31. The charter of Leon required lawsuits to be made public (Muñoz, 79); other items were described (Muñoz, 81-87).

32. “Fuero de Guadalajara concedido a sus vecinos en el año de 1133 por el rey D. Alfonso VI”, republished in Fueros (508).

34. Glick described city plans by Christian kings (118). James I of Aragon described negotiations with Muslim fortified places (364-7).

35. Remesal, I:415.

36. The characteristic was described by a woman anthropologist in the State of Yucatan Hemeroteca "Pino Suárez", in a conversation in Merida, July, 1998. The statement conformed to a description by Munro S. Edmonson of the numerous meanings for one Maya work part, “Ix”, (Chumayal, 1).


38. The “Ceremonial of the May” was quoted (Ibid., 79-100). In it was one reference to “Dios” (100).

39. Ibid., 62.

40. Ibid., 87.

41. The Maya towns were a heirarchy (Ibid., 78). There were designated surveyors (Ibid., 93). Maya recognized the cardinal directions (Ibid., 48). Several acts characterized the founding of Mayapan (61).

42. Edmonson described the calendrical system (Ibid., 8-12). “The Frontispiece documented the cycle seats (Ibid., repub. map by Roys, 1943).

43. Ibid., 133.

44. Edmonson described the “katun” cycles and the politics associated with the choices of the seats (37-9) Merida was the seat when the Spaniards arrived (108). It was documented again as the cycle seat later in the century (137).

45. The Jaguar prophet was described (Ibid., 93). There was no reference to him in the Spanish chronicles examined for the paper, which implied that Spaniards did not recognize his office or, at least, accord it with prestige. It implies also the existence of a Maya government in fact which exceeded those of the semi-autonomous townships within the suburbs of Merida, initially designated for Mesoamerican peoples.

46. Ibid., 5.

47. Sets of four were described in the Chumayel text (Ibid., 139); there will be a fire (Ibid., 150-1).
48. The city was the mat (Ibid., 165). An example of a reference to Merida in the Tizimin text was”...Merida was the seat of the ‘katun’ (Tizimin, 54).

49. There was “lust and adultery” (Ibid., 62). There were four changes in the road (Ibid., 67).


52. Personal conversation, Maya speaker named Rivero, in Euan, Yucatan, June 17, 1997. A second personal conversation was made with Jorge, Maya artisan and resident of Tixkokób, on the same day as the conversation with Rivero. Jorge, a younger man, was unhappy about engaging in the conversation; his reluctance implied an element of the old religion. A conversation was held with a Maya woman anthropologist at the Yucatan State Hemeroteca “Pino Suárez” in July 1998. She stated that the distinct meaning cited by Rivero did not negate its significance, since Maya words evolve over time, resulting in the emergence of distinct meanings.

53. Chumayel, 130.

54. The Popol Vuh described the name of the city (174). The travelers founded Hacavitz (189).

55. Towns were founded close to roads (193). Morley described sacbes, quoted by Burns, (43). Burns demonstrated the meanings associated with the term “road” (43-61).

56. Popol Vuh, 212.
CHAPTER 5
SPANISH MOTIVES FOR LAYING THEIR CAPITAL OVER A MAYA CAPITAL

There is consistent evidence that Spaniards chose a Maya city as the site for the Spanish capital. There is also significant evidence that Maya allies concurred with the choice. This chapter examines motives for the acts by both Spaniards and Maya and how those motives affected the site for Merida/Tihoo.

There were two phases of European settlement in sixteenth-century Yucatan, as follows: A total of three Spanish capitals were founded in sixteenth-century Yucatan; only the site at Merida became permanent. Each capital site was superimposed over an existing Maya city. The first and third sites, Ciudad Real at Chichen Itza and Merida at Tihoo, were large, abandoned Maya capital cities. The second site, Ciudad Real at Dzilam was an occupied Maya city-state with only regional prominence. It was the site only because of the forced flight of the Spaniards from Chichen Itza. Those sites are examined further in this chapter.

Four Motives

There was a repeating pattern in Spanish selections of sites for the capital of Yucatan. In that pattern were four separate motives for the Spanish selection of the site of Tihoo, an abandoned Maya city of significant prestige. There was also a precedence in Spanish history for attraction to and exploitation of conquered non-Christian, non-European urban places.
The four motives will be described briefly, then examined in detail. The first motive was Spanish attraction to Maya architecture. That attraction was aesthetic and pragmatic in nature. Second, Spaniards laid their city over the Maya city as a symbol of both continuity and domination. Symbolism of another type was present in Maya acts in which the *katun* calendar cycle was seated at Merida in the same period.

Third, there were strategic reasons for both Spaniards and Maya in placing the Spanish capital at Tihoo. The intersection of those motives allowed the Spaniards finally to establish a permanent colony in Yucatan. Fourth, there is evidence of a Spanish assessment of natural and human resources at Tihoo to be exploited in sustaining their settlement.

**Motive One: Attraction of Spaniards to Maya Architecture**

There is much evidence of a Spanish interest in Maya architecture for aesthetic and pragmatic reasons. Spaniards showed consistent interest in the design, scale, and crafting of the Maya buildings. They described also the benefit to the common welfare of all, including Spaniards and Maya tributary workers, of the use of shaped Maya building stones as a natural resource. Consistent with the latter motive, Spaniards selected several Maya buildings as sources of building materials for the Spanish city.

Spanish interest in the Maya buildings is present in Landa's narrative:

"... in Yucatan there are many [Maya] buildings of great beauty, which is the most remarkable thing which has been discovered in the Indies."¹

"... [The buildings are] so well constructed of cut stone masonry... that they astonish [the observer]."²

"The second oldest and principal buildings in this land... are those of Tihoo [the first being those at Izamal]. The Spaniards settled a city here..."
and named it Merida for the strangeness and grandeur of the buildings . . .
The first building . . . which was given to us [the Franciscans] by Montejo
was [covered by] a harsh scrubland which we cleaned and [on which] have
built a reasonable monastery with its own stone . . . we gave the Spaniards
[colonists] much stone for their houses, especially for their doors and
windows, there being such an abundance of it.”  

Four factors are present or implied in Landa’s description. The first was aesthetic,
the second was the attraction to the ruins because of their similarity to Roman ruins in
Extremadura, which was the province of origin for most of the settlers. The third is the
attraction of Franciscans to large, prestigious Maya buildings in Tihoo and Izamal. It was
not explained, but symbolic religious succession by Christians over the old religion was
implied. Landa then documented the fourth: pragmatic reuse of Maya shaped stones, for
Spanish buildings, especially for doors and windows of residences.  

Cogolludo confirmed the pragmatic reuse of shaped stone. He described also the
flatness of the site surrounding the pyramid. He implied that the flatness was artificial:

“. . . they selected the site around the same cerro, where had been
located the watchtower, because it was level and because of the multitude
of movable stone. It was a great convenience for working, and it saved the
Indians from laboring [to take stone to the job site]. . . . with the stone that
was in [the great pyramid] they built all the buildings which exist in the
city.”  

The third chronicler, Palomar, was not interested in Maya architecture, but he was
not typical of all encomenderos. There was no lengthy or detailed description of Maya
architecture in his narrative comparable to those by Landa quoted above.

Motive Two: Evidence for Symbolism

There is evidence, explicit and implied, that symbol was a factor in Spanish
decisions relating to the site of the capital. Evidence is shown in another chapter that a
formal, rectilinear grid plan was perceived as a necessary component of a “repulic,”
which was the idealized model of sixteenth-century municipality. That belief was based on the symbolic association between the idea of “republic” and regular, repeating grid of a European type.

The selection by Spaniards of an abandoned Maya city as a site for the settlement is an apparent contradiction for the following reason: If a representation of a pure European grid was important, then placing the Spanish city over the Maya city would not have been logical. Cogolludo described the lengthy process by which the approved Spanish grid was amended in order to site it over the Maya city. The most logical site would have been one which allowed placement of the pure European grid without interruptions by the remains of an existing city constructed of huge stone buildings.

There is evidence for another symbol associated with the site. Several chronicles, including those of Landa and Palomar, described the perception by Spaniards of the ruins of Tihoo as a ruined Roman city. Landa’s was quoted elsewhere; Palomar stated:

“The name of ‘Merida’ was placed on this city by the Spaniards when they founded it, because on its site they found buildings of well-worked stuccoed rubble stone masonry with many moldings like the Romans made in Merida in Spain.”

The naming of a Spanish city after a ruined Roman city implied familiarity with the Roman site. Rubio stated, “Almost all of them [Spanish settlers at Merida] were from Extremadura [in which is located Merida], they remembered the Roman temples of the old Merida of their homeland . . .” Montejo the elder’s birthplace was Salamanca, north of Merida, and connected to it by an ancient Roman road. Montejo’s young adult life was in Sevilla; since Merida was mid-point in a line between Salamanca and Sevilla, it is probable
that Montejo knew Merida. Montejo the son’s birthplace was probably Sevilla. Its relative proximity to Merida is some slight evidence that he knew the Roman site.\textsuperscript{10}

The references imply that Roman ruins were perceived as a symbol. Rubio Mañé stated that they were a symbol of their region of origin in Extremadura, Spain. Two other types of symbol were adduced from the sources. One was recognition of similar traditions in another culture and a continuity between them. Recognition of the continuity implied that the Spanish presence was legitimate and justified their presence as conquerors. The symbol represented cultural succession. See below for argumentation. The second subject of the symbol was perception by Spaniards of their cultural and religious superiority over dominated non-European and non-Christian people. The symbol represented cultural domination.

**Two Symbols: Succession and Conquest**

There were two examples in Merida of reuse by Spaniards of major Maya buildings. One building was reused and reconstructed by Franciscans as their Yucatan chapter headquarters. Another, the principal pyramid of Merida, was demolished and its stone was reused for the cathedral, located directly across the plaza. Spanish acts were not consistent in those examples. Each building was documented as a source for building stone for Spaniards. The chronicles did not explain why one was complete razed while the other was retained in part for more than three centuries.\textsuperscript{11}

The disposition of each became logical when seen as examples of two types of symbol. The first example was the selection by Franciscans of the Maya pyramid complex later called San Benito. Franciscans built a monastery over a similar Maya building at Izamal, in the sixteenth century also.\textsuperscript{12}
Landa described the pragmatic reuse of Maya stone for Spanish building, as quoted above. This author's professional architectural experience adduced other probable amenities and disadvantages, not documented. First, as a visitor to the Maya pyramid of Kinich Kakmo in Izamal, one of the tallest surviving in Yucatan, the ability to view large distances and be refreshed by a constant breeze was noted. Reuse of Maya pyramids was therefore a probable amenity. Second, the stair ascent to the summit in the tropical sun produced excess heat among both European and Maya climbers. That discomfort was a probable disadvantage.

In spite of the probable amenity of a cooling breeze, Spanish motives were not perceived as reasonable by this author until the reuse was understood as symbolic in part. The reuse by Christian Spaniards symbolized the succession religious faiths at a place of recognizable prestige among the Maya. That succession provided legitimacy to Spanish occupation by being perceived as evolution, not disruption.

The Book of Chilam Balam of Chumayel implies that Xiu Maya people welcomed the religious change and accepted the Spanish settlement because of the new religion. An example was: "Coming are our older brothers, the people of the capital. Accept and welcome them." There was Spanish precedence for symbolic succession. Christian Spaniards reoccupied and rebuilt Muslim mosques during the medieval Reconquest in Spain. An example of Christian reuse of a mosque site was at Granada, on whose mosque was built the cathedral, following the Reconquest.

There was a second type of Spanish act associated with a major Maya building. Spaniards laid out their new city around the principal pyramid, then demolished it in order to use its stone as a building source for the cathedral and for other Spanish buildings.
The act was different in nature from that of the Franciscans. The act did not imply succession. The only reasonable inference was as a symbol of conquest and domination. The Maya response to acts motivated by Spanish domination was, as expected, numerous negative descriptions of Spanish settlement, including the following: "... From these many Christians who arrived with ... the True God ... was the beginning of misery for us ..." It should be noted that the text almost unanimously praised the new religion while expressing mixed acceptance and hostility toward the bearers of it.17

Motive Three: Strategic Motives by Spaniards and Maya Associated with Spanish Settlement at Tihoo

A pattern was documented in which Spaniards selected Maya cities as sites for the capital. One Spanish motive was explicit: At both Chichen Itza and Tihoo, the sites possessed a strategic function. Part of the strategic nature was the use of Maya buildings as part of the city’s defensive system.

That motive was explicit for the selection of the site for the first capital, Ciudad Real at Chichen Itza, founded in 1527:

"The Cheles lords ... granted to the Adelantado the [right to] build a town for his people, and they gave the seat of Chichen Itza for that purpose, which is very excellent ... and from which [the Spaniards] went and conquered the land ... which was made easy because the Ahkinchel did not resist ... And in a brief time was built a town, making houses of wood with roofs of palms and of large leaves ..."18

The narrative implies that Montejo had previously recognized the strategic nature of the site. Cogolludo described then the methodology used by Montejo in order to further the purposes of himself and the king. He stated that Montejo used "softness and prudence" to attract the local Maya to submission to the King. Once at the site they "proceeded to ... settle, the place seeming appropriate for a fortification [utilizing] the
great buildings which existed.” He then stated that, while at Ciudad Real, Montejo made peace with Tutul Ziu, the lord of the province of Mani, with whose aid the new Spanish city was settled. The same themes of strategy and alliance were utilized by Montejo the son at Tihoo.

The Site for Merida: A Strategic Seat for Spaniards; Continuity of a Religious Seat for Maya

Cogolludo described the initial military camp at Tihoo:

“Things being settled [at Campeche], Francisco de Montejo, [who] was following the instructions which his father had given, proceeded to pass through the province of Quepech and found on Tihoo the city of Merida, has been ordered of him.”

“Upon arriving at Tihoo the Spaniards seated their watchtower (real) for greater security on one of the many cerros (artificial hills) which they had at hand; and it was the largest which was located in the block which today fronts on the Holy Cathedral . . .”

The decisive battle was then fought; its positive outcome for the Spaniards was followed by the official founding of the city. The strategic function of the site was implied in the King’s instructions to Montejo the elder in 1526: “. . . And for each of those settlements take at least one hundred men [as settlers] and make two fortifications, all at your own cost.”

Montejo the elder issued a set of instructions to his son which implied that some undocumented criteria existed for site selection, that Tihoo was a recommended site, but was subject to verification by Montejo the son:

“Having arrived at the town of T’ho . . . you shall establish there . . . a town and city, and if it appears to you that the district is such that it is favorable for settlement, you shall strive to bring the entire land to peace . . .”
Approval of the site by Montejo the son was determined by the alliance with his father’s old ally, Tutul Ziu. Cogolludo described the dramatic entry of Tutul Xiu, at the Spanish settlement, at which he committed himself to the sovereignty of the Spanish King and to the Christian religious faith on the steps of the great pyramid, quoted in another chapter.

The motives of Xiu lord Tutul were not described in the Book of Chilam Balam of Chumayel. The motives of his lineage may be adduced to some extent from that text. There were two themes present in the references to Spaniards. The first was the desire to welcome them as bearers of a new religious faith which was embraced by the (Xiu) Maya. The second was a description of the numerous hardships which Spaniards brought to the Maya. A third theme was present also. Merida/Ich caan si ho retained significant prestige among the Maya as a Maya ceremonial center after the establishment of the Spanish colony.25

Edmonson described a calendrical and cosmological struggle between the Xiu and Itza as regional rivals. The calendrical interpretation was associated with the siting of the honorary capital. Another part of the narrative implied that taxes were levied on all Maya to support the honorary Maya capital, while it was at Chichen Itza, at one point in the colonial period, in addition to support the government of the Spaniards. The text stated: “He [‘the sun priest’; ‘the prophet’] should arise, and come to the capital city of Mayan tribute, to Chichen Itza. Thus was the burden of the younger brothers.”26

Edmonson explained the meaning of the statement in a footnote: The Itza had declared Chichen Itza a feudal capital during the sixteenth century in order to demand and receive tribute from Maya. The act was opposed by the Xiu region and by workers in the
Itza region, as well as by Spaniards. The term “younger brothers” referred to Maya people in general, and also to Maya peasant workers.27

The Book of Chilam Balam of Chumayel contained another description which implied several perceptions among the Xiu Maya: “And this was the first governor: Don Francisco de Montejo, Adelantado. He it was who gave their town to the foreigners, the people of God. In the AD 1542 was the coming of tribute.” The text implies, among other meanings, that Maya Merida continued in existence after the Spanish arrival, and that Montejo had awarded it to the Spaniards, implying that he was, inexplicably, not Spanish. Another passage described the Spaniards as “the people of the capital.” Chichen Itza, in the sixteenth century was described as a “capital.” After the arrival of the Spaniards there was no other description of Merida as a special Maya city translated by Edmonson as “capital.” There were, however, numerous references to it as the katun seat, as cited elsewhere.28

The narratives imply that the Xiu perceived the idea of “capital” in association with government and power. The idea of “katun seat” was implied as being cosmological. There was no perceived contradiction in the Chumayel text between the continuity of both types of function within the same city. The text documented instruction by the Maya prophet that the Xiu welcome the Spaniards. It implied at least that the Xiu lords perceived the Spanish arrival as an act which did not diminish the Maya common good. It supported, therefore, the implication by scholar Nancy Farriss that the Spaniards served the strategic purposes of the Xiu in the initial encounter.29

Maya suffering from colonial Spanish acts was described in the Chumayel text as occurring after the colony was organized. There is no evidence that the prestige of
Merida among Maya people was diminished by either the presence of Spaniards or the imposition of hardships by them upon their Maya feudal tributaries. There is also no evidence that the architectonic expression of Spanish colonialism was a symbol of Maya resentment. The Chumayel text described the great public works among the Maya just prior to the arrival of the Spaniards: 6,050 pyramids were built. Maya descriptions of “pacing a great church” and beginning “piles [‘quantities,’ per Edmonson note] of work in the middle of town” resembled the descriptions of Maya public works built previously.\textsuperscript{30} The implied meaning is that Maya accepted the construction of public works as a part of government, whether it was Maya or Spanish. There was a similar reference in the Tizimin text: “[Spaniards] came to assemble piles of trees, . . . piles of stones . . . Bringing the word of the True God . . .”\textsuperscript{31} Most evidence from the Chumayel text implied Maya interest in Spanish architecture, and acceptance of church buildings as integral parts of the shared city.

**Summary of this Section**

The early colonial period narratives by both Spaniards and Maya imply that Merida possessed two functions. The city was the capital and the strategic seat for the Spaniards. It was a significant religious and cosmological center for the Maya. There is evidence that each role was recognized within both groups. There is no significant evidence in the Chumayel text of symbolic antipathy by Maya directed toward Spanish buildings. Another section examined the paradoxical Spanish response to Maya buildings.
Motive Four: Sustaining the City;  
An Encounter Between Spanish and Maya Typologies

At Merida, there was an encounter between two different typologies for sustaining an urban civilization in a hot, tropical climate. There was significant historiographic evidence for a conscious methodology by Spaniards. There was evidence also in the Chumayel text for a Maya methodology. Most documentation used in this study was for the Spanish methodology. It has been studied by fewer scholars than that of the Maya. The latter was studied by a series of scholars in the field of archeology.32

Spanish Methodology for Sustaining Urbanism

The objective of the Spaniards was defined by their king: conquer and settle, as cited previously. From that instruction and from the chronicle of Bernal Diaz de Castillo was inferred the methodology by which Spaniards intended to sustain themselves. They intended to find sources for precious minerals and to succeed the old Maya feudal lords as the new lords within the existing Meso-American feudal system. That system resembled significantly the late medieval feudal system in Spain, as described by scholar Thomas Glick and in medieval chronicles.33

There is no evidence of an economic analysis of the Tihoo region by Spaniards prior to their settlement. The chronicles demonstrate that Montejo the elder intended for his son to examine it first and verify that it complied with unstated criteria. An alliance with Tutul Xiu, a former ally of Montejo the father, was described; that alliance was implied as a factor in the site selection.34 Several decades after the European settlement, a Spaniard encomendero, Martin de Palomar, published a survey of the natural and human resources present at Tihoo/Merida, as instructed by the King. It was part of the “Report
on the City of Merida" published circa 1580. It was one of the series of reports which responded to questions by the king about the natural and social history and geography of the province.35

If Spaniards had intended to enrich themselves by way of feudal tribute, Palomar demonstrated that by 1580 the mortality rate among Maya peoples after exposure to European diseases greatly diminished the tributary population, as described in this section. Palomar stressed the poverty of the province. He stated, "As this land is one of the rockiest in the universe, there are not in it precious stones." "... Spaniards who had arrived at this conquest... saw the poverty of this land and the small prize which they could hope for here." He stated that the land was inhabited by many native peoples, but that in the past there had been "many more." He attributed the decline in the native peoples to two causes: war with the Spaniards and the lack after the conquest of a healthful wine, whose religious origins caused it to be prohibited by the Christian ministers.36

Palomar’s narrative described Maya mortality as being associated with congregación: "...when they were resettled in [Spanish style] towns and taken from their old communities for evangelization,... it caused many to die." The narrative implied that Maya mortality had reduced the ability of feudalism to support the colony: Palomar stated that the produce which sustained the material needs of the Spaniards in Merida was provided by Maya people.37

Palomar then assessed the land relative to Spanish style agriculture. That assessment implied a conscious Spanish decision to refocus the economic base in the face of the decline in feudal tributary peoples. He stated:
“In many places there are empty lands, fertile and with much grass where many livestock can be pastured. There is much in the region around [Merida] and because of it may sheep ranches have been founded . . .”, it was essential to provide them with water.38

He described then in great detail the numerous native and Spanish fruit trees, vegetables, medicinal herbs and livestock capable of being cultivated with irrigation. The principal exception was wheat, which could not grow, causing Spaniards to eat maize, as did the Maya. Tribute from Maya serf peoples in cotton cloth and wax supported commercial trade with the rest of New Spain.39 The central theme in the narrative was the presence of a methodology for supporting the Spanish urban settlement by way of Spanish agriculture and Maya tribute.

Assessments of human and natural resources were present at another sixteenth-century Spanish settlement. Remesal described the second site for the capital of Guatemala, Santiago de los Caballeros. He stated:

“The site . . . is on the skirt of that great mountain, . . . cool and enjoyable due to the forests and healthy because of the purity of the air . . . Higher up the houses enjoy the view of the valley, which is extremely pleasant, . . . the streams which fall from the mountains cannot be blocked, which is a benefit . . . for the health of the citizens.”40

The Spanish perceptions and analyses of the economic function of the Spanish colony contain some philosophical content. The assessments imply that the idea of “common good” was a central theme. Those assessments show evidence of both pragmatic and aesthetic criteria. They typically describe environments in terms of serving the physical common good of the Spanish settlers, although examples exist in which the common good of tributary serf peoples was also a factor.41
Maya and Spanish Methodologies for Sustaining Urbanism

There was a brief description by a Maya chronicler of Spanish land use methods:

"Sr. Governor [Mariscal], who has settled . . . to the east of . . . Merida, where he has land and where he has located his orchard and garden." The description of a homestead which contained an orchard and garden implied also of a method to sustain urbanism. The text described then Maya households as well as Spanish ones.42 A study of urban and suburban settlement patterns will be the subject of another chapter.

Evidence for Maya methodologies for sustaining urbanism with the use of intensive cultivation is the subject of the work Prehispanic Maya Agriculture. The subjects of most essays in the work is intensive agriculture during the classic phase in sites mostly in Guatemala. There is evidence also of intensive agriculture in the post-classic phase in Yucatan, in which phase the Spaniards arrived. In Yucatan, among other systems, there was evidence of water storage ponds with special cisterns in the bottoms, which were capable of providing water in sufficient quantities during the dry season. Examples of the type were described also by Stephens in 1843.43 There is evidence in Palomar's narrative of a similar system. He described the existence of "some wells" in the Merida region and stated that the Spaniards drilled many more.44

Summary of This Section

There is evidence in Palomar's narrative of a conscious methodology to sustain the European settlement by way of livestock and those Spanish and indigenous food sources which could prosper in Yucatan if irrigated, including fruits, vegetables, maize and others. Commerce with the Spanish Empire was sustained by the sale of the few marketable products which the tributary system could produce in quantity. There is a reference by
Palomar to the pre-Encounter methodology for sustaining Maya urbanism at Merida (wells). There was a Maya description of a Spanish homestead. Studies by other scholars show evidence of a range of complex systems for intensive agriculture in both the classic and post-classic Maya periods.

**Spanish Precedence for Attraction by a Non-European, Non-Christian Culture**

The attraction of Spaniards to the Maya city of Tihoo was a phenomenon with much precedence in Spanish history. Examples of it were present in two medieval Spanish chronicles. The first was the *Chronicle of James I, King of Aragon*. The second was the *Poem of the Cid*. Each described the Spanish conquest of Valencia, which occurred twice. Those conquests were parts of the eight hundred-year process called the Reconquest. Both medieval narratives showed evidence that Muslim Valencia possessed a significant attraction for Spaniards. The attraction was apparent as three themes. First, the city attracted Spaniards because of its agricultural periphery of orchards, gardens and grain fields. The second theme was the monumentality of its fortifications and buildings. The third theme was the booty of the conquest. The first narrative documented the conquest of Valencia by El Cid in 1094. After that conquest, Muslims reconquered the city. Spaniards conquered the city again in 1238, led by James I of Aragon.

The first medieval example was the *Poem of the Cid*. It stated:

"Great is the rejoicing . . . when my Cid took Valencia and entered the city . . . who could count the gold and silver? All were rich . . . his flag flew from the top of the Moorish [castle] (alcácer)."

"My Cid and they went to the castle . . . to the highest place . . . They see Valencia, the city, as it lies . . . They look on the farmlands, wide and thick with green, and all the other things . . ."
There were rich wedding feasts in the [honored castle] (*alcácer ondrado*).  

There is reference to the feudal nature of Spanish society in the medieval period. El Cid stated that he took Valencia for his inheritance. He had given “houses and fiefs” to his companions. In the poem, the term “vassals” designated the primary lord’s companions rather than the tributary serf workers. Tribute was referenced when El Cid demanded tribute from Muslims in Morocco. Islamic Valencia was described in terms of its possessing prestige. There were at least seven references to it as “the great one” (*Valencia la mayor*).

The second medieval example was another description of Valencia, contained in the *Autobiography of James I of Aragon*. James described the principal object of his campaign of conquest in southeastern Iberia:

> “Valencia is the best land and the finest in the world... There is not... so desirable a place as the city... and the surrounding territory, if it be God’s will that you conquer it... no land of more fertile and luxurious plains is to be found in the whole world.”

> “Then I will... besiege the city...”

> “... and how I had laid waste the corn lands and the garden of Valencia...”

The references show evidence of several themes of interest to this chapter. First, a city of non-European, non-Christian culture was the object of Spanish attraction. Second, the city possessed significant prestige which was recognized by the Spaniards. There is evidence for the causes of the attraction and the Muslim city’s prestige. The presence of and fertility of the urban greenbelt was described. The urban center also possessed prestige, as implied by the following description by James I:
"... I made my entrance into the city, and on the third day began the division of the houses among the Archbishop . . . , the bishops, and the barons, . . . [and] knights who were entitled to heritages in the district."52

James then described a dispute about who made the distribution. In it was a reference to the city: “We marvel much that the land of so honorable a city as this . . . ”53

James described the periphery of the city as “fertile and luxurious plains.”, cited above. The reference to the “corn lands and the garden of Valencia” implies that there was an outer ring of grain fields and an inner ring of gardens. There was more detail in the description of the agricultural periphery than in that of the city, implying that thirteenth-century Spaniards were accustomed to describing agricultural sources of production more than urban centers. In spite of the difference in detail, both the city and its periphery were sources of conscious admiration.

The Spaniards expressed significant admiration of and attraction to Moorish Valencia. Objects of Spanish admiration were the urban form of the city, the presence of gardens and grain fields surrounding it, and the material wealth derived from its capture. Its urban form was recognized as an appropriate seat for such prestigious activities as “rich wedding feasts,” etc. Spanish admiration included references to several monumental buildings, including the city walls and a castle. There are references in both works to feudal society among Christian Spaniards. Implied in each was the presence of feudal serf farm workers connected to parcels of land granted to the conquerors.

Summary of Chapter

A series of historiographic examinations shows a pattern in which two urban cultures possessed many similarities which were evident in the chronicles of both Spaniards and Maya in the early colonial period. Among Spanish motives for the selection
of Tihoo as the site for the Spanish city was a documented attraction to Maya architecture. Permanent settlement by Spaniards in Yucatan was finally possible after a mutually-advantageous strategic alliance was made between the Xiu Maya and the Spaniards.

The establishment of a Spanish capital did not contradict the continued prestige of the city as a Maya ceremonial center. The cultural synergy was such that Xiu Maya, in whose region Merida was located, accepted the religious practices of the Spaniards while maintaining the ancient cosmological rituals.

Attraction of Spaniards to non-European, non-Christian urban cultures had precedence in the medieval period in Spain. Spaniards were attracted to the agricultural periphery, the monumental structures and buildings, and to the riches which they hoped to attain through conquest.
NOTES


2. Ibid., 13:354.


6. There was no detailed description of Maya architecture in Palomar’s narrative. That was in contrast to numerous other “encomenderos”. An example of an “encomendero” who observed Maya architecture was Joan de Magaña Arroyo in “Report on Tahzib”. He stated “...the houses were vaulted and well-built...the ancient ones made their houses of stone, very sumptuous in places,...the houses look to the rising of the sun, the north, midday, and if they were temples, they looked to the west” (RY, 13:196-7).

7. Cogolludo, I:283.


10. The Roman road was shown by Gutkind, 123. Landa stated that Montejo was born in Salamanca; he lived in Sevilla at the time he was authorized to lead the expedition to Yucatan, and that he had a son in Sevilla, who was raised in the royal court (RY, 13:294-301).

11. Cogolludo documented that the vestiges of the great pyramid, which had been designated for demolition as a source for building materials, were still present in 1656 (Graz ed. I:406). Alcala documented the demolition of the pyramid at the San Benito complex after 1868 (47-52).

13. MCL ascended the Kinich Kakmo pyramid on June 15, 1997. Temperature and weather was typical of Yucatan in July: hot and humid.


17. Spanish acts began misery among Maya people (Chumayel, 109). An example of praise for the new religion was quoted elsewhere Ibid., 74).


21. Ibid., 257.

22. Ibid., 263.


25. Maya people welcomed the bearers of the new faith (Chumayel, 74). Hardships were brought by Spaniards (Ibid., 109). The continued prestige of Merida/Ich caan siho as a “seat of the ‘katun’” was documented in numerous descriptions (An example was 115).

26. Edmonson described the political and religious rivalry between Xius and Itzas regarding the exact dating of the ‘katun’ cycles (Chumayel, 150). Chichen Itza levied a tribute (Ibid., 117).

27. Ibid.

28. Montejo was first “governor” (Ibid., 132). Spaniards were “people of the capital” (Ibid., 74). Chichen Itza was described as “the capital city of Mayan tribute” (Ibid., 117).

30. 6,050 pyramids were build (Chumayel, 101-2). Maya construction workers and/or surveyors "paced a church" (Ibid., 194). They performed "piles of work" (Ibid., 129). Edmonson defined "piles" (Ibid., 7).

31. Tizimin, 55.

32. A series of essays was edited by Peter D. Harrison and B. L. Turner II in the work Prehispanic Maya Agriculture (Albuquerque: University of New Mexico Press, 1978). They described numerous Maya methodologies to sustain urban populations in both Guatemala and Yucatan.

33. Bernal Diaz del Castillo described Spanish happiness at seeing gold while in Yucatan (19). Argumentation for similarities between the late medieval feudal system in Spain and the Spanish colonial system at the time of the Columbian Encounter was presented in another chapter.

34. Cogolludo implied that the connection with Tutul Xiu was a factor in the Adelantado’s choice of Tihoo (I:256-9). Landa documented assistance by Tutul’s subjects of Montejo the elder’s establishment of the first capital at Chichen Itza in or about 1526 (FY, 13:298).

35. Palomar, FY, 37-75.

36. Palomar described the rocky land (FY, 11:68). He described its poverty (Ibid., 39). Decline of the Maya had two causes (Ibid., 49).

37. Palomar described Maya deaths resulting from resettlement (Ibid., 49). Maya tribute supported Spanish purchases of imported goods (Ibid., 70).

38. Ibid., 48.

39. Yucatan could produce many crops (Ibid., 55-68). Maya tribute supported trade (Ibid., 70).


41. Cogolludo cited an example in which the common good of Maya tributary construction workers was a result of Spanish reuse of existing Maya building stone (I:267).

42. The governor had a garden (Chumayel, 168-9). A description of the Maya settlement pattern was implied: “Who named the lands of their towns,...the wells of their towns,...the villages of their towns,...the fields of their towns...” (Ibid., 87).
43. An example of pre-Encounter intensive Maya agriculture was a storage pond with cisterns excavated into the bottom, described in the essay by Ray Matheny, "Northern Maya Lowland Water-Control Systems" in Prehispanic Maya Agriculture (185-209). Stephens described a similar system (II:148-50).

44. Palomar in RY, 11:47.

45. Dates of the two separate reconquests of Valencia were documented in "Appendix E", James I (688-90).

46. El Cid, 135.

47. El Cid and his family viewed the city (Ibid., 161). There were feasts (Ibid., 207).

48. El Cid took Valencia as his inheritance (Ibid., 161). He gave "houses and fiefs" (Ibid., 137). El Cid's companions were entitled "vassals" (Ibid., 163). El Cid demanded tribute (Ibid., 227). He described Valencia as "la mayor", or "the great one" (An example, Ibid., 197).

49. James I, 222.

50. Ibid., 226.

51. Ibid., 390.

52. Ibid., 398.

53. Ibid., 399.
CHAPTER 6
TWO OTHER PARTS OF THE SPANISH CITY PLAN: AN INDO-IBERIAN SETTLEMENT PATTERN AND THE SUBURBAN PERIPHERY

A previous chapter described the founding of the city by Spaniards and the implementation of a graphic city plan by means of a designated surveyor. The Spanish city plan, which was laid over that of the Maya city, consisted of three component parts which were defined in the founding documents and documented by Cogolludo. They consisted of the street grid, the pattern of one-quarter block lots, and the periphery of suburbs and common lands. Those parts were described initially by the geometric plan of the city. They were associated with two types of vernacular architecture, Spanish and Maya. This study examines selected characteristics of the planned parts and the probability that they were associated with a conscious methodology to sustain urbanism in a hot, tropical climate with no natural resources which commanded much value in European commerce.

The Spanish City Plan: Three Parts

The first part of the Spanish city plan was the *traza*, or Spanish grid of surveyed streets and plazas in the central core. The second part of the Spanish city plan was the subdivision of blocks into one-quarter block lots which were distributed to designated citizens of the Spanish municipality; initially all Spaniards. There was evidence in the resulting urban fabric of two methodologies for urban living, Hispanic and Maya households. Each was characterized by an enclosing wall around the household
compound; a small residential building; a mix of residential, agricultural and other functions; and the frugal utilization of local materials.

Walled homesteads with numerous fruit and shade trees, probably similar to colonial types, were observed by the author in contemporary neighborhoods of both Hispanic and Maya types. The shading characteristic and its function in the tropical heat was noted. The presence of vegetative shading marks the presence of residences in the historical district of the city; the absence marks the presence of single-function commercial areas in that historical district. See Figure 7.1 for a typical example of a shaded residential courtyard in the city center. Figure 6.1 shows the contemporary town of Abalá which is probably similar.

The third part of the Spanish city plan was the designated periphery of suburbs and municipal common lands. It was 500 paces in width and surrounded the Spanish traza, or core. See Figure 6.2. Evidence will be demonstrated that the early colonial city, including the elite core and the original suburbs, possessed a significant agricultural function. That function provided garden and orchard produce, while grain and meat was probably limited to European farms and Meso-American township common lands.¹

**The Indo-Iberian Settlement Pattern: The Spanish Subdivision and Two Types of Homesteads**

Cogolludo described the city plan of 1542 with four lots in each block, as cited elsewhere. The lots were relatively large; another chapter showed evidence that the blocks at Merida were significantly larger than those at another sixteenth-century capital, Santiago de los Caballeros, Guatamala. That plan constituted the Spanish land subdivision. Two Mexican scholars in Merida have described how the land subdivision
FIGURE 6.1
Abalá, Yucatan. Dense orchards are visible overhanging Maya style garden walls, roadway to Yunkú
FIGURE 6.2
Hypothetical periphery of the 500-paces common lands and suburbs.

Legend
- Hypothetical Periphery

- City block, Spanish core
- City block, Suburban district

A  Principal plaza
B  Santiago Church
C  Santa Lucía Church
D  San Cristobal Church
E  San Benito Church
F  San Juan Bautista Church

0  200M
pattern was utilized by Spaniards. Architect Edgardo Bolio stated in a personal conversation in June 1997 that the basic settlement pattern consisted of one-quarter block lots and corner buildings of the early colonial type; they appeared typically in all sixteenth-century settlements in Yucatan. Further, the lack of urban growth in many have allowed those original settlements to survive in significant form into the present. Examples worthy of study included Motul, Izamal and Mani.

Archaeologist and historian Luis Millet stated in a conversation, June 9, 1997, that the original Spanish homestead pattern consisted typically of one- or two-room Spanish-style dwellings of rubble masonry located on street corners. The corner room was intended for use as a small store. The other room, in two-room buildings, was for the family. The rest of the lot was orchards, gardens, animal areas and outdoor work and living spaces for the family. Later, the lots were subdivided, as can be seen clearly on the 1864-5 Topographic Map of Merida. On that map vestiges of the original subdivision can be adduced in the city center. At the periphery the one-quarter block lots and corner houses were relatively frequent. An example was Figure 6.3.

The 1864-5 Map demonstrates evidence of an associated phenomenon: In the historical suburban periphery Maya vernacular buildings and homestead types were intermixed with Spanish-style homesteads and building types, as will be demonstrated in this chapter. This study defines the resulting settlement pattern as "Indo-Iberian." The term is Mexican in origin; Edgardo Bolio stated that it is preferred in current Mexican scholarship in a conversation in June 1997.
FIGURE 6.3
Portion of San Cristóbal neighborhood
Data taken from 1864-5 Topographic Plan of Merida

Legend
A San Benito open space
1 Block identification number
 Hispanic styled residential or commercial building
 Traditional Maya style residential building
 “ ” Probable one-quarter block subdivision lines
 “ ” Property line, individual parcel

0 50 M
The Spanish Subdivision

A study has been made of the extent of the Spanish land subdivision pattern. There is evidence in the 1864-5 Topographic Map for both Spanish and Maya homestead types. Additional data were obtained from a field investigation of a portion of the suburban periphery within the historical district. The 1864-5 Map demonstrates significant evidence that the repeating grid of streets described by Cogolludo for the initially Spanish elite core was extended into the suburban periphery probably in the sixteenth century. Justification for the date will be argued after the demonstration of data.

The 1864-5 Map is a very detailed drawing which shows footprints of existing buildings and vegetation. At those parts of the city where urban densities had not yet occurred, the map clearly shows existing property lines or fences. The nature of those probable property divisions was not defined; the drawing implies that most were walls but that some were hedgerows, based on the graphics used by the draftsperson. The map was reprinted in Cuadernos and expanded by way of photocopying; it was then examined with a magnifying glass. At that point the pixels were so magnified that some details had to be adduced intuitively. The actual original was observed by the author in July, 1996, in the city museum; it was approximately 2/3 meters by 1/3 meters and was, therefore, never at a large scale.

Where parcels were indicated graphically as enclosed, evidence for buildings was examined. The map contains a series of shapes of irregular size. Some are clearly oval at their ends and conformed with published sizes for traditional Maya houses. Other shapes were clearly rectangular, indicating probable Hispanic outbuildings. Frequently, parcels contain evidence of both Hispanic and Maya typologies. A typical example, chosen at
random from a portion of the San Cristobal neighborhood and redrawn at a larger scale, is illustrated in Figure 6.4.

The probable extent of the historical suburban periphery in the sixteenth century has been adduced in another part of this chapter. In those blocks within that historical district, many had not yet achieved urban density of land coverage. It is possible to adduce the probable original subdivision of each block in that category. In most cases, the typical Spanish pattern of approximately one-quarter block is distinguishable. Later subdivisions within each hypothetical one-quarter block lot were not uniform or consistent. An example of a typical pattern is shown in the Figure 6.3.

There is documentation that the one-quarter block subdivision pattern occurred in blocks outside of the original Spanish core. First, Hunt documented the subdivision of larger lots during the seventeenth century within the suburban periphery. It was a methodology by which working-class people, including many unmarried females, began with no assets and slowly accumulated modest assets during their lives in a process of slow upward mobility. That process was based often on land speculation.4

Second, there is geometric evidence from the 1864-5 Map that the primary subdivision was based on one-quarter block lots which were then subdivided by different owners at probably different dates. Probable one-quarter block lot lines have been adduced in Figure 6.3 from the 1864-5 Map. They are graphic evidence that the original land subdivision pattern was extended, at an undetermined date, outward from the elite core and into the suburban periphery.

There is another type of data relevant to this study. The 1864-5 Map documents that the streets in the suburban periphery were much narrower than those in the elite core.
There is field evidence that those narrow widths actually existed at the time the 1864-5 Map was produced and were not simply a graphic convention. See Figure 6.4.

**Method of Examining Data: “Reading the Built Environment”**

A field survey was made by this author in a part of the historical suburban periphery. Buildings which contained architectonic evidence of construction probably before the 1864-5 Map were examined. Evidence of construction dates has been adduced from two types of data where actual documentation was not available: First, the projection into the established street line demonstrates that a building existed prior to a probable street widening. Second, architectonic data are often supported by other data for a hypothetical date of construction, as examined in Chapter 7.

Field evidence in the historical suburbs shows evidence that many streets were widened after 1864-5. That date corresponded roughly with the incidence of Porfirian style revivalist buildings built during a time of urban reconstruction funded by henequen money. Those buildings can often be distinguished because of their high level of machined detailing and the correctness of European details. An example is shown in Figure 6.5.

Figure 6.4 shows a portion of San Cristóbal neighborhood, selected at random. It illustrates the modern street line and those buildings with probable construction before 1864-5. They typically project into the contemporary right-of-way. There is evidence that each was indicated also on the 1864-5 Map. Where a surviving building of probably pre-1864-5 typology corresponds in size and location with a building shown on the 1864-5 Map, it is probable that the building was, in fact, that shown on the Map. The only accurate determination would be with archaeology. In its absence, useful data can be adduced, with methods described above. Even though each building may possess a
LEGEND

- Existing street line and buildings (depth not verified)
- Existing building illustrated probably on 1864-5 Topographic Plan
- Block reference number
- Probable one-quarter block subdivision

FIGURE 6.4
Portion of San Cristóbal neighborhood, showing evidence of street widenings over time.
FIGURE 6.5
Porfirian-style house (La Mejorada). Based on the architectural detailing and crafting, it was built probably c. 1870-1910.
possibility of error, the probability of error in a neighborhood of buildings containing similar characteristics is considered by the author to be small.

Summary of this Section

There is evidence that the 1542 Hispanic land subdivision pattern was extended into the historical suburban periphery. It consists of one-quarter block lots, later subdivided.

Field Evidence of Continuity of Indo-Iberian Settlement Pattern Over Time

There is field evidence of the continuity of the Indo-Iberian settlement pattern over time. As described above, Architect Edgardo Bolio stated that small cities with early colonial origins frequently retained the early colonial buildings. A probable example of that phenomenon has been observed in the small municipality of Abalá, located in the Merida region. Abalá was described by the governmental survey call Municipios de Yucatan as having been founded by Francisco de Montejo the son in the sixteenth century and containing a church constructed in the seventeenth century. The author observed a carved stone set into the wall of the church whose geometry and crafting was undoubtedly Maya. The use of a carved Maya stone supports the early colonial origin of the town.

At least three buildings possess colonial characteristics. None contains visible evidence of shaped stone door casings, which would have supported further the identification. The occupation of one building supports Millet’s and Bolio’s descriptions of early colonial occupancy patterns, (cited above). That building, on a street corner, consists of a large rectangular room. Half of it contains a store in which the proprietor, a man, was slaughtering a chicken for a customer. He sold other items, including soft drinks. In the room also was a hammock and storage for family belongings. A porch and
a thatched outbuilding were enclosed within the large walled courtyard. Also within the courtyard were numerous fruit trees and chickens.

The house conforms to the indication in Palomar’s narrative that early colonial residences contained agricultural functions described in Chapter Seven. It conforms also to statements by Millet and Bolio that the early colonial residences contained one or two rooms, located on a corner, with a function in part as *tienda*, or family store. Finally, its construction is of rubble masonry with a flat roof. The building is cited in this study as evidence of the continuity in Yucatan of the Indo-Iberian settlement pattern.

Figure 6.1 was a photograph of the street leading eastward out of Abalá to the small village of Yunkú. The narrow width, the Maya style unmortared rubble stone courtyard walls, and the dense canopy of fruit trees shading the lane are similar to examples of shaded courtyards in the historical district of Merida. Most early-morning shoppers on the date of the author’s visit were pedestrians or cyclists, not drivers of air-conditioned vehicles. The shaded lanes showed evidence of moderating the July tropical heat sufficiently to encourage significant activity in the small town center.

**The Ring of Common Lands and Suburbs: The Third Part of the Spanish Grid**

Cogolludo described the act by Montejo the son in which he demarcated a dedicated zone five hundred paces in width for “municipal commons lands and suburbs (*ejido y arrabal),*” to be expanded later as needed. That zone surrounded the urban Spanish core, as cited elsewhere. After the initial description, there is no further documentation of a dedicated municipal commons; although there were numerous descriptions of suburbs.
In another description, Cogolludo stated that Merida possessed no common lands (Propios). The text implies that common lands which existed in 1542 no longer existed in 1656. This chapter examines the probable location of the dedicated periphery of common lands and suburbs for evidence of their actual existence in the colonial period and for continuity, if any, of special characteristics, as described in the following pages.

**Thesis of This Section**

There is evidence that the traditional ring of neighborhoods surrounding the Spanish core were parts of the dedicated common land and suburbs described in 1542. Parts of it are described in the chronicles by two terms: "outside of the city" and "the suburbs of the city." Those terms imply the presence of two characteristics: First, it implied Maya vernacular architecture and urban lots which were partly agriculture in nature. Second, it implied that density of an urban type was not yet a characteristic in those neighborhoods, which are quite dense today.

This chapter examines first the probable location of the suburban periphery. It then examines characteristics of its component parts which were present in historical descriptions. Finally, the chapter demonstrates evidence that the phenomenon was not unique but had medieval Spanish precedence and similarity with at least one other colonial example.

**Hypothetical Determination of the Location and Form of the Periphery**

The statement by Cogolludo that the Spanish center was surrounded by a dedicated periphery of 500 paces allowed the probable location of that periphery to be plotted graphically. For the purpose of this paper, a sixteenth-century Spanish pace will be assumed as being approximately 0.78 meters. The calculation was not scientific; it is
equal to this author’s pace, and, therefore, 0.85 English yards, or approximately 0.78 meters. Based on that assumption, the width of the periphery was, therefore, approximately 390 meters in width. No additional accuracy is required for a study at a large, urban scale.

Another chapter demonstrates the probability that the original Spanish core was 5 blocks by 5 blocks in configuration, centered on the principal plaza. If the commons and suburban periphery were laid out around a grid 5-blocks by 5-blocks, and if it were 390 meters in width, then those colonial neighborhoods within the zone could be examined for relevant data.

Within that periphery were located several urban areas of historical interest. First, there was the Franciscan monastery laid over a Maya pyramid. It was surrounded by open space, occupied by a forest, gardens and orchards. Second, there were the centers of four historical neighborhoods. Those of San Cristóbal and Santiago were self-governing townships of native peoples. San Juan and Santa Lucia were probably suburban neighborhoods principally occupied by Spaniards. Third, possibly coincidentally, two of the colonial city gates corresponded approximately with the outer edge of the hypothesized peripheral zone. They were the two near the Mejorada monastery, on modern Calle 50. Another, that of San Juan, did not define that edge, indicating that the locations of gates were probably coincidental.

**Physical Characteristics of the Terms “Outside the Walls” and “Suburbs of the City”**

There are references in the chronicles to several buildings being either “outside of the city” or “outside of the walls.” The city was never walled, although a series of city
gates were erected during the seventeenth century and later, as cited previously. The probable significance of the term “outside of the walls” was “just outside the city” or “suburban,” as described by Murdo MacLeod. Support for that hypothesis was found in an English-speaking traveler’s description of Merida in 1769. Lieutenant Cook, otherwise unidentified, stated that Merida “has a handsome arch’d gate way at the end of every street, next [to] the country...”\(^8\) The statement implies a marked distinction between “city” and “country” which was consistent with Spanish descriptions.

The term “outside of the walls” had also probable architectonic significance at Merida. Permanent enclosure walls of a Spanish type around urban lots were a probable early colonial characteristic. Even though they were not specifically documented at sixteenth-century Merida, precedence for lot walls existed in other sources. Remesal documented a sixteenth-century requirement at Santiago de los Caballeros, Guatemala that the urban lots be walled as a condition of their being granted to settlers. He described lot enclosure walls as being either adobe or tamped-earth. A study of sixteenth-century residential buildings in Spain showed evidence also of such walls.\(^9\) They were clearly present in nineteenth-century drawings of Merida. Enclosure walls around traditional colonial Spanish-style homesteads in Merida were typically built of rubble stone masonry, either stuccoed or bare.\(^10\)

Even though Spanish colonial and Maya traditions of walled lots were similar in function, their visual appearances were nevertheless distinct. Studies of Merida social history imply that a perceived social separation between peoples of Spanish and Maya culture existed during the colonial period.\(^11\) Differences in architecture, especially walls which faced the streets, were clear visual indicators of that social separation. They are
illustrated in the drawing entitled “Street” by Charnay in 1885, with a Maya homestead with thatched cottage and stone enclosure wall adjacent to and opposite rows of Spanish style buildings.\textsuperscript{12}

The second description associated with the suburban periphery is that it was “the suburbs of the city,” which term was used by Cogolludo for a group of Maya townships adjacent to Merida. Those townships were identified as \textit{pueblos de indios}.\textsuperscript{13}

The physical appearance of suburban areas in the early twentieth century was different, as described by the scholar Hansen in a work published in 1934. He described them as mostly culturally Maya in nature, and each of the Maya townships “was a semi-independent community organized around a square with a church, one or more small stores, and perhaps a market. Also on the square was the \textit{Casa Real}, the seat of the neighborhood (barrio) government.” Culturally Maya people lived “almost entirely in thatch houses.”\textsuperscript{14} Another chapter has shown evidence that both Spanish and Maya vernacular urban homesteads possessed an agricultural function in part. They typically contained orchards and gardens for some daily food needs, while staples in quantities were produced in maize fields and livestock ranches farther outside of the city.

\textbf{Descriptions of the Parts of the Periphery: Franciscan Monastery}

The peripheral district demarcated by Montejo the son included a number of colonial locations. Historical descriptions of each will be examined in this section. The first was the Franciscan monastery complex. Landa described the construction of the Franciscan monastery at Merida on a large Maya pyramid base on which was a complex of elaborate Maya buildings. Franciscans both demolished parts and incorporated others into the fabric of their building.\textsuperscript{15}
Adjacent to it was built the parish church for the surrounding San Cristóbal neighborhood. A walled citadel was constructed which surrounded the monastery in the late seventeenth century. By 1751, the complex contained three churches; the monastery, the underlying Maya pyramid base, and the surrounding fortress. At an unidentified date, the complex was called “San Benito.” Figure 6.6 shows a reconstruction of that complex and the surrounding blocks in 1864-5.

Another chapter demonstrated probability that the 1542 grid was five blocks by five blocks in configuration. Surrounding it was the suburban periphery. In that hypothetical periphery was located the Franciscan monastery/Maya pyramid complex of San Benito and its surrounding open space. That is evidence, therefore, that the term “outside of the walls” and the dedicated common lands and suburbs (ejidos y arrabales) of 1542 described the same district at Merida.

Fray Alonso Ponce stated in the late sixteenth century that the monastery of Merida contained a huerta, defined by the Diccionario as being a “large irrigated vegetable garden;” Murdo MacLeod stated in January 1999 that it can also mean “orchard.” There is further documentation of it in 1843 by the North American traveler B. M. Norman. He described abandoned gardens and orchards within the castle walls and surrounding the monastery in 1843. It was not unique; Perry described another orchard in the sixteenth-century monastery of Conkal. A nineteenth-century drawing documents the appearance of the open space around San Benito. “View from the towers of San Cristóbal,” dated 1863, showed the open space as being wooded. Trees included palms, implying that the forest included tree crops.
FIGURE 6.6
Axonometric View of San Benito complex, based on 1864-65
Map and 1751 drawing of San Benito Citadel.

LEGEND
A. Maya Pyramid
B. Franciscan Church
C. Franciscan Monastery
D. San Cristóbal Parish Church
E. Soledad Chapel
F. Barracks, etc.
G. Wall
H. Fish Market
I. Grain Market
San Cristóbal

The neighborhood of San Cristóbal was partly within and partly beyond the hypothetical peripheral district of commons and suburbs and was, therefore, “outside of the walls.” Cogolludo stated that the neighborhood was a township for Indian peoples (pueblo de indios), being “the best neighborhood which the city has for these native peoples.” Its settlement in the sixteenth century was by Nahua-speaking allies of the Montejos. Hunt stated that it was the largest initially-Indian township in Merida and that it retained an indigenous municipal identity probably up to 1700. It became fashionable for Hispanics by the late colonial period.¹⁹

Since San Cristóbal was “outside of the walls,” why was it not a “suburb of the city?” The probable answer was implied by Cogolludo and Hunt: It was prosperous early in the colonial period and supplying the city with fruits and vegetables was not its economic function. By the late colonial period, it had come to house two large markets, facing the San Benito open space.²⁰ The term “suburb” implied, therefore, a district more working-class and more agricultural in nature.

San Juan

Palomar described the chapel of San Juan Bautista as being in the “country” (campo) [sic] in 1580±. The statement implies “outside of the city.” Cogolludo stated that the same chapel in 1656 was “in the western part of the city.”²¹ The two statements implied that it had become urban by 1656. Its location was within the hypothetical commons and suburban periphery. Its location was, therefore, “outside of the walls.” It was not described as a “suburb of the city.”
Evidence for Maya origins is contradictory. Their presence would imply the probability of an agricultural function. Hunt referred to documentation that San Juan was an encomienda of the crown, designating feudal dependency, typical of neighborhoods of Maya tributaries. Restall was of the opinion that San Juan did not originate as a Maya neighborhood. This assessment was based on the absence of historical references to Maya community networks of the cah type. A drawing of San Juan in 1887, “San Juan Arch,” (cited previously), illustrates a street with Spanish style buildings and a lot enclosure wall overhung by a banana tree. It supports evidence that the neighborhood was culturally Hispanic, at least by that date.

Evidence for Common Lands after 1542

Cogolludo described problems associated with periodic flooding which could not be solved because “the city does not have common municipal land [propios] . . .” The statement implies that the city commons laid out in 1542 no longer existed in 1656, the date of writing. He did not refer to the forested open space, surrounding his monastery, which implied an opinion that it was property of the monastery, not municipal commons. The 1863 drawing “View from the towers of San Cristóbal” documented the forested open space around San Benito. The drawing shows no buildings within the space. It contradicts Norman, who described orchards and gardens only within the fortress walls. The 1865 Map of Merida shows formal landscaping along the former promenade, north of the monastery complex. The best explanation is that the area surrounding the monastery was an overgrown, wild forest, as implied in the 1863 drawing.

The presence of that forested open space implies the continuity of an historical urban commons. In the absence of either buildings or specific land use, the best
explanation based on the date is that it was a type of *monte*, or dedicated woodlot with related uses, such as recreation. It matches Vassberg’s description of a medieval woodland common. Merida was not unique among sixteenth-century cities because of the presence of common lands. A periphery of commons surrounded Puebla in central Mexico also, laid out in 1533.  

**Santa Lucia and Santiago: Suburbs of the City**

Cogolludo stated that in 1656 one priest of the cathedral was “proprietary minister of five towns for Indian peoples *[pueblos de indios]*, which are like the suburbs of the city: their names [are] Santiago, Santa Ana, Santa Catalina, Santa Lucia, and San Sebastián.” Two of that group, Santiago and Santa Lucia, were within the probable suburban periphery.

Palomar described the chapel of Santa Lucia as being “outside of the city” in c. 1580. Cogolludo stated that the chapel was founded by citizens of Merida and that its immediate neighbors (*circunvecinos*) had formed a lay ministry for the sick and poor. The absence of specific references to Maya people implies that Spaniards constituted at least a significant part of its inhabitants. Its land use in the seventeenth century was probably mainly agricultural, as it was in 1865, as documented by the Map of Merida. In the latter year, the surrounding neighborhood consisted principally of rows of vegetation, probably crops or fruit trees. There was a probable group of Maya-style homesteads adjacent to the row of Spanish-style houses which surrounds the plaza on two sides.

There are few early colonial references to Santiago. Hunt’s research found evidence that Santiago was the second-largest of the Indian townships, after San Cristóbal. Its original church predated the cathedral. In its vicinity were some of
Merida’s oldest cattle ranches. The author found few Spanish buildings in Santiago which demonstrated early colonial characteristics. This evidence implies that its built environment was principally Maya homesteads during the colonial period. The evidence supports therefore, Hunt’s description of Maya residents. ²⁹

The available evidence supports or, at least, does not contradict a hypothesis that suburban neighborhoods typically furnished garden produce to the city. Santa Lucia was mostly agricultural plots as late as 1865. There is map evidence of Maya homesteads which implied therefore the presence of small-scaled Maya-style garden agriculture. The culturally Maya nature of Santiago throughout the colonial period implies Maya-style garden agriculture there also.

**Extension of the Spanish Grid and Settlement Pattern Within the Suburban Periphery**

Even though the probable civic commons had disappeared by the mid-seventeenth century, evidence of a suburban periphery continued to be present in a series of documents. Those documents provide significant data with regard to the continuity of parts of the sixteenth-century idea of “city.” There is evidence that the Spanish grid and pattern of urban lots was extended into the suburban periphery at an undated period, as described elsewhere. The pattern was present in the 1865 Map. Since there was settlement in the periphery in the sixteenth century, it is probable that the land subdivision pattern dated from that time. This paper assumes the truth of King Fernando’s statement of 1513, that if a regular grid were not surveyed initially, then it could not be imposed after a city was already built.³⁰
The presence of the Spanish grid and land settlement pattern is a paradox. Descriptions of the periphery and drawings of it in the nineteenth century imply that in most parts of it, Maya vernacular architecture was predominant into the twentieth century. They were, therefore, in contrast to the Hispanic pattern of the grid and lot configurations.

The 1865 Map of Merida documents land use in the suburban periphery. By that date, the urban core consisted of streets lined by continuous rows of buildings. It had penetrated by 1865 into parts of the hypothesized suburban periphery. At the edge of the urban core, the change of land use was clearly demarcated. The settlement pattern changed to one of large lots, small buildings typically at corners of lots, and a graphic indication of irregular shapes, probably either fruit trees or traditional Maya-styled oval buildings.

Examples of building coverage can be seen in blocks surrounding San Benito. See Figure 6.7. At Block “A,” closest to the plaza, building coverage was c. 82%. At Block “B,” near the suburban periphery, building coverage was c. 7%.

**Precedents for Agricultural Peripheries in both Medieval Iberia and Pre-Encounter Yucatan**

Concentric rings of agriculture surrounding cities had precedents in medieval Iberia, among both Spaniards and Moors. Spanish observations of the farmlands surrounding Moorish Valencia has been documented previously. The pattern was observed also by a Spaniard at an abandoned Maya capital. The scholar Thomas Glick expanded understanding of the phenomenon. He utilized the term *huerta* to describe an intensively cultivated, typically irrigated agricultural periphery surrounding a Muslim or
6.7A
Block "A", city center (no scale). Circa 82% of area is occupied by buildings.

6.7B
Block "B", San Cristóbal (no scale). Circa 7% of area is occupied by buildings.

FIGURE 6.7
Comparison between urban densities, 1864-5.
Christian Spanish city. That characteristic became a metaphor for paradise among Iberian Muslim writers. Those writers described the Iberian environment as resembling the Koranic paradise, the name for which was “The Garden” (al-janna). The garden metaphor was applied also to Valencia: the “highly developed irrigated sectors of the Valencian huerta surrounding the city led more than one poet to describe the city as paradise.”

A description of the abandoned but prestigious Maya city of Chichen Itza by Landa resembles descriptions of huertas in medieval Spain. After describing the city as a “republic,” Landa then stated that it “has many fertile lands and provinces surrounding it.” Given Landa’s comparisons between Maya and Roman architecture, cited previously, the description implied a probably conscious medieval image.

**Vassberg's “Communitarian Tradition” in Medieval Spain**

The medieval meaning of the term *ejido*, used by Cogolludo to describe the commons and suburban perimeter around Merida’s Spanish core, has been examined in the work *Land and Society in Golden Age Castile* by scholar David Vassberg. His work described a “communitarian tradition” present in Castile and in other regions resettled during the eight-hundred-year Spanish Reconquest.

Vassberg’s “communitarian tradition” was characterized by a range of types of land ownership and access. In addition to traditional private ownership were a range of semi-private and public types of ownership, access, and use. Among the types were lands owned by municipalities, of which there were two types. The first type was called *propios*, among other terms. Use of those lands was achieved through the payment of rent to the municipality. Murdo MacLeod stated in January 1999 that they were
sometimes a source of income to fund municipal projects and needs, such as defense against pirates.\textsuperscript{35}

The second type of municipal land was common land, whose access by designated citizens was intended to be free of any charge. Among types of uses were lands named ejidos, defined by Vassberg as “multi-purpose common plots.” He then stated that the term implied common pasture; that it was “not planted or cultivated;” it was used for threshing, garbage dumps, recreation, keeping stray animals, and was “a necessary part of municipal life.”\textsuperscript{36} Murdo MacLeod clarified its significant role in stabling and grazing for travelers and for fattening animals awaiting slaughter, January 1999.

\textbf{Evidence of an Agricultural Hinterland around Santiago de los Caballeros, Guatemala}

Remesal’s narratives about the founding of new Spanish cities in Guatemala contains a theme similar to that of the huerta in medieval sources. There are lengthy descriptions of the local ecology with regard to potential agriculture. An example was the debate among Spaniards in 1525± regarding selection of the first permanent site for the capital, Santiago de los Caballeros:

“And the seat in the valley has good water . . . , fruit trees, . . . forests for the [timber of] buildings, . . . Much pasture for cattle, much fertile land for [farming] enterprises . . . , much stone close by . . . ”\textsuperscript{37}

In Remesal’s work, there is no reference to common lands. The presence of detailed land assessments implies that reference to common lands was not simply omitted, but that they were not planned in that colony.
Summary of Chapter

There is evidence that the periphery of suburbs and common lands which were dedicated in 1542 continued as a distinct urban district during the colonial period. The dedicated periphery became in fact a ring of mostly working class neighborhoods which were partly agricultural in nature. There was some evidence that the forested open space around the monastery complex resembled medieval Spanish urban commons. The continuity of a suburban ring with some agricultural functions was consistent with Iberian traditions, both Moorish and Christian Spanish.
NOTES

1. Cogolludo described the periphery (1:271). Palomar implies that meat and grain was produced in farms surrounding the city. He praised the ability of those lands to sustain Spanish livestock (RY, 11:48). He states that wheat did not grow in Yucatan and that both Indians and Spaniards consumed maize (11:60-1). Hunt states that, at the time of initial Spanish settlements, the region surrounding Merida was inhabited by Maya tributaries who produced maize and cotton for tribute to the Spaniards (372).


3. In those portions of the 1864-5 Topographic Map where the density of buildings was not so great that patio walls were no longer visible, the property subdivisions can be read clearly. In most blocks a probably original one-quarter block subdivision could be adduced. Within them were a variety of other subdivisions, of different patterns, which implied different dates and owners within a repeating grid of a larger module. The most reasonable explanation for the resulting geometric patterns is a hypothetical one-quarter block subdivision prior to the subdivision into smaller lots.

4. Marta Espejo-Ponce Hunt describes a process by which people of all income groups in colonial Merida could capitalize themselves slowly by way of land speculation and the ownership of productive agricultural plots around the city in “Colonial Yucatan: Town and Region in the Seventeenth Century” (Ph.D. diss. UCLA, 1974) 410. The buying and selling of properties inside and outside of the city is described as interrelated (411-2). Profit from a sale of a rural parcel allowed limited upward mobility among all landowners, regardless of their social status (411).

5. On July 15, 1998, the author visited the small, historical municipality of Abala in order to photograph a roadway lined with traditional Maya style homesteads. The township was an example of a phenomenon described by Edgardo Bolio in a conversation in July, 1997, in which early colonial hispanic patterns of urbanism and architecture continued over time. In such examples, the lack of urban growth allowed traditional buildings and building types to continue with only minor modifications over time.


9. Remesal describes how all persons who were granted house lots were required to enclose them with walls of tamped earth or adobe, in 1542 at the new site of Santiago (II:18). There is a photograph of a stone masonry boundary wall at an urban residence in Peñaranda del Duero, Spain, in the work by Alberto Corradine Ángulo, Raíces hispánicas de la arquitectura en Colombia (Bogotá: Ediciones fondo cultural cafetero, 1970), 95.

10. The drawing “El Arco de San Juan” by F. A. Ober illustrates a probably masonry boundary wall in the San Juan neighborhood in 1887. It was republ. in the work by Michel Antochiw, Mérida y su gente antes de la fotografía (Mérida: Instituto Cultural de Yucatán CULTUR, 1992), Plate 65.

11. Hunt describes colonial society, including exclusivity exhibited by the class of feudal lords (26-31).

12. Antochiw, Fotografía, Plate 70.

13. Cogolludo states that five neighborhoods, Santiago, Santa Ana, Santa Catalina, Santa Lucia, and San Sebastián were “Indian townships” (“pueblos de indios”) and suburbs of the city (“arrabales de la ciudad”, I:367).


17. Fray Alonso Ponce describes the irrigated garden at Merida (75). “Huerta” (s.v.) is defined as being an orchard or vegetable garden, larger than that implied by the term “huerto” (s.v.), and in some places implying irrigation in Diccionario. Norman
describes the monastery in Merida in 1843 (145). Perry documents the orchard at Conkal (220).


19. Cogolludo described San Cristóbal (I:375). The settlement of San Cristóbal by principally Nahua speaking allies of the Spaniards was described by Rubio M., Primeros Vecinos (22). Hunt described the neighborhood (231-5).


21. Palomar describes San Juan as being in the “country” (11:72). Cogolludo describes it as being in the western part of the city (I:383).


24. The drawing “View...” is in Antochiw (Plate 31). Norman describes ruined orchards and gardens inside the walls of the citadel which surrounded the monastery (46-7). The 1864-5 Map illustrated vegetation only along the promenade and a regular, planned row of trees parallel to the west wall of the citadel. It implied that planned vegetation was depicted; unplanned vegetation was not.

25. Vassberg describes a medieval municipal woodlands dedicated to common use as consisting of undisturbed, natural vegetative cover. It was uses by the designated citizens for livestock grazing below the canopy and the harvest of acorns. The text implies that firewood and timber for building may have originated also in that zone (Land and society, 36-40). Kubler documents the presence of a commons surrounding sixteenth-century Puebla. (84).


27. Palomar states that Santa Lucia was “outside of the city” (RY, 11:73). Cogolludo describes the chapel (I:384).

28. The 1864-5 Map depicts rectilinear buildings in the block which contains the Plaza of Santa Lucia along the present Calle 55 and around the plaza. The remainder of the block was devoted to lots on which were regular rows of vegetation and a row of shapes which conformed in lot placement and size to Maya vernacular houses in traditional homesteads.
29. Hunt described Santiago (220-7). Few Spanish colonial buildings were observed in a field visit by MCL, June, 1996.

30. King Fernando’s 1513 instructions were quoted in Stanislawski, “Early Spanish Town Planning” (96).

31. There is a drawing entitled “Indians of Yucatan” in the traveller’s account by B.M. Norman, Rambles in Yucatan (NY:J. And H.G. Langley, 1843), 33. The thatched roof, rounded building and rubble stone enclosure wall was similar, except for its proportions, to traditional Maya buildings documented by Wauchope in ---- year and observed by MCL during three field seasons in Yucatan, 1996-1998.

32. An example of Glick’s use of the term “huerta” is his description of the “highly developed irrigated sectors of the Valencian huerta” (54). The Islamic metaphor was described (Ibid.). Glick then traces the landscape and its vegetation to Syrian sources. He demonstrated that the transfer of landscapes was ecologically possible and was a part of official policy by the Moors (54-5).


34. Vassberg, Land and Society. 5-18.

35. Vassberg described “propios” (Ibid., 21-6). The use of income to fund defense, etc. was described (Ibid., 21).

36. Ibid., 26-8.

CHAPTER 7
HISPANIC VERNACULAR ARCHITECTURE OF AN EARLY COLONIAL TYPE

This chapter has examined early colonial Hispanic architecture of the minor civil, or vernacular, a typology that is described in sixteenth-century chronicles. This extensive typology, together with the Spanish urban grid, defined the normal urban fabric of Spanish settlements. The typology was disseminated outward from the Spanish core of Merida into the hispanicizing seventeenth-century suburbs as demonstrated by Marta Espejo-Ponce Hunt.¹ In the suburbs, it encountered the urban vernacular architecture of the traditional Maya.

There is evidence that the two types were used frequently in the same homesteads, which demonstrated syncretism between the two types. Research on this topic has been performed to expand the data base of work by other scholars.² A major characteristic of the study is the lack of historiographic documentation for minor civil architecture. There are general, brief descriptions of vernacular Spanish houses of the modest type in the early colonial chronicles. Documentation for individual structures of the minor vernacular type is limited, the best example encountered to date was a part of Pacheco’s work. Municipal archives prior to the late eighteenth century did not survive.³

The research methodology utilized for this paper is an examination of architectonic components for evidence of patterns of use. From that data a methodology was adduced for dating the probabilities of construction dates. Architectonic evidence in Yucatan
provided a significant characteristic which influenced the research. Architectural historian Miguel Bretos, a senior staff member of the Smithsonian Institution, cautioned in personal correspondence on March 28, 1997, that it is exceedingly difficult to document sixteenth- and seventeenth-century buildings due to the loss of municipal archives before the late eighteenth century. He stated that typical building details from the early colonial period were repeated for centuries in minor vernacular buildings for working people; examples of the phenomenon are called *retardataire*. Research for this paper found numerous examples of the phenomenon; an example is analyzed in another section.

This study did not expand research on other architectural typologies, such as monumental Spanish churches and mansions, which have been studied by others. It did not expand either on existing studies of Maya vernacular architecture. A choice was made to focus on Hispanic vernacular architecture of the early colonial type.

Hispanic vernacular homesteads and their architecture were examined because of two reasons. First, they utilized local materials in a frugal, tectonic manner. That frugal use of materials resulted in a typology of vernacular architecture. Second, the vernacular typology functioned as part of a methodology to sustain urbanism in a hot, tropical climate with no high-value natural resources. The resulting architecture is the subject of this chapter.

**Types of Data for the Study**

There is evidence in the historical chronicles that the vernacular architecture type was a major characteristic of the early colonial city. Although no sixteenth-century examples have survived probably intact, there is evidence that vestiges remain at the present time, incorporated into buildings with facades from later centuries, examples of
which are cited in this chapter. Miguel Bretos stated in a personal conversation with the 
author in January 1997, that there are seventeenth-century vernacular buildings still 
standing in Merida’s original suburbs, now part of the downtown historical district. There 
are probably only remnants of sixteenth-century buildings in Merida’s sixteenth-century 
core, which was basically rebuilt later in the colonial period.

In field studies conducted in July 1996, June 1997, and July 1998, the author 
observed a series of surviving examples in the historical suburbs, which examples dated 
probably from the seventeenth and eighteenth centuries. That series of buildings with 
early colonial characteristics was not a result of conscious style revivals and included at 
least one example which was erected in the twentieth century.

The evidence for the dissemination and continuity of the early colonial Hispanic 
vernacular had probably numerous causes. Hunt described factors of upward mobility and 
hispanicization within the communities who inhabited the traditional suburban perimeter, 
as cited above. This study has found evidence of pragmatic and environmental factors 
which also caused continued use of the vernacular over time.

The presence historically of the Hispanic vernacular architecture is well 
documented. Observers of Merida in the nineteenth and early twentieth centuries 
documented numerous examples of both early colonial Hispanic and traditional Maya 
types. The 1864-5 Topographic Map showed extensive evidence also of both traditional 
typologies. The examination of the historical city center by the author showed evidence of 
frequent abandonment and deterioration of early colonial Hispanic vernacular buildings in 
the historical district, documented in numerous photographs in this chapter. There is little 
evidence of preservation interest outside of the tourist zone. There is no evidence for
surviving Maya vernacular buildings in the historical city, including the former historical suburbs, although an aerial survey would probably encounter remaining vestiges.\(^5\)

**Characteristic One: Architecture as Shade in a Hot, Tropical Climate**

The research sources demonstrate evidence for three characteristics associated with Hispanic vernacular architecture. In the first, the vernacular architecture and associated landscaping in the walled homestead compound acted to moderate temperature extremes in the hot, tropical climate. Palomar described the climate of Yucatan as “generally hot and dry.” He documented also temperature variations extreme enough to cause illness: “... the wind ... from the north or west-southwest ... is a cold wind ... which causes illnesses and deaths.” He described storms which “in some years are so violent that they demolish the houses of Indian peoples; blow down large trees; ... and destroy the maize crops, causing famines.”\(^6\)

He described then the manner in which Spanish style houses moderated the hot temperatures: “The form of the houses of the Spaniards ... is of quarters with low profiles because of the great heat and in order to take advantage of a bit of coolness and humidity.” (Note: modern architects avoid humidity, not search for it). His description of storm winds demolishing Maya style houses implies that Spanish style masonry buildings were not demolished by them.\(^7\) Their masonry is the subject of another section in this chapter.

**Shading with Architecture**

During three field trips to Merida in the summer season, the extreme of hot temperatures was observed. Differences in temperatures in late afternoon from shaded courtyards to exposed streets were c. 14°F to 16°F. Enclosed spaces were at least as
warm and often warmer than shaded, open spaces, and were without the occasional breezes. That data imply the historical significance of shading in the built environment of Merida. There is field and documentary evidence of two principal architectonic shading systems: The first was angled shading from vertical planes, such as house and garden walls. Vertical walls were observed which provided a shaded line for pedestrian movement on all streets at most parts of the day in the Santa Lucía neighborhood, a mostly dense, low-rise, nineteenth-century neighborhood in the downtown.

It was noted that in Santa Lucía, as in all of central Merida, there are few projecting eaves typically. The author did not observe the sun directly overhead in Merida for extended periods of time, even in July. The sun angle and its movement combined with the heights of street walls to provide a shaded path, at times very narrow, on at least one side of street at most times of day, as observed by the author in July 1998, especially in Santa Lucía neighborhood. Pedestrians typically sought that shaded path. The evidence observed at Santa Lucía neighborhood is probably typical for all neighborhoods in the city center. The principal variable among neighborhoods is the height of enclosure walls. There is evidence, described by Millet, that building heights increased during the colonial period. In contrast, Modernist style residences are typically characterized by relatively low profiles.

The second architectonic shading system was the arcaded passageway within residence compounds which opened to the courtyard. As a defining characteristic of traditional architecture in Merida, as in all of Latin America, they are documented extensively. Their presence in the sixteenth-century Spanish core was reconstructed in Figure 3.2. There is some evidence of covered porches at courtyards (corredores) in
minor vernacular buildings. The study of colonial Hispanic residential buildings by Pacheco showed the open passage as a characteristic of even the smallest vernacular buildings. The author found evidence for them in some of the colonial buildings of minor vernacular type which are illustrated in other parts of this chapter. Late afternoon heat buildup observed by the author in Merida in July implied a major function for shaded, open porches as alternatives to enclosed rooms. There is no evidence in the built fabric of the city or in historical descriptions which contradicted belief that shaded porches were a major element historically in Merida's climate.

**Shading with Vegetation**

Vegetation is a second important type of shading associated with the historical built environment. Examples of its presence and its function as an urban component were observed in another part of the historical district, at the southern edge of the sixteenth-century neighborhoods of San Cristóbal and San Juan, in a zone of residences which combines modernist twentieth-century houses with some historical buildings, including several with early colonial characteristics. Houses of all types frequently contain densely-shaded rear gardens. Landscaping consists of both fruit and shade trees. Mature trees project outward over the garden walls, providing deep shade at the street. See Figure 7.1.

A typological characteristic in this zone of Merida was the shift of the proportion of uses from mostly residential to mostly or exclusively commercial, when the amount of shading was significantly less present. Vegetative shading acted as a marker which distinguished the edge between each principal type of occupancy. It was noted that the typical Hispanic pattern of residential functions mixed with community stores, small
FIGURE 7.1
Residential street (San Cristóbal). Dense vegetation overhangs a garden wall; the building is not otherwise noteworthy.
businesses, and vegetation was present in both Santa Lucia and San Cristóbal-San Juan when shading was present.

There is historical documentation that the courtyards of at least some Spaniards were occupied by orchards and gardens. Additional evidence has been examined in another chapter for orchards and gardens within the original suburban periphery. The temperature differential of c. 14° to 16°F between a shaded courtyard and an exposed street was described above. It documents the function of shade in the intense sunshine and tropical heat of Merida in July. No studies of shading in Merida have been encountered in research to date, although intuitive understanding of its function is obvious in the dense shading of elite neighborhood streets in Merida’s northern district. Shading shows evidence of being a major tool in allowing urbanization to survive in adequate comfort without mechanical cooling. Even now, there is evidence that many residents of the city do not utilize mechanical cooling for sleeping.

Shading with Street Trees

A variation of vegetative shading was the presence in Merida of planned urban promenades with street trees. Espadas documented the installation during the colonial period of tree-shaded promenades (alamedas) at several locations. The first such instance was the planting of shade trees along the present Calle 60 between the principal plaza and the Santa Lucia park in early eighteenth century. A more elaborate series of promenades was planned around the San Benito complex in 1788, reduced in scope in 1790, and constructed as shown on the 1864-5 Map. Those promenades in the historical district did not survive into the present day. The only row of street trees observed by this author in the historical district was along one block adjacent to the San Cristóbal church. See
Figure 7.2. Shading on major avenues in the contemporary, affluent districts north of the historical district was observed also.

Canopies of street trees had probably both Spanish and Maya precedents, in spite of illustrations of Maya public space by Tatiana Proskouriakoff and others which showed them typically devoid of tree canopies. Cogolludo stated that the former Maya ceremonial avenue leading from the Maya pyramid to the site of the Franciscan monastery was previously lined with ceiba shade trees.\(^{13}\)

In another example, the small municipality of Abalá, founded by Montejo the son in the sixteenth century, was observed for this study.\(^{14}\) There is evidence in the fabric of the church that the town had Maya origins, as noted previously. A roadway bypassed the plaza by one block and led to the colonial style *hacienda* of Yunkú. The width of the roadway between the property lines is approximately 20 English feet which matched approximately the colonial suburban streets around Merida’s Spanish core.\(^{15}\) The roadway is lined mostly with Maya style residences and dry laid courtyard walls. A dense canopy of fruit and shade trees fills the courtyards and projects over the enclosure walls. See Figure 6.1. The canopy resembles that observed in the southern historical suburbs of Merida. Along the roadway, the vernacular architecture is mostly Maya, and not Hispanic. It is evidence that the Maya vernacular possesses a function of shading streets, similar to the Spanish vernacular.

**Characteristic Two: Tectonic Detailing; Frugal Use of Local Materials**

This section analyzes components of the Hispanic vernacular architecture for repeating characteristics and verification of historical origins. This study will utilize two terms, “tectonic” and “frugal,” as defining characteristics of Hispanic vernacular
FIGURE 7.2
Portion of street adjacent to San Cristóbal Church, with street trees, uncommon in modern Merida.
architecture. The term “tectonic” describes the architectural expression or celebration of a structural member or of special stress points in the structural fabric. The term implies expressing materials, structure, and human craft skills in an aesthetic manner. The term is employed in this paper as it was described in the work by historian Kenneth Frampton. The second term is used frequently: “frugal use of local materials.” The term and phrase imply the economical utilization of building materials as if they are rare or costly. In colonial Merida, buildings were designed for long life and simple, inexpensive maintenance. They were constructed in a manner which facilitated expansion of the building, both upward and outward.

Frugality was described and implied frequently as motives for Spanish actions. A prime example was the reuse of shaped Maya stones. Their use is documented to save the labor of Maya tributary laborers, as well as other uses, described elsewhere. Palomar described the colony as poor, which implies that material costs were significant for the Spaniards. The first permanent buildings were small in size and ornamented with heraldic doorway carvings. That of the Montejo House was the principal example.

Vernacular homesteads for culturally Hispanic people in the early colonial period were described by scholars in Yucatan. The earliest detailed description was by Palomar, in about 1580 who wrote that Merida was “. . . well proportioned with good streets and house of lime and stone.” He stated that “the form of the houses of the Spaniards of this land is of low residences for the great heat which is produced and to enjoy some coolness and humidity . . . the houses are of rubble stone masonry roofed with flat roofs or earth roofs . . . they are good houses . . .” Cogolludo described the houses of Merida in 1656:
"The houses of the city are all of lime and work of rubble masonry (*mamposteria*): they are very showy, and of great liveability. They are all covered with flat roofs."\(^{19}\)

Cogolludo documented that the blocks in the Spanish *traza*, or central grid, were subdivided into one-quarter lots, as described in another section. Archaeologist and architectural historian Luis Millet stated in a conversation with the author in June 1997, that the early colonial vernacular typology consisted typically of one or two room buildings located at street corners as described elsewhere, and the room directly at the corner was typically a small family store, or *tienda*. The remaining portion of the house was devoted to the private life of the family. Outside of the enclosed masonry residence was a range of outdoor functional spaces. They could include an arcaded porch, or *corredor*, a Maya styled vernacular residential building, and smaller buildings for outdoor work activities. Each Hispanic homestead contained typically a well. These structures were the first permanent residences of the elite Spaniards. Those houses were often expanded or rebuilt to produce the mansions in the later colonial period.\(^{20}\)

There is evidence that the type of vernacular building became a standard for housing culturally Hispanic families of the city’s working and middle classes. It continued to be utilized as a type of vernacular architecture into the twentieth century in strongly working class neighborhood in the historical district, as will be demonstrated in this chapter. There are examples in Hunt’s study of seventeenth-century Merida, in which she demonstrated that the expansion of Merida’s population in the seventeenth century was characterized by the hispanicization of non-Spanish population sectors. Their adoption of Spanish culture and assimilation into the colonial mainstream was recorded among other ways by the appearance of significant numbers of Spanish-type houses of a modest scale in
the formerly all-American Indian neighborhoods surrounding the Spanish core. This phenomenon was found for both the buildings and for the method of dividing, and later subdividing, house lots. The houses described by Hunt were often one-or two-room buildings built of masonry.\textsuperscript{21}

Small houses of masonry in the suburbs probably succeeded and/or replaced thatched Maya-style buildings of mud-and-wattle or rough stone walls.\textsuperscript{22} Spaniards considered thatched houses to be temporary construction, as evidenced by Landa’s description of the building of the first capital at Chichen Itza: “...they quickly built a town, making houses of wood with roof coverings of certain palms and leaves...”\textsuperscript{23} A study of those buildings is outside of the scope of this paper.

**Typology Number One: Walls**

Palomar described houses for Spaniards in 1579 as being built with “rubble stone masonry [*piedras de mamposteria*]. Cogolludo described houses for Spaniards in 1656 as being “all of lime and stone, works of rubble stone masonry [*todas de cal y canto, obra de mamposteria*].”\textsuperscript{24} Numerous buildings in the center of Merida, whose construction was documented in the sixteenth century, possess walls whose stone construction was exposed, not covered with stucco. One notable example is the cathedral. Drawings of it in the nineteenth century imply that its stone masonry was exposed at that time, although archaeologist and historian Luis Millet stated his belief in a conversation with the author in July 1998, that it had been originally stuccoed, except for the cut stone portions of its central facade.\textsuperscript{25}

Exposed surfaces of those sixteenth-century buildings demonstrate a stone substrate which was constructed with relatively large stones, up to about one meter in
diameter, surrounded by a mix of mortar and smaller stones. A pattern resulted whose purpose appeared to be both decorative and frugal: it featured the larger stones while reducing the need for them by surrounding them with the mix of mortar and smaller rubble stones. See Figure 7.3.

Cogolludo and Landa both documented the reuse of Maya stones from the principal pyramid, which was located across the plaza from the cathedral site and which was designated early for demolition as a source for building stone for Spaniards. Cogolludo stated that the two principal pyramids, that of the plaza and that of San Benito "were so great that each building in the city was built with stone from them." Another section will examine a related phenomenon, the reuse of Maya stone for door and window casings.

Clarifying the meaning of "rubble stone masonry"

Mexican architectural historian Carlos Chanfón described and illustrated sixteenth-century Hispanic stone masonry. His illustration of early colonial rubble stone masonry was similar to but distinct from that described by Cogolludo. This author observed a dialog on the subject of rubble stone masonry between two architects in university teaching positions, one from Yucatan, the other a Spaniard teaching in the United States. That dialog clarified the meaning of the term, as described below:

The term mampostería was defined as "masonry which was placed by hand." The term implied that stones were placed carefully by hand and that their shapes would be approximately matched. It described also any masonry material, including brick or concrete block, placed carefully and in a workmanlike, skillfully crafted manner. The term "lime and stone" (cal y canto) identified the material, not the technique.
FIGURE 7.3
Chapel of the Hospital of San Juan de Dios, built in the sixteenth century (central Merida). The restored building retains the faces of the large rubble stones.
The author inferred from the definition and from the early colonial examples that the Merida typology of rubble stone masonry was a regional variation whose tectonic nature implied two colonial characteristics. First, since it was relatively generous in the use of lime mortar, that such mortar was relatively cheap and plentiful in Merida, in contrast to central Mexico, where lime was in short supply and high in cost, (as documented by Kubler.)

Second, the tectonic pattern achieved through the frugal use of relatively large stones showed evidence of an intentional pattern with aesthetic value. That hypothesis would only be reasonable if there were evidence that the buildings, or some parts of them, were retained with the stone substrate exposed. Alternatively, Spaniards may have stuccoed the rubble and lime mix surrounding the larger stones, leaving the latter exposed, as implied by the chapel of the hospital, constructed in the seventeenth century and extensively renovated, shown in Figure 7.3. Stone detailing in major monuments was observed as being similar to that in minor vernacular buildings.

The reuse of shaped Maya stones is extensively documented. Evidence of them in surviving colonial walls is the subject of another section. Nineteenth-century drawings show that the stonework was exposed in the cathedral walls. The author documented at least one exposed stone in the cathedral wall with clear evidence of prior carving. Another was documented in the Nun’s convent. See Figure 7.4. The best explanation of the evidence described above is that Spaniards intentionally retained exposed stone surfaces at some walls of monumental buildings as symbols of the prior origins of the stones. Conclusive evidence can come only from historical archaeology. Kubler implies
FIGURE 7.4
Nuns' Convent, built in the sixteenth and early seventeenth centuries (central Merida). There is evidence of the reuse of Maya shaped stones; the arrow marks an obvious example.
that rubble stone walls were stuccoed and that cut stone doorways, etc., were left exposed in his description of masonry crafting in Mexico City during the sixteenth century.  

There is evidence from selected examples that the phenomenon was present also at Merida, although it was not addressed in this study. Numerous pre-Encounter Maya walls of significant thickness were observed in the Merida region, and could be used in comparisons with post-Encounter examples. In order for such a hypothesis to be supported reasonably, it is essential that there be more examples of historical archaeology in Merida, like that performed at the walls of the Juárez building, to document the presence of shaped Maya stones and other data, which can build a case for definitive characteristics.

**Tectonic reinforcing**

Early colonial rubble stone masonry is characterized by structural reinforcing at points in which wall planes changed direction or were penetrated. The methodology was the use of shaped stone coursed corner reinforcing and shaped stone casings at windows and doors. The term “tectonic” implies the expression of structural components as the principal method of architectural expression, as cited previously. There is contradictory evidence about whether the rubble stone walls and shaped stone tectonic elements were actually visible at the finished building. Some field evidence demonstrated that at least some colonial carved stone reinforcing members were not covered with stucco, as described in another section. If the builders left them actually exposed, then the masonry was an example of “tectonic” architecture as defined above.

Corner reinforcing, as such, is not described specifically in the chronicles. Stone door and window casings were described by Landa and will be the subject of another
Both Cogolludo and Landa document in general terms the reuse by Spaniards of Maya cut stone. They described how stone was taken from two Maya buildings which were designated initially as sources for stone for Spanish buildings.  

Field observation of historical buildings: methodology

Evidence for dates and construction techniques was obtained frequently by an examination of the tactile characteristics. The surface texture of a natural or artificial building material indicates frequently the method of manufacture. The research methodology is based on that of preservation architect Herschel Shepard, who has examined construction methods and tools as evidence for probable construction dates. Shepard’s methodology had relevance in the author’s research in Merida. An example of textures is evidence of shaping wood beams with adzes and with power saws. When supported by other evidence, such tactile data could imply that the adzed member was shaped at an earlier date than the machined member. Similar examination are contained in individual building studies below.

House of the tailor, San Cristóbal

The tailor’s workshop and residence at the southwest corner of Calle 71 And 56 is an example of retardataire usage of the early colonial rubble masonry technique. It consists of a two-story building on a corner with exposed rubble stone masonry walls. Embedded in its wall is an historical plaque dated 1765. See Figure 7.5. The building possesses a concrete slab at the second floor. There is no evidence of a prior traditional floor system utilizing wood or steel rail joists. The building possesses cantilevered concrete balconies with precast balusters. The footprint is modest in size. It consists of one large room at the lower floor. It is, therefore, similar to the small footprints of early
FIGURE 7.5
Tailor's shop and residence (San Cristóbal). It is an example of retardataire masonry detailing in a probably twentieth-century building.
colonial buildings described by Millet and Bolio in conversations with the author in June 1997.

The evidence was confusing until a nearby building was observed. Its architectural facade and its masonry details were similar to the tailor’s workshop and residence, and it possesses a similar concrete slab. It is located on the same block as the tailor’s building. The evidence implies a twentieth-century series of two buildings constructed by the same stone mason. Their probable twentieth-century dates of construction were due to the following facts: The lot for the first was shown as unbuilt on the 1864-5 Map; the rubble stone masonry did not possess the careful patterns and the stone tectonic detailing typical of early colonial examples; and neither building was constructed consistent with a studied, revivalist style.

Using the method of examining materials and tools, they were twentieth century in construction. This assessment is consistent with the concrete slab floors which showed no evidence of a prior floor system. The plaque was probably attached to a previous building, or otherwise preserved when the site was unbuilt, as shown on the 1864-5 Map. Since the building is not an academic revivalist work, it implies that a tradition of rubble stone masonry had continued through time since the early colonial period.

The tailor’s workshop is an example of the frugal use of local materials, which implies the reason for the continuity of the tradition of hand-placed rubble stone masonry. It was probably a cost-efficient technique for a modest urban building in a mostly working class neighborhood. The set of two similar buildings implies small scaled land speculation by their builder, who could have been a stone mason. If the inference of land speculation is correct, then it would demonstrate continuity in San Cristóbal of a similar process of
land speculation and upward mobility described by Hunt for that neighborhood in the seventeenth century.\textsuperscript{33} As a note, there is evidence of land speculation in the San Benito district in the late nineteenth and first half of the twentieth centuries, as follows: The 1864-5 Map showed numerous footprints of courtyard houses. By the 1990s they had disappeared with few vestiges, evidence of an apparent continuing tradition of real estate speculation and urban densification.

**Typology Number Two: Door and Window Casings**

Landa described how the Franciscans at Merida occupied a large Maya platform on which was located a complex of abandoned, overgrown buildings. He stated that they demolished some and reused parts of them: 

\textit{... and we gave much stone to the [lay] Spaniards for their houses, especially for their doors and windows, such was its abundance.}\textsuperscript{34}

This author observed the results of a program of urban archaeology in June, 1997, in which the municipality opened the stucco on the exterior walls of the historic Juárez building. Photographs were made during the exploration. See Figure 7.6. By July, 1998, the building had been renovated, with open panels at portions of the walls, which allowed the stonework to be examined on a permanent basis. Many shaped stones within the walls showed characteristics of Maya shaping, as described below.

During field research in July, 1998, a series of stone door facings were examined for evidence of Maya craftsmanship at the stones. This evidence supports Landa’s description also about the reuse of Maya building stones during the sixteenth century. Such evidence also supports other data for an early colonial date of construction. Since
FIGURE 7.6
Juárez building (central Merida). Probable Maya stones, based on the smooth, slightly rounded faces, are revealed in a 1996 urban archaeology project.
Cogolludo stated that part of the great pyramid which faced the square still remained, reuse of Maya stonework probably continued throughout the colonial period.  

**Characteristics of Maya stonework: working hypothesis**

Maya shaped stones were examined at three sites; two were in the Merida region, Aké and Acanceh; and the third was the elaborate Puuc site of Kabah. At each site, there is evidence of shaped stonework. The stonework at buildings located upon pyramids at Aké and Kabah consists frequently of approximately square stones set into rubble walls as a facing veneer on a cementitious substrate. Openings observed are faced with shaped casings and have a distinctive texture. See Figure 7.7. The squared stones resemble stones observed in the wall of the Juárez building and shaped stones set into the walls of the cathedral. The casings resemble those in two door casings in the Laundry building. In the absence of archaeological excavation, the stones support visual proportions and textures of the hypothesis of this section.

The texture of the squared stone and the door casings at Aké and Kabah is an even one, without sharp markings which could be produced by steel tools. The surfaces are often slightly convex. Edges are lightly rounded, indicating weathering and the absence of cutting with steel tools. The finished wall was probably stuccoed, but that fact was not relevant to this study.  

A pair of door casings at the Laundry building in the Santa Lucia neighborhood show three types of evidence. First, the dimensions of the stones indicate that the lintel, or doorway header, had been raised. See Figure 7.8. Second, there are stones with two separate textures. One texture was even in nature, with a sand-like surface that matched the texture of Maya stones at Aké and Kabah. The second type of texture consisted of
FIGURE 7.7
Kabah, archaeological site. The minor building was an example of smoothed stones without carving.
7.8A
House at 464 Calle 61 (La Mejorada)
Characteristics: Stucco wall finish between original casing and present lintel location.

7.8B
House of the Red Cross (San Juan)
Characteristics: Weathered stucco on rubble between original casing and present lintel location.

7.8C
House of the Launderer (Santa Lucia)
Characteristics: Casing showed evidence that lintel and two top stones of side casings were raised and another stone was inserted at each side. The probable original stones were weathered with a sand-like texture, interpreted as being hand-smoothed with a stone tool. The probably later stones which were inserted consisted of sharper edges and angled tool marks, interpreted as the result of being finished with a steel tool. See Figure for the textures.

FIGURE 7.8
Three examples of colonial doorways whose lintels were raised.
innumerable shallow groove marks, all parallel sharply etched, and all angled approximately 45° from right to left. See Figure 7.9.

The only reasonable explanation is that the smoother, sand-like texture was produced by pounding, probably with another stone, and that the angled, sharply etched texture was produced by a worker swinging a hand-held steel cutting axe. There is no such angled, etched texture present at the stones observed at Kabah. A swinging stroke was observed by a mason at work in a restoration project directed by Luis Millet at Chi Chi, near Sotuta, July, 1998. The axe was called a “cincel” by the mason. Unfortunately, the work had just been begun and the texture was not observed. Additional research into stone shaping methodologies would be indispensable for future investigation of colonial doorway stonework.

**House of the red cross**

The red cross building contains two exposed stone door casings and exposed corner reinforcing. There is clear architectonic evidence of a historical phenomenon described by Luis Millet in a personal conversation, July 7, 1998. Millet stated that facades and openings of a taller or more vertical profile became fashionable later in the colonial period. Accordingly, doorways were reworked, stone lintels were raised, and the stonework at door casings and/or building corners was typically not matched between the original and later work. There was no documented reason for the building alterations; Millet assumed that it was fashion. He stated that the phenomenon occurred during the late seventeenth and early eighteenth centuries. At the red cross building the lintel was clearly raised at a later date. See Figure 7.10. The door casing contains a carved pedestal base of a European type. Since there was no evidence of such a base in the doorways at
FIGURE 7.9
Portion of doorway, Laundry building (Santa Lucia). It was built probably late in the colonial period. The upper stone’s texture has sharp-edged, diagonal strike marks, probably the result of steel tools. The lower stone is smoother and slightly convex, evidence probably of greater age and shaping with stone tools.
Legend
A. Corner room, principal block
B., C. Assumed rooms, principal block
D. Assumed porch
E. Secondary block
F. Garden

FIGURE 7.10
House of the red cross (San Juan).

7.10A
Floor plan.
FIGURE 7.10
House of the red cross (San Juan).

7.10B
Street facade.
Kabah or in the other Maya sites examined, the hypothetical European origin was reasonable.

Millet estimated that the building was built in c. 1670-1730, based on two characteristics: First, it was too remote from the Spanish core to have been built in the sixteenth century. The Hispanic vernacular architecture typology radiated outward from the Spanish core. The phenomenon described by Millet conformed to a similar process of in-migration and hispanicization in the seventeenth century described for Merida by Hunt. The second characteristic is the evidence that the original shaped stone lintel had been raised during the colonial period.

"Alfonso López" house

A second example, the "Alfonso López" house was examined for evidence of Maya stonework. One scholar, Pacheco, considered the building to have been built probably in the sixteenth century, based on documentation in Cogolludo that the block was given to López in return for demolishing the pyramid. Another scholar, historian Ancona Peón, stated that it was unlikely that the building was built before the seventeenth century. A field examination of stone trim supports Ancona’s hypothesis, as follows:

Two pairs of pilasters were examined at the former carriage entrance. The exposed stone pilaster had a European style base and a probably European egg-like cornice (no dart) at the spring of the arch. See Figure 7.11. Since the base resembles that of the red cross house, which was dated by Millet as late seventeenth/early eighteenth century, the preliminary result of the examination indicated that it was probably built after the sixteenth century.
FIGURE 7.11
"Alfonso López" house (central Merida). Flush plaster pier has an egg-like carved stone cornice.
Cogolludo documented extensive remains of the principal pyramid in the mid-seventeenth century, on the site of the house. Based on that data, on field observations, and on research by other scholars, the author estimates that the two-story house is probably no older than the late seventeenth century. In the absence of clear documentation, an urban archaeological investigation of the walls is needed for a convincing date of construction.

**Juárez building**

The Juárez building showed two characteristics of interest to this study. First, stones of probable Maya workmanship were included in the stones of the exterior walls, as shown in Figure 7.6. The squared profiles and the textures of most exposed stones matched those observed at pre-Encounter Maya buildings. One probable door casing contained a European style base. The wall detail implied rapid construction, consistent with the earliest days of settlement. Shaped stones were placed very haphazardly, and then covered with a very thick coat of stucco.

Second, the door casing showed evidence of a vertical reveal, to which the plaster was flushed. See Figure 7.12. The carving was very precise and very consistent with European ideas of how to terminate a coat of plaster. The carved stone door casing would have required significant time for crafting. Its careful crafting was not consistent with the wall and was, therefore, probably later.

**Typology Number Three: Roofs**

Palomar stated that the Spanish houses "were covered with flat roofs [azotea] or tamped earth [terrado], because there were not good tiles." The description of a flat roof system was a probable description of a traditional sixteenth-century typology of roofs.
FIGURE 7.12
Juárez building (central Merida). Reveal at right edge of doorway was obviously designed to be flush with the stucco finish.
in Yucatan. This author’s field observations of traditional vernacular buildings, built up to and within the twentieth century, noted that with few exceptions, they are flat and conformed to a repeating typology.

The traditional flat roof typology in the Merida region was a pre-modern type of concrete slab. It consisted of a row of wood roof joists over which were placed stones and a topping of concrete or cement plaster. Exposed sections of it were observed at sites where portions of roofs had collapsed or been demolished. The roof slab had the appearance of concrete mixed with large stone without metal reinforcing rods.

The history and technique of roofing was described by Millet who stated that the most costly part of colonial construction was the wood. The system employed a series of wall beams supported on cantilevered wall brackets. Joists spanned from beam to beam, but did not need to penetrate walls, which reduced the need for longer wood members. Millet stated that the system sagged typically over time, causing ponding and eventual hairline cracking, and slow decay of the wood members. Sagging of roof decks were repaired typically by a leveling coat of concrete and the jerry-rigging of new wood braces below, until the system began to fail over time, requiring replacement. An example was a probably colonial roof in Mani. See Figure 7.13.

Millet described how the bracket and wall beam system can assist dating estimates for undated buildings when its context is understood. The roofs slowly sagged, then failed typically over time. Details of replacement wall beams and brackets might be of a colonial style. Craftsmanship and materials can be utilized as supplementary evidence for estimated dating when considered with other evidence and when the use of systems and
FIGURE 7.13
Probably colonial house, Mani. Roof sag was noticeable.
the types of components over time are understood, based on a conversation between Millet and the author, July 1999.

Four traditional flat roof structures

This author examined a series of roof structures in order to document the theory described by Millet and expand the data base useful for all scholars interested in the subject. The presence of four typical details was studied in historical buildings for which there is some evidence for dates of construction. It is recognized that their presence was not an accurate dating tool, but that it could assist other evaluation.

Type One: This roof type was observed frequently in buildings with probable early colonial origins; the example is from the “Leaping Dog” building. It is illustrated in Figure 7.14A. It consists of a wall beam on brackets with *rollizo* roof joists, or peeled, unshaped logs of relatively small diameter (approximately 5 inches in most examples). It is highly improbable that present roofs are original. Millet believes that the detail was probably early colonial in origin, although its presence was not conclusive evidence of a building’s original roof structure. In the opinion of this author, it is the most “tectonic” in nature, signifying that the structure was expressed in an aesthetic manner, which is consistent with other early colonial building components, as described in this chapter.

Type Two: Millet identified another detail at an eighteenth-century *hacienda* named Chichi near Sotuta, consisting of large, shaped timbers with smooth faces and shaped edges. The surfaces appeared to be sawn, not adzed. Millet stated in a conversation at Hacienda Chichi, Sotuta, Yucatan, July 1998, that they were probably original to the eighteenth-century building. See Figure 7.14B.
7.14A
Distinguishing characteristics: Peeled log rafters on continuous wall beam supported by brackets.
Location of this example: Leaping Dog Building, originally built in mid-seventeenth century.
Floor to floor height at First Floor: 11'7" ±.

7.14B
Distinguishing characteristics: Peeled log rafters on individual brackets.
Location of this example: Foyer, Montejo House, originally built in mid-sixteenth century.
Other example: Chapel of the Hospital of San Juan de Dios, originally built in late sixteenth century.

FIGURE 7.14
Roof and floor details, colonial types present in Yucatan.
Type Three: Another detail was observed in early colonial contexts whose characteristics complied with Millet’s theory, stated in a conversation in July 1998, that colonial builders sought to minimize lengths of the more expensive wood materials. Consisting of *rollizo* joists placed directly on brackets, this detail eliminates the need of a wall beam. See Figure 7.22C. It was present also in the foyer of the Montejo House, although the elements did not appear aged and they are probably the result of a contemporary renovation.

There is a second example of interest. A very dilapidated roof structure, evidently near collapse, was noted through an opening at the red cross building. (Measuring was not possible at the locked, unoccupied building in June 1998.) Millet had described the building’s probable date of construction as being late seventeenth or early eighteenth century. He described evidence from the door casings that the roof had been raised at a later date. The roof was, therefore, probably no earlier than mid-eighteenth century in construction.

Flat roofs were described by Palomar as a characteristic of Spanish vernacular buildings. An example was examined at Hacienda Yunkú: The factory building was constructed probably in the nineteenth century, as stated by the owner, Ruth McMurtry. It was constructed in a retardataire colonial style to match the residence. Part of the roof had deteriorated and collapsed. The cementitious roof slab contained a mix of rubble stones encased in a concrete-like mass. As stated by Millet, the failure was evidently due to the sagging and eventual collapse of wood joists, which allowed the un-reinforced slab to crack and fall.
Type Four: Belgian and English railway rails began to be imported in the decade of the 1880's. Those rails were utilized also as ceiling joists. Numerous examples of their use was observed. See Figure 7.15. Where identifying style characteristics were present, buildings in which they were used are normally Porfírian, which corresponds to the date for importing Belgian rails. Millet cautioned dating by the use of rails: replacement roofs for older buildings often utilized the metal rails. An example was a row of buildings which faced the former San Benito open space not shown. Several contained steel rail roof joists. Millet stated in a conversation in July 1998 his belief that they were probably late seventeenth-century to early eighteenth-century in origin, but had been reroofed in the Porfírian period. A contradiction was encountered in the data at some sites. Examples were observed where some wall beams and brackets demonstrated characteristics of hand-hewing with an adze. They were typically present in a mix of bracket types including some shaped by machines. See Figure 7.16. The most reasonable explanation was that a partial roof replacement resulted in some original hand-shaped members being retained.

**Typology Number Four: Building Morphology and Proportions**

The morphology of the vernacular Hispanic homestead was described by Millet and others, and examined in another section. Research for this section was conducted in two studies: The first was an examination of a portion of the original Spanish core for evidence in the built environment of buildings comparable in size to one- and two-room Spanish early colonial houses, and the second study was an observation of a series of buildings in Merida and Izamal which showed evidence of early colonial footprints and architectonic details.
FIGURE 7.15
Residence (La Mejorada). The ceiling joists are steel railway-type rails.
FIGURE 7.16
Arcade, Cano building (central Merida). The brackets supporting the wall beam at the roof were a mix of styles and ages. That at the right appeared hand-carved.
The eight blocks surrounding the principal plaza were examined for evidence of former buildings which consisted of one or two rooms, one room of which faced a street corner. Here, two separate patterns were encountered. North of the plaza, most corner sites were relatively large rectangles. Buildings of probable colonial construction occupied several sites; others were occupied by later buildings. As examples, the Leaping Dog Building site is c. 19x25 M; the "Alberto’s" restaurant site is c. 24 x 30 M. The size of the sites similar to those implied the probability of large courtyard houses at those locations. See Figure 3.1.

The second type of repeating corner lot was one approximately 7 meters in width by about 10 to 20 M in length. That width was similar to documented examples of colonial residences one room in depth. The most reasonable explanation for them to date is that the small corner lots were originally Spanish houses of the early colonial typology whose cores, that included corner stores, were sold in real estate speculation as separate parcels. The remainder of the lots were developed in a process of urban densification.

**Juárez house**

The reuse of shaped Maya stones was documented as late as 1656 by Cogolludo, who stated that the great pyramid was not yet completely demolished and had furnished stone for most of the city. The best documented example of a Spanish vernacular house being constructed of those stones is the Juárez building, where urban archaeology in 1997 exposed walls built, without reasonable doubt, of Maya stones, illustrated in another paragraph. The most reasonable date of construction, based on the stones, was sixteenth or seventeenth century. Pacheco found historical evidence which supported such a date.
The original lot evidently was subdivided early in the city’s history, resulting in the non-standard configuration. The corner portion of the building conformed to a footprint of one or two rooms and measures c. 9 x 18 M. Pacheco showed evidence that the second floor was later. The ceiling was about 3.4 meters high and conformed to the “cup and saucer” proportions for two-story colonial building described by Pacheco, a term that describes low ceilings at first floors and much taller ceilings at second floors at examples where the first floor was probably early colonial.46

**Rubble stone house, San Juan**

The building is one of a series of probably colonial buildings observed on Calle 64, the old highway to Campeche, and close to the San Juan city gate, documented by Garcia Preciat as being built in 1690. The building shows evidence of an original core of probably three rooms on the corner. The building projected well in to the right-of-way of Calle 71. The building footprint and the clear width of Calle 71 matched the street and building footprint shown at the corner on the 1864-5 Map, evidence that the existing building was that shown on the Map. See Figure 7.17 for its neighborhood context and Figure 7.18A for its plan.

There is evidence of tectonic reinforcing at the corners. See Figure 7.18B. It demonstrated that the roof had been raised after the initial construction. It was probably similar in age, therefore, to the House of the red cross, whose construction was dated by Millet as late seventeenth- to early eighteenth-century (as cited previously). The street is commemorated by a plaque attached to the city gate and dated 1790. The facade aligned with another residence whose owner stated was constructed in the eighteenth century.47 The building is not occupied and was sealed from view. Roof and ceiling constructions, if
FIGURE 7.17

Portion of San Juan Neighborhood

LEGEND
A  "Blue House"
B  San Juan Gate, c.1690
C  "Rubble Stone House"
D  Shell Gil Store
E  "Woodworker's Shop"
A, B, C  Rooms, principal block (assumed)
D.  Secondary block
E.  Assumed porch
F.  Garden

**FIGURE 7.18**
House with rubble stone masonry (San Juan).

**7.18A**
Floor Plan. Wall thickness was assumed. Probable date of openings was undetermined.
FIGURE 7.18
House with rubble stone masonry (San Juan).

7.18B
Street facade. Shaped stone corner reinforcing was not continuous to the parapet of the corner volume, evidence that the roof was raised after initial construction.
surviving, were not observed. Available evidence supported the following hypothesis: The building was probably constructed initially prior to the street improvements dated 1790.

**House with cactus landscaping**

Another building in the southern edge of the former colonial suburbs was observed. Its owners stated in a conversation in July 1996 that it was “very old.” It showed clear evidence of an original one- or two-room core. It was located on a street corner, with an extensive courtyard which was walled and landscaped. See Figures 7.19A and B. It was well maintained by its owners.

The rubble stone masonry was skillfully placed and contained tectonic shaped stone door casings and corner reinforcing. The house projected well into the side street, Calle 73. The roof height was raised during the colonial period, which was demonstrated by the evidence that door lintels were raised, as described my Millet. The best explanation for the house is that it was probably contemporary with the Red Cross House and was an example of Hispanic vernacular buildings penetrating well into the suburban periphery, probably in the late seventeenth-early eighteenth centuries.

**Lugo house, Izamal**

A series of small vernacular style buildings was observed in Izamal. The Hispanic city was laid over a large Maya city center in the sixteenth-century, similar to that of Merida. It was settled initially by Franciscans, not lay Spaniards; the presence of a Maya community in the sixteenth century was documented by the *Book of Chilam Balam of Chumayel*. The study was made in order to observe evidence of continuity of the typology in the smaller city, as described by Bolio. Each demonstrated the compact early
Legend
G. Corner room, principal block  
H. Assumed room  
I. Assumed porch location  
J. Secondary block  
K. Garden

FIGURE 7.19
House with cactus landscaping (San Juan).

7.19A
Floor plan.
FIGURE 7.19
House with cactus landscaping (San Juan).

7.19B
Street facade. The roof of the front volume was raised probably after the initial construction, based on evidence from the door casing.
colonial footprint. Several possessed tectonic detailing at corners and openings of the rubble masonry walls.

The best example is the Lugo house which consists of a three-room core on a street corner of which one room a store. The main facade, which faced a street which led to the main plaza, tall in proportion, showed evidence of being raised later. One doorway was cased by shaped stonework, with evidence that the lintel was raised later. The owners stated in a conversation with the author in June 1997, that the building was “very old.” See Figure 7.20.

The roof was supported by an early colonial system of *rollizo* rafters placed over a wall beam supported on brackets. Evidence was observed that the brackets were machine cut, indicating the probability of reroofing over time. The detailing of the door casing and the proportions matches the red cross building, stated by Millet as being late seventeenth or early eighteenth century. Since Izamal was not documented as possessing a Spanish lay elite in the sixteenth century, the best explanation for its characteristics was that the city hispanicized over time and, by the late colonial period, buildings of a Hispanic type had appeared.

**Leaping Dog building: example of probable early-colonial elite house in the seventeenth century**

The “Leaping Dog building” is an example of a relatively large Spanish courtyard house, which provides a contrast to the Spanish style vernacular houses at the first phase of settlement. The example used was cited also by Pacheco. It is an example of the “cup and saucer” proportions described by Pacheco. The floor-to-floor height was measured by the author in July 1998, as approximately 3.53 meters. The floor system was the early
FIGURE 7.20
Lugo house (Izamal). The tectonic stone reinforcing at the corner and one door casing are visible; the door casing is evidence that the lintel was raised later.
colonial type with rollizos, wall beams and brackets, shown in Figure 7.14A. See Figures 7.21A and B. There was no evidence of tectonic detailing. The carved stone window trim was not tectonic in nature.

The window trim, a non-structural eyebrow arch with a pair of vertical mullions, was very common in openings of traditional style buildings in Merida. There is no evidence to date that the trim was colonial, although additional study is needed. At the Leaping Dog building, the arched stone window trim showed evidence in its attachment that it was added to the building at a later date, supporting the assessment that it is non-tectonic. The evidence did not contradict the owner’s and Pacheco’s estimates of an early-colonial date.

**Four Examples of Urban Infill Houses**

The last group of examples was a late colonial variation of Hispanic vernacular housing in the southern suburbs. Hunt describes the process of urban densification as the original one-quarter block lots were subdivided by their owners and sold for profit. A series of examples of buildings with probably late colonial dates of construction support Hunt’s evidence for the effects of urban densification during the colonial period. That series of buildings is variations of the attached, urban townhouse, usually consisting of a core of two rooms which faced the street. All of those observed are occupied by businesses at the present date. It is reasonable to infer that they conformed to the early colonial pattern described by Millet and consisted of mixed commercial and residential uses.

One of the group is located on a street corner, but it is not similar to the early colonial types. The others are located within the centers of blocks. The best explanation
Figure 7.21
"Leaping Dog" building (Central Merida).

7.21A
Street facade. Field observation of stone window surrounds showed evidence of steel tools and were therefore probably added later (not visible in photograph).
FIGURE 7.21
"Leaping Dog" building (Central Merida).

7.21B
Tectonic ceiling.
for this type is that all were infill housing, constructed as one-quarter block lots were subdivided as population and urban density increased. The process was probably a late colonial extension of the land speculation and upward mobility described by Hunt as occurring in the seventeenth century.

Three possess flat roofs and one possessed a clay tile roof. The latter type is present in Merida’s historic neighborhoods in small numbers. Three of the examples for this study are located along present Calle 64 in San Juan neighborhood; one is in San Cristóbal. A group of Hispanic vernacular colonial style buildings exists adjacent to and near the San Juan city gateway on the present Calle 64, the former Campeche highway, as shown in Figure 7.17. The gate was documented by García Preciat as being built in 1690; on it was a plaque which commemorated highway improvements in 1790. They are part of a row of buildings which appears without reasonable doubt on the 1864-5 Map, as indicated in the Figure.

**Blue house, San Juan**

The first of the group, a blue painted masonry row house, occupied by a business office, is located adjacent to and contiguous with the structure of the arch. The juncture of the house to the arch was examined by this author in June 1997 and showed clear evidence that the arch was built first as a free standing structure. The massive foundation needed would have required demolition of any adjacent building. Afterwards, the small row of townhouses was built adjacent to it. See Figures 7.22A, B, and C.

The house consists of a core two rooms wide with a rear addition one room deep and with a lower roof, probably the former porch. Since the two front rooms have similar doorways, it was probably a duplex residence. The building is constructed with rubble
FIGURE 7.22
Blue house (San Juan).

7.22A
Floor plan.

Legend

A,B  Rooms in principal block
C    Probable tenant space
D    Front garden
E    Secondary block of rooms
F    Rear garden
G    Shaft, Arch of San Juan
FIGURE 7.22
Blue house (San Juan).

7.22B
Street facade. The arched one-piece lintel showed evidence of machine cutting (not visible in photograph). The two doorways were probably access to separate cottages.
FIGURE 7.22
Blue house (San Juan).

7.22C
Tectonic ceiling, similar to Montejo House.
stone walls and rollizo roof joists. There is no evidence of tectonic detailing of an early colonial type. The building details supported a post-1690 date of probable construction.

**Shell Oil store**

The second building of the group, the Shell Oil Store, is similar to the blue house. It consists of a core two rooms wide with a rear addition; flat roof on rollizos; rubble masonry walls with no tectonic detailing. It projects into the normal street line by 1.15 meters. See Figure 7.23. It conforms to a uniform group or row of buildings shown on the 1864-5 Map. Some of that group were clearly rebuilt to align with the wider street line at a date after 1864-5. The best explanation for the building is that it was similar in date to the blue house.

**Woodworking shop**

The third building in the group is one whose core is a house two rooms wide with a clay tile gable roof and a timber framed rear porch. To that porch was added another, lower porch, resulting in a double width. The walls are stuccoed masonry with primitivist religious stucco images. The finish floor is located approximately one foot below the contemporary street level. See Figure 7.24.

The owner stated in a conversation with the author in July 1996, that the building was built in the eighteenth century and had been occupied by a convent during the early nineteenth century. A plague struck the neighborhood, resulting in the deaths of the nuns and the vacancy of the building for several decades. It was reoccupied in the 1920s. The difference between the building floor and street was the probable result of roadway improvements in 1790, documented by the store plaque mounted on the arch. It was the only house observed on the street which was below that roadway level. Two other
FIGURE 7.23
Shell Oil store (San Juan). The lintel shows evidence of being raised, indicating a probably later raising of the roof level. Projecting stones at the corner record probably an adjoining building, demolished later, whose replacement aligns with a street widening.
FIGURE 7.24
Woodworking shop (San Juan). A wood framed porch, two bays deep, was observed behind the front row of rooms, which face the street. Behind the porch is a canopy of large trees, visible in the photograph, which shade the work space.
buildings on that block were examined and their floor levels were flush with the street. Either the street dipped in front of the woodworking shop or the other buildings were all later. Millet stated his belief that the entire block was post-1790 in a conversation in July 1997. The recessed floor level at the woodworking shop implied that it was built before the other buildings. The existing data imply a date before 1790, which conformed with the owner’s statement.

**Welding shop**

The final example of infill buildings is a welding shop near the former San Benito. The building consists of vestiges of a pair of older rubble masonry structures connected by a contemporary metal shed, roof and walls. The rear structure was a free-standing rubble masonry service-type building. The two masonry portions projected well into the street line, evidence of a narrower roadway at the time of construction. See Figure 7.25A and B.

The line of the original street was adduced from the 1864-5 Map. The welding shop is clearly a vestige of a row of identical, repeating urban houses which existed in 1864-5. They were characterized by a row of service buildings dividing the courtyards into front and rear patios. The remaining vestiges conform exactly with the footprint at the row on the 1864-5 Map.

The principal distinguishing architectural characteristic is a rounded, recessed window. It resembles those in colonial churches in Merida such as the former Jesuit Church of the Third Order (not shown). The probable date of construction is adduced as follows: The public markets at San Benito and the San Cristóbal church were all built in the late eighteenth century. The welding shop is the remaining vestige of a probably late
FIGURE 7.25
Welding shop (San Cristóbal).

7.25A
Floor plan. Note: Vestiges of masonry components were observed wrapped by a modern metal roof and front. Dimensions of historical parts were adduced from photographs, the 1864-5 Map, and field observations.

Legend:
A. Probable original front
B. Portion of original block
C. Welding Shop
D. Original rear block
E. Probable colonial worker rowhouses, now demolished
FIGURE 7.25
Welding shop (San Cristóbal).

7.25B
Street facade. The jumbled forms were the surviving vestiges of a probably colonial row of working-class housing. The octagonal window was visible in the center, at an angle.
eighteenth-century row of worker housing with attached commercial spaces, built after the markets created demands for worker housing.

**Conclusions For This Section**

There is field evidence for a series of Hispanic vernacular houses with early colonial characteristics. The series supported a hypothesis that the early colonial typology continued to be constructed through time, especially in worker neighborhoods defined by upward mobility and hispanicization.

The study also supports hypotheses by other scholars. Notably, it supports the concepts of Millet and Bolio regarding a typical repeating footprint and retention of the colonial buildings in a smaller city. The study supports work by Hunt that demonstrated significant upward mobility and acculturation of working class people into the Hispanic mainstream in the seventeenth century. It supports also the statement by Miguel Bretos, cited previously, that many buildings in Merida possessed retardataire characteristics.  

**Characteristic Three: A Method for Sustaining Urbanism**

Early colonial descriptions of Spanish acts associated with the design and function of buildings emphasized both pragmatism and frugality. Evidence has been presented in other sections for a series of examples. Some examples include reuse of Maya stone and the reuse of a Maya urban site; designs for residences were based on criteria which included the saving of labor, the moderation of climate, and the combining of economic with residential functions in their houses.

The hispanic vernacular architecture was characterized by a frugal use of local materials. Imports of building materials were reduced by the use of the construction techniques. The homestead was in fact a means of production. Palomar described
numerous Spanish fruits and vegetables which flourished in Yucatan if irrigated. The statement implied that they were grown in Spanish homesteads. There was evidence that Spanish homesteads possessed water wells typically.\textsuperscript{53} That fact supported inference that vegetable gardens were located within the Spanish homesteads. He also stated that some Spaniards possessed vineyards in their residences.\textsuperscript{54}

The hypothesis is supported further by implication: Palomar described an assessment of the Merida region's ability to support agriculture and livestock ranching. Hunt described upward mobility in the seventeenth century by way of real estate subdivision and speculation; that upward mobility included working class, hispanicizing peoples in the non-elite suburbs.\textsuperscript{55} Both of Hunt's characteristics were economic and were associated with the physical environment.

That frugality and pragmatism was consistent with Spanish description of the poverty of the colony. The data imply the following hypothesis: Frugal, pragmatic design was in fact a methodology to serve the common good of Spaniards in Yucatan. That common good was defined by the late feudal system in a land with few human or natural resources of the type expected by Europeans.

**Evidence that the Spaniards Intended the Colony to be Permanent**

This section will show argumentation that the city was a type of sustainable urbanism. It is necessary first to demonstrate that Spaniards intended that the colony be permanent. All available evidence implies that the perceived purpose was to settle permanently. The King's instructions to the Adelantado were specific: he was to "conquer and settle."\textsuperscript{56}
The documentation for the first two capitals is not adequate to support belief that the conquerors intended to settle permanently. That motive was, however, documented clearly at the settlement of Merida. Cogolludo described how the first act of founding the city was to locate a church site, "in order that the said city of Merida should not decay, and should continue permanently..." Further evidence was in another description by him: The purpose of the formal city plan was to remove risk and allow the settlers to build permanent houses, and cease living in a settlement like a military camp. The evidence implies that most Spaniards in Yucatan intended to settle permanently, even though several are documented as returning to Spain later. There is evidence that Spaniards perceived the Yucatan colony to be poor in resources and, by implication, that their homesteads were part of a conscious methodology to sustain themselves in such a colony.

Vernacular Architecture and Sustainable Urbanism in Yucatan

The second general characteristic of Merida’s Hispanic vernacular architecture was its function as part of a "de-facto" methodology for sustaining urbanism in a hot, tropical environment with no commercially valuable natural resources. The idea of sustainable urbanism is hereby defined for the purpose of this paper: It is a permanent system which supports the subject urban culture within reasonable limits by way of a frugal use of renewable or plentiful local resources.

Sixteenth-century Spaniards recognized that Yucatan possessed no minerals which commanded significant value within the European commercial system. Landa described the lack of gold and silver in the Yucatan colony. Palomar examined its viability in terms of sustaining Europeans by way of exporting products of modest value, mostly obtained from feudal tribute, within the Spanish regional economy in order to purchase merchandise
from New Spain, which was by implication that merchandise whose production in Yucatan was not possible.\textsuperscript{58}

The logic of the Hispanic settlement pattern was not clear to the author until it was examined in association with the typology of Hispanic vernacular architecture. In conjunction with the vernacular architectures, the settlement pattern showed significant evidence of being a reasonable methodology for sustainable urbanism in a hot, tropical climate with modest commercial resources. That conclusion is the best explanation for the available evidence.
NOTES

1. Hunt described a process of cultural hispanicizing and upward mobility among people of modest or non-existent assets during the seventeenth century. She described examples of poor people, often women, who were born with no assets of a European type. During a lifetime of work and investments in small plots of agricultural land, those poor people utilized the Hispanic commercial system and its component of urban and rural land speculation. Wills from a series of individuals were described which recorded modest assets (410-415).

The process implied sufficient hispanicization of the documented individuals to allow participation in Hispanic commercial agriculture and land speculation, both urban and rural. The numerous examples cited by Hunt implied that the phenomenon was relatively significant in scope. Many of the people documented were non-Spanish in descent. An example was property owners in the neighborhood of San Cristóbal. Hunt stated that “In the latter part of the seventeenth century, most of the property surrounding the Franciscan convent belonged to pardos, mestizos, and creoles” (232).

Markets began to develop outside of Yucatan after 1650 for the province’s basic agricultural products. Hunt described small country estates as being “…the property of nearly everyone in the Spanish world except encomenderos [including]…women, servants, artisans…free blacks,…and slaves” (410). She then documented a “proliferation of small estates” in the second half of the seventeenth century, which was evidence of the small owners to “accumulate enough capital…to enable them to rise somewhat above their status” (411).

Hunt then described a small estate, probably near Merida, owned by a man named Juan Muñoz, a mestizo or Spaniard of modest means, and his wife, a mulatta woman. Their total assets included the small parcel, several horses, beehives, and two lots in town. The assets were valued at $350 (411-12). That compared to the large estate of Huayalceh, whose land and improvements were valued at $2,000. The latter value was “less than the price of a moderate house in town” (403). Hunt then described similar examples in smaller towns in Yucatan.

2. Minor civil architecture in the colonial period in Merida was examined by Martha Pacheco León in “Estudio Tipológico de la Vivienda Colonial en Mérida (Master’s Degree Thesis, Facultad de Arquitectura, UADY, October, 1997). Studies of colonial architecture and building technology relative to Yucatan which provided a

3. Two existing colonial archives in Merida were examined in July, 1998. The first was the Acuerdos de la Junta Municipal de Mérida (Accords of the Municipal Council of Mérida), housed in the Hemeroteca Pino Suárez. The earliest folio of documents was *Sello Quarto, VII Quartillo, Sello 1788 & 1789*. The second colonial archive was the Archivo Notarial del Estado, Protocolo (Notarial Archive of the State, Protocols), located in the Judicial Power Precinct Building. The earliest surviving acts in that archive, called the “protocols,” were in the volume entitled *Sello Tercero Un Real*, dated 1688 and 1689. Cogolludo documented the loss of the founding documents from 1542 by the time of his research and writing in 1656 (I: 256).

4. An example was the drawing “Calle” by D. Charnay (repub. in Antichiw, 70). See Figure _____ for an example of blocks from the 1864-5 Map in which coexisted Hispanic and traditional Maya vernacular buildings.

5. An extensive visual and photographic survey of the historical district was performed during field visits in July, 1996; June, 1997; and July, 1998. A small number of Maya vernacular houses were observed in the modern suburbs, usually used as workshops or equipment storage areas. The only reasonable explanation for the modern scarcity of the type was that they were no longer viable residences for working class people. Reasons for the abandonment of the type by Merida working class families was outside of this paper’s scope.

6. Palomar, 46.

7. Ibid., 69-70; 46.

8. An example was the foyer of Hotel San Juan, a surviving part of a probably Porfirian residence, dated by the presence of steel railway joints as late nineteenth century. The building height was typical on its street; there were no overhanging eaves.

9. Numerous examples of arcaded passages were documented by Pacheco. She showed a typical example of them (148).

11. Staff person, Hotel San Juan, in a personal conversation, June, 1997.


13. An example of a drawing by Proskouriakoff was that of Mayapan (repub. in Tizimin, viii, courtesy Peabody Museum, Harvard University). There was no vegetative canopy shown in the public space enclosed by a complex of buildings. Cogolludo, Graz: I: 287.

14. The foundation of the township by Montejo the son and the seventeenth-century date for the church were documented in the governmental publication Los municipios de Yucatán, coordinated by Roberto Galván Ramírez (México, DF: Talleres Gráficos de la Nación, 1988). A carved Maya stone in the fabric of the church was photographed on July 15, 1998.

15. MCL paced the dimension in Abalá, July 15, 1998. The dimension (c. 20’) compared to streets south of San Benito complex, illustrated on the 1864-5 Map. Streets scaled typically between approximately 6 and 15 meters; 8 meters was normal downtown streets; and 3 meters was usual for the homesteads with mixed Maya and Hispanic building footprints.


18. Palomar stated Merida was “well proportioned” (11:54). He described the form of the houses (11: 69-70).


20. An example was the Juárez building, cited by Pacheco (102-4, 201).

21. Hunt described housing for poor people in Merida in the seventeenth century. They lived in “... what can be best described as stone huts modified to suit the Spanish way of life” (205). That description matched basically the one- and two-room rubble stone cottages described by the chroniclers. She documented the subdivision of the original lots (“solares”): “Moreover, fragmentation of lots was quite advanced, because the sale of a half solar, or a quarter solar, was not uncommon” (212).
22. Hunt described Santa Lucía neighborhood in the seventeenth century: “Most houses... were one or two room stone and mortar...” (218). She described a process in which culturally Hispanic people from the Spanish city center settled in the formerly segregated Mesoamerican neighborhoods. The first suburban neighborhood to become Hispanicized was San Juan (209-213).

That process implied replacement of Maya vernacular buildings with Hispanic types. The predominance of Maya vernacular buildings in the historical suburbs into the twentieth century was documented by Hansen (130).


24. Palomar described masonry houses (11:70). Cogolludo described the same buildings (I:365).

25. An example of a drawing which implied exposed rubble stone masonry was “Catedral de Mérida,” by A. Schott (orig. pub. Paris, repub. in Antochiwiw, Plate 34).


27. Carlos Chanfón Olmos and Susana Chanfón Kung stated that “[a] wall of “mampostería,” or rubble stone masonry... in the sixteenth century frequently used material from the demolition of prehispanic buildings, which is easy to detect” (48). The accompanying illustration resembled the walls of Merida’s sixteenth century Chapel of the Hospital of San Juan de Dios, except that the larger stones in the latter were surrounded by much smaller stones. That detail resembled another described by Chanfón, in which the placement of small stones in the joints was called “rejoneo” (49). Cogolludo stated that the Chapel of the Hospital was “mampostería,” or rubble stone masonry (I: 381).

28. The technical and tectonic nature of “mampostería” rubble stone masonry, especially in a colonial context, was the subject of a conversation among Ginés Laucirica Guanche, Architect and Professor, UADY; Alfonso Pérez-Méndez, Spaniard, Architect and Professor, UF; and MCL, at Hacienda Yunkú, Yucatan, July, 1998. The statement in the text was a summary of the comments of the first two people.


30. Ibid.

33. Hunt, 231-5.

34. Landa in Ry, 13: 362.


36. A portion of the principal Maya pyramid in the Indo-Iberian town of Acanceh was observed, July, 1996. It consisted of a stepped wall, at which a remaining vestige of stucco was attached to the shaped stone substrate.

37. As one example of the cultural syncretism, Hunt described a two-way assimilation between the closest culturally-Maya neighborhoods and those further outward, in which Maya workers migrated into the more central neighborhoods as another group of hispanicized peoples moved outward to take advantage of commercial opportunities (237).

38. Pacheco argued for a probable sixteenth-century construction date (94-5). Cogolludo documented the granting to López of the block (I: 283). Dr. Juan Francisco Peón Ancona stated his belief in a seventeenth-century date in a personal conversation, Hemeroteca Menéndez, Merida, July 8, 1998.

39. Cogolludo described the extensive remains of the pyramid in 1656 (Graz ed., I: 406). The lot for Alfonso López was documented at that location (Ibid., I: 283). The house was built, therefore, at least after 1656.

40. Palomar, 11:70.


42. Pedro Echeverría V., “Las haciendas henequeneras en Yucatán,” Cuadernos de Arquitectura, 1:44.

43. The example shown was a portion of an arcade, whose construction in 1783 was documented by a probably contemporaneous stone wall plaque. One hand-hewn bracket was visible; it was the most deteriorated one present. Its condition implied that it was older and was retained at the time of a roof reconstruction. Such a reconstruction was probably of the type of periodic replacement described by Luis Millet in a personal conversation, July 7, 1998.

44. Cogolludo described vestiges of the pyramid (Graz: 1: 406). He stated that its stone supplied most Spanish buildings (1: 267).

45. Pacheco, 105.
46. Pacheco described an example with the “taza y plato” configuration, 111. The roof height of the Juárez House was estimated, based on a field photograph for this study.

47. The owner of the woodworking shop stated his building was eighteenth-century in a conversation in July 1996.

48. Landa described construction by Franciscans which was laid over the Maya base (RY, 13: 358). Chumayel documented the Maya city (131).

49. The name was described by the building owner, attorney Mario Fernández, in a personal conversation, Merida, July 9, 1996, as follows: The historical street corner was entitled “The Leaping Dog;” the name of the building was, therefore, “The Leaping Dog Building.” Pacheco described the building (111-12).

50. Hunt described the densification of the urban center as population grew in the seventeenth century. An example was the demonstration that residential lots were subdivided for resale as the population grew (187).

51. García Preciat stated the date of construction for the gate (RY, 441). The plaque was observed in June, 1997. The text of the plaque was republished by Perry (91).

52. The construction dates of the markets was documented by Espadas (74). The church was completed in 1796, as documented by Perry (105).

53. Palomar described crops which flourished when watered (RY, 11: 60-62). Palomar stated that Spaniards drilled “many” wells, which implied that one was dug for each residence (Ibid., 11: 47). There was additional documentation of wells in Pacheco’s study. She quoted the testament of Mariano Suárez in 1819; a cottage on the property was documented as containing a well (130).


57. Cogolludo, I: 265.

58. Landa described the presence of gold and other riches in Peru and central Mexico (RY, 13: 354). Palomar assessed the resources for their ability to sustain the colony (RY, 11: 48).
CHAPTER 8
CONCLUSIONS

This dissertation demonstrates evidence for an encounter at Merida between two ideas of "city," two urban geometries and two related methodologies for sustaining urbanism in a hot, tropical climate with rocky soil, little water, and no mineral wealth. This paper then showed evidence that the physical urban fabric of Merida is a product not only of two abstract ideas of "city" and physical patterns and geometries associated with those ideas existing in layers, but that in selected parts the city is a product of the synergy between the two. To a significant extent, Merida is less like typical sixteenth-century Spanish settlements in the New World and is more like examples from a much smaller sample of places such as Cuzco, Peru, in which there is an encounter between the physical fabric of two urban civilizations. At both Cuzco and Merida as well as other places in the smaller sample, which includes Tenochtitlan/Mexico City, the Spanish city was superimposed over an existing Mesoamerican capital, vestiges of which were retained. Mexican scholars describe the phenomenon of the syncretism of two cultures as "Indo-Iberianism."

At Merida, the evidence is less apparent than at Cuzco, because there are almost no remaining vestiges of monumental Maya buildings, as there are in smaller places in Yucatan, such as Acanceh, Izamal, and Aké, where the record of Spaniards overlaying Maya cities is quite clear and remarkable for the relationships between the two geometries.
and two ideas of "city." At Merida the evidence is principally recorded in the grid and to a much lesser extent in the individual stones from Maya buildings which were reused by Spaniards in their buildings.

The Spanish city, with its repeating, rectilinear grid, monumental core surrounding a plaza, and its partly-agricultural periphery of worker suburbs and common lands, was laid over an abandoned Maya city center. Evidence was shown that the physical form was shaped in part by the existence of a sixteenth-century Spanish idea of "city," which combined idealized geometric forms and patterns with an equally idealized social system for the designated citizens, who were initially all Spaniards.

The Spaniards described their settlement at Merida as a type of "republic," the Spanish idea of "republic" originated with the fusion between ancient Greek, ancient Judaic, and early Christian theology; evolved during the middle ages; and was a factor in shaping the fabric of the Spanish city. The Maya city was characterized by a monumental core of buildings, spaces, and avenues with probably cosmological significance, and was surrounded probably by at least one remaining Maya neighborhood of partly agricultural nature. The Maya center was associated with another idea of "city," that of the urban Maya. The Maya chronicles are poetical in nature; their definitions are not of a precise European type. They imply an idea of "city," which was comparable probably with the Spanish late medieval/early Renaissance concept of "republic." This paper showed how the Maya chronicles imply an intuitive concept comparable to the Spanish idea of the "common good," which defined the sixteenth-century Spanish idea of "city." Maya descriptions of urban space, duties of subjects to the commonwealth, and the cosmological
symbolism of the city geometry are similar to the European idea of “republic,” given this author’s ability to comprehend Maya texts.

**Two Encounters**

**The Spanish Encounter With Mayas: Symbol and Paradox**

Spanish documentation of their settlement in Yucatan was characterized by three major themes, each of which was paradoxical. The first was the Spanish belief that their presence in Yucatan was “conquest,” even though their own descriptions of their settlement and descriptions by Maya chroniclers showed that it was essentially an alliance between two probably equal parties, the western Xiu Maya and the heavily armed Spaniards. In spite of their arms, the Spaniards never conquered major Maya armies in determined combat until after their strategic alliance with the Xius, who were traditional enemies for religious and other reasons of the eastern Maya Itzas. The Xius accepted the religion of the Spaniards in a dramatic gesture on the steps of the abandoned great pyramid of Merida/Tihoo; that act was shown by the scholar Farriss to be probably a strategic act to serve Xiu interests in the endemic warfare between them and the Itzas.

That conclusion is implied also in Spanish chronicles, which describe the continuing friendship of Tutul Xiu with the Montejos, as long as the Spaniards fought well against the Itzas. That thesis is supported further, though indirectly, by the Maya chronicles, which clearly describe religious reasons among the Maya for welcoming the bearded strangers from the east and their religious faith and combining it with their old faith, in a manner which defies logical understanding to the author.

The second major theme in the Spanish encounter with Maya culture was Spanish fascination with and study of Maya architecture, especially the crafting, esthetics, and
scale of monumental Maya buildings. The Spaniards recognized furthermore Maya urbanism and civilization as a type of "republic," the Spanish term for urban civilization, with its long Mediterranean and European traditions. Spaniards retained a series of components of the Maya city, and demolished others, for reasons of pragmatism and symbol. Two types of symbols were found which were associated with the Spanish intervention within the Maya urban fabric: the first was associated with attraction; the second with coercion. It was appropriate that physical evidence of those two types of symbols was found in the record of Spanish interaction with the Maya city, since those two paradoxical responses were present in most recorded Spanish acts associated with Maya peoples. The third major characteristic was the conscious evaluation of means to sustain the colony utilizing the human and natural resources in a strategy which was late-medieval in nature. The physical form of the city was an element of that strategy, as is summarized in another paragraph in this chapter.

**Maya Perceptions of the Encounter with Spaniards**

There is documentation of the Maya perceptions of Spaniards, the Spanish city, and the city's physical fabric. Maya believed that their relationship with Spaniards was an alliance among equal parties, not "conquest." The Maya were probably not romanticizing that relationship in the initial period. In the Maya documents, the Spaniards were described as welcomed by the Maya; the Spanish religion was adopted voluntarily and integrated into the old religion for prophetic reasons; and the Maya city never ceased to be Maya even with major Spanish buildings being built in the center. As a people who emphasized creating monumental architecture as much as the Spaniards did, the Maya documented Spanish architecture with much apparent interest, even as Spaniards
documented their interest in Maya architecture. When Maya documented their dislike of Spanish exploitation, implying that it increased as the colonial period progressed, their anger was not directed toward the Maya/Spanish city nor toward the great monuments of Spanish religious architecture.

**Similar Methodologies To Sustain Urbanism:**
**The Role of Vernacular Architecture**

The final theme examined in this paper about the encounter between Maya and Spaniards was the similarities between their respective urban methodologies for sustaining urbanism in Yucatan. Both Maya and Spaniards possessed methodologies for sustaining cities in ecologies of a hot, arid type, and, at Yucatan, devoid of precious minerals. A major component of those methodologies focused on the nature of vernacular architecture. The vernacular homesteads, which were the principal modules for settlement in both Maya and Spanish cities, were similar to each other: Each was partly agricultural in nature, which provided fruit and garden produce as well as shade to moderate the intense tropical heat. Both consisted principally of enclosed house lots with small enclosed buildings.

The homesteads possessed both productive and domestic functions. The economic function of the Hispanic corner tiendas was similar in nature to the outdoor cooking and workshop spaces of the Maya types. In both, the actual enclosed residences for domestic use were principally utilized for sleeping and storage; waking functions and activities were out of doors, and probably often in the public urban spaces, of which there was a wide range in both the Maya and Spanish cities.
A major characteristic of both Maya and Spanish vernacular architecture was the use of common, easily obtained raw materials in a frugal, tectonic manner. That resulted in an architecture with pragmatic and poetic characteristics: Vernacular buildings were crafted with local materials in a method to minimize the cost of the more costly ones (mainly wood). The craft process expressed the physical nature of the materials as well as their relative availability. It produced economical, durable structures affordable to workers as well as elites. The crafting of materials combined with methods for creating shade and moderating tropical temperatures. Both traditionally Maya and Spanish vernaculars became utilized together in at least the historical suburbs, if not in the Spanish elite core, probably by the seventeenth century.

By that date in Merida the Hispanic vernacular became preferred by hispanicizing, upward mobile working class peoples in the historical suburbs, as described by Hunt. Reasons are unknown; perhaps the Hispanic style became slightly more prestigious for buildings facing the street. What is more likely is that Hispanic buildings provided more security for storing possessions in the growing, diverse city, with its many immigrants from the countryside, as described by Hunt. As late as 1864-5 there is documentation that both Maya and Hispanic structures occupied parts of the interior landscapes of homesteads in the historical suburbs, along with gardens, orchards, and probably small livestock animals. That same pattern is still observable in all parts of Yucatan, except that the historical suburbs have become so urban in nature that no Maya buildings were observed still standing by this author in the late 1990s.
Characteristics of Merida

Continuity of the Monumental Core

The principal urban components of Merida consisted of two elements, the central plaza and the San Benito complex. This paper demonstrated the probabilities that both were also major parts of the Maya city. The chronicles of both Spaniards and Maya demonstrate that a significant point of mutual recognition between the two cultures was their enjoyment of monumentality and craft in architecture and symbol in urban geometries. Retention of parts of the Maya city was, as stated above, part of the paradoxical symbolism expressed by Spaniards. By the start of the seventeenth century, the Spanish monumental core was still in an architectonic relationship with the surviving Maya monuments, which were demolished one by one into the twentieth century. A reconstruction of Merida in 1610 is shown in Figure 3.2.

Merida: A Capital for Both Spaniards and Maya

Spaniards and the Maya Xiu city-state entered a mutually-beneficial alliance which permitted the Spaniards to settle and allowed the Xiu allies to retain dominance in Yucatan over their political and religious rivals, the Cocoms of eastern Yucatan. That dominance permitted Merida to be a designated Maya capital for religious functions, as well as for tribute to be received by Maya leaders. Maya paid tribute, therefore, to sustain both Spanish and Maya lords at the capital, Merida. The only detailed record of Merida continuing to act as a Maya capital was in the Maya literature of the period.

Two Feudal Systems

Evidence of late medieval Spanish feudalism is present in sixteenth-century documents, such as the King's instructions to Montejo for the establishment of the colony.
There are instructions to evangelize the conquered peoples in order to attract them into becoming the King’s “vassals, subjects, and natural peoples” and to the granting of lands to the Spanish conquerors, which resemble descriptions of feudal institutions in the Poem of the Cid and in the chronicle of James I, King of Aragon. The system was characterized by a reciprocal group of rights, duties and privileges. In exchange for armed protection by a feudal lord, the rural workers became designated serfs and gave to the lord yearly a tribute in cash or goods and a grant of labor.

In receipt of that, the lord granted protection and recognized a series of prescribed rights and privileges. Those rights were associated with land ownership, use of travel routes, the right to elected self-government in townships, and others. Basically, defense against enemies was exchanged for taxes and work levies in both medieval Spain and in colonial Yucatan. Glick documented how Spaniards typically shared the lands and cities with the conquered peoples, with notable exceptions, in which local groups were expelled. In Yucatan the Maya tribute supported the Spanish economy and Maya were therefore not expelled.

The Spanish system of *encomienda* was another variation on the feudal theme. Maya workers, already tributaries to the Maya lords in exchange for military protection and other rights and privileges, became tributaries to the new Spanish lords. Revenue from the tribute received from Maya serf peoples paid for European style merchandise not produced within the colony. Labor and tribute grants received by the feudal lords from the serf workers resembled the late medieval feudal system in Spain. The alliance between the Maya Xiu and the Spaniards assisted the latter in succeeding the old Maya lords as the new lords within the existing Maya feudal system. The Maya system of reciprocal rights,
duties and privileges, as described by Farriss, resembled the Spanish feudal system, even to the extent of a tradition of elected municipal government.

Spaniards were forced to recalculate the economic base of the colonial feudal system after their diseases reduced greatly the population of tributaries. The new economic methodology developed irrigated farming and the raising of livestock. The chronicles implied that the Spanish settlement pattern and type of vernacular architecture were integral parts in the methodology to sustain the Spanish colony and city.

Two Ideas of “City”

The philosophical/cosmological origins of the Spanish and Maya ideas of “city” were summarized previously. Each possessed detailed characteristics which acted on the physical form of the city. Among Spaniards, the formal founding of the city consisted of a series of sequential acts. The chronicles implied that the acts were each necessary parts of the intended municipality. The parts are as follows: The legal authority to found the city was declared and recorded; The city council and municipal government were officially named and empowered; A formal city plan was presented, approved and surveyed in the field. Lots for urban homesteads were granted to each designated Spanish citizen and a designated periphery of common lands and suburbs was surveyed. The geometry of the city plan possessed significance. It symbolized European civilization and municipal government in the Spanish tradition. There was evidence that it implied also the Judeo-Christian ideal of the New Jerusalem.

Maya narratives describe the Maya idea of “city,” in which a calendrical and cosmological system defined two types of designated capital cities. The first was the seat of a twenty-year cycle called a *katun*. Merida was that designated seat several times after
the Spanish settlement. Merida’s selection was affected by a political and religious rivalry between the Xius of western Yucatan and the Itzas of the east.

There was a second type of honorary capital, called “cycle city.” The term referred to a much longer cycle of about four hundred years. The “cycle city” received tribute from all Maya. Edmonson did not demonstrate any evidence that Merida was a “cycle city.” There were several physical, urban characteristics associated with Merida’s status as *katun* seat. They implied the presence of monumental planning and architecture.

**Two Physical City Plans**

Spaniards laid their new capital city over an abandoned Maya city center. The formal plan consisted of three distinct parts, each of which had distinct historical origins. The first part, which was the repeating rectilinear grid, was probably laid out in a symmetrical pattern surrounding the plaza with a square outline. The square shape was a probable symbol of the idealized Judeo-Christian New Jerusalem. Geometric analysis of patterns in the Spanish grid showed evidence of an original 3-block by 3-block survey, followed by an outer perimeter of blocks. If that actually occurred, then it would have resembled a pattern associated in other ways with the Adelantado Montejo. The second part of the Spanish city plan was the subdivision of blocks into one-quarter block homestead lots. The third part of the Spanish city plan was a dedicated periphery of common lands and suburbs. It was originally surveyed as 500 paces in width and it surrounded the Spanish core. This study examined the traditional neighborhoods within the probable limits of that 500-pace periphery. Part of it provided the city with fruits and vegetables.
Within the suburban periphery was the unique San Benito complex, a layering of a monastery, three churches and a walled military citadel placed over a monumental Maya building complex. There is some evidence that the urban space around that complex constituted a part of the original common lands. The idea of a suburban periphery had origins in the Spanish medieval period. The Spanish concept was similar to, or evolved from, a Muslim characteristic, which possessed religious imagery.

The Maya City Plan

Some evidence of the form and geometry of the Maya city emerged during an investigation of a series of anomalies in the Spanish grid. Three anomalies, or groupings of them, were identified. The first was a row of blocks in the Spanish core which was wider than the others. A description of it by Cogolludo allowed it to be understood as the result of the shape of the major Maya pyramid in the Maya city. The second anomaly was the actual orientation of the north-south axis of the city’s Spanish grid. It was rotated 12° East of north, a skew which matched a major group of Maya alignments documented by Aveni utilizing method from the discipline of archaeoastronomy; the skew is best explained as a vestige of the Maya city plan.

There was an investigation of a third group of anomalies associated with the San Benito District and its layered pyramid, monastery, churches, and castle. A drawing of the pyramid was made by Landa; other drawings exist for remaining portions. Other data, from Maya histories and from archaeoastronomy were present also. An examination of the data demonstrated first that a pair of streets radiated from the former San Benito and matched documented Maya alignments for ceremonial centers in other cities. They showed evidence of resembling descriptions in the Maya chronicles, parts of which
describe an urban complex similar in geometry to the radiating pairs of streets. A “mat” was described, defined also as a “throne” which was associated with the calendrical designation as a katun seat. There were also references to “four changes in the road.” Those descriptions imply a monumental Maya building and a special street geometry associated with a group of four streets, similar to San Benito, although definitive identification of the site is not possible without archaeological investigation. Finally, Landa’s sixteenth-century drawing of the Maya pyramid was examined as a drawing to scale and was found to correspond almost exactly with two of the points from which the streets radiate. The evidence is the most convincing possible in the absence of archaeology that the third anomaly was actually a significant part of the Maya city.

Expansion of Hispanic Vernacular Architecture into the Suburbs

Hunt documents the expansion of Hispanic vernacular architecture into the historical suburbs during the seventeenth century. She documented significant upward mobility and assimilation into the Hispanic mainstream of working-class peoples in the suburbs, associated with the expansion of Hispanic vernacular architecture. The peoples documented were socially diverse and often began their lives without material assets. Hunt demonstrated how the construction of Hispanic vernacular buildings was part of a methodology based on real estate speculation in which assets were created among people of modest means and no elite access to power. The significance of that socioeconomic characteristic for the urban built environment was that non-elite urban dwellers adopted the early colonial vernacular architecture of the elite Spaniards.

There were examples in which the early colonial vernacular continued as a method of construction into the twentieth century. Not only were the profiles from the early
colonial vernacular imitated to some extent, but also some of the old techniques were utilized. At one example, the early colonial building footprint and masonry wall construction was combined with a concrete slab for the second floor. Those examples were not examples of conscious revivalism of middle-class architectural styles. In examples of revivalism, details from the period of choice were imitated at a later time. The construction techniques did not conform, however, to those present in the earlier buildings.

Hispanic Vernacular Architecture

Early Colonial Homesteads and Later Urban Infill Housing

The surviving built fabric of the historical suburbs shows evidence of urban densification during the colonial period. It was associated to a significant degree with two types of Hispanic vernacular architecture. The first is the early colonial type, originally built and occupied by elite Spaniards. The second is attached infill houses, which are a variation of the first type. There are two defining characteristics of the early colonial vernacular architecture, and they are similar to characteristics possessed by the traditional Maya vernacular architecture.

First, the Hispanic vernacular architecture utilized local materials to a significant extent. That characteristic supported other evidence of a Spanish methodology to sustain their city and colony in a land with few highly-profitable natural resources. Several narratives about the use of local materials, including the reuse of shaped stones from Maya buildings, describe that use as serving, in effect, the material common good of both Spaniards and Maya tributary serf workers.
That use of local materials was characterized by crafting which expressed the nature of building materials and the structural forces acting on them. It resulted in an architectural vocabulary of tectonic details, including exposed roof joists and reinforcing in rubble stone masonry walls. The stones, frequently of Maya origins, were coursed into building corners and wall openings as reinforcing to compensate for the distinctive structural forces present at outside corners of buildings.

There is contradictory evidence regarding whether or not such tectonic detailing was expressed visually. Many colonial buildings were finished with stucco which would have covered stone reinforcing if it were flush with the rest of the wall. One example of a colonial carved door casing demonstrated an intention to expose the casing, which was evidence of at least some early colonial interest in expressing tectonic elements as parts of the architecture. The rubble stone masonry walls of the cathedral and their corner reinforcing are documented as being left exposed without stucco in the late nineteenth century. There was no evidence, however, of the same phenomenon at the Montejo house. Both buildings were built in the sixteenth century.

Another example of frugality as a design factor was the detailing of wood roof joists. A complex detail with much aesthetic attraction was present probably in early colonial buildings. It evolved as a method to reduce the lengths of the expensive wood joists, as described by archaeologist and historian Luis Millet.

**Hispanic Vernacular Architecture as a Methodology to Moderate Climatic Extremes**

The chronicles ascribe the design of Hispanic vernacular architecture to the need to moderate the tropical heat. Buildings were designed with relatively low roofs. Floors were not raised above the ground plane. Shading was another factor described or implied
by chronicles. Monastery orchards were described in early colonial chronicles. Their use for shading was not stated but was reasonably inferred: Dense, cooling shade is present in orchards in surviving sixteenth-century monastery compounds. Spaniards documented shading along a surviving Maya avenue at Izamal which was reused by Franciscans in the sixteenth century: the shading with ceiba trees was noted by Landa in the sixteenth century and Cogolludo in the seventeenth. Shaded urban promenades were the objects of Spanish planning in the eighteenth century in Merida, as a series of shaded walking routes were constructed, mainly at San Benito, and trees were planted along Calle 60 to create another promenade.¹⁰ There were gardens and orchards within the historical suburbs. Surviving residences with early colonial characteristics in the historical suburbs were observed for this study. They demonstrated dense shading from large fruit and shade trees which shaded and cooled the adjacent street. The factor of shading resulted from the probable main function of those orchards: the production of food to sustain the city.

**Future Research**

Work in this project implied several directions for future research which would reasonably expand upon the dissertation’s thesis, and would also be of interest to other researchers and readers interested in multi-cultural exploration of the theme of “city.” The first project which the author hopes to begin is a study which will support further the ideas of two Mexican scholars: investigate the urban fabric of two smaller cities in Yucatan which were founded in the sixteenth century by Spaniards and were physically laid over major Maya cities. The proposed study will explore the ideas of Edgardo Bolio and Luis Millet that early colonial Spanish cities of that type have retained a significant amount of their colonial Hispanic urban fabric over time. There is evidence also that they retained
major elements of the underlying Maya cities, probably for reasons similar to those studied at Merida. Such a study will be more than just repeating research which was begun in Merida in other places: the qualitative difference in the data, which is the quantity of Hispanic vernacular buildings in these city centers, may cause conclusions in this study to be revisited. The proposed project is summarized as follows: first, it would compare the distribution of early colonial vernacular type houses in the centers of two smaller cities with sixteenth-century origins. It would compare that distribution with the one-quarter block urban subdivision of Merida and study evidence of domestic orchards and gardens and corner stores. Preliminary research at Izamal showed much evidence of those phenomena in the city center, which is not present at Merida due to urbanization. The study would then study the grids for evidence of the incorporation of Maya avenues into the Spanish grid, as was done for Merida. Finally, the distribution of Hispanic vernacular houses would be studied in relationship to the originally Maya streets, which data are not available in Merida. The probable results are not anticipated, although preliminary research in Izamal showed much evidence that Maya avenues were preferred locations for Hispanic vernacular houses, for unknown reasons. Logically, they would have been sites for traditional Maya buildings and neighborhoods. They imply the Hispanicization of the original Maya elites. In order to support the study further, a preliminary field survey will be made of the locations and distribution of the twenty Maya pyramids at Euan, near Merida, in order to compare its configuration with the hypothetical Maya core of Merida, centered at the former San Benito complex, and Maya elements of Izamal and Valladolid.

The second type of research project implied by work in this paper is a proposal that Mexican scholars perform urban archaeological studies of buildings in the original
Spanish core which demonstrate evidence of Pacheco’s “cup and saucer” configuration.

There is some evidence that those buildings consist of sixteenth-century vernacular buildings of low roof heights over which were placed second floors with the taller ceilings of the later colonial period. An urban archaeological study would probably document early colonial origins for the lower floors and thereby demonstrate significant continuity for that typology over time in the original Spanish core, similar to the evidence for such continuity found in this study for the historical suburbs.
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BIOGRAPHICAL SKETCH

Mark C. Lindsay is a practicing architect in Alabama. After receiving a Bachelor of Architecture in the 1960's, he was a Peace Corps Volunteer architect in Colombia for three years. His work in Colombia, followed by visits to Spanish colonial cities in South America, generated interest in sixteenth-century phenomenon in which Spaniards frequently laid their cities over previously existing capitals built by native New World peoples. That interest led to an exploration in academic form of its component ideas. Lindsay received a master's in Latin American Studies in 1994 at the University of Alabama after approval of a thesis which studied locations of Spanish cities in Yucatan over or adjacent to existing Maya cities. Lindsay received a Ph.D. in Architecture at the University of Florida in May 1999.
I certify that I have read this study and that, in my opinion, it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.

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