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Architecture, Restoration, and Imaging  
of the Maya Cities of  
UXMAL, KABAH, SAYIL, AND LABNÁ  
The Puuc Region, Yucatán, México

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Annotated Bibliography  
The Puuc Region

This section includes publications on the Puuc Region. Because these often deal extensively with individual sites, some of these publications are listed also in the sections on Uxmal, Kabah, Sayil, or Labná. Most books on larger topics, such as the Yucatán, or Maya architecture, are listed only in those sections of the subject matter bibliography.

A

**Andrews, E. Wyllys, IV**

“Annual Report 1941-1942”. *Year Book No. 41*. Carnegie Institution of Washington. Washington, D.C.: Carnegie Institution of Washington, 1942.

**Andrews, E. Wyllys, IV**

“Explorations in the Gruta de Chac, Yucatan, Mexico”. *Middle American Research Institute*, Pub. 31: 1-22. New Orleans: Tulane University, 1965.

**Andrews, E. Wyllys, IV, and E. Wyllys Andrews, V.**

*Excavations at Dzibilchaltun, Yucatan, Mexico*. Middle American Research Institute Publication 48. New Orleans: Tulane University, 1980.

Although this 339 page books reports on excavations at Dzibilchaltun, a site considerably north of the Puuc Hills with a much more extensive occupation history,

the authors make regular analogies to Puuc architecture and indeed much is directly applicable. This book includes **a remarkably informative, detailed explication of the architectural components at Dzibilchaltun**, many of which are applicable to Puuc structures: materials and tools, masonry, substructures, superstructures, platforms, unvaulted structures, vaulted structures, specialized structures, building platforms, stairways, walls, doorways, wall sections and piers, wall openings, wall depressions, altars and benches, vaults, roofs, and roof structures, moldings, exterior decoration, interior decoration, raised causeways, cenotes and wells. There are excellent diagrams and photographic details.

Because no Pure Florescent vaults remain standing at Dzibilchaltun, the authors provide a detailed description of standing Puuc architecture. Most valuable is their **description of the (partly problematic) 3 stages in which these vaulted structures were constructed** (p.299).

### **Andrews, E. Wylls, V**

“Some comments on Puuc Architecture of the Northern Yucatan Peninsula”. *The Puuc: New Perspectives: Papers Presented at the Puuc Symposium, Central College, May 1977*, ed. Lawrence Mills: 1-17. Scholarly Studies in the Liberal Arts, Vol.1. Pella, Iowa: Central College, 1979.

Andrews first calls attention to the nature of recent research in the Puuc region. He writes that Puuc architecture has by then been extensively studied “with regard to style, distribution in space and time, construction techniques, formal arrangements, and possible external relationships” He adds that “studies have usually emphasized the architecture itself and its consolidation or restoration, rather than the broad stratigraphic excavations, settlement pattern studies, detailed analysis of artifact classes, and other facets of the prehistoric record that are usually incorporated in most modern archaeological field work”. His article is **prophetic in calling for the need for “a settlement pattern study of one or more of the large sites** that seem to pertain wholly or at least in large part to the period of the Puuc architectural style” (p. 1).

He then describes the ways in which the Puuc architectural style and technique of the Pure Florescent or Terminal Classic period differ from those of neighboring regions. Here he corrects a common error in publications by authors not familiar the Puuc architecture, noting that **Puuc vaults are not corbelled** and that this change in construction technique [we could add here Puuc improvement in the quality of concrete] permitted wider rooms. Importantly, he suggests that this may indicate that the width of Maya rooms had been constrained by their knowledge of structure rather than by convention.

The body of the article examines in detail the various types of evidence for the dating of Puuc style architecture and the relationship of Puuc culture to the culture of related regions. This is an exceptionally informed, critical review, frequently emphasizing conflicting or insufficient evidence. Two especially important questions reviewed in the body of the article are **the origins of the Puuc style and the relationship of Puuc sites to Chichen Itza**. Andrews concludes with a section on Coluba, a site about 85 km northeast of Chichen Itza, which he believes is already providing important evidence

about the Puuc-Toltec relationship. Illustrating his points with 11 excellent detail photographs of Coluba, Andrews points out many typically Puuc features. The strong similarity between one long, largely intact Puuc range-type structure at Coluba and the Nunnery at Uxmal argues strongly, in his view, that they are contemporary.

**Andrews, George F.**

“Architectural Survey of the Puuc Archaeological Region, 1984 Field Season, Preliminary Report”. *Arquitectura y arqueología / Architecture and Archaeology, Methodological Approaches in Yucatan Chronology*. Collection Etudes Mésoaméricaines, Ser. 2, Vol. 8. México: Centre d’Etudes Mexicaines et Centraméricaines, 1985: 5-11.

**Andrews, George F.**

“Architectural Survey of the Puuc Region: 1984 Field Season”. Report on file at Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1986.

**Andrews, George F.**

“Architectural Survey of the Puuc Region: 1985 Field Season”. Report on file at Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1986.

**Andrews, George F.**

“Architectural Survey of the Puuc Region: 1986 Field Season”. Report on file at Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1987.

**Andrews, George F.**

“Architectural Survey of the Puuc Region: 1987 Field Season”. Report on file at Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1988.

**Andrews, George F.**

“Architectural Survey of the Puuc Region: 1988 Field Season”. Report on file at Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1989.

**Andrews, George F.**

“Architectural Survey of the Puuc Region: 1989 Field Season”. Report on file at Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1990.

**Andrews, George F.**

*Architecture of the Puuc Region and Northern Plains Areas*. Vol. 1 of *Pyramids and Palaces, Monsters and Masks: The Golden Age of Maya Architecture. The Collected Works of George F. Andrews* (3 vols.). Lancaster, CA: Labyrinthos, 1995.

For any study of Puuc Region architecture, this is **one of the essential books**. It contains 7 papers by George Andrews, written between 1982 and 1993, arranged largely in chronological order. **Approximately half of the 350 pages are devoted to Andrews’ informative photographs, line drawings, and diagrammatic maps**. Given the quality of the author’s photographs, it is unfortunate that they are here reproduced so weakly, sacrificing much of the clarity and detail of the architecture. On the other hand, the author’s important line drawings come through clearly. These include many

diagrams of entire facades with overall outlines and primary shapes, knowledgeably reconstructed. These papers demonstrate how extensive on-site observations, carefully recorded and compared, lead to important architectural groupings and distinctions, **allowing more complex and more convincing hypotheses regarding chronology, relationships among cities and districts, and nature of culture and society.**

Chapter 1, “The Puuc Region and Architectural Styles: A Reassessment”. At 131 pages, this is the longest paper in the book. Andrews **distinguishes 7 styles**, which he discusses in chronological order: Early Oxkintok Style, Proto-Puuc Style, Early Puuc Style, Classic Puuc Architectural Styles, Mosaic Style, Late Uxmal Style, and Intermediate Style (non-conforming buildings). The architectural data presented leads Andrews to several tentative conclusions, some of which significantly revise and extend previous attempts to understand Puuc architecture, affecting origins, dating, influences, and relations with adjacent regions. There is an important 14-page appendix on 4 phases of Puuc construction technology.

Chapter 2, “Early Puuc Architecture: Buildings with ‘Broken’ Medial Moldings”, is **a 28 page paper on one architectural detail** found almost entirely on early Puuc buildings: medial moldings that rise above doorways. These include some buildings with roofcombs and some range-type buildings. Andrews also discusses some of the unusual geometric details used. In one of his few interpretive statements regarding visual effects, Andrews writes: “the broken medial moldings are extremely effective architectural devices in terms of drawing attention to the doorways below, indicating that the rooms behind had some special significance beyond that associated with any adjacent rooms” (p. 159).

Chapter 3, “Architectural Survey of the Puuc Archaeological Region: 1984 Field Season Preliminary Report”. This 7-page paper **reports on the study of 66 sites or parts of sites investigated in 1984.** As an addendum, the author describes “10 to 12 archaeological site . . . where important or unique examples of Puuc architecture are in imminent danger of immediate collapse “ (p. 166).

Chapter 4, “Classic Puuc Mosaic Style Architecture and Geometric Masks”. This is a fascinating 29-page description of the decorative motifs employed in the most famous Puuc style, with special attention to geometric Masks. Andrews describes the various mask types, based on 19 examples found at 15 different sites. He notes the **flexibility of the basic mask form** and that the most simplified, geometric masks “have the advantage that they can be elongated or shortened to fill the available space” (p. 196).

Chapter 5, “Ranking Puuc Sites”. Andrews reviews the bases on which previous experts have ranked the importance of Puuc archaeological sites and **proposes**, with explanations, **a revised series of bases for ranking.** One-third of this 38-page paper consists of lists of some 170 sites in the Puuc “heartland”, listed under categories such as “Sites with large pyramidal temples” or “Sites with small ‘Palace’ buildings”. Rank 1 consists of only Oxkintok and Uxmal. A special category, Rank 1a, consist only of Kabah. Rank 2 consists of 10 sites including Sayil. Rank 3 consists of 18 sites including Labná. Ranks 4, 5, and 6 include some 17 lesser sites. There are 3

important pages of conclusions resulting from this study, regarding such things as hierarchy of residential types and political structure within the Puuc.

Chapter 6, “Architecture in the Northern Plains Areas”. Andrews first distinguishes three physiographic subdivisions of the Northern Plains: “Coastal Beach and Supra Zone”, “Northwestern Coastal Plain”, and “Northeastern Coastal Plain”. Reviewing previous publications dealing with this area, Andrews proposes and describes the following five periods: “Early Period I (Early Classic Period)”, Early Period II) Late Classic Period)”, “Pure Florescent Period (Terminal Classic Period)”, Modified Florescent Period”, and “Decadent Period (Late Postclassic Period)”. He deals separately with radially symmetrical pyramids and megalithic architecture. These are followed by a section comparing Puuc and Pure Florescent Architecture, in which he makes important distinctions among types that have often been treated together. In a final section on Culture Periods and Culture Areas, Andrews again makes distinctions among areas that he argues have too often been homogenized.

Chapter 7, “Architecture at Chichen Itza: Cultural Spheres and regional Styles”, deals primarily with Chichen Itza, but approximately half of the chapter takes up “Regional Cultural Spheres”, “Maya-Chichen vs. Puuc Architecture”, and “The Chichen Itza-Uxmal Connection”. In both chapter 6 and 7, Andrews, successfully it seems to me, draws important distinctions between Puuc architecture the architecture of the northwestern and north-central plains areas.

“Summary”. In his summary, Andrews points out several of the important conclusions from his study. Most importantly, he draws an important distinction between an earlier and a later group of building in the Puuc region, based on style and constructions technology. He dates the change about A.D. 830, accepting a short transitional period just proceeding. He write that “the traditional image of a single, coherent classic style as delineating the entire Puuc architectural scene is clearly at odds with the data now available” (p. 111). He writes that “two distinctly different construction technologies were employed in Puuc architecture. . . These two generic systems are separated in time by a transitional construction phase that coincides with the Early Puuc architectural style” (p. 104). Andrews also writes: “The marked differences between the three earlier Puuc styles and the later classic styles is so great that the change must be the result of influences emanating from external sources” (p. 104).

Appendix I: “Puuc Construction Technology—Early to Late”. In an appendix, Andrews describes the different construction technologies for each of his building phases, with diagrams for each. Every distinction is important, but the most definitive again is the change from Early Puuc to Classic Puuc construction technology. He describes the Early Puuc system as “block wall and slab vaults” and the Classic Puuc system as “concrete walls faced with small, squared blocks and concrete vaults faced with wedge-shaped stones tenoned into the concrete behind” (p. 113). Quite properly, he objects to the frequent description of Classic Puuc vaults as “veneer-over-concrete”, whereas “the outer wall facing stones . . . are completely integrated with the wall hearting and can be thought of as a kind of permanent “formwork” that retains the concrete core while it hardens” (p. 131). Unfortunately, like others, Andrews does not

provide a convincing description of the way the impressive Classic and late Classic Puuc vaults were constructed.

### **Andrews, George F.**

“Architectural Survey of the Rio Bec, Chenes, and Puuc Regions: Progress and Problems”. *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula, Acta Mesoamericana*. Vol.7, ed. Hanns J. Prem: 247-288. First Maler Symposium, Bonn, 1990. Möckmühl, Germany: Verlag von Flemming, 1994 (2<sup>nd</sup> ed. 1999).

The result of years of careful study of the architecture of the Rio Bec, Chenes, and Puuc regions, this is **an extraordinarily detailed and systematic report of the basic architectural, construction, and decorative features**. Andrews first review previous research on the subject. He provides maps identifying the areas studied with their archaeological sites. He notes that “the density of sites for the Puuc region as a whole exceeds the density in any other lowland Maya region” and that the Puuc heartland (around Kabah, Sayil, and Labná) was the most densely populated of all (p. 253). Andrews then provides a chart of structural types and 2 charts of individual architectural features, divided by the regions listed above. He divides the Puuc into early and late to facilitate analysis of chronological change. This is a unique list of 34 individual architectural features, such as “large,  $\frac{3}{4}$  round corner columns”, “stone lintels over doorways”, etc.

Based on this comparative information Andrews concludes that (p. 260):

- (1). “Each region has one or more architectural forms which are unique to that region.” “In the Puuc region we find both free-standing portal vaults and portal vaults through buildings, as well as large palace structures in which a series of rooms are arranged around all four sides of a solid central core, and large (range)-type buildings with 10 or more rooms.”
- (2). “Some regions have decorative features which are essential unique.” “In the Puuc region, both Mosaic and Late Uxmal style buildings carry mosaic type, geometric façade sculpture of a kind that is not found in Chenes or Rio Bec buildings.”
- (3). “Some building forms . . . occur frequently in all four regions under consideration.”
- (4). Where “features . . . occur in varying numbers in all four regions . . . these overlaps suggest trends of developmental sequence.”
- (5). “Some indication of the direction of flow of influence (or lack of flow) can be gleaned from the charts.”
- (6). “The charts emphasize the great differences between the diagnostic features of the three early Puuc styles and those of the late styles. **The differences are so great that the change appears to be the result of influences from outside the Puuc region itself**. While many of the basic features of the classic Puuc Colonnade and Mosaic styles appear to be derived from Chenes and Rio Bec models, the Late Uxmal style shows influences which appear to come from either Central Mexico or Chichen Itza.”

Andrews also concludes that “**This level of consistency suggests an accompanying social order and political structure, at a regional scale, with the capacity of determining what is built, as well as where and how it is built.**” He writes that the data also “suggests that there is a south to north stylistic sequence” among the regions in his study. He specifies a number of current problems in understanding the chronological

and regional relationships among these zones and between these zones and other Maya regions. Andrews provides 25 pages of lists identifying basic features of regional and period styles for the regions studied. The final list describes 12 “Basic Architectural, Construction, and Decorative Features of Late Uxmal Style” (p. 287).

**Andrews, George F.**

“Chenes-Puuc Architecture: Chronology and Cultural Interaction”. *Arquitectura y Arqueología: Metodologías en la Cronología de Yucatán*. CEMCA Etudes Mesoaméricaines 2: 11-40. México, D.F.: Centro de Estudios Mexicanos y Central Americanos, 1985.

**Andrews, George F.**

“Classic Puuc Mosaic Style Architecture and Geometric Masks”. *Memorias del Primer Coloquio Internacional de Mayistas* (5-10 August 1985), ed. Mercedes de la Garza, et al. Instituto de Investigaciones Filológicas, Centro de Estudios Mayas: 403-426. México, D.F.: Universidad Nacional Autónoma de México, 1987.

A fascinating description of the varying forms of masks in Classic Puuc mosaic architecture. The author’s thesis is that “the geometric masks . . . were derived from the typical long-nosed mask panel through the process of simplification, elimination and substitution” (p.404). Andrews describes a progression of 18 buildings carrying geometric mask panels (including one each from Uxmal and Kabah and three from Labná) from the most recognizable to the most geometric and most variant. He notes that it would be convenient if these indicated a chronological development but that the existence of “both long-nosed and geometric masks . . . on the same building [demonstrates] that both forms are contemporary” (p.425). He indicates that “**the limited geographical distribution of geometric masks does suggest special political or family ties among the elite groups controlling these sites**” (p.425). The clarity of presentation, writing and illustration is exemplary.

In addition to **providing a schema for analyzing and understanding these mask forms**, Andrews notes which designs are most “effective” and “elegant,” not the type of statement anthropologists usually allow themselves. He even expresses one clear, though widely shared, value judgment: “the main façade of the Codz-poop at Kabah . . . has merely been covered with a kind of wallpaper; the repetitive [sic.] pattern may be decorative but the message is lost” (p.425).

**Andrews, George F.**

“Early Puuc Architecture”. Paper presented at the 43<sup>rd</sup> International Congress of Americanists. Vancouver, British Columbia, 1979.

**Andrews, George F.**

“Early Puuc Architecture: Buildings with “Broken Medial Mouldings”. *Cuadernos de Arquitectura Mesoamericana*, Vol. 5 (1985): 59-74.

**Andrews, George F.**

*Los estilos arquitectónicos del Puuc: Una nueva apreciación*. Colección Científica No. 131. Serie Arqueología. México, D.F.: Instituto Nacional de Antropología e Historia, 1986.

**Andrews, George F.**

"Puuc Architecture: 1985 Field Season". Report on file at the Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1986.

**Andrews, George F.**

"Puuc Architectural Styles: A Reassessment". Paper presented at the Symposium on The Northern Maya Lowlands: New Data, Syntheses and Problems, held June 1982. Mexico, D.F.: Universidad Nacional Autónoma de México, 1982 (published in *Architecture of the Puuc Region and the Northern Plains Areas*, Vol. 1 of *Pyramids and Palaces, Monsters and Masks: The Golden Age of Maya Architecture*, 3 vols., 1995: 3-132).

In the 1995 published version, Andrews **distinguishes 7 styles, which he discusses in chronological order**: Early Oxkintok Style, Proto-Puuc Style, Early Puuc Style, Classic Puuc Architectural Styles, Mosaic Style, Late Uxmal Style, and Intermediate Style (non-conforming buildings). The architectural data presented leads Andrews to several tentative conclusions, some of which significantly revise and extend previous attempts to understand Puuc architecture, affecting origins, dating, influences, and relations with adjacent regions. There is an important 14-page appendix on 4 phases of Puuc construction technology.

**Andrews, George F.**

"Xkichmook Revisited: Puuc vs. Chenes Architecture". *Cuadernos de arquitectura mesoamericana*, Vol. 1 (1984): 49-63.

**Andrews, George F., Paul Gendrop, and Juan A. Siller**

"Elementos arquitectónicos del Puuc Floreciente". *Cuadernos de arquitectura mesoamericana*, Vol. 5 (1985): 47-50.

**Arnauld, Marie-Charlotte, Pierre Bequelin, and Dominique Michelet**

"Fiabilidad de las observaciones de superficie en un sector del Puuc occidental?" *Memorias del II Coloquio Internacional de Mayistas*, Vol.1, ed. Alain Breton: 377-389. Mexico, D.F.: Centro de Estudios Mayas, Universidad Nacional Autónoma de México, Instituto de investigaciones Filológicas, 1989.

**Aveni, A.F. and Hamilton Hurst Hartung.**

"Archaeoastronomy and the Puuc Sites". *Arqueoastronomía y etnoastronomía en Mesoamérica*, ed. Johanna Broda, Stanislaw Iwaniszewski, and Lucrecia Maupomé. Chapter 7: 65-95. Based on a symposium held 24-28 Sept. 1984. México: Universidad Nacional Autónoma de México, 1991.

This volume publishes papers from a 1984 symposium organized by the Instituto de Investigaciones Antropológicas, Instituto de Investigaciones Históricas, and Instituto de Astronomía. The chapter by Aveni and Hartung is an update of his definitive



*Skywatchers of Ancient Mexico* (1980) and his 1986 article, *Maya City Planning and the Calendar*, both separately listed and annotated in this web bibliography. The argument is carefully reasoned and presented with histograms, charts, and ground plans of sites. Further investigating his observation that “all over Mesoamerica the axes that define the general alignment of ceremonial centers possess a clockwise (E of N) skew from the direction of astronomical north” (p.65), the author **notes three additional characteristics from studies of Puuc sites**. “Buildings often are grouped about a N-S axis;” “buildings in a given complex often face inward toward the center of that complex; and (quoted from Pollock 1980, p.652) “there is a tendency ‘for single structures and larger architectural complexes to face toward the ceremonial or civic center of the site’ (p.71). He notes that **these alignments must be deliberate and based on “astronomical causes, for there is no conceivable way of establishing identical absolute directions in space over so wide an area.”** (p.84). Aveni examines this phenomenon in detail in relation to the chronology of Puuc site development and in relation to the agrarian calendar.

### **Aveni, A. and H. Hartung**

*Maya City Planning and the Calendar*. Transactions of the American Philosophical Society, Held at Philadelphia for Promoting Useful Knowledge. Vol. 76, Part 7. Philadelphia: American Philosophical Society, 1986.

Aveni, sometimes jointly with other authors, has written more than 15 articles and 1 book on the astronomical orientation of Pre-Columbian, especially Maya, cities. *Maya City Planning and the Calendar* is a major, detailed study of architectural alignments in the Puuc region and what they reveal of the Maya solar year. The authors point out that, in comparison with other Maya sites, the Puuc region provides especially favorable conditions for such a study, because Puuc cities rose to prominence at approximately the same time over a relatively short period, are clustered geographically and share a unique artistic style. The authors provide a detailed, complex **astronomical argument for the similarity in alignment at most Puuc sites** (median 14 degrees east of true North). In addition to a description of the characteristic of Maya site planning and of Puuc site planning, the article **includes descriptions of some 10 individual site plans**, including those of Uxmal, Sayil, Kabah, and Labna. Each of these includes a full-page map and detailed description.

These are followed by sections on “The Question of Site Chronology”, “Calendrical Implications of Astronomical orientation Hypotheses”, and “A recapitulation: The Orientation Calendar in a Cultural Context”. There is an appendix of 3 tables: “Alignments of Major Maya Structures”; “Astronomical Alignments Marking the Solar Year at Uxmal”; and “Hypothetical Solar Orientation Calendar Centered about Zenith Passage Dates”. Includes an extensive list of references, happily focused on the subject of their article, also a geographical index.

## B

**Bacquelin, Pierre, and Dominique Michelet**

“En busca el contexto de florecimiento de la región de Puuc”. *Cuadernos de arquitectura Mesoamericana*, Vol. 10 (1987): 14-15.

**Bacquelin, Pierre, and Dominique Michelet**

“La civilization Puuc du Yucatán”. *Les Dossiers de l'Archéologie*, Vol. 145 (1990): 8-10.

**Bacquelin, Pierre, and Dominique Michelet**

“Introducción”. *Mayas del Puuc: Arqueología de la region de Xculoc, Campeche*, ed. Dominique Michelet, Pierre Becquelin, and Marie-Charlotte Arnaud: 13-24. México: Gobierno del Estado de Campeche, Centre Francais d'Études Mexicaines et Centraméricaines, 2000.

The authors describe **the advantages of studying the organizing unities of the Puuc Region**, in contrast to attempted studies of other Maya areas. First, occupation was concentrated between 700 and 1000 A.D. and dating therefore less problematic. Second, the climate restricted vegetation so that the structures remained more visible. Third, the region was more abandoned than others during the colonial period and therefore fewer stones were removed from the sites and less looting took place. Fourth, the characteristics of Puuc architecture facilitated the identification of its structural parts. The authors state that their study focuses on the small town of Xculoc, Campeche, studying the (in translation) “demographic, economic, social, and political conditions” (p.14).

**Ball, Joseph W.**

“Ceramics, Culture History, and the Puuc Tradition: Some Alternative Possibilities”. *The Puuc: New Perspectives: Papers Presented at the Puuc Symposium, Central College, May, 1977*, ed. Lawrence Mills: 18-35. Scholarly Studies in the Liberal Arts, Vol.1. Pella, Iowa: Central College, 1979.

Ball opens his article with a claim, shared by many, that “one of the New World’s great architectural traditions, the Puuc . . . has been considered by many to represent the peak of architectural development in Pre-Columbian Mesoamerica”. Because of this recognition, he considers that “the morphological characteristics of the Puuc architectural tradition have been adequately examined and described”. On the other hand, he finds that the Puuc ceramic tradition and that of closely related regions has been inadequately and often defectively studied. **“What most non-Northern Maya specialists still take for granted concerning the ceramic history of the Puuc in fact consists of little more than assumptions, speculation, and just plain guesswork”** (p. 18).

The body of the paper consists of a review of what is actually known about the ceramic history of the Puuc region, followed by the **presentation of 2 alternatives to the traditional reconstruction** of the Terminal Classic to Late Postclassic ceramic transition. Ball names these two alternatives a “partial overlap model” and a “total

overlap model”, both of which he presents as preferable to the traditional formulation. His paper includes 16 small, high quality, gray scale photographs of ceramics, 2 maps of the Yucatan diagramming lines of influence, and 1 chart comparing the traditional model with his two alternatives.

**Ball, Joseph W.**

“The 1977 Central College Symposium on Puuc Archaeology: A Summary View”. *The Puuc: New Perspectives: Papers Presented at the Puuc Symposium, Central College, May, 1977*, ed Lawrence Mills. Scholarly Studies in the Liberal Arts, No. 1: 46-51. Pella, Iowa: Central College, 1979.

In summarizing “the data, deliberations, and conclusions of the . . . Symposium”, Ball writes that “no true synthesis or outline presentation of these will be attempted in view of our inability to achieve consensus on a number of fundamental issues, among them the date of the eastern Puuc collapse; the temporal placement of northern plains wall-fortified Puuc centers; and the role played by the latter vis—-a-vis Chichen Itza and the indigenous northern plains Yucatec population” (p. 46).

He then proceeds to organize his comments around 3 chronological problems: the “Origin and Derivation of The Puuc Culture Tradition”; the “Termination of the Puuc Culture Tradition”, and “The Relationship of the Eastern Puuc Centers to Chichen Itza”. He reviews each of these in detail, noting areas of agreement but also areas where the evidence is inconclusive or contradictory. Along the way, he occasionally expresses his own preferences, as when he writes: “My own belief is that the walled strongholds appeared as a relatively late response by the Puuc centers to the competitive expansion of Chichen Itza” (p. 50).

**Ball, Joseph W.**

“Puuc”. *Archaeology of Ancient Mexico and Central America: An Encyclopedia*. Ed. Susan Toby Evans and David L. Webster: 437-438. N.Y.: Garland Pub. Inc., 2001.

The most up-to-date two-page summary of the Puuc Region, in a long article on the “Maya Lowlands: North,” pointing out that “Classic Puuc architecture is regarded by many authorities as the finest of all the ancient Mesoamerican architectural traditions.”

**Barrera Rubio, Alfredo**

“Mural Paintings of the Puuc Region in Yucatán”. *Third Palenque Round Table, 1978*. Part 2, ed. Merle G. Robertson and Donnan C. Jeffers: 172-182. Austin: University of Texas Press, 1980.

Detailed study of the remains of ancient Maya paintings on interior surfaces of buildings in the Puuc region, suggesting “generalizations concerning content, function, and . . . ideology.” Barrera Rubio writes that “the Puuc paintings exhibit features characteristic of the more widespread Classic Maya art tradition.” The remains of such paintings are very rare at Uxmal, Kabah, Sayil, and Labná. The author mentions only the paintings on vault capstones at Uxmal.

**Barrera Rubio, Alfredo**

“Obras hidráulicas en la región Puuc, Yucatán, México”. *Boletín de la Escuela de Ciencias Antropológicas de la Universidad de Yucatán*, Vol. 15, No. 87: 3-19. Mérida, Yucatan, 1990 (first presented as a paper in the symposium, “Area Maya del Norte, nueve datos, síntesis y problemas”, 28-30 June 1982. Universidad Nacional Autónoma de México.

**Barrera Rubio, Alfredo**

“El Puuc”. *Arqueología Mexicana*, Vol. 2, No. 11 (Feb. 1995): 18-25.

Discusses the various meanings of the word “Puuc”, the features of the region, cultural connotations, and style. There is a brief description of Uxmal as the primary site of the region. The author notes that the primary cultural significance of the region has been based on the architectural development of the grand edifices, but that major aspects of the social structure of the region are still unknown.

**Barrera Rubio, Alfredo**

“Rain Cult of the Puuc Area”. *Fourth Palenque Round Table*, held at Chiapas, Mexico, 1980. Vol. 6, ed. Elizabeth P. Benson; gen. ed. Merle Greene Robertson. San Francisco: Pre-Columbian Art Research Institute, 1985: 249-260.

After a brief description of the importance of water in the practical and symbolic lives of cultures throughout the world, the author points out **the special situation in the Puuc region**. He notes that in contrast to chultunes in the southern lowlands, which were lateral chambers often without stucco facing and which seem to have served multiple purposes, chultunes in the Puuc region were vertical, stuccoed inside, and served primarily to collect and store water.

Barrera Rubio presents a careful review of the evidence from **images of animals represented inside Puuc chultunes, the most common being toads**, which are directly associated with water, also noting that the toad “emits a distinctive sound, which Maya farmers still believe attracts the rain” (p. 253). He writes that “the fact that, to date, these representations have not been reported outside the Puuc area is indicative of a localized tradition” (p. 251). He concludes that there was an aquatic cult in the Puuc region that “not only produced traditional rain symbols in architecture and art, such as a profusion of Chaac (rain deity) masks, but also developed a unique sculptural symbolism inside the chultunes” (p. 250).

Importantly, the author distinguished between **chultunes**, which require little effort and could therefore have been created earlier by individuals and, on the other hand, artificial **aguadas** which require organized, communal labor and therefore more centralized control. The article is clearly illustrated with 7 photographs and 11 line drawings.

**Barrera Rubio, Alfredo**

“Tierra y productividad agrícola en la región Puuc”. *Anales de Antropología*, Vol. 24 (1986): 127-142 (also published in *Mayab*, Vol. 6 [1990]: 29-37).

**Barrera Vázquez, Alfredo**

*Arte Maya: Uxmal, Sayil, Labná, Kabah y región Puuc*. México, D.F.: Editora del Sureste, 1981.

**Becquelin, Pierre**

“La Civilization Puuc vista desde la región de Xculoc”. *Hidden Among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula, Acta Mesoamericana*, Vol. 7, ed. Hans Prem: 59-70. First Maler Symposium, Bonn, 1990. Mókmúhl: Verlag von Fleming, 1994 and 1999.

**Becquelin, Pierre, and Dominique Michelet**

“En busca del contexto de florecimiento de la region Puuc”. *Cuadernos de arquitectura mesoamericana*, Vol. 10 (1988): 14-15

**Becquelin, Pierre, and Dominique Michelet**

“La Civilization Puuc du Yucatán”. *Les Dossiers d’Archeologie*. Dijon, 1990. Vol. 145: 8-11.

**Becquelin, Pierre, and Dominique Michelet**

“Demografía en la zona Puuc: el recurso del método”. *Latin American Antiquity*, Vol. 5, No. 4 (1994): 289-311.

**Boucher, Sylviane**

“Una revision de la sequencia de cerámica preclásica en las regiones Chenes y Puuc”. Paper presented at the First Maler Symposium on the Archaeology of Northwest Yucatán, Bonn.

## C

**Carmean, Kelli, and Jeremy Sabloff**

“Political Decentralization in the Puuc Region, Yucatan, Mexico”. *Journal of Anthropological Research*, Vol. 52, No. 3 (1996): 317-330.

Based primarily on the authors’ separate studies of Sayil (with a population possibly as large as 16,000) **Carmean and Sabloff describe the reasons for concluding that habitation and power within the Puuc was decentralized**. Most revealingly, Carmean has argued that the physical remains at Sayil indicate that “political leadership is distributed to a rather limited extent within the community. Religious leadership appears more widely distributed than political leadership, but it remains in the elite stratum. Social leadership is very widely distributed, with potential intercommunity leaders existing at various ranks, even stretching into the commoner stratum. Economic leadership—in the form of wealth influence—is the most widely distributed of all” (pp. 320-321).

Referring to detailed studies of feudal societies in Europe and Japan, they point to the success of feudal societies in developing small scale social, political, and economic

relationships of interdependence among individual, between lord and vassal, not primarily larger scale relationships of ruler to people. They note that “these relationships may be replicated at many hierarchical levels within the community, not only among elite and commoner, but also among elite of various rank” (p. 324).

The authors suggest that “detailed settlement mapping, like that undertaken at Sayil, might illuminate relations among elite in local settings” (p. 327). This article by Carmean and Sabloff is a model of the orderly presentation of a theoretical argument based on detailed study of various types of relevant evidence.

### **Carmean, Kelli, Nicholas Dunning, and Jeff Karl Kowalski**

“High Times in the Hill Country: A Perspective from the Terminal Classic Puuc Region”. *The Terminal Classic in the Maya Lowlands: Collapse, Transitions, and Transformation*, ed. Arthur A. Demarest, Prudence M. Rice, and Don S. Rice: 424-449. Boulder, Colorado: University of Colorado Press, 2004.

An immensely valuable, up-to-date, review of evidence for the dynamic changes in the Puuc region, A.D. 770-950, stressing the complexity and uncertainty of much of the evidence and therefore the hypothetical character of many possible conclusions. **The authors separately present the chronological evidence for changes in eight Puuc cities or areas**, including Uxmal, Kabah, Sayil, and Labná. They describe “the nature of Puuc settlement” as “nucleated dispersion”, where “settlement did not simply continue to disperse across the landscape but was reined in at demarcated limits” (p. 440). They argue the important, new concept that since “95 percent of them [rural clusters] completely lack chultunes” . . . “we can only assume that these settlements . . . represent seasonally occupied farmsteads” (p. 440). Strangely they nowhere mention the major aquadas near Uxmal, which could have served significant portions of the population. The chapter is filled with perceptive observations and original suggestions on many subjects, including the changing role of Uxmal in relation to neighboring sites. The authors indicate the most promising areas for future research.

### **Carrasco Vargas, Ramón**

“Formación sociopolítica en el Puuc: El Sacbé Uxmal-Nohpat-Kabah”. A paper presented at the 3<sup>rd</sup> Mesa Redonda de la Sociedad Española de Estudios Mayas, Guiona, 1991. Published in *Memorias de la III Mesa Redonda de la SEEM*. Girona, 1991-92. Also published in: *Perspectivas antropológicas en el mundo Maya*, ed. M. Josefa Inlesias Ponce de Leona and Francesco Ligorred Perramón: 199-212. Madrid: Universidad Complutense de Madrid, Facultad de Geografía e Historia (Publicaciones de la Sociedad Española de Estudios Mayas, 2), 1993.

The author observes that the Uxmal-Nohpat-Kabah sacbé has been used to claim the position of Uxmal as regional capital. Instead he argues that the evidence from an exploration of the sacbé in 1990 demonstrates that **all three cities were part of a regional organization, based on a political agreement that allowed their autonomous populations to interact equally and to retain their own integrity**. Carrasco Vargas calls attention to the overlooked importance of Chetulix as the end of the sacbé, which never arrived at Uxmal. Based on the remaining evidence, he makes the extraordinary claim that Nohpat may have been as important as Uxmal. He describes

the monumental area of Nohpat as surpassing in some ways the monuments of Uxmal. In tracing the sacbé from Kabah to Nohpat to Chetulich, the author **provides the most detailed description of various aspects of this often mentioned roadway.**

**Carrillo, Estanislao (un Curioso)**

“Dos días en Nohpat”. *El Registro Yucateco*. Vol. I, pp.261-272. Mérida, 1845.

**Coe, Michael**

“Review of Pollock, H. E. D., *The Puuc*”. *Science*, Vol. 211 (1981), pp. 572-573.

Available on the web through JSTOR at:

<http://www.jstor.org/vie>

Coe acknowledges Pollock’s volume as “a monumental work” containing “first-class architectural plans, sections, and elevations of individual buildings; it provides a definitive record of much standing architecture”. At the same time, Coe calls attention to the fact that if the research had been carried out in the 1970s, instead of the 1930s and 1940s, the research aims would have been formulated differently. Research in the 1970s would have had more up-to-date information available and, most notably, would have included concern for settlement patterns. In his first paragraph, Coe writes that “The Puuc hills . . . were the locus of the finest architectural achievements of the ancient Maya”.

## D

**del Mar, María del Mar de Pablo Aguilera**

“Algunas columnas antropomorfas en la mitad occidental del area Puuc: particular referencia al sitio de Oxkintok”. *Perspectivas antropológicas en el mundo maya*. Sociedad Espanola de Estudios Mayas, Pub. 2. Ed. Josefa Iglesias Ponce de León, and Francesc Ligorred Perramon: 237-252. Madrid: Departamento de Historia de América II, Facultad de Geografía e Historia, Universidad Complutense; Instituto de Cooperación Iberoamericana, 1993.

The author states that erect columns decorated in relief are a peculiarity of the Puuc region. Several groups of such columns are described including one from Sayil (p. 245), though the evidence is not sufficient to establish a chronological order.

**Desmond, Lawrence G.**

“Augustus Le Plongeon and Alice Dixon: Early Fieldwork in the Puuc Region of Yucatan”. *Cuadernos de arquitectura mesoamericana*, Vol. 11 (1989): 11-16.

**Dunning, Nicholas P.**

“Archaeological Settlement Patterns of the Northeastern Puuc Region Yucatan, Mexico”. Report of the 1987 Field Season. University of Minneapolis, 1988 (also on file at the Centro Regional de Yucatán, Instituto Nacional de Antropología e Historia, Mérida, 1987).

**Dunning, Nicholas P.**

“The Geography of Power in the Terminal Classic, Northern Puuc, México”. Paper presented at the Annual Meeting of the Society for American Archaeology, Atlanta, 1989.

**Dunning, Nicholas P.**

“Jerarquía de Asentamiento en la Región Puuc”. Paper presented at the 21<sup>st</sup> Mesa Redonda de la Sociedad Mexicana de Antropología, Mérida, 1989.

**Dunning, Nicholas P.**

“Langsamer Niedergang oder Neubeginn? Der Wandel der klassischen Maya-Zivilisation in der Puuc-Region”. *Maya Gottkönige im Regenwald*, ed. Nikolai Grube, Eva Eggebrecht, and Matthias Seidel: 322-337. Köln: Könemann Verlagsgesellschaft, 2000.

**Dunning, Nicholas P.**

“Long Twilight or New Dawn? Transformations of Maya Civilization in the Puuc Region”. *Maya: Divine Kings of the Rain Forest*, ed. Nikolai Grube; assisted by Eva Eggebrecht and Matthias Seidel: 322-337. Cologne: Könemann, 2001 (1<sup>st</sup> ed., *Maya; Gottkönige in Regenwald*, 2000).

This fourteen page chapter provides **an impressively clear, up-to-date, comprehensive survey of the Puuc region**. Every page includes instructive photos and/or diagrams, and there are two detailed maps. The text provides an informative account of the specific characteristics of Puuc art and culture and their relationship to those in other Maya areas. This chapter appears in a large, sumptuous volume with magnificent full-page photographs and informative chapters by twenty-six authorities covering nearly all aspects of Maya civilization. There is some attention to early explorers of the Puuc region in the chapter on “The Search for Evidence”. Otherwise, as the title of the volume suggests, Puuc sites and culture are barely mentioned in other chapters.

**Dunning, Nicholas P.**

*Lords of the Hills: Ancient Maya Settlement of the Puuc Region, Yucatán, Mexico*. Monographs in World Archaeology No. 15. Madison, Wisconsin: Prehistory Press, 1992.

This is **the most comprehensive, multi-faceted publication on the cultural ecology of the Puuc region**, based on field research in the Puuc in 1985, 1986, 1987, 1989 and 1992. In chapter 1 the author introduces the importance of such studies. In chapters 2 and 3 he presents the results of his field research in the two especially valuable, methodological chapters on “Geology, Water Resources, and Climate” and “Soils and Vegetation,” this last a highly original, in-depth study.

The distribution of water and soil resources provides the basis for the following 4 chapters, relating the physical facts of Puuc geography to the cultural history and organization of Maya society; settlement patterns; carrying capacity estimates and land use; and their relation of the distribution of water and soil resources to the rise and fall of Puuc polities. Every one of these chapters deserves its own annotation.



The amount of data presented and the amount of detailed information organized into a cohesive argument is impressive. There is a brief glossary, many of soil, landscape, and climate terms as used in the Puuc region; an appendix of soil data collected; and another with an extraordinary inventory of over one hundred archaeological sites. For most sites, the author provides location with coordinates, official INAH numbers, description of the topography and soils, water supply, size, civic plan and general description, and references. For many sites there are also maps and ground plans. For sites that have not been well published there is an inventory of individual structures and special features.

The book includes nearly two hundred diagrams, chart, and grey-scale photographs, wonderfully informative in showing the variety of Puuc landscapes. There is a valuable, in-depth, 33 page list of references cited.

**Dunning, Nicholas P.**

“News from Puuc Sites”. *Mexicon*, Vol. 9: 119-120.

**Dunning, Nicholas P.**

“Prehispanic Maya Settlement in the Puuc Region, Yucatan, Mexico: Preliminary Analysis”. Paper presented at the Annual Meeting of the Association of American Geographers, Minneapolis, 1986.

**Dunning, Nicholas P.**

“Prehispanic Settlement Patterns of the Northern Puuc Region, Yucatan”. Paper presented at the Annual Meeting of the Association of American Geographers, Phoenix, 1988.

**Dunning, Nicholas P.**

*Prehispanic Settlement Patterns of the Puuc Region, Yucatan, Mexico*. Ph. D. Dissertation, University of Minnesota, 1990. Ann Arbor: University Microfilms.

**Dunning, Nicholas P.**

“Puuc Ecology and Settlement Patterns”. *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula; Acta Mesoamericana*, Vol. 7, ed. Hanns J. Prem: 1-43. First Maler Symposium, Bonn, 1990. Möckmühl, Germany: Verlag von Flemming, 1994 (2<sup>nd</sup> ed. 1999).

The author first presents a detailed description of the natural environment of the Yucatan, reproducing Wilson’s 1980 diagram of 14 physiographic districts, of which the “Puuc Region or Sierrita de Ticul” is the smallest. He includes 9 additional diagrams of such things as “residential caprock formation”, “typographic situation of Puuc soils”, and “mean monthly rainfall at Uxmal”.

In a section titled “Population, Carrying Capacity, and Puuc Cultural History”, Dunning describes in revealing detail the methods used in previous studies, noting the difficulties involved and the frequent inconsistencies that result. He notes, for example, that “the decreasing density of large sites as one moves southward in the Puuc region may simply be the result of poorer data” (p. 18). To investigate the topics in this

section, Dunning selected a rectangular study area in the northeastern Puuc, including Kabah, Sayil, and Labná, though with Uxmal slightly outside to the northwest.

Because this is a study primarily of the geological, environmental, economic, and political context for Puuc society, there is little discussion of architecture or individual sites. Nevertheless, Dunning provides detailed charts listing individual sites and their characteristics. Also, he draws a distinction between two basic models of core organization, which he diagrams and describes: “1. the Labna Plan, with *sacbeob* linking elite residential and civic/ceremonial complexes (Fig. 18); and 2. The Nohpat/Yakalxiu Plan, with civic/ceremonial and elite residential structures surrounding a series of contiguous and semi-contiguous courtyards at the site center (Fig. 19)”. He also describes in some detail the important architectural conclusions of Tourtellot, Sabloff, Smyth, and others, from their in-depth research at Sayil (pp. 24-25).

Dunning notes the significance of the Puuc area in the late Classic-Terminal Classic transformation of Maya civilization. Based on 8 extensive tables in an appendix, **he is able to synthesize the findings of previous scholars with his own extensive research to describe the most likely interplay of the multiple forces determining the history of the Puuc region.** In a concluding page titled “Puuc Population Ecology and Political History”, Dunning relates the complexity of population dynamics in Maya civilization, to the growth, flowering, and decline of Puuc centers.

“The model of Puuc political structure, seen as consisting of a series of uneasily coexisting polities or chiefdoms, resembles similar patterns seen throughout much of the Maya Lowlands . . . the prehispanic polities of the Puuc, whether centered on a single major center, or in the regionally expanded version of Uxmal, were a series of ranked communities, themselves based on the status of ruling families or lineages” (p. 29).

### **Dunning, Nicholas P. and Jeff K. Kowalski**

“Lords of the Hills: Classic Maya Settlement Patterns and Political Iconography in the Puuc Region, Mexico”. *Ancient Mesoamerica*, Vol. 5, No. 1 (1994): 63-95.

## F

### **Fernández Marquínez, Yolanda**

“Historia arquitectónica del Grupo May: la fase Proto-Puuc”. *Misión Arqueológica de España en México*, ed. Miguel Rivera Dorado: 47-62. Madrid: Ministerio de Cultura, 1992.

### **Foncerrada de Molina, Marta**

“La arquitectura Puuc dentro de los estilos de Yucatán”. *Estudios de Cultura Maya*. Vol. 2: 225-238. México: Universidad Nacional Autónoma de México, 1962.

Based on stylistic similarities and differences, this is an exceptionally thorough, clear examination of the cultural relationships between the Puuc region and others areas of Pre-Columbian Mexico. Listing architectural features that the Puuc, Rio Bec, and Chenes regions have in common, the author states that the architectural style of the three regions are so similar, and so unique in relation to other styles, that it is impossible to separate them entirely. Nevertheless, she claims that **Puuc architecture achieved a unique equilibrium of architecture and sculptural decoration and represents the culmination of plastic qualities undeveloped in the southern cities.** Based on her description of Puuc characteristics, Foncerrada de Molina argues that the Puuc region probably suffered a weak Toltec occupation, but she lists relatively few stylistic similarities and thus argues for the autonomy of Puuc style in relation to Toltec culture. To examine this relationship, she recommends an especially in-depth study of the Pyramid of the Magician, Uxmal. Foncerrada de Molina calls attention to the many problems remaining in attempting to understand the relationships among the various Maya centers. For examples, she notes that both Mitla and the Puuc region possess a richness of geometric ornamental motifs, perfectly integrated to the architecture, but that the relationship between these regions remains to be established. **Since she believes that written records can be biased and are therefore unreliable, she claims that the missing relationships among Maya regions can only be established with further archaeological study of both known and previously unstudied sites.**

**Foncerrada de Molina, Marta**

“Situación cronológica del estilo Puuc”. *Proceedings of the International Congress of Americanists* (México, 1962), Vol. 1: 363-364. México, D.F., 1964.

G

**Gallareta Negrón, Tomás, George J. Bey III, and William M. Ringle**

“Investigaciones arqueológicas en la zona Labná-Kiuic, distrito de Bolonchén, región Puuc, México. Propuesta de investigación al Consejo de Arqueología del INAH y al Centro INAH Yucatán.

**Gebauer, Uwe**

“*Archaeological Settlement Patterns of the Eastern Puuc Region, Yucatan, Mexico. Report on 1988-1989 Field Season.* Hamburg, 1989.

**Gendrop, Paul**

“Algunos aspectos sintéticos del libro “Los estilos Río Bec, Chenes y Puuc en la arquitectura Maya”. *Arquitectura y arqueología: Metodologías en la cronología de Yucatán*, Vol. 2, No. 8 (1985): 41-50. Mexico, D.F., 1985.

## **Gendrop, Paul**

*Los Estilos Río Bec, Chenés y Puuc en la arquitectura Maya*. México: Universidad Nacional Autónoma de México; Facultad de Arquitectura-Division de Estudios de Posgrado, 1983. (Published in English as *Río Bec, Chenes, and Puuc Styles in Maya Architecture*, trans. Robert D. Wood. Lancaster, California: Labyrinthos, 1998.)

The emphasis throughout the book is on the chronological and regional progression of stylistic characteristics. Gendrop's reconstruction of this development is based on detailed identification of stylistic characteristics and the assumption that they were developed in more or less rational order: simpler to more complex, tentative origins to more fully developed examples. Through this time-tested art historical method, Gendrop presents convincing evidence to support his belief that many architectural forms and motifs that characterize Puuc style originated in the Río Bec region, arriving in the Puuc by way of the Chenes region. Because he had studied these closely related styles, he was able to identify, as no other author had, what is distinctive and especially what is innovative and unique about Puuc architecture. Four of the book's fourteen sections are devoted to stages of Puuc style development. Because he is meticulous in his descriptions, the writing is dense but well worth the effort to read carefully.

The book is notable for its detailed observations with accompanying drawings and photographs. Of special note are the author's splendid descriptions of the aesthetic quality of Puuc architecture as part of the structure's historical context. Note this brief excerpt from his three paragraph description of the famous Kabah arch: "the principle of the corbelled vault was conceived only as a system of construction for roofing interior spaces . . . . Here, on the other hand, the vault is used intentionally as a powerful formal resource penetrating the façade from one side to the other and opening plainly to the outside" (p.190). Or note this comment on the East Building of the Nunnery Quadrangle: "As seems to be the rule in the majority of the large buildings of this late phase at Uxmal, the square doorways have a recessed frame, an element that gives both a touch of lightness and a distinctive appearance to the architecture of this city" (p.197). These formal observations, which can successfully stand on their own, are sometimes connected to interpretations of social use and meaning, as here: "We should likewise note the especially elaborate volumetric concept of the access stairway to this building, which suggests the existence of ceremonies that required an extremely complex protocol" (p.187). There is a brief glossary and an excellent bibliography, including many references not mentioned in other publications.

## **Gendrop, Paul**

*Río Bec, Chenes, and Puuc Styles in Maya Architecture*. Translated by Robert D. Wood. Edited with a foreword by George F. Andrews. Lancaster, CA: Labyrinthos, 1998.

A translation of Gendrop's 1983 volume *Los Estilos Río Bec, Chenés y Puuc en la arquitectura Maya* (México: Universidad Nacional Autónoma de México; Facultad de Arquitectura-Division de Estudios de Posgrado), separately listed and annotated in this web bibliography. In this new publication, the photographs are reproduced less clearly. In his foreword, George Andrews writes that Gendrop's work "still stands as

the most comprehensive effort to date to reveal those cultural interactions that culminated in the development of the Chenes and later Puuc architectural style . . . from their beginnings in the earlier Río Bec region” (p. viii).

**Gendrop, Paul**

“Tendencias estilísticas y secuencia evolutiva de la arquitectura Puuc Clásica”. Paper presented at the 17<sup>th</sup> Mesa Redonda, Sociedad Mexicana de Antropología. San Cristobal de las Casas, Chiapas, México, 1981.

**Graff, Donald H.**

“Investigación preliminar de los asentamientos rurales en la zona Puuc, Yucatán”. *Boletín del Consejo de Arqueología 1990*: 135-137.

## H

**Hissink, Karin**

*Masken als Fassadenschmuck: Untersucht an den alten Bauten der Halbinsel Yukatan.* Akademische Abhandlungen zur Kulturgeschichte Vol. 3, No. 2. Strasbourg: Sammlung Heitz, 1934.

**Huchim Herrera, José, and Lourdes Toscano Hernández**

“La región Puuc de Yucatán”. *Arqueología Mexicana*, Vol. 12, No. 70 (2004): 80-87.

Listed as a travel guide, this article provides a brief history of the Puuc region, its physical characteristics including provisions for water, Puuc architecture, and ceramics. There are brief descriptions of Chacmultún, Labná, Xlapak, Sayil, Kabah, Uxmal, and Oxkintok. About 15 illustrations.

In the chronology of the Puuc, **the authors list periods of restoration at Puuc sites during the 20<sup>th</sup> century:**

1900-1950: Restoration carried out by the INAH at Uxmal, Kabah, Sayil, Xlapak and Labná.

1983-1988: The University of New Mexico carried out investigations in Sayil.

1986: The Misión Arqueológica of Spain began a project in Oxkintok.

1990: The INAH began an ambitious program of investigation and restoration at Uxmal, Kabah, Labná, Oxkintok, and Chacmultún.

## J

**Jean, Bernard**

“Un moment et un style de la civilization Maya: le Puuc”. *L'Archéologue*, Archéologie nouvelle, Vol. 69 (2004): 39-43.

## K

**Konieczna, Barbara and Pablo Mayer Guala**

“Uxmal, Yucatán. Informe de la Temporada 1973-1974”. *Investigaciones Arqueológicas en el surest, Cuadernos de los Centros Regionales*, No. 27: 1-18. Mexico, D.F.: Instituto Nacional de Antropología e Historia, 1976.

**Kowalski, Jeffrey Karl**

“Collaboration and Conflict: An Interpretation of the Relationship between Uxmal and Chichen Itza during the Terminal Classic / Early Postclassic Periods. Paper presented in the Second Maler Symposium on the Archaeology of Northwestern Yucatan, 3-8 July 2000, Bonn, Germany. Organized by Hanns J. Prem. Published in *Escondido en la selva arqueología en el norte de Yucatan*, ed. Hanns J. Prem. Mexico, D.F.: Instituto Nacional de Antropología e Historia; Universidad de Bonn, 2003: 235-272.

Kowalski provides a thorough review of alternative theories in previous scholarship about the Uxmal-Chichén Itzá relationship, describing the evidence in detail. He writes that “Nicholas Dunning and I have proposed that Uxmal’s ruler “Lord Chaak” established a formal military alliance with the Itzá during the Terminal Classic period” (p. 243). Then, importantly, he writes that “it seems much less plausible that the feathered serpents on the West Structure [of the Nunnery] represent ‘late additions’, but rather than they formed part of the original conception for the façade sculpture” (p. 245). Kowalski writes that “I basically agree with Reindel’s [1998] interpretation of the processes involved in the disruption of centralized power in the Puuc region”, however claiming that, most likely, “the dissolution of local political authority at these major Puuc cities . . . involved at least some military encounters that effectively resulted in the conquest of these sites’ (p. 271). The article is filled with specific details, carefully described and interpreted.

**Kowalski, Jeff Karl**

*Guide to Uxmal and the Puuc Region: Kabah, Sayil, and Labná*; also published as *Guia de Uxmal y la region Puuc: Kabah, Sayil, y Labna*. Mérida: Editorial Dante, 1990.

**Kowalski, Jeff Karl**

“The Puuc as seen from Uxmal”. *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula*; *Acta Mesoamericana*, Vol. 7, ed. Hanns J. Prem: 93-120.

First Maler Symposium, Bonn, 1990. Möckmühl, Germany: Verlag von Flemming, 1994 (2<sup>nd</sup> ed. 1999).

In this essay, Kowalski describes the cosmological meaning of the Nunnery Quadrangle at Uxmal and the political role of Uxmal in the Puuc region and Northern Yucatan. He concludes that **the design of the Nunnery and its symbolic figures “represents a conscious decision on the part of the architect and royal patron to create an architectural complex that embodied the Maya universe in stone, and which would serve as a theatre for rituals providing divine sanction for the king of Uxmal”** (p. 97). With meticulous references to the range of previous scholarship, he describes the symbolism of the overall design of the Nunnery and its sculpture. Kowalski considers that this interpretation of the Nunnery Quadrangle supports the idea that the ruler of Uxmal, Lord Chac, was sending an ideological message that Uxmal was “the primate religious and political capital for the Puuc region” (p. 95).

The small, gray-scale illustrations are adequate for the drawings and diagrams reproduced, though not for many of the photographs.

### **Kowalski, Jeffrey Karl**

“Uxmal and the Puuc Zone: Monumental Architecture, Sculptured Facades and Political Power in the Terminal Classic Period”. Peter Schmidt, Mercedes de la Garzia, and Enrique Nalda, eds., *Maya*, New York: Rizzoli, 1998 (identical to *Maya Civilization*, London: Thames and Hudson, 1998): 401-425.

**One of the clearest and most informed brief reviews of Puuc architecture and society, balanced and up-to-date.** There are sixteen Puuc region photographs within his essay and seven in other sections of this large volume. A number of these are exception two page spreads, one **a remarkable four-page foldout of the Uxmal Nunnery, which, by surrounding the viewer, manages to convey a sense of the enveloping courtyard.** Equally rare are three different views of the Queen of Uxmal sculpture, allowing one to compare sides and to see the nearly uniform width of the piece. (On page 416, the photo of the better preserved and restored left half of the Great Palace, Sayil, has been mistakenly reversed right-left, so that it appears to be the right half.)

### **Kowalski, Jeffrey Karl**

“Uxmal como un ciudad real-ritual: el asenso y descenso de un estado segmentario en la region este de la zona Puuc”. *Modelos de entidades politicos mayas; Primero Seminario de la Mesa Redonda de Palenque, Palenque, Chiapas, Mexico. Sept. 29-Oct. 1, 1994*, ed. Silvia Trejo: 161-182. Mexico, D.F.: Instituto Nacional de Antropologia e Historia, 1994.

### **Kowalski, Jeffrey Karl**

“Uxmal y la zona Puuc: arquitectura monumental, fachadas esculpidas y poder politico en el periodo Clásico terminal”. *Los Mayas*, ed. Peter Schmidt, M. de la Garza, and E. Nalda: 401-425. Milan: Conaculta: Instituto Nacional de Antropologia e Historia, 1999

**Kurjack, Edward B.**

“Political Geography of the Yucatecan Hill Country”. *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula; Acta Mesoamericana*, Vol. 7, ed. Hanns J. Prem: 308-315. First Maler Symposium, Bonn, 1990. Möckmühl, Germany: Verlag von Flemming, 1994 (2<sup>nd</sup> ed. 1999).

Drawing on widely recognized anthropological principles of correlations between human behavior and the design of individual buildings, groupings, and overall design of communities, the author suggests conclusions regarding the social and political organization of Puuc society. **Kurjack is especially interested in ways in which the archaeological remains of Puuc sites indicate different types of social and political organization than those of other Maya groups.** For example, he writes that “two prominent features at Puuc archaeological sites – large, multi-chambered ‘palaces’ and the causeways (*sacbeob*) that often link these buildings – suggest a distinctive type of lowland Maya societal arrangement’ (p. 308). Especially interesting is Kurjack’s description of basic characteristics of Puuc domestic huts and their groupings and what these indicate regarding Puuc societal relationships. About Puuc elite palaces he asks “Why did the Maya elite concentrate their relatives in the exaggerated manner indicated by buildings such as the Sayil palace?” (p. 313). He suggests possible answers to some of these questions.

**Kurjack, Edward B. and E. Wyllys Andrews V.**

“Early Boundary Maintenance in Northwest Yucatán, Mexico”. *American Antiquity*, Vol. 41, No. 3 (1976): 310—325.

A thorough, revealing **study of causeways and defensive walls at Maya sites in Northwest Yucatan.** Using new, early 1970s, aerial photograph, the authors discovered walls surrounding 3 sites: Cucá, where they are best preserved, Aké and Muna. In addition, **causeways were discovered connecting satellite communities with major centers.** The causeways are interpreted as dating from the Classic Period and the walls from the Terminal Classic (Pure Florescent) Period, indicating **an increase in the severity of boundary maintenance.** The authors provide persuasive interpretations of the social and ecological changes these indicate.

**Kurjack, Edward B., and Silvia Garza T. de González**

“Una vision de la geografía humana en la region serrana de Yucatán”. *Memoria del Congreso Interno 1979*. Centro Regional del Sureste Mexico, D.F.: Instituto Nacional de Antropología e Historia, 1981: 39-54.

“. . . led to preliminary analyses of the settlement patterns and human geography of the region.” (ref. Costelanus and Andrews, p.59).

**Kurjack, Edward B., Silvia Garza T. de González, and J. Lucas**

“Archaeological Settlement Patterns and Modern Geography in the Puuc Hill Country of Yucatan”. *The Puuc: New Perspectives: Papers Presented at the Puuc Symposium, Central College, May, 1977*, ed. Lawrence Mills: 36-45. Scholarly Studies in the Liberal Arts, No. 1. Pella, Iowa: Central College, 1979.



Like other participants in the 1977 symposium at which this paper was given, these authors note that “many books and articles describe architectural gems at the cores of hill country sites, but few studies of more mundane house ruins have been carried out . . . . Little is known of pre-Columbian community layout or regional organization; analyses of political structure firmly rooted in archaeological data have yet to be formulated” (p. 36).

Their paper was **one of the first to review what was known of the human ecology in the Puuc region**. The authors first describe the environmental setting in the Puuc region; then describe the features of pre-Columbian settlement patterns; and finally the extent of the major sites and Maya roads.

In **describing the geography of the hill country**, the authors emphasize that the land south of the Puuc ridge is made up of two zones with different agricultural qualities. In describing the natural setting of the archaeological sites, the authors note that Puuc cities are situated near the most fertile farmland and that major buildings are scattered over the entire region. In describing ancient communities and territorial organization, they note that Kabah and Uxmal may have been equally important, equally large with different but comparably major buildings. They suggest that the *sacbé*s between structures within Puuc cities may have served as the model for *sacbé*s between sites. The approximately equal size of some structures within individual cities suggests to them that **there may have been a less hierarchical organization within and among cities than has usually been assumed**, different groups and polities perhaps enjoying equal status. They arrive at the promising conclusion that “perhaps the crucial function of the elite was to minimize discord in an ecological setting characterized by small, widespread and isolated plots of good soil” (p. 41).

The paper includes **7 excellent aerial views**, 4 of Uxmal and surroundings, 2 of Labná, and 1 of Sayil.

## L

### **Ligorred i Perramón, Josep**

“El estilo Puuc tardío: estructura y arquitectura de Codz Pop de Kabah (Yucatán, México)”. *Boletín americanista*, Vol. 44 (1994): 171-177.

Images of the Codz Poop, Kabah, showing restoration over the years, are reproduced on this web site:

Front

<http://academic.reed.edu/uxmal/galleries/thumbnails/kabah/kabah-codzpoopf.htm>

Back

<http://academic.reed.edu/uxmal/galleries/thumbnails/kabah/kabah-codzpoopb.htm>

**Littman, Edwin R.**

“Ancient Mesoamerican Mortars, Plasters, and Stuccos: The Puuc Area”. *American Antiquity*, Vol. 25, No. 3 (Jan. 1960): 407-412.

A technical report on the chemical and microscopic properties of building materials at Uxmal, Kabah, Sayil, and Labná. The author states that all the building materials previously identified at other Maya sites (mortars, plasters, wash coats, stuccos, and lime-aggregates) were also found at these Puuc sites. However, **the building materials at Puuc sites had greater strength and smoother composition**. Detailed descriptions of specific samples are given.

## M

**Mayer, Herbert Karl.**

“Maya-Wandmalerein in de Puuc-Region (Mexiko)”. *Antike Welt, Zeitschrift fur Archäologie und Kulturgeschichte*, Sonderdruck (21 Jahrgang 1990): 26-44.

**McAnany, Patricia A.**

“Water Storage in the Puuc Region of the Northern Maya Lowlands: A Key to Population Estimates and Architectural Variability”. *Precolumbian Population History in the Maya Lowlands*, ed. T. Patrick Culbert and Don S. Rice. Albuquerque: University of New Mexico Press, 1990: 263-284.

The author describes the acute seasonal water deficit in the Puuc region, but that the Maya in the area developed an advanced form of underground water storage, customized chultunes, which allowed dense settlement. She presents **“a quantitative assessment of prehistoric water-storage facilities” in the Puuc region as “the key to a derivation of population estimates and an examination of room facilities”** (p. 263). This article is an especially dense and informative presentation of evidence for water storage in the Puuc region. McAnany analyses the frequency and location of chultunes associated with 4 types of structures: foundation braces, stone buildings, platforms, and basal platforms. There are 6 pages of charts and diagrams.

**McLoughlin, Anthony**

*Palenque and the Maya Gems of the Puuc*. New York: Vintage Press, 1976.

**Merrill, Robert H.**

“Mapping Maya Cities in Yucatan”. *The Military Engineer*. Journal of the Society of American Military Engineers (Sept.-Oct. 1930): 421-422.

Some of Merrill’s maps of Uxmal are reproduced on this web site.

<http://academic.reed.edu/uxmal/galleries/thumbnails/drawings/Drawings-Leyrer-Blom-3.htm>

A detailed account of the techniques and equipment used in mapping, by the participant-surveyor of the 1930 expedition to Uxmal, by the Department of Middle American Research of Tulane University, under the direction of Frans Blom. The main purpose of the expedition was to record the Nunnery Quadrangle at Uxmal, in preparation for the creation of a full-size reproduction at the Chicago World's Fair of 1933. The article suggests that originally the intention was to produce a full-size reproduction of all 4 buildings of the Nunnery, though eventually only a reproduction of the North Building appeared at the Fair.

Merrill provides **detailed information about the physical conditions under which the study of the Nunnery was conducted and the surveying and recording techniques used**. In addition to study of the Nunnery, extensive surveying of a large area of the archaeological site was conducted and “a reconnaissance trip to neighboring ruined cities”.

### **Michelet, Dominique**

“Intento de interpretación del habitat 2: persepectivas regionales”, *Mayas del Puuc: Arqueología de la region Xculoc, Campeche*. México: Gobierno del Estado Campeche; Centre Francais d'Études Mexicaines et Centraméricaines, 2000: 459-512.

### **Michelet, Dominique, and Pierre Becquelin**

“Elementos políticos y religiosos de un sector de la region Puuc occidental: su identificación e interpretación”. *Religión y sociedad en el area maya*, ed. C. V. Torrecilla, J. K. B. Villarejo, and Y. F. Marquínez: 109-134. Publicaciones de la S.E.E.M., No. 3. Madrid: Instituto de Cooperación Iberoamericana, 1995.

### **Michelet, Dominique, and Pierre Becquelin**

“Tipología de edificios en la zona Puuc: Problemas y perspectivas”. *Los investigadores de la cultura Maya*, Vol. 4 (1996): 123-146.

### **Michelet, Dominique, Pierre Becquelin and Marie-Charlotte Arnauld**

*Mayas del Puuc: Arqueología de la region Xculoc, Campeche*. México: Gobierno del Estado Campeche; Centre Francais d'Études Mexicaines et Centraméricaines, 2000.

This 548-page study is one of the most in-depth publications on any Puuc township or city. Although focused entirely on the region of Xculoc, Campeche, the study was conducted and has relevance for other Puuc sites. Indeed, the in-depth approach, especially **the concluding attempt to synthesize the demographics, the economy, and the social and political organization, to see how the Maya in the Xculoc region lived from the ninth through eleventh centuries, was a pioneering effort in Maya studies**. Of special importance is chapter 9, which proposes a typology for all the structures in the zone, examining the forms of groupings of individual structures, attempting to measure the social and political significance of each grouping.

**Mills, Lawrence, ed.**

*The Puuc: New Perspectives: Papers Presented at the Puuc Symposium, Central College, May 1977.* Scholarly Studies in the Liberal Arts, Pub. No. 1. Pella, Iowa: Central College, 1979 (the paper by David Kelley was published in 1982 as a supplement).

The **papers of a symposium** held at Central College, Pella, Iowa, based on ten years of study and exchange from the college's Yucatan campus in Mérida. In addition to the four authors, the symposium was attended by Norberto Gonzales c., Director of the Centro Regional del Surest del INAH, Mérida.

The following papers are separately listed and annotated in this web bibliography:

Andrews, E. Wyllys V, "Some Comments on Puuc Architecture of the Northern Yucatan Peninsula"

Ball, Joseph, "Ceramics, Culture History, and the Puuc Tradition: Some Alternative Possibilities"

Ball, Joseph, "The 1977 Central College Symposium on Puuc Archaeology: A Summary View"

Kurjack, Edward, Silvia Garza T., and Jerry Lucas, "Archaeological Settlement Patterns and Modern Geography in the Hill Region of Yucatan"

**Mills, Lawrence.**

"A Study of Carved Columns Associated with Puuc Architecture: A Progress Report". *Arquitectura y Arqueología: metodologías en la cronología de Yucatán* : 50-55. Collection d'Etudes Mesoaméricaines Serie II-8. México, D.F.: Centre d'Etudes Mexicaines et Centroaméricaines, 1985.

## P

**Pablo Aguilera, Maria Del M. De**

"Columnas con decoración en el área Puuc". *Misión Arqueológica de España en México*, ed. Miguel Rivera Dorado: 161-176. Madrid: Ministerio de Cultura, 1992.

**Palacios, Enrique Juan**

"Guía arqueológica de Chacmultún, Labná, Sayil, Kabah, Uxmal, Chichén-itzá y Tulum". *Enciclopedia Yucatanense*, Vol. 2, *Epoca Maya*: 405-553, ed. Carlos A. Echánove Trujillo. Oficial del Gobierno de Yucatán, México, 1945.

A series of 8 sections on individual sites. There are 32 pages on Uxmal, 5 on Kabah, 7 on Sayil, and 13 on Labná. These are well illustrated, though mostly with small, weak, brown-tone photographs. Notable are photographs of models of the Nunnery Quadrangle, Pyramid of the Magician, and Governor's House, Uxmal; Palace, Kabah; and Arch and another structure at Labná. Several other photographs are valuable in showing portions of the architecture before restoration.

**Pech Cassanova, Jorge, and Celia Pedrero**

*Guide for Uxmal and the Region Puuc.* Merida: Editorial Dante, 1997 (paperback).

An especially clearly written brief tourist guide to the Puuc region. Following a balanced, brief introduction to the region, there are 34 short pages on Uxmal, and 4 each on Kabah, Sayil, and Labná. The photograph of Uxmal on the back cover is reversed right-left.

**Piña Chán, Román**

*El Puuc: una tradición cultural maya.* México: El Equilibrista and Madrid: Turner Libros, 1991

This handsome, large format book contains **the largest number of color photographs of Puuc architecture of any print publication.** Although the text is extensive, it is the photographs and their captions that set this book apart from previous publications. The one section of the text of special use to advance students is the list of decorative elements of Puuc architecture divided between 13 characteristics that preceded and 18 that followed the arrival of invading conquering groups (pp. 165-166).

Altogether, there are some 150 photographs of Puuc architecture, sculpture, and painting, and 17 diagrams. Some of the photographs are largely pictorial images of sunsets or skylines, and most of the photograph of sculpture are diminished by the fashionable use of blank, black background and overcontrasty lighting, but **most of the photographs are outstanding, professional images especially making available details otherwise unavailable in print.** This allows us to see the present condition of the architectural sculpture and important details of carving and imagery. Perhaps because of limited time to photograph, a fair number of the photographs were taken in shade or overexposed in printing, eliminating some of the 3-dimensional information of these complex facades. Nevertheless, these have some value and at least half of the photographs survive as among the finest and most informative published of Puuc architecture.

**Pollock, H. E. D.**

*The Puuc: An Architectural Survey of the Hill Country of Yucatan and Northern Campeche, Mexico.* Memoirs of the Peabody Museum, Harvard University, Vol.19. Cambridge, Mass.: Harvard University (published in cooperation with the Carnegie Institution of Washington), 1980.

Although now over twenty years old and based on fieldwork in the 1930s, this volume still constitutes **the most comprehensive published archaeological report on Maya sites in the Puuc region.** There are 600 pages, about half of which are photographs and diagrams, **reporting in varying degrees on some 140 "ruins".** Overall comments are contained in an Introduction, Summary and Review, where Pollock deals with questions of environment, age of the ruins, size of the sites, types and features of the buildings, stelas and altars, and architectural style. Among other things **he notes that his field research was carried out during a period when major attention was given to the formal architecture of the civic-ceremonial centers and that it would have been**

desirable to have given more attention to domestic dwelling and especially to settlement patterns.

Of special note, the book includes over 900 illustrations, a few of which are large fold-outs housed in a sleeve in the back. It is all too rare for this type of in-depth professional recording to be published and thus made available to interested students and the public. Often, field reports are housed in the archives of research institutes and governmental agencies, but not generally available. Pollock's illustrations are exemplary and exceptional in allowing the reader to see what is described in the text. **These are not pictorial photographs, but were taken to record a multitude of specific observations. Both the in-depth diagrams and large body of photographs are indispensable.** Although small, grey-scale, and weakly reproduced, the photographs are of special importance in recording many aspects of the sites previous to extensive restoration of the mid and late twentieth century. **The correlation between text and image is a model of how these mutually supportive media should be presented.**

**The major reports are on the four sites which constitute the subject of this web site:** 136 pages for Uxmal, 65 for Kabah, 52 for Sayil, and 46 for Labná. Pollock notes that, because of study underway by the INAH, he was unable to conduct the type of in-depth study of some of the major buildings at Uxmal that he accomplished for the other three cities. Otherwise, for each city Pollock provides detailed descriptions, photographs and diagrams, structure by structure and room by room; noting features such as the plan, section, and elevation, the walls, wall depression and projections, moldings, vaults, doorways, stairways, and floors. These allow him, among other things, to make suggestions about building sequences; though he notes the difficulty when there are so few excavations with stratigraphy to rely on. This is by far the most informative book for anyone studying the physical remains of Uxmal, Kabah, Sayil and Labná. Even for the many scholars who now have other interests, the basic data and presentation in the volume provide invaluable evidence for their work. In many ways this web site is dependent on this basic study.

### **Prem, Hanns J.**

"Aspectos de los patrones de asentamiento en la region Puuc central". *Escondido en la selva: arqueología en el norte de Yucatan*, ed. Hanns J. Prem: 273-308. México, D.F.: Instituto Nacional de Antropología e Historia; and Universidad de Bonn, 2003.

In this impressive paper, Prem distinguished 2 different approaches to the study of settlement patterns in the Puuc region, which attempt to understand social conditions through the study of the physical remains of buildings. He states that the majority of such studies investigate external patterns, the distribution of archaeological sites in a geographical area. In his conclusion, he writes that such attempts to reconstruct areas of political influence or economic networks are premature, necessarily fictitious, because there are so many still unknown archeological sites in the Puuc region.

Prem writes that the second type of settlement pattern study, internal patterns, has been less common but is much more reliable. This is the study of building remains within an archaeological site. **He especially argues for the study of the spatial configuration of human habitation within Puuc cities.** He refers to the studies of

Carmean proposing complex households. Prem distinguishes various types of buildings by design and associates these with potential types of use. Especially of interest is his identification of non-habitational buildings and zones and of the social implications based on the different directions buildings face. He writes that, in the Puuc region, buildings were related to spaces either as quadrangles surrounding an interior space or as quadrangular buildings with 4 not clearly differentiated facades.

Ten of the 25 illustrations and a significant portion of the text are devoted to Xkipché, where the author has studied the design of the buildings and their relationship to each other and the related spaces.

He illustrates and briefly discusses Kabah, Sayil, and Labná, and provides 4 illustrations of Uxmal which he examines in some depth. Prem calls special attention to the frequency of C-shaped buildings at Uxmal, both small and large gallery-type structures. He writes that the long rectangular form of these buildings with open columned fronts, along with the lack of cisterns and metate remains in these areas, indicates that they were not used for habitation.

**Prem, Hanns J.**

“Consideraciones sobre la técnica constructiva de la arquitectura Puuc”. *Cuadernos de arquitectura mesoamericana*, Vol. 29 (1995); 29-38.

**Prem, Hanns J., ed.**

*Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula; Acta Mesoamericana*, Vol. 7. First Maler Symposium, Bonn, 1990, Möckmühl, Germany: Verlag von Flemming, 1999 (the paper by Peter Schmidt was added and the bibliography updated after the publication of the 1<sup>st</sup> edition of 1994).

The papers given at the 1990 First Maler Symposium, held in Bonn. However, in contrast to most anthologies of papers given at conferences and symposia, this publication includes extensive data on which the papers, as presented, were based. Authors were encouraged to submit papers of whatever length they felt suitable. Thus, there are extremely informative charts and tables, providing the evidence on which the texts were based. There is an especially valuable, up-to-date, 42 page bibliography, including publications and papers rarely referenced elsewhere.

The following articles are separately listed and annotated in this web bibliography:

Andrews, George F., “Architectural Survey of the Rio Bec, Chenes, And Puuc Regions: Progress and Problems”

Ball, Joseph W., “Northern Maya Archaeology: Some Observations on An Emerging Paradigm”

Dunning, Nicholas P., “Puuc Ecology and Settlement Patterns”

Kowalski, Jeff Karl, “The Puuc as Seen from Uxmal”

Kurjack, Edward B., “Political Geography of the Yucatecan Hill Country”

Robertson, Merle Greene, “The iconography of ‘Isolated Art Styles that are ‘Group Supported’ and ‘Individual Supported’ occurring at

Chichen Itza and Uxmal”  
 Tourtellot, Gair and Jeremy A. Sabloff, “Community Structure at  
 Sayil: A Case Study of Puuc Settlement”

**Prem, Hanns J., and Alfredo Barrera Rubio**

“Proyecto arqueológico región noroeste-central Puuc”. *Consejo de Arqueología: Boletín*. Consejo Nacional para la Cultura y las Artes; Instituto Nacional de Antropología e Historia (1991): 228-232.

Report of a systematic study of the archaeological site of Xkipché, 9 km south of Uxmal. The study attempts to help clarify the chronological and stylistic sequence in the Puuc area and to help in understanding outside influences. This is pursued through (in translation) “the complete excavation of a relatively well-preserved building, that serves to document and analyze the transition of an earlier stylistic complex toward the Puuc Classic” (p. 228). The authors conclude that the evidence, including the existence of reutilized elements in almost all the constructions at Xkipché, shows that the ancient inhabitants dismembered previous buildings to use in the construction of new ones. They note various unanswered questions raised by this conclusion. Unfortunately, the diagram of the archaeological zone is reproduced too small to read much of the detail, even the legend of symbols.

**Prem, Hanns J., and Nicholas P. Dunning**

“Investigations at Hunto Chac, Yucatan”. *Mexicon: Aktuelle Informationen und Studien zu Mesoamerika*. Vol. 24, No. 2 (April 2004): 26-36.

Puuc site, Hunto Chac, located 8 kilometers south of Uxmal and 10 kilometers north-west of Kabah. In addition to valuable comparisons with other Puuc sites, of special importance for the study of Uxmal is the report on an occasionally mentioned *sacbé* connecting Hunto Chac with Uxmal. The authors report: “A systematic search was made around the northern end of Group D in an attempt to locate the rumored intersite *sacbe* to Uxmal. A search was also made along a 1.2 km-long east-west transect about 500 m north of the site center. Neither search was able to locate any trace of an intersite *sacbé*. These searches do not eliminate the possibility that such a roadway exists, but we now consider that such a link to Uxmal is unlikely. We suspect that the prominence of the intra-site *sacbe* at Hunto Chac may have given rise to the local belief of an ancient roadway linking the sites” (p.27).

**Proskouriakoff, Tatiana**

“Civic and Religious Structures of Mayapan”. *Mayapan, Yucatan, Mexico*: 87-164. H.E.D. Pollock, Ralph L. Roys, T. Proskouriakoff, and A. Leyard Smith. Carnegie Institution of Washington, Publication 619. Washington, D.C., 1962

Although based on study of Mayapan, the lists and four pages of drawings in this article provide the clearest depiction and descriptive names available for the large variety of stones used in Puuc architecture (pp. 146-153, unnumbered). Among others, these include boot-shaped vault stones, wall stone, coping stone, molding stone, and gutter spout from roof (fig. 4); eyepiece of masks, fillets of mask headdresses, scroll elements, mask earplug, interlacing strand motifs, dentate



squares, S-scroll elements, mat or grid motif, cross element, dentate triangles from dentate zigzag motif, stepped triangle, fret, guilloche or bead-and-fringe motif, dentate elements used diagonally in zigzag, serpent head, spool elements, nose of mask, fret elements, guilloche, mouth elements of serpent motif, and rosettes (fig. 5); serpent tails, serpent heads, and human hands of monster (fig. 6); and serpent head, tenoned serpent heads of Toltec type, serpent-eye elements, serpent-mouth elements, stucco figures on columns, stucco monster at foot of serpent column, stucco figure of jaguar, and stucco statue (fig. 7). **These drawings are detailed and remarkably clear, invaluable.**

## R

### **Ramirex Aznar, Luis A.**

*Puuc*. Mérida, 1978 (2<sup>nd</sup> ed.)

### **Ramirex Aznar, Luis A.**

*Puuc: testimonios del pueblo Maya*. Colección Voces de Yucatán, Vol. 15,. Mérida: Maldonado Editores, 1983.

### **Reindel, Markus**

“El abandono de las ciudades puuc en el norte d Yucatán”. *50 años de estudios americanistas en la Universidad de Bonn: Nuevas contribuciones a la arqueología, etnohistoria, etnolingüística y etnografía de las Américas*, ed. Sabine Dedenbach-Salazar Sáenz, et al.: 239-258. Markt Schwaben: Verlag Anton Saurwein, 1998.

### **Reindel, Markus**

“El apogeo de la arquitectura Puuc: voludion de una cultura del Clasico tardio en el norte del area Maya”. *Escondido en la Selva: arqueologia en el norte de Yucatan*, ed. Hanns J. Prem: 79-96. México, D.F.: Instituto Nacional de Antropologia e Historia; and Üniversidad de Bonn, 2003.

### **Reindel, Markus**

Review of “*Mayas del Puuc: Arqueología de la región de Xculuc, Campeche*. Dominique Michelet, Pierre Becquelin, and Marie-Charlotte Arnauld. Centre Francais D’Etudes Mexicaines et Centraméricaines, Mexico City, 2000”. Reviewed in *Latin American Antiquity* . Vol. 12, No. 3 (Sept. 2001): 343-345.

Although reviews are not generally included in this web bibliography, this excellent 3-page review should be referenced. The author notes the importance of previous Puuc studies, but states that the new publication, *Mayas del Puuc*, is **the most profound in its analysis of its archaeological information and our understanding of the Puuc, most notably in our ability to reconstruct the life of the inhabitants.**



There are 40 illustrations, outstanding diagrams and satellite maps, and well-chosen photographs which are unfortunately rather washed out.

**Rivera Dorado, Miquel**

“Principios de la manifestacion cultural Puuc”. *Escondido en la Selva: arqueologia en el norte de Yucatan*, ed. Hanns J. Prem: 219-234. México, D.F.: Instituto Nacional de Antropología e Historia; and Universidad de Bonn, 2003.

**Ruppert, Karl, and Alfred L. Smith**

“House Types in the Environs of Mayapan and at Uxmal, Kabah, Sayil, Chichen Itza and Chac-chob”. *Carnegie Institution of Washington, Current Reports*. No. 39. Cambridge, M.A.: Carnegie Institution of Washington, 1957.

**Ruz Lhuillier, Alberto**

“Informe de las exploraciones y reconstrucciones en Yucatán temporada 1953 en las Zonas Arqueológicas de Uxmal, Kabah y Sayil. Estado de Yucatán, varios, Tomo 4: 1942, 1953, 1955. Archivo Técnico del Departamento de Monumentos Prehispánicos INAH, Tomo 145. México, D.F.: 1953.

**Ruz Lhuillier, Alberto**

*Exploraciones y Reconstrucciones en Yucatán: Uxmal-Kabah-Sayil; temporada 1953*. Dirección de Monumentos Pre-hispánicos. Informe 1. México, D.F.: Instituto Nacional de Antropología e Historia, México, 1955.

This was the first in what was a new series of INAH reports publishing the activities of the INAH since 1913, when the INAH was created. The preface states that the archives of the Dirección de Monumentos Prehispánicos house eighty-four volumes containing reports of their archaeologists from 1915 to date. This first report, by Alberto Ruz L., provides a fourteen page text describing work at Uxmal, Kabah, and Sayil, along with twenty-three informative photographs and three diagrams.

Especially instructive are 5 pairs of photographs showing the same portion of a building before and after a restoration season. As so often in publications, the pairs are not illustrated on the same or facing pages. Perhaps most valuable is a 3 page fold out drawing showing a hypothetical reconstruction of the architrave of the lower Temple I of the Pyramid of the Magician.

S

**Sabloff, Jeremy**

“Review of *The Puuc: An Architectural Survey of the Hill Country of Yucatan and Northern Campeche, Mexico* by H. E. D. Pollock”. *The Hispanic American Historical Review*, 1981: 507-508.

Available on the web through JSTOR at:  
<http://www.jstor.org/view/00182168/di008644/00p0511e/0>  
 (accessed 2007 Dec. 8)

**Sáenz, César A.**

“Exploraciones y restauración en Yucatán”. *Boletín del Instituto Nacional de Antropología e Historia (INAH)*, No. 31: 17-23. México, D.F.: Instituto Nacional de Antropología e Historia, 1968.

A report of the archaeological work carried out at Uxmal and Xlapak in 1965, written by the director of the project. As one of the very few early published reports of conservation, restoration and reconstruction in the Puuc region, it is especially valuable. The first third of the article (1 page of text and 5 photographs) describes work carried out on the House of the Doves, Uxmal. The principle aim was to save the roofcomb from further collapse. As the author states, it had almost miraculously survived, especially given the progressive collapse of the building beneath. Exploration of the stone debris on either side of the central wall supporting the roofcomb revealed 10 rooms on the north side facing the Quadrangle on the north side and 8 rooms on the south side facing the Quadrangle on the south side. These rooms were cleaned and partly reconstructed, most importantly providing a wider roof to support the roofcomb above. The director notes that the roofcomb “[in translation] was decorated with figures made of colorful painted stucco, which has become a famous part of the building”. Only a few remnants of these have survived into the 21<sup>st</sup> century. The photographs show before and after views of the north and south sides of the roofcomb and buildings below.

Most of the article describes the discovery, exploration, and reconstruction of the Palace at Xlapak. There are 2 full pages of text, a ground plan and cross-section, 3 drawings of masks on the frieze, and 3 photographs of the east façade of the Palace, taken before, during, and after consolidation and reconstruction. The extensive reconstruction of the frieze included both replacement of fallen stones and reproduction [“reproducias (esculpidas)”] of portions of the masks. To prevent further deterioration of vaults, the director emphasizes the necessity of waterproofing the roofs of all Maya buildings with a mixture of cement and stone dust, as he has done at this palace. Some ceramic evidence was found.

**Schmidt, Peter J.**

“El Puuc”. *Boletín del INAH*, No. 31: 17-23

**Schmidt, Peter J.**

“El Puuc y la secundencia de Chichén Itzá”. *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula; Acta Mesoamericana*, Vol. 7, ed. Hanns J. Prem: 389-394. First Maler Symposium, Bonn. Möckmühl, Germany: Verlag von Flemming, 1999 (not in the 1st ed. of 1994).

**Smith, C. Earle Jr., and M. L. Cameron**

“Ethnobotany in the Puuc, Yucatan. *Economic Botany*. Vol. 31 (1977); 93-110.

**Smyth, Michael P.**

"Architecture, Caching. And Foreign Contacts at Chac (II), Yucatan, Mexico. *Latin American Antiquity* (June 2006).

**Smyth, Michael P.**

"Before the Florescence: Chronological Reconstruction of Chac II, Yucatan, Mexico". *Ancient Mesoamerica*, Vol. 9 (1998): 137-150.

Apart from its importance in reporting on Chac and its chronological relationship to the Puuc region and beyond, this is a crucial article for arguing the importance of certain excavation techniques in order to provide secure bases for dating.

The article reports on 3 field seasons (1995-1997) at Chac II (Chac), the Yucatan, Mexico. Fig. 2 is a full-page "digitized map of the Great Pyramid Plaza and Hol-Be groups". The intent of the research was to establish an absolute chronology for the site, with implications for the entire Puuc region and beyond. Smyth concludes that "Chac, in particular, and the Puuc region—by extension—underwent significant cultural development well before the Terminal Classic period (A.D. 800-1000). Chac also appears to have experienced foreign influence, contacts, or both, from the southern Maya area, central Mexico, and Chichen Itza. These new chronological data suggest an earlier, longer developmental sequence for the Puuc region than has been traditionally supposed".

The author writes that "Unfortunately, chronological reconstructions for the region have not been rigorous and are largely based upon relative dating techniques using primarily architecture and ceramics. Furthermore, there are few chronometric dates taken from stratigraphic contexts necessary to place architectural and ceramic sequence in absolute time". Instead, this study is based on "independently linking architectural styles to ceramic sequences via a program of absolute dating" (p. 137). Smyth provides a detailed description of evidence, independently, for "Architectural Chronology", "Ceramic Sequences", and "Absolute Dating".

Smyth writes that "the paucity of chronometric dates from controlled contexts associated with ceramics and architecture has been a significant problem for the reconstruction of Puuc prehistory" but that "such data are obtainable if comprehensive stratigraphic excavations are conducted systematically" (p. 126).

**Smyth, Michael P.**

*Domestic Storage Behavior in the Puuc Region of Yucatan, Mexico: An Ethnoarchaeological Investigation*. Doctoral Dissertation, Department of Anthropology, University of New Mexico, 1988.

**Smyth, Michael P.**

“An Early Classic Center in the Puuc Region: New Data from Chac II, Yucatan, Mexico: *Ancient Mesoamerica*. Vol. 9, No. 2 (Fall 1998), 233-257.

**Smyth, Michael P.**

“Early Maya Urbanism in the Puuc Region: Archaeological Research at Chac II (1995-2000)”. *Escondido en la Selva: arqueología en el norte de Yucatan*, ed. Hanns J. Prem. México, D.F.: Instituto Nacional de Antropología e Historia; and Universidad de Bonn, 2003: 97-118.

Based on 6 seasons of research at Chac II (1995-2000), this paper provides detailed, systematic information on this recently rediscovered site that is serving as the basis for new understanding of the Puuc Region. Smyth has established that Chac II began to emerge in 300-500 AD, became a substantial settlement in 500-650 AD (Middle Classic), was a large center by 650-800 AD (Late Classic), and had largely disappeared by 800-1000 AD (Terminal Classic). This corrects the previous view that northern Yucatán developed significantly later than southern Maya centers. Smyth has also demonstrated long-distance contact with other Mesoamerican centers, most notably Teotihuacán, earlier than previously recognized. He has mapped some 100 architectural groups at Chac II. He describes various sculptural objects, ceramic and other artifacts, relating their characteristics to those at other sites in the Puuc Region and elsewhere. He provides a table of radiocarbon readings.

Especially important was the discovered “a remarkably intact pyramid substructure beneath the Great Pyramid dated to around 400 AD”, showing “that substantial stone architecture was being constructed in the heart of the Puuc region during the Early Classic period” (p. 116). Also important, he writes that the data gathered “strongly suggests a relationship with central Mexico that went beyond long-distance influence” suggesting that “the presence of foreigners at the site cannot be easily dismissed” (p. 118). Smyth concludes that “the site holds great promise for addressing the nature of cultural links between the Puuc region and the rest of Mesoamerica during the Early-Middle Classic periods, a time of strategic importance for the development of northern Maya urbanism and the rise of complex societies in Yucatan” (p. 118).

**Smyth, Michael P.**

“Ethnoarchaeological Research on Storage Behavior in the Puuc Region: Some Implications for Future Research at Sayil”. *Archaeological Investigations at Sayil, Yucatan, Mexico, Phase II: The 1987 Season*, ed. G. Tourtellot et. al.: Appendix. Anthropology Papers 2. Pittsburgh: University of Pittsburgh, 1989.

**Smyth, Michael P.**

“A Land with No Water: The Gruta de Chac and the Rise of the Puuc Maya”. *Archeology* (in press).

**Smyth, Michael P.**

“Maize Storage among the Puuc Maya: the Development of an Archaeological Method”. *Ancient Mesoamérica*: Vol. 1, No. 1 (1990): 51-70. Cambridge, England.

**Smyth, Michael P.**

*Modern Maya Storage Behavior/ Comportamiento de almacenaje entre los mayas modernos.*

**Smyth, Michael P.**

*Modern Maya Storage Behavior: Ethnoarchaeological Case Examples from the Puuc Region of Yucatán.* Memoirs in Latin American Archaeology, No. 3. Pittsburgh: University of Pittsburgh, 1990, 1991.

**Smyth, Michael P.**

“A New Study of the Gruta de Chac, Yucatán, México.” Report submitted to the Foundation for the Advancement of Mesoamerican Studies, Inc. (FAMSI). Report submitted 1998 Dec. 1.

On the web at:

<http://www.famsi.org/reports/97011/index.html>

(accessed 2007 Nov. 18)

This is an especially rich report of **new findings resulting from a new study of the Chac cave conducted summer 1998**. The cave is less than 1 km north of Chac II, which is thought to be “the original settlement from which nearby Sayil emerged” (p.2). Through cave exploration and excavation, settlement survey, ceramic analysis, neutron activated analysis, and radiocarbon dating, Smyth reaches several conclusions that further our understanding of this important center. Among these are that “the sites of Chac I and Chac II are one and the same” and that “the Gruta de Chac was contemporary with Chac II” (p. 5). Smyth provides multiple support for his conclusion that **the Gruta de Chac became not primarily a source of everyday drinking water but rather “one of their most sacred and holy places” in the Puuc area** (p. 6). There are 3 maps and diagrams and 6 photos.

**Smyth, Michael P.**

“Teotihuacán in the Puuc Region: Investigating an Early Foreign Presence at Chac II”. Report Submitted to FAMSI (Foundation for the Advancement of Mesoamerican Studies). Research year 2000.

On the web at:

<http://www.famsi.org/reports/99017/index.html>

(accessed 2006 Nov. 22)

When viewed on a computer monitor the images are in color, and when viewed at high resolution they are much clearer than in print.

Following his previous archaeological research, showing that “Chac II (Chac) has revealed a major center in the heart of the Puuc region dating to the Early Classic period (A.D. 300-600). Providing extensive, detailed excavation results, Smyth argues that “these various lines of evidence indicate that **Chac began to emerge in the Early**

Classic (A.D. 300-500), became a substantial settlement during the Middle Classic period (A.D. 500-650), and by the Late Classic (A.D. 650-800) covered up to 3 sq km with perhaps as many as 6000 inhabitants. The site appears to have become largely depopulated by the onset of the Terminal Classic period (A.D. 800-1000) when settlement patterns shift to the nearby and neighboring center of Sayil". (p. 1). The article includes a map, 2 ground plans, 10 color photographs, and a scholarly bibliography.

**Smyth, Michael P., and David Ortegón Zapata**

"Un estudio de la antigua comunidad de Chac II, Yucatán, México: Reporte final de las investigaciones arqueológicas de 1997". Reporte presentado en el Consejo de Arqueología del Instituto Nacional de Antropología e Historia, México [1997]

**Smyth, Michael P., and Daniel Rogart**

"A Teotihuacán Presence at Chac II, Yucatan, Mexico: Implications for Early Political Economy of the Puuc Region". *Ancient Mesoamerica*, Vol. 15, No. 1 (2004): 17-47

**Smyth, Michael P., Christopher D. Dore, Hector Neff, and Michael Glascock**

"The Origins of Puuc Slateware: New Data from Sayil, Yucatan, Mexico". *Ancient Mesoamerica*, Vol. 6 (1995): 119-134.

**Smyth, Michael P., José Ligorred P., David Ortegón Z., and Pat Farrell**

"An Early Classic Center in the Puuc Region: New Data from Chac II, Yucatán, México". *Ancient Mesoamerica*, Vol. 9 (1998): 233-257.

**Smyth, Michael P., et al.**

"Un estudio de la antigua comunidad de Chac II, Yucatán, México: Reporte final de las investigaciones arqueológicas de 1999". Reporte presentado en el Consejo de Arqueología del Instituto Nacional de Antropología e Historia, México [1999].

**Smyth, Michael P., et al.**

"Un estudio de la antigua comunidad de Chac II, Yucatán, México: Reporte final de las investigaciones arqueológicas de 1998". Reporte presentado en el Consejo de Arqueología del Instituto Nacional de Antropología e Historia, México [1998].

**Smyth, Michael P., et al.**

"Un estudio de la antigua comunidad de Chac II, Yucatán, México: Reporte final de las investigaciones arqueológicas de 1996". Reporte presentado en el Consejo de Arqueología del Instituto Nacional de Antropología e Historia, México [1996].

**Smyth, Michael P., et al.**

"Un estudio de la antigua comunidad de Chac II, Yucatán, México: Reporte final de las investigaciones arqueológicas de 1995". Reporte presentado en el Consejo de Arqueología del Instituto Nacional de Antropología e Historia, México [1995].



**Smyth, Michael P., et al.**

“Informe de la exploración en la Estructura del Dintel: Chac II. Yucatán, México, 1995.”. Informe presentado en el Consejo de Arqueología del Instituto Nacional de Antropología e Historia, México, 1995.

**Staines Cicero, Leticia**

“Uxmal y el estilo Puuc: semblanza de Marta Foncerrada”. *Arqueología Mexicana*, Vol. 2, No. 11 (Feb. 1995): 35-37.

A recounting of the studies of Marta Foncerrada published in the 1960s, describing **the originality of her stylistic approach and ideas resulting**. Staines Cicero emphasizes that it was the aesthetic-stylistic basis of Foncerrada’s studies that made possible her discovery of the relationship of Uxmal’s architectural sculpture to that of other regions and her identification of its originality and autonomy. This same approach served her in discovering (in translation) “the evolutionary schema that determined the stylistic sequence of the plastic symbols of Uxmal”. The author calls attention to Foncerrada’s revision of the five constructive phases of the Pyramid of the Magician (Adivino) and study of the origin and evolution of individual elements such as the column.

**Staneko, Justine Cecilia**

*Peeking at the Puuc: New Views on the Design, Engineering, and Construction of Ancient Maya Architecture from Yucatan and Northern Campeche, Mexico*. Ph.D. dissertation, 1996. Department of Architecture, University of California, Berkeley. Ann Arbor, Michigan: University Microfilms, 2000.

This is **the most detailed engineering study of Puuc construction**, based partly on the author’s “two-week long trips” to the Puuc area “in 1986, 1989 and 1994” and “one nine week season in 1990, where most of the time was spent at the site of Sayil” (p. 8). The study is rigorous in its approach and has much to offer, but it is unfortunate to find the author exaggerating the originality of its contribution and misrepresenting previous scholarly opinion on the central concept of his thesis.

The volume is divided into 2 sections: 119 pages on “The Architecture” and 45 pages on “Construction”. There is a 7 page bibliography followed by 134 pages of important appendices. The author notes that his study does not concern itself with architectural style, utilitarian functions, chronological sequence, or what the architecture suggests of social organization. Part 1 is a systematic account of Puuc building plans, materials, components, and stability and structural design. In this section the author provides a rigorous classification of these aspects of Puuc architecture, with descriptions and comments. Part 2 describes the “Order and Sequences of Construction Tasks and Puuc Approaches to Construction” and “Methods and Techniques of Puuc Vaulting and Erection Procedures”. Although this is the shorter section, it is the focus of his study. The central claim of originality for the thesis is that Puuc architecture was not based on corbelled structure. It is astonishing to read on page 1 of a 1996 doctoral dissertation:

“It is not only a popular notion . . . but a longstanding practice among Mesoamerican scholars themselves to see the monumental, arcuated forms of the ancient Maya as

‘corbel structures’”. “What is more, this way of seeing stands until this time as our only way of seeing ancient Maya architecture. For nearly a century, the ‘corbel view’ alone has served as the conceptual foundation from which all of our understanding, interpretations and explanations of ancient Maya architecture spring. . . . this view of Maya architecture has never been empirically challenged” (p. 1). Wow! **It is true that many Maya specialist have published unfortunate generalizations about the structure of Maya architecture, not recognizing the diversity of construction technologies. However, for decades Maya scholars have described Puuc architecture and vaults as concrete-rubble core with so-called “veneer” surface stones, not corbelled structures.** As George Andrews has pointed out, this is itself an oversimplification, since the transition to so-called “veneer” facing stones occurred gradually during the development of Puuc architecture. Possibly because it was published the year before his dissertation was accepted, Staneko does not mention the most important, closely-related preceding scholarly study of Puuc construction technology, in which George Andrews distinguishes 4 phases of Puuc vault construction (“Puuc Construction Technology—Early to Late”: 113-126; Appendix 1 of “The Puuc Regions and Architectural Styles: A Reassessment”, *Architecture of the Puuc Region and the Northern Plains Areas*, 1995: 2-131; based on a 1982 symposium paper).

Nevertheless, there are important observations along the way. **Staneko’s discussion of the likelihood of wooden framework for the construction of vaults and his recommendation for a reconstructable, systematic, step-by-step dismantling of a Puuc building to document its construction are especially valuable.** The 35 page appendix of “Architectural and Construction Notes on Some Ruins of Sayil, Yucatan. Mexico” and 42 page “Glossary of Architectural, Construction, and Engineering Terms” and diagrams of vault and other construction types are highly valuable.

## T

### **Tourtellot, Gair**

“Puuc”. *The Oxford Encyclopedia of Mesoamerican Cultures: The Civilizations of Mexico and Central America*. Vol. 1: 42-43. Ed. David Carrasco. 3 vols. Oxford University Press, 2001.

The author points out that the word “Puuc” is used to describe both its geographical area and its architectural style, which spread well beyond its region. Tourtellot describes the natural conditions of the Puuc region, especially the unusually fertile soil for agriculture but the unusually scarce water, because of the regions elevation above the water table. Regarding art and architecture, he notes that there are few carved stone monuments in the region and that Puuc region architecture has been unusually well preserved because of its remoteness.

### **Tourtellot, Gair, and Jeremy A. Sabloff**

“Community Structure at Sayil: A Case Study of Puuc Settlement”. *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula; Acta Mesoamericana*, Vol.7, ed.

Hanns J. Prem: 71-92. First Maler Symposium, Bonn, 1990, Möckmühl, Germany: Verlag von Flemming, 1994 (2<sup>nd</sup> ed. 1999).

A review and update of the publications by Sabloff, Tourtellot, Beyer and McAnany, which had been based on on-site research 1983-1988. This research continues to constitute the only in-depth study of the layout and full range of architectural and spatial features for any Puuc city. The authors had concluded that, within its regional context, Sayil's borders were marked and largely identifiable. They write that "Sayil differs from the well-known amorphous, and seemingly endless, Maya settlements of the Classic period to the south; Sayil more closely resembles later Mayapan, although without a peripheral wall" (p. 71). They had concluded that, internally, Sayil was dispersed, approximating a "garden city, retaining considerable areas of open terrain between clusters of residential buildings" (p. 71). Of special interest was the proposal of a possible "central marketplace or fair ground".

In this 1991 article, Tourtellot and Sabloff bring these findings up-to-date and discuss more recent data by Dunning, Smyth/Dore and others, which have raised major alternative interpretations (pp. 77-79). The most interesting question with which they conclude is "whether the apparent residential nucleation of Sayil and other Puuc cities is merely an historical by-product of a truncated growth trajectory or a deliberate and protected mode of community organization" (p. 91).

### **Tourtellot, Gair, and Jeremy A. Sabloff**

"Puuc Development as seen from Sayil". *Hidden among the Hills: Maya Archaeology of the Northwest Yucatan Peninsula*, ed. Hanns J. Prem. Mockmühl: von Fleming, 1994.

## U

### ***Uxmal/Kabah/Sayil: Official Guide.***

México, D.F.: Instituto Nacional de Antropología e Historia (INAH), 1963.

## V

### **Varela Torrecilla, Carmen**

"La genesis de la estructuracion politica del area Puuc: una cuestion pendiente. *Estudios de cultura maya*, Vol. 22 (2002): 63-74.

### **Varela Torrecilla, Carmen, and Alain Leclaire**

"Systemes de production et circulation des ceramiques puuc (analyse pétrographique)". *Journal de la Société des Américanistes de Paris*. Vol. 85 (1999): 353-365.

### **Vidal Lorenzo, Christina and Gaspar Munoz Cosme**

“La arquitectura de las ciudades Mayas del area Puuc, Yucatan”. *Simposio de investigaciones Arqueológicas en Guatemala*. Guatemala: Ministerio de Cultura y Deportes, Instituto de Antropología e Historia, 1997; 351-366.

**Vidal Lorenzo, Christina and Gaspar Munoz Cosme**

“Nuevas aportaciones a la evolucion arquitectonica en el area Puuc”. *Perspectivas antropológicas en el mundo maya*. Sociedad Espanola de Estudios Mayas, Pub. 2. Ed. Josefa Iglesias Ponce de León, and Francesc Ligorred Perramon: 225-235. Madrid: Departamento de Historia de América II, Facultad de Geografía e Historia, Universidad Complutense; Instituto de Cooperación Iberoamericana, 1993.

The authors attempt to establish stylistic groupings for Puuc architecture, hoping thus to establish a more secure chronological sequence. They review previous attempts at classification, providing an excellent summary of the approach of George Andrews. Vidal Lorenzo and Munoz Cosme claim that Andrews’ approach, valuable as it is, places almost exclusive importance on formal characteristics. Instead of Andrews’ classification of architectonic, constructive, and decorative; they propose a classification of (1) technological constructive, (2) typological functional, and (3) esthetic-formal. They claim to slightly contradict Andrews’ chronological thesis by proposing that the eastern Puuc and western Puuc styles developed somewhat differently, with western Puuc sites such as Oxkintok declining, while the maximum blossoming of the Puuc style was achieved in the later phases of development at Uxmal in the eastern Puuc.

## W

**Williams-Beck, Lorraine Annette**

*El Dominio de los Batabob: el área Puuc occidental campechana*. Campeche, México: Secretaría de Educación Pública: Universidad Autónoma de Campeche, 1998.

## Z

**Zapata Alonzo, Gualberto**

*Guide to Puuc Region: Uxmal, Kabah, Xlaapaak, Sayil, Labná*. Mérida: Produccion Editorial Dante, (n.d.,1983).

Although titled a guide, this is a 110 page account by an archaeological expert, more detailed and scholarly than guide books normally available. For example, about the West Building of the Nunnery, he writes: “Some years ago, a hole was dug in the rear platform of the western building, which clearly allowed us to see the upper part of an arch and some of the stones used to seal it. This hole was covered when the Light and Sound Show installations were put in. This tells us . . . that the western building was built over an existing structure” (p. 42).

Although most of the illustrations are small, it is remarkable to see 90 photographs and drawings, 13 of which are in color. A few of these are rare, especially 7 photographs by the author, with text, showing the “sequence of restoration, in 1972-73, of the Great Pyramid by archaeologist Cesar Sáenz of the I.N.A.H. of México” (pp. 63-66). 6 of the illustrations are aerial photos by José López Nájera.

In one of the most specific summaries of the architectural qualities of Uxmal, the author writes: “it has been unequivocally stated that the architecture at Uxmal was the most beautiful of the American continent during Pre-Hispanic times – its fine finish, the delicacy of its soft lines, the proportions of its majestic buildings, and the richness of its varied reliefs, are all indications of its builder’s high sense of esthetics” (p. 27).

