

Early Monumentality in the Belize River Valley: Excavations of a Preclassic E-Group at Cahal Pech, Belize

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Recent investigations at Cahal Pech, Belize, documented a previously unrecognized Middle Preclassic (700–500 cal BC) E-Group complex. Located in an open public plaza, the monumental complex likely functioned as a forum for communal public events. In the Late Preclassic, the E-Group was replaced by an ancestor shrine where several royal tombs are located, as well as buildings separating public civic space from private elite space. These shifts in monumental construction temporally track the development of ideological manifestations of power and provide evidence for the formalization of dynastic rulership by an emerging elite class.

Keywords: Preclassic Maya, monumental architecture, E-Group, Cahal Pech, Belize

Investigaciones recientes en el sitio de Cahal Pech, Belice, han documentado un complejo Grupo Tipo E desconocido del Preclásico medio (~700-500 aC). Situado en una plaza pública, el complejo monumental funcionaba como un foro para eventos públicos. En el Preclásico tardío, el Grupo Tipo E fue reemplazado por un santuario ancestral donde se encuentran varias tumbas reales, así como edificios que delimitan el espacio cívico público del espacio privado de élite. Estos cambios en la construcción monumental rastrean temporalmente el desarrollo de manifestaciones ideológicas del poder y proporcionan evidencia para la formalización del gobierno dinástico por parte de una clase de élite emergente.

Palabras claves: Preclásico Maya, arquitectura monumental, Grupo Tipo E, Cahal Pech, Belice

Elaborately constructed temple pyramids situated within large public plazas appeared across the southern Maya Lowlands during the Middle Preclassic period (1000/900–300 BC; Doyle 2017; Inomata et al. 2013, 2020; Powis et al. 2019), serving as a location of community gatherings (Doyle 2012). These permanent masonry structures required intensive planning and large-scale resource mobilization (including labor), suggesting their construction under a centralized authority (Chase and Chase 2017:59; Laporte and Fialko 1995). A common type of Middle Preclassic monumental construction was the E-Group assemblage. Numerous studies from the Petén, Guatemala, have documented these architectural complexes and

their orientations (see Aimers and Rice 2006; Doyle 2017; Freidel et al. 2017), with the archetype at Uaxactun aligned to view the sunrise during the solstices and equinoxes (Blom 1924:60; Ricketson 1928). Typical Uaxactun-style E-Groups include a large radial (four-sided, square) platform on the west side of an open plaza, with staircases on the four cardinal directions. To the east was a longer north-to-south platform with three superstructures.

In the Belize River Valley of western Belize (Figure 1), archaeologists have suggested that late Middle Preclassic (700–300 BC) monumental architecture is different from that in the Petén (Aimers and Rice 2006:86; Awe et al. 2017). Whereas Uaxactun-style E-Groups are common

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Figure 1. Map of Maya Lowlands with distribution of E-Groups and Eastern Triadic Assemblages.

in the Petén, for example, they are less widespread in western Belize. Instead, morphologically distinct architectural groups referred to as Eastern Triadic Assemblages dominate public plazas at Belize Valley sites (Awe et al. 2017). Eastern Triadic Assemblages have three freestanding structures on the eastern side of the plaza, typically without an associated western building. Instead, a tall central structure is flanked by shorter northern and southern buildings, each with its own construction history (Awe et al. 2017).

Investigations by the Belize Valley Archaeological Reconnaissance (BVAR) Project at Cahal Pech, Belize, noted that the earliest phases of the site's Eastern Triadic Assemblage date to the Middle Preclassic (Figure 2). The limited extent of excavations, however, precluded an accurate functional assessment of the buildings' earliest construction phases. Excavations of later Late Preclassic and Classic architectural phases indicate that the Triadic Assemblage became the site's elite mortuary shrine, when a total of 13 royal burials were sequentially

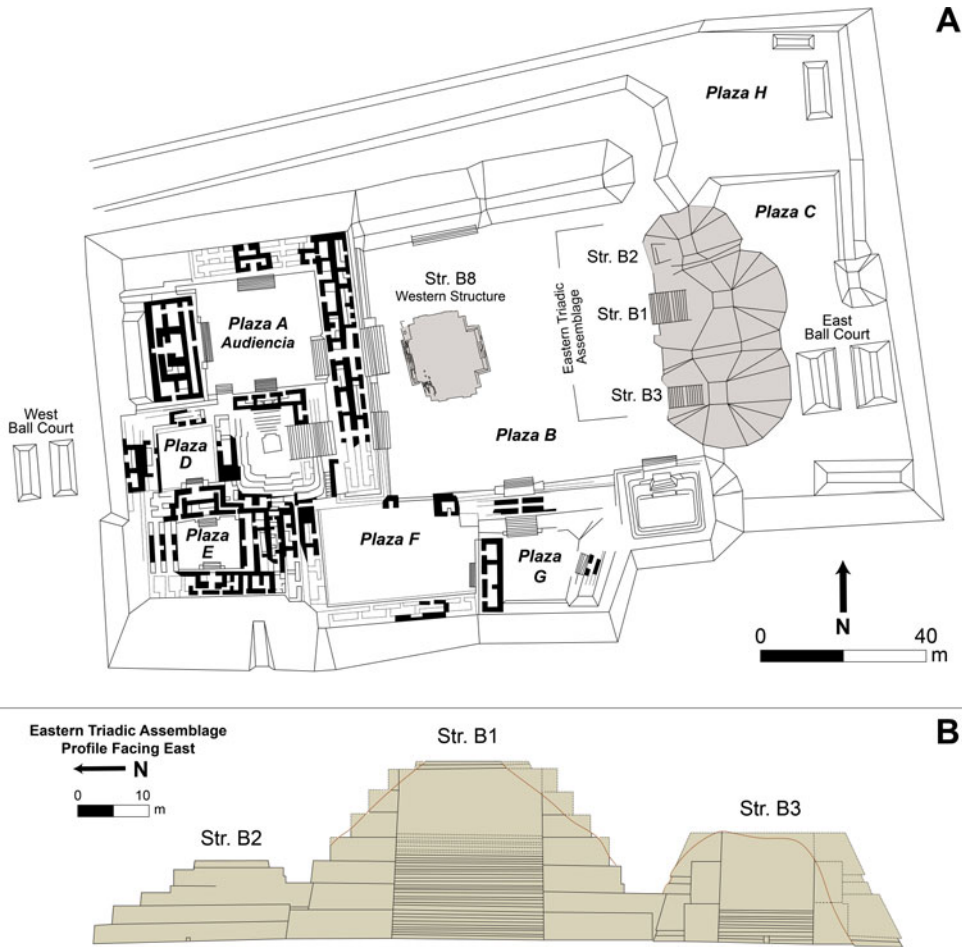


Figure 2. Cahal Pech epicenter showing (A) Eastern Triadic Assemblage and Structure B8, and (B) profile of the Classic period Eastern Triadic Assemblage.

deposited in Structure B1, with an additional six burials placed in the two flanking structures (Awe 2013).

Recent excavations in Plaza B at Cahal Pech uncovered a large Middle Preclassic building below the plaza that we identified as the western radial pyramid of a Uaxactun-style E-Group. This recent discovery indicates that elements of the Uaxactun-style building plan may be more common in the Belize Valley than previously believed, and that monumental buildings played an important role in community life at Cahal Pech by the Middle Preclassic. We also suggest that the shift from an E-Group to an Eastern Triadic Assemblage likely reflects changes in socio-political and dynastic rulership patterns during the transition into the Classic period.

E-Group Excavations in Plaza B

Excavations conducted by the BVAR Project from 2017 to 2019 exposed the western structure of an E-Group at Cahal Pech. This previously unidentified building, designated as Structure B8, represents the largest, most elaborate Middle Preclassic construction yet documented at the site (Ebert 2018; Ebert et al. 2019). Previous excavations provided limited exposures of Preclassic structures within the Cahal Pech epicenter, including low platforms constructed out of one or two courses of cut limestone blocks (Awe 1992; Peniche May 2016). The initial 2017 excavations of Structure B8 (20 m²) encountered a centrally located stairway on the western side of the building, as well as a flanking



Figure 3. Exposed architecture of Structure B8/2nd (west façade), with earlier construction phases exposed in middle. (Color online)

stairside-outset to the south (Figure 3). The centerline of the western stairway aligned with the Structure B1 centerline, the central structure of the Eastern Triadic Assemblage located 45 m to the east, indicating an association between the buildings.

Horizontal excavations in 2018 and 2019 (115 m²) continued exposing Structure B8 to determine its dimensions and function. The west façade was completely exposed, measuring 20 m north to south (Figure 4). Although the southern extent of the west façade was poorly preserved, the north side was intact. This part of the building was composed of three to five courses of cut stone blocks and measured approximately 1.5 m tall. The northern façade of Structure B8 was also well preserved, measuring approximately 12.5 m in length. The 2019 excavations revealed that the eastern façade of the structure was very poorly preserved, though it may have originally had a central stairway. It also appears that Structure B8 was taller than it currently stands. The presence of megalithic blocks on top of intact architecture suggests that the upper section of the structure was torn down and used as fill to facilitate expansion of

Plaza B in the Late Preclassic, similar to other E-Group construction histories in the Petén, such as at San Bartolo (Saturno et al. 2017). This partial destruction of Structure B8 also explains the poor preservation of the building's eastern side.

AMS ¹⁴C dating provides a precise chronology for the five construction phases of Structure B8 (Table 1 and Figure 5; see Ebert et al. 2019). Because no primary deposits, such as caches or burials, were encountered during excavations, charcoal samples were collected from fill inside the platform and analyzed at the Penn State Radiocarbon Facility (Ebert and McGee 2020:8). Although the earliest date, which was sampled on top of the bedrock (PSUAMS-5863), is too early for the context, dates for Structure B8/1st indicate initial construction after 1000 cal BC, consistent with construction histories for other Preclassic buildings at Cahal Pech. Dates indicate that Structure B8/2nd, the most substantial phase of construction, occurred between ~735 and 405 cal BC. High frequencies of Middle Preclassic Mars Orange sherds, along with a few Early Preclassic (1200–900 cal BC) Cunil sherds in the building's fill, are consistent



Figure 4. Plan map of Structure B8 excavations.

Table 1. AMS Radiocarbon Dates from Structure B8 Excavations.

Lab Number	Context	Conventional ^{14}C yr (BP)	2σ Calibrated Range
PSUAMS-5863 ^a	Below Structure B8, on bedrock	8195 ± 35	7330–7070 BC
PSUAMS-6764	Structure B8/1st, paleosol below Floor #4	2800 ± 20	1015–900 BC
PSUAMS-6755	Structure B8/1st, paleosol below Floor #4	2785 ± 20	1010–845 BC
PSUAMS-5862	Structure B8/2nd, on Floor #4	2425 ± 20	735–405 BC
PSUAMS-6763	Structure B8/2nd, on Floor #4	2465 ± 20	760–420 BC
PSUAMS-5861 ^b	Structure B8/3rd, below Floor #3	60 ± 15	AD 1695–1910
PSUAMS-6762	Structure B8/4th, below Floor #2 (penultimate)	2165 ± 20	355–110 BC
PSUAMS-6761	Structure B8/5th, below Floor #1 (terminal)	2395 ± 20	540–400 BC

^aDate too early for the context.

^bDate too late for the context.

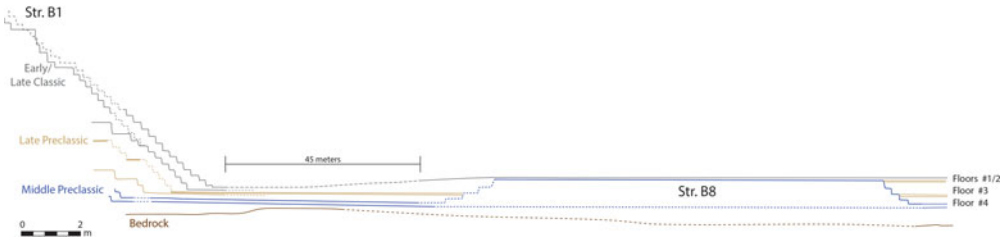


Figure 5. Plaza B profile showing associations between Middle Preclassic components of Structure B1 and Structure B8. (Color online)

with these dates. The structure underwent subsequent modifications after this time, but dates for Structure B8/3rd–5th are more difficult to determine. These contexts are just below the modern ground surface at Cahal Pech, an archaeological park with heavy foot traffic, and they have experienced considerable bioturbation resulting in contextual mixing. Very few Late Preclassic sherds were recovered from excavations, however, suggesting that its construction had likely ceased by this time.

The Middle Preclassic artifact assemblage, associated with Structure B8/2nd, includes figurines and lithic materials and faunal remains

indicative of local craft production. A total of 32 figurine fragments, including zoomorphic figures and human heads, torsos, and other appendages, were recovered, the majority resembling Mars Orange pastes (Figure 5). High frequencies of chert microdrills ($n = 396$) made from burin spalls modified into bi-tipped tools were also recovered; they were previously identified as part of the tool kit for marine shell bead production in the Belize Valley (e.g., Hohmann et al. 2018:133). Finished shell beads ($n = 29$) in different stages of the production sequence were also found in association with Structure B8, as well as more than 300 pieces of micro-debitage



Figure 6. Examples of figurines from Structure B8. (Color online)

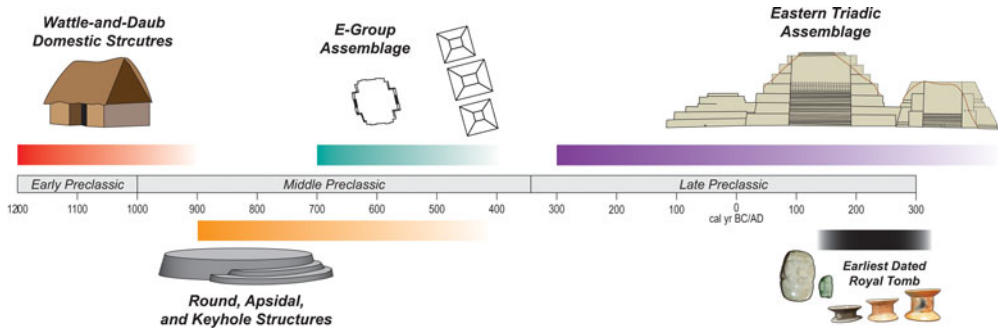


Figure 7. Chronology for monumentality at Cahal Pech. (Color online)

and unshaped shell fragments with drilled holes (Figure 6). Shell artifacts include Caribbean Sea species *Lobatus gigas* (Queen conch) and *Strombus alatus* (Florida fighting conch; Chrisina Burke, personal communication 2019). Because of the high frequencies of these artifacts, we suggest that the location of the building may have been used as a shell bead production site.

Discussion and Conclusions

Before our 2017 excavations, little was known about the presence, let alone the form or function, of any Middle Preclassic platform on the far west side of Plaza B at Cahal Pech. Based on results from the 2017–2019 field seasons, we hypothesize that Structure B8 functioned as the western structure of a Uaxactun-style E-Group, which complemented an eastern component of the assemblage deeply buried below the site's Classic period Triadic Assemblage. Documentation of Structure B8, along with previous excavation data, allows us to create a precise chronology for the development of monumentality at Cahal Pech (Figure 7). The earliest architecture at Cahal Pech (Cunil ceramic phase) consisted of a series of superimposed living surfaces composed of tamped earth floors supporting wattle-and-daub superstructures (Awe 1992; Peniche May 2016). These domestic buildings were radiocarbon dated to ~1200–1000 cal BC (Ebert et al. 2017).

Public buildings replaced small domestic structures beginning around 900 cal BC, when the Middle Preclassic inhabitants of Cahal Pech invested in the construction of formal masonry

buildings. Excavations and ^{14}C dating document the construction of larger temple structures by 750 cal BC (Ebert et al. 2017). Relative ceramic dates place the first architectural phase of Structure B1 (the central structure of the eastern shrine) to this time (Awe et al. 2017). This is also when the initial construction of Structure B8 began, suggesting that the buildings were built concurrently as a single assemblage. In addition, the presence of this building indicates that elements of Uaxactun-style E-Group architecture, including radial western platforms, were more widespread in the Belize Valley than previously thought, indicating significant connections with neighboring subregions of the Maya Lowlands.

At the beginning of the Late Preclassic, Plaza B was expanded. It is at this time when we suggest that the focus shifted from the E-Group assemblage to the Eastern Triadic Assemblage on the east side of Plaza B, resulting in the partial destruction and interment of Structure B8. In addition to the reorganization of public architecture at Cahal Pech, other artifacts recovered in association with Structure B8 reflect changes in social and community organization from the Middle to Late Preclassic. Figurines become less common during the Late Preclassic (Peniche May et al. 2018) and were replaced by large stucco masks and monuments that were placed in front of temple structures. These shifts are contemporaneous with the construction of the largest monumental buildings at Cahal Pech, suggesting that elites began to use art and architecture to publicly manifest and display their more elevated status in the society. Therefore, architectural shifts in the Late Preclassic are likely linked to the formalization of dynastic

ruledship, when communally oriented ritual space was replaced by an elite shrine (Eastern Triadic Assemblage) and by buildings demarcating private elite space (Brown 2017). Direct dating of the earliest royal burial at Cahal Pech suggests these changes were firmly in place by at least ~cal AD 150–300 (Novotny et al. 2018). Excavations of Middle Preclassic monumental buildings, like Structure B8, aid in documenting the origins of monumentality and its relationship with the development of dynastic traditions. Future excavations will systematically target additional components of Cahal Pech's E-Group to document its construction history more precisely.

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Data Availability Statement. Open-access published field reports (2017–2019 field seasons) can be found at <https://www.bvar.org/publications>. Original field notes, drawings, and photographs are curated by BVAR and available on request.

References Cited

- Aimers, James J., and Prudence M. Rice
2006 Astronomy, Ritual, and the Interpretation of Maya “E-Group” Architectural Assemblages. *Ancient Mesoamerica* 17:79–96.
- Awe, Jaime J.
1992 Dawn in the Land between the Rivers: Formative Occupation at Cahal Pech, Belize, and Its Implications for Preclassic Development in the Central Maya Lowlands. PhD dissertation, Institute of Archaeology, University of London, London.
2013 Journey on the Cahal Pech Time Machine: An Archaeological Reconstruction of the Dynastic Sequence at a Belize Valley Maya Polity. *Research Reports in Belizean Archaeology* 10:33–50.
- Awe, Jaime J., Julie A. Hoggarth, and James J. Aimers
2017 Of Apples and Oranges: The Case for E Groups and Eastern Triadic Architectural Assemblages in the Belize River Valley. In *Maya E Groups: Calendars, Astronomy, and Urbanism in the Early Lowlands*, edited by David A. Freidel, Arlen F. Chase, Anne S. Dowd, and Jerry Murdock, pp. 412–449. University Press of Florida, Gainesville.
- Blom, Frans
1924 Report on the Preliminary Work at Uaxactun, Guatemala. *Carnegie Institution of Washington Yearbook* 23:217–219.
- Brown, M. Kathryn
2017 E Groups and Ancestors: The Sunrise of Complexity at Xunantunich, Belize. In *Maya E Groups: Calendars, Astronomy, and Urbanism in the Early Lowlands*, edited by David A. Freidel, Arlen F. Chase, Anne S. Dowd, and Jerry Murdock, pp. 386–411. University Press of Florida, Gainesville.
- Chase, Arlen F., and Diane Z. Chase
2017 E Groups and the Rise of Complexity in the Southeastern Maya Lowlands. In *Maya E Groups: Calendars, Astronomy, and Urbanism in the Early Lowlands*, edited by David A. Freidel, Arlen F. Chase, Anne S. Dowd, and Jerry Murdock, pp. 31–71. University Press of Florida, Gainesville.
- Doyle, James A.
2012 Regroup on “E-Groups”: Monumentality and Early Centers in the Middle Preclassic Maya Lowlands. *Latin American Antiquity* 23:355–379.
2017 *Architecture and the Origins of Preclassic Maya Politics*. Metropolitan Museum of Art, New York.
- Ebert, Claire E.
2018 Preclassic Plaza Investigations at Cahal Pech, Belize: Results of the 2017 Excavations in Plaza B. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2017 Field Season*, pp. 1–47. Electronic document, <http://bitly.ws/9zgc>, accessed March 11, 2020.
- Ebert, Claire E., Nancy Peniche May, Brendan J. Culleton, Jaime J. Awe, and Douglas J. Kennett
2017 Regional Response to Drought during the Formation and Decline of Preclassic Maya Societies. *Quaternary Science Reviews* 173:211–235.
- Ebert, Claire E., and James McGee
2020 Structure B8 at Cahal Pech, Belize: The 2019 Excavations of a Middle Preclassic E-Group. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2018 Field Season*, pp. 1–25. Electronic document, <https://bit.ly/3jFzGsp>, accessed June 27, 2020.
- Ebert, Claire E., James McGee, Krystal Dudash, and Mark Porter
2019 Early Monumentality in the Belize River Valley: Excavations of a Preclassic E-Group Assemblage at Cahal Pech, Belize. In *The Belize Valley Archaeological Reconnaissance Project: A Report of the 2018 Field Season*, pp. 1–23. Electronic document, <http://bitly.ws/9zgc>, accessed June 3, 2020.
- Freidel, David A., Chase, Arlen F., Anne S. Dowd, and Jerry Murdock (editors)
2017 *Maya E-Groups: Calendars, Astronomy, and Urbanism in the Early Lowlands*. University Press of Florida, Gainesville.
- Hohmann, Bobbi, Terry G. Powis, and Paul F. Healy
2018 Middle Preclassic Maya Shell Ornament Production: Implications for the Development of Complexity at Pacbitun, Belize. In *Pathways to Complexity: A View from the Maya Lowlands*, edited by M. Kathryn Brown and George J. Bey III, pp. 117–146. University Press of Florida, Gainesville.
- Inomata, Takeshi, Daniela Triadan, Kazuo Aoyama, Victor Castillo, and Hitoshi Yonenobu
2013 Early Ceremonial Constructions at Ceibal, Guatemala, and the Origins of Lowland Maya Civilization. *Science* 340:467–471.
- Inomata, Takeshi, Daniela Triadan, Verónica A. Vázquez López, Juan Carlos Fernandez-Diaz, Takayuki Omori, María Belén Méndez Bauer, Melina García Hernández,

- Timothy Beach, Clarissa Cagnato, Kazuo Aoyama, and Hiroo Nasu
2020 Monumental Architecture at Aguada Fénix and the Rise of Maya Civilization. *Nature* 582:530–533.
- Laporte, Juan Pedro, and Vilma Fialko
1995 Un reencuentro con Mundo Perido, Tikal, Guatemala. *Ancient Mesoamerica* 6:41–94.
- Novotny, Anna C., Jaime J. Awe, Catharina E. Santasillia, and Kelly J. Knudson
2018 Ritual Emulation of Ancient Maya Elite Mortuary Traditions during the Classic Period (AD 250–900) at Cahal Pech, Belize. *Latin American Antiquity* 29:641–659.
- Peniche May, Nancy
2016 Building Power: Political Dynamics in Cahal Pech, Belize during the Middle Preclassic. PhD dissertation, Department of Anthropology, University of California, San Diego.
- Peniche May, Nancy, Lisa DeLance, and Jaime J. Awe
2018 The Middle Preclassic Figurines from Cahal Pech, Belize Valley. *Ancient Mesoamerica* 30:221–234.
- Powis, Terry G. George J. Micheletti, Kaitlin Crow, Sheldon Skaggs, Norbert Stanchly, Nicaela Cartagena, and Jeffrey A. Powis
2019 Early Maya Ceremonial Architecture at Pacbitun, Belize. *Latin American Antiquity* 30:836–842.
- Ricketson, Oliver, Jr.
1928 Astronomical Observatories in the Maya Area. *Geographical Review* 18:215–225.
- Saturno, William A., Boris Beltrán, and Franco D. Rossi
2017 Time to Rule: Celestial Observation and Appropriation among the Early Maya. In *Maya E Groups: Calendars, Astronomy, and Urbanism in the Early Lowlands*, edited by David A. Freidel, Arlen F. Chase, Anne S. Dowd, and Jerry Murdock, pp. 328–360. University Press of Florida, Gainesville.

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