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ROUND STRUCTURES IN PRE-COLUMBIAN MAYA ARCHITECTURE

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Abstract

The formal and functional evolution of round structures in the Maya architecture is connected with social evolution, both on the micro- and macroscale. Round stage-like platforms are essential ritual elements in an egalitarian or oligarchic society. Round temples and astronomic observatories reflect changes in the cult of the Wind God, triggered by the demise of Teotihuacan. Abandonment of this type of architecture during the Classic Period is a consequence of the rise to power of K'uhul Ajawob – Divine Rulers. Reappearance of stages at the end of Late Classic occurs after a decrease of power concentration in the hands of Ajaw and the emergence of a new type of shared rule – *Multepal*, the City Council.

INTRODUCTION

Maya architecture, the most visible feature of that culture, has been analyzed from the very beginning of Maya studies. Among a variety of building categories that have been thoroughly examined, defined and interpreted, there is one which seems to be relatively under-analyzed – namely a vast group of round structures. Although one analysis of this type of buildings exists, i.e. H. E. D. Pollock's Ph.D. dissertation "Round Structures of Aboriginal Middle America" (1936), it is rather out-dated and misses the vast corpus of data obtained after 1936. Nevertheless this work has been often quoted, sometimes not entirely correctly, to interpret newly found circular structures. Since Pollock's book there have been few attempts to analyze round buildings from certain regions or time-spans. Worth mentioning is a paper by J. Aimers, T. Polis and J. Awe "Preclassic Round Structures of the Upper Belize River Valley" (2000), which compares data not only from Belize but also from many sites in the Lowlands. Anthony Aveni analyzed several Late Classic and Postclassic round structures, with the goal of establishing their possible function as astronomic observatories (Aveni 1980). Other contributions to the topic were provided by two papers – "Estructuras de planta circular en las tierras bajas mayas centrales" by P. Morales (1993) and "Round Structures, Household Identity and Public Performance In Preclassic Maya Society" by J. A. Hendon (2000).

This paper focuses on round structures from the Maya area, constructed in different periods from Preclassic through Postclassic times. An effort had been made to collect the most complete data on the topic, and to establish a catalogue of round buildings. They have been divided into three major categories, according to their form. A possible functional interpretation of each category is presented afterward.

THE ORIGIN OF ROUND STRUCTURES

The reason for a human to divide space, to modify a landscape, is to mark some boundaries between the place of all the living activities and the rest of the world. This idea is called *built environment* and the best definition of it is provided by Denise L. Lawrence and Setha M. Low:

"The built environment is an abstract concept employed here and in some of the literature to describe the products of human building activity. It refers in the broadest sense to any physical alteration of the natural environment, from hearths to cities, through construction by humans. Generally speaking, it includes built forms, which are defined as building types (such as dwellings, temples, or meeting houses) created by humans to shelter, define, and protect activity. Built forms also include, however, spaces that are defined and bounded, but not necessarily enclosed, such as the uncovered areas in a compound, a plaza, or a street. Further, they may include landmarks or sites, such as shrines, which do not necessarily shelter or enclose activity" (Lawrence and Low 1990:454).

An obvious way of searching for the roots of any type of building is to start from a very basic and primordial construction – a house. The first architect-theorist known to history, Vitruvius, derives all the other kinds of buildings from a shelter, which is the first visible effect of an effort to provide safety (Vitruvius [Morgan] 1914:38).

In general, the round type of shelter is considered to be older than the rectilinear. Several authors derive it from temporal camp buildings of early nomadic societies; the North American *teepee* can serve as a contemporary example supporting that idea. A round dwelling is easier to build but demands higher costs of maintaining than a rectilinear one, hence it accommodates mostly a need for a quickly built but not very durable house, which is characteristic for temporary villages (Lawrence and Law 1990:462). A rectilinear form is easier to add onto or enlarge, and fits better in a *cluster* of buildings. Such features make it more attractive for permanent settlements, where space becomes limited after some time of development, and joining structures together or adding onto is preferred instead of building new free-standing constructions (*Ibid.*; Aimers *et al.* 2000:80–81).

One particularly characteristic feature of Maya architecture is that almost every building, especially in the Lowlands, was constructed not directly on the ground, but on a basal platform. That platform could vary in form and volume, depending on what kind of building it bore. The necessity for constructing such structures was dictated by the very wet climate; a vast amount of dry land would turn into mud, or even a marshy puddle, during the rainy season that lasts from June through November. Because of that, every dwelling was constructed on a low platform, usually no higher than 0.4–0.5 m. The platform was made of loose stones and earth; the surface was then covered with stucco. Any evidence of postholes, pits or cists can be easily obtained from such a floor. Thank to this feature it was possible for archaeologists to discover hypothetic forms of structures made of perishable materials, otherwise lost in post-deposition processes (Hohmann-Vogrin 2006:195; Hammond and Gerhardt 1990:461–481).

Since none of the pre-Columbian perishable buildings have survived, scholars can only assume the shape of each of them, judging from forms of basal platforms and patterns of postholes. It has been proved, however, that the round type of dwelling did not disappear with the development of urbanization, but was present through all of Maya history. Numerous early examples of round domestic

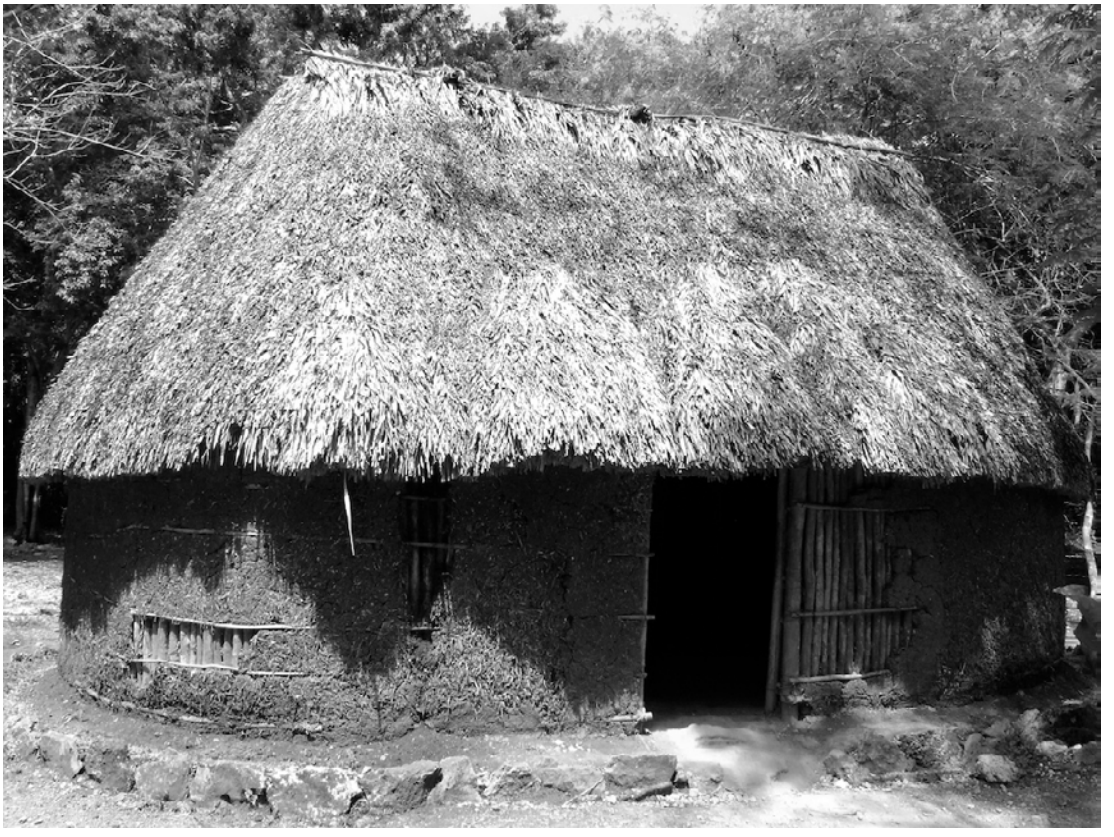

Fig. 1. Reconstruction of a Maya house, Chichen Itza, Mexico; photo by the Author, 2008.

platforms have been found in Cuello, Belize. Three of them, structures 328 and 329, were constructed in early Middle Preclassic *Swasey I* phase. They are approximately 0.2 m high and measure 8 m in diameter. Spatial context and pottery sherds connected to those structures, and lack of any evidence of ceremonial activities, clearly point to their domestic function. The presence of postholes shows that there were perishable buildings constructed on top of each of them (*Op. Cit.:*463). Another semi-domestic structure, the Cuello sweatbath, or Structure 342, comes from the early Middle Preclassic as well, having been dated to ca. 900 B.C. Later examples of domestic platforms come from all around the Lowlands – from Late Preclassic structures 301, 304, 306, 309, 311 and 322 from Cuello and structure 2031/III from Colha, Early Classic structures BR-1/F and BR-44 from Barton Ramie, to many Late Postclassic platforms from Chakantun (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958; Sullivan 1991:13–16, 37–40; Willey *et al*. 1965:51–59; Pollock 1936:122–123). All of them – except the sweatbath – possess the same set of features: height not exceeding 0.5 m, postholes on top of the structure etc. Not every structure is literally *round*; there are *oval* and *apsidal* platforms along with truly *circular* ones.

The reason for diversity in the shape of dwellings is not fully understood. It could not be established whether circular houses were inhabited by some sort of specialized members of a community, like shamans or other persons involved in ritual activity. Artifacts and other finds encountered in the context of round domestic buildings show no difference from those found in rectilinear ones. But it is necessary

to keep in mind that such function is impossible to establish, for the majority of house equipment that could point to it has usually been lost. Only few exceptions from the Maya world are known. One of them is Joya de Ceren, a small Early Classic village found under a thick layer of volcanic ash in El Salvador. Excavations at that site provided no evidence of any special shape for dwellings of specialized members of the community; in fact, the so-called "shaman's house" is rectangular in plan. Only one construction from that site, a separate kitchen of one domestic compound, is known to be round, and it was probably a tent-like shelter (Valle 1992; Paul Amaroli, personal communication 2008).

Another site with domestic artifacts found *in situ* is Aguateca, a Late Classic city located in southwestern Peten, Guatemala. It was rapidly abandoned due to warfare activity, probably major battle and fire. Excavations conducted in household groups in Aguateca revealed that dwellers took with them only the absolutely necessary items, leaving tools, pottery and precious objects on the floors of their houses. Thanks to that it was possible for archaeologists to establish the function of nearly every particular room in each excavated dwelling. Although floor assemblages point to differentiation of status and occupation of inhabitants, all the excavated domestic structures are rectangular in plan (Inomata and Stiver 1998:431–452; Inomata 2006b).

Robert Wauchope in his book "Modern Maya Houses: A Study of Their Archaeological Significance" has presented a thorough and detailed study of modern and ancient groundplans of Maya dwellings,

Fig. 2. Remains of a round kitchen, Joya de Ceren, El Salvador; photo by the Author, 2008.

discussing their possible origins, meaning, and linguistic connotations. He noted that apart from practical and traditional explanations of house plan differentiation, one should not forget about its cultural significance. Wauchope attempted to draw a map, showing spatial and temporal patterns of different house plans' occurrence; however, since the book was published, a lot of new evidence has been obtained, complicating the case even more. He concluded that it was impossible to explain the purpose and meaning of different house groundplans (Wauchope 1935:16–27, 146–149).

The aforementioned examples, though, have proved the presence of the *idea* of a building that is round in plan among the Maya since as early as the Middle Preclassic Period. So when the Maya needed to build a construction which would serve as a *stage* for a public performance, they might choose to build it round exactly for all these reasons, which were a disadvantage in the dwelling plan. Such a stage was thought to be placed in an open space, to provide room for the people to gather, and so it did not have to fit in a cluster, or to be easy to add onto. The ritual needed a certain amount of space for dancers to perform, but once built, the structure did not take part in the development of domestic clusters and did not need to be enlarged, so that difficulty would not count either. The argument of the high cost of maintenance would not apply in this case, because the lack of superstructure minimized any efforts in maintenance activities. On the other hand, the round stage can be viewed from any point on the plaza, providing an equal angle of sight for every spectator.

The same rational argumentation can be applied to the Late Classic and Postclassic astronomic observatories, like The Caracol in Chichen Itza. Roundness is the most functional shape of building constructed for prolonged observation of celestial bodies. From the center of the floor, one can note the changing position of a certain star or planet in relation to the *false horizon* provided by a circular wall (Aveni an Hartung 1978:7–9).

Naturally, the rational explanation of motives for building such forms is not the only one. In fact, it would not be complete without the broader view of the cultural and religious context of function and construction processes. Cecilia F. Klein has observed one particularly interesting relation between the form of a building and the development of a society:

"In viewing *The Amerindian Sacred Circle in Historical Perspective*, I emphasized this general tendency for native groups to associate socio-political power with key cosmic concepts generally expressed in circular form. I observed, however, that, as one moves from small, egalitarian band or tribal level societies to large, stratified and centralized societies, one sees symbolic emphasis gradually shift from the rim, or totality, of the star-studded cosmic circle to its center as the axis mundi and locus of the ascending / descending sun in particular. Round buildings become less common, smaller, more expensive, and more exclusive as well. Thus circular structures increasingly come to be directly associated with, and even reserved for, certain powerful subgroups or, finally, individuals whose social control identifies them with the most important celestial bodies and most strategic places" (Klein 1980:12).

Perhaps the cultural and religious meaning of round buildings was an even stronger impulse for creating them than simple ergonomic or functional attributes. For their creators, circular structures carried a clear message on the symbolic level, converting real location into a sacred place.

CATALOGUE

Before discussing the function and meaning of round structures and the evolution of their symbolism, it is necessary to gather relevant data and organize it for further argumentation. The list of round buildings of Maya architecture presented below will become a base for the final conclusions; the composition of data was designed to accommodate that process. The sites with circular structures have been listed in alphabetic order, divided into three major chronological periods of the Maya history: Preclassic, Classic and Postclassic. If known, the structure's purpose has been provided next, followed by a brief description of its construction. The presence or absence of superstructure is indicated, for that information would be useful henceforth in presenting the possible function and significance of a building. The question mark means either uncertain or missing information. The majority of sites are located in the Maya Lowlands. The reason for such disproportion may lie in the lack of detailed studies on the Highland sites; one can observe a general tendency in Maya archaeology for focusing on generally better preserved ruins hidden in the rainforest.

Preclassic Period

Site	Structure	Dating	Description
Altar de Sacrificios	20	Middle Preclassic (?)	Round platform, 2.6 m in diameter, partially exposed; lack of superstructure (Smith 1972).
Altun Ha	C-13/4th	Middle Preclassic (?)	Round substructure, 0.46 m in height, 8.5 m in diameter; presence of postholes suggests existence of perishable superstructure; 14 burials and 2 caches found inside the substructure (Pendergast 1982:177, 186–189, 200, 202).
Altun Ha	C-13/3rd	Late Preclassic (?)	Round platform, 10 m in diameter, 1.3 m in height; with two-step staircase; 3 burials and caches found within the construction (Pendergast 1982:177, 186–189, 200, 202).
Becan	Small Platform	Late Preclassic (?)	data missing.
Becan	7E-347	Late Preclassic (?)	Round platform, 3 m in diameter, 0.8 m in height; no superstructure (?); crude foundation wall (Pendergast 1982:177, 186–189, 200, 202).
Becan	Round Structure #1	Late Preclassic (?)	Round platform, 4.5 m in diameter, 0.15 m in height; no superstructure (?); thick coat of plaster (Pendergast 1982:177, 186–189, 200, 202).
Becan	Round Structure #2	Late Preclassic (?)	Round platform, diameter unknown, 1.5 m in height; no superstructure (?); polychrome painted walls (Pendergast 1982:177, 186–189, 200, 202).
Chan Chen	F	ca. 250 B.C.	Round platform, 10.2–10.9 m in diameter, 1.8–3 m in height; circular masonry wall, 9 m in diameter, on top of the substructure; presence of postholes suggests existence of perishable superstructure; probably the biggest structure of that type from the Preclassic; possible destruction for religious or political motive (Sidrys and Andresen 1978:643–649).
Cahal Pech	B-4/7th	Middle Preclassic	Round platform, 2 to 3 m in height, with stairway on the north side; lack of superstructure (Aimers *et al.* 2000:74).

Cahal Pech	Zotz 2-2nd	Middle Preclassic	Round platform, 3.6 m in diameter, 1.2 m in height; stairway; lack of superstructure; 18 burials found within the construction (Aimers *et al.* 2000:74–76).
Cahal Pech	Tolok 14	Middle Preclassic	Round platform, 9.5 m in diameter, 0.6 m or more in height; special deposits buried within the construction (Aimers *et al.* 2000:76–78).
Cahal Pech	15	Middle Preclassic	Round platform, 5 m or more in diameter, 0.5 m in height; 2 burials found within the construction; lack of superstructure; the building is connected to a courtyard (Aimers *et al.* 2000:76–78).
Colha	Operation 2011	Late Preclassic	Round platform; presence of postholes suggests existence of perishable superstructure (Sullivan 1991:13–16, 37–40).
Colha	Operation 2012	Late Preclassic	Partially exposed; data missing (Sullivan 1991:13–16, 37–40).
Colha	Operation 2031, Structure I	Late Preclassic	Round platform, 5 m in diameter, 0.3 m in height; presence of postholes suggests existence of perishable superstructure; 4 burials found within the substructure (Sullivan 1991:13–16, 37–40).
Colha	Operation 2031, Structure J	Late Preclassic	Round platform with step; data missing; two burials found within the construction (Sullivan 1991:13–16, 37–40).
Colha	Operation 2031, Structure II	Late Preclassic	Round platform, 3 m in diameter; presence of postholes suggests existence of perishable superstructure (Sullivan 1991:13–16, 37–40).
Colha	Operation 2031, Structure III	Late Preclassic	Round platform, 6 m in diameter; presence of postholes suggests existence of perishable superstructure; fire pits found on top of the substructure (Sullivan 1991:13–16, 37–40).
Colha	Operation 2031, Structure A	Late Preclassic	Round platform, dimensions unknown; presence of postholes suggests existence of perishable superstructure; 1 burial found within the construction (Sullivan 1991:13–16, 37–40).
Cuello	327	Middle Preclassic	Oval platform, 5.9 m x 5.3 m, 0.2–0.3 m in height; presence of postholes suggests existence of perishable superstructure; fire pits found on top of the substructure (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	328	Middle Preclassic	Round platform, 8 m in diameter, 0.2 m in height; presence of postholes suggests existence of perishable superstructure also round in shape (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	329	Middle Preclassic	Round platform, 8 m in diameter, 0.2 m in height; presence of postholes suggests existence of perishable superstructure also round in shape (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).

Cuello	301	Middle or Late Preclassic (?)	Round platform, 5.3 m in diameter; presence of postholes suggests existence of perishable superstructure also round in shape; 1 burial found within the substructure; one-step staircase (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	304	Middle or Late Preclassic (?)	Oval platform, 5 m x 6 m; no superstructure (?); one-step staircase; special deposits buried within the construction (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	306	Middle or Late Preclassic (?)	Round platform, 5 m in diameter, 0.5 m in height; presence of postholes suggests existence of perishable superstructure; one-step staircase; 4 burials found within the substructure (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	309	Middle or Late Preclassic (?)	Oval platform, 8.2 m x 7.2 m; presence of postholes suggests existence of perishable superstructure; one-step staircase (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	311	Middle or Late Preclassic (?)	Oval platform, 6 m x 5.4 m; presence of postholes suggests existence of perishable superstructure; one-step staircase (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	322	Middle or Late Preclassic (?)	Round platform, 6.2 m in diameter, 0.15 m in height; presence of postholes suggests existence of perishable superstructure; small plastered niche found and fire pits found within the substructure (Gerhardt 1988:15, 33, 58–59, 64, 73–74; Hammond *et al.* 1991:32–37, 44–47, 51; Hammond *et al.* 1992:958).
Cuello	342	ca. 900 B.C.	Keyhole- or egg-shaped sweatbath, 2.5 m x 1,3 m x 0.9 m, with traces of entry and semi-subterranean channel leading to a fireplace; postholes point to existence of perishable roof (Hammond and Bauer 2001:683–684).
Dzibilchaltun	Structure 605 2A Platform	Middle Preclassic	Round platform, 4 m in diameter, 0.4 m or more in height; low wall on top suggests presence of semi-perishable superstructure; no doorway found (Andrews IV and Andrews V 1980:58, 63–64).
El Mirador	Operation 21H Unit 2	Late Preclassic	Round or oval platform, partially exposed; data missing (Nielson 1980:32).
Ix Ak	Round Structure	Late Preclassic	Round platform, 7.7 m in diameter, 0.5 m in height, with outset stairs on the west side; no traces of superstructure (Morales 1993:263, 312).
K'axob	1	Middle or Late Preclassic	Round platform, data missing; postholes suggest existence of perishable superstructure; fire pits found on top of the structure (McAnany 1995: 8–9).
Komchen	18J-3	Late Preclassic (?)	Round platform, 0.25 m in height, found beneath the rectangular one; the rest of data missing (Ringle and Andrews 1988: 186–189).

Komchen	22N-1	Late Preclassic (?)	No substructure, wall 0.35 m in height; traces of round masonry building (tower?) built directly on the ground (Ringle and Andrews 1988: 186–189).
Luisville	Round Structure	Middle Preclassic (Mamom Phase?)	Round platform, 1 m in height, with inset stairway; tapered upper diameter; no evidence of the existence of superstructure (Haberland 1958: 128).
Nakbe	Round Structure #1	ca. 200 B.C.	Round platform, data missing (Velasquez 1990, 1992).
Nakbe	Round Structure #2	ca. 100 B.C.	Round platform, data missing (Velasquez 1990, 1992).
Nakbe	70	ca. 300 B.C.	4 round superimposing platforms forming the shape of a "wedding cake", with total height of 2 m; painted walls (Velasquez 1990, 1992).
Rio Azul	BA-20 Structure 2	Late Preclassic or Early Classic (?)	Round platform, 5–6 m in diameter, 0.2 m in height; possible perishable superstructure; with a ramp it forms a keyhole-shaped structure (Hendon 1989:96–100).
Uaxactun	E	Late Preclassic	Round platform, 5.9 m in diameter, 0.3 m in height; no traces of superstructure (?); with a ramp it forms a keyhole-shaped structure (Ricketson and Ricketson 1937:115–117; Smith 1950; Valdes 1989).
Uaxactun	F	Late Preclassic	Round platform, 5.79 m in diameter, 0.3–0.45 m in height; no traces of superstructure (?); with a ramp it forms a keyhole-shaped structure (Ricketson and Ricketson 1937:115–117; Smith 1950; Valdes 1989).
Uaxactun	G	Late Preclassic	Two connected keyhole shaped platforms, 5.79 m in diameter, 0.3–0.45 m in height, forming a dumbbell-shaped structure; no traces of superstructure (?) (Ricketson and Ricketson 1937:115–117; Smith 1950; Valdes 1989).
Xculul	226	Late Preclassic (?)	Round platform, 4.5 m in diameter; no evidence of superstructure; child urn burial found within the platform; data missing (Aimers *et al.* 2000:72).
Xunantunich	SL-13 Structure 7	Middle Preclassic (renovated in the Late Classic)	Round platform, 3.5 m in diameter, 0.15 m in height; no traces of superstructure (?) (Yaeger 1996:143–144; Aimers *t al.* 2000:79).
Yaxuna	6E-120	Late Preclassic	Round platform with labyrinth inside and trap door on top; probable dance stage; data missing (Friedel and Shuler 1999).

Classic Period

Site	Structure	Dating	Description
Altun Ha	B-4/2nd	Late Classic	Rectangular pyramid, 17 m in height, with round structure on top; possible function as an altar (Pendergast 1982; Morales 1993).
Baking Pot	209	Late Classic	Round platform with traces of rectangular perishable superstructure; 3 burials found within the substructure (Audet 2006:249–251).
Barton Ramie	BR-1/F	Early Classic	Keyhole shaped platform, data missing; presence of postholes suggests existence of perishable superstructure (Willey et al. 1965:51–59).
Barton Ramie	BR-44 Cut 4	Early Classic	Round platform, data missing; presence of postholes suggests existence of perishable superstructure; a midden found beneath the structure (Willey et al. 1965:51–59).
Becan	16	Terminal Classic	Round platform, 7 m in diameter, with inset staircase; low circular wall points to existence of perishable superstructure (Piña Chan 1985:62–63).
Calakmul	Round Structure	Terminal Classic	Round platform with central access, data missing (Folan 1987:317–348).
Chichen Itza	Casa Redonda	Terminal Classic	Round platform, 16.5 m in diameter, 3 to 4 m in height, with round masonry wall, 9 m in diameter, possibly up to 1.5 m in height; two rooms inside the superstructure created by the wall with one doorway on the axis of the main entrance; possible thatched spinal roof (Pollock 1936:108).
Chichen Itza	3C-15 „El Caracol“	Late and Terminal Classic	Several construction phases; the last one consists of a square plinth and two superimposing round structures; the first one 18 m in diameter, the second one 11 m in diameter; central outset stairway; first round structure with circular vaulted chamber and four doorways; second one has niches and windows; access is provided by spiral stairway within central pillar (Piña Chan 1980).
Chichen Itza	Venus Platform	Terminal Classic (?)	Low round platform with four one-step stairways on four sides; data missing (?) (Author, personal observations 2008).
Cihuatan	Round Structure	Terminal Classic	Round platform, ca. 0.2 m in height, with round masonry wall, suggesting existence of perishable superstructure; two entrances and a ramp, forming “keyhole-shaped” structure; data missing (Author, personal observations 2008; Paul Amaroli, personal communication 2008).
Coba	Round Structure (?)	Terminal Classic	Data missing; central access (Benavides 1987).
El Tigre	Platform 1A	Terminal Classic	Round platform with round temple capped by possible flat roof, 15.5 m x 15.75 m in diameter; thick layer of debris found on top of the floor (Vargas Pacheco and Delgado Salgado 2003:963–964).

Ix Kol	Round Structure	Late or Terminal Classic (?)	Round platform, 3 construction phases, 9.2 – 11 m in diameter, 1.2 – 2.2 m in height (1st – 3rd phase), outset stairs on the south side; no traces of the superstructure; data missing (Morales 1993:263–264).
Ixtonton	2	Late or Terminal Classic	Round platform, 6.5 m in diameter, 1.5 m in height, outset stairs; no traces of the superstructure; data missing (Morales 1993:263–264).
Kantunil Kin	Round Structures	Early Classic	Two round platforms built next to each other, found buried within the rectangular one; no superstructures; data missing (Sanders 1955:183–184).
K'o	20	Late Classic (?)	Round substructure (ring of stones?), ca. 21 m in diameter, with square masonry superstructure, ca. 6x6 m; partially excavated, data missing (Tomasic, Paling, Rangel 2008:81–82, 91).
Nakum	12	Terminal Classic	Round platform, 16 m in diameter; the upper part not fully excavated; two looter pits found within the mound; the whole building probably analogous to "El Caracol" from Chichen Itza and Structure 9 from Nohmul; construction process has blocked access to the earlier building (Calderon Santizo and Matute Rodriguez 2004; Źrałka and Hermes 2007 [in press]).
Nohmul	9	Terminal Classic	Round platform, 14.8 m in diameter, with round superstructure 9 m in diameter; suggested analogy in plan and function with 3C-15 from Chichen Itza and Structure 12 from Nakum (Chase and Chase 1982:601–607).
Oxkintok	DZ 12	Early Classic, modifications in Terminal Classic	Round subsidiary platform, 2.3 m in height; probably an early classic sweatbath converted into platform in the Terminal Classic; altogether five construction stages discovered (Gonzalez Arana 1992:63–76).
Oxtankah	?	Terminal Classic	Data missing (Ramirez Acevedo 1991).
Puerto Rico	Tower	Late Classic (?)	Freestanding round tower, 8.2 m in diameter at the base, 2.9 m on top, 6.6 m in height; no substructure (Andrews IV 1968:7–13).
Seibal	C-79	Terminal Classic	Round, three-tiered platform, 18 m in diameter, 3 m in height; low (ca. 0.3 m in height) rectangular platform on top, possibly supporting a perishable superstructure; an outset staircase, 2.2 m wide, on the west side; apart from the main staircase, there is an additional, auxiliary staircase integrated with each terrace; stairs lead to a rectangular platform with postholes on top of the whole structure (Smith 1982:164–172).
Uaxactun	A-sub-(1–9)	Early Classic	Data missing; possible function as an altar (Valdes 1989:32).
Uolmuul	8	Terminal Classic	Round platform, 15 m in diameter (?); no evidence of the superstructure; data missing (Kowalski *et al.* 1993:7).
Uolmuul	25	Terminal Classic	Round platform, 25 m in diameter (?); no evidence of the superstructure; data missing (Kowalski *et al.* 1993:7).

Uolmuul	39	Terminal Classic	Round platform, 4 m in diameter (?); no evidence of the superstructure; data missing (Kowalski *et al.* 1993:7).
Uolmuul	40	Terminal Classic	Round platform, 4 m in diameter (?); no evidence of the superstructure; data missing (Kowalski *et al.* 1993:7).
Uolmuul	41	Terminal Classic	Round platform, 4 m in diameter (?); no evidence of the superstructure; data missing (Kowalski *et al.* 1993:7).
Uxmal	Round Structure	Terminal Classic	Round platform, 18.2 m x 17.5 m in diameter, 2.3 m in height, with round superstructure 10 m in diameter, 1 m in height; possibly higher perishable construction (Kowalski *et al.* 1993:1–16).
Xkipche	B20	Terminal Classic (?)	Flat, round ring of stones, 11 m in diameter, with a round, cylindrical platform, 4.25 m in diameter, 1.2 m in height, a plain stela found on top; no superstructure; a "round altar" (Góngora Salas 2002).
Xolchun	2	Terminal Classic or Early Postclassic (?)	Elliptic platform comprising 7 terraces, 7.2 m in height; not fully excavated; data missing (Smith 1955:23).

Postclassic Period

Site	Structure	Dating	Description
Cahyup	Group A Round Structure	Late Postclassic or Colonial (?)	Round platform, ca. 4.5 m in diameter, 2.4 m in height; consists of five round masonry terraces covered with plaster; projecting from the base of the structure to the cardinal directions are four low (0.2 m in height) platforms with recesses in their centers; dating based on pottery sherds collected from the surface; data missing (Smith 1955:44).
Chakantun	Circular Platforms	Late Postclassic	Multiple round platforms of domestic character; data missing (Pollock 1936:122–123).
Chutixtiox	14	Late Postclassic (?)	Round platform, ca. 1 m in diameter, 0.2 m in height, with circular wall of slightly smaller diameter an the same height; no entrance was found; whole construction covered with stucco; dating was based on the surface pottery sherds collection (Smith 1955:17).
Isla Mujeres	Round Structure	Early Postclassic (?)	Square superstructure on a round platform, 7m in diameter; with four doorways and plinth; possible simplified analogy with 3C-15 from Chichen Itza, Structure 9 from Nohmul and Nakum Structure 12; data missing (Pollock 1936:118–119).
Mayapan	H-28	Late Postclassic	Round superstructure, 5 m in diameter, on a square substructure (Chowning 1956).
Mayapan	Q-152	Late Postclassic	Modified copy of Chichen Itza 3C-15; Round superstructure with four doorways on square platform with one staircase; no second floor (Pollock 1936:109–112).

Mayapan	Q-126	Late Postclassic	Modified copy of Chichen Itza "Casa Redonda"; round superstructure on a rectangular platform, probable thatched spinal roof (Shook 1955).
Mayapan	Q-214	Late Postclassic	Modified copy of Chichen Itza "Casa Redonda"; round superstructure on a rectangular platform, probable thatched spinal roof (Shook 1954).
Paalmul	El Palacio	Late Postclassic	Oval platform, 18.7 m x 14.3 m at the base, with round superstructure, 8.2 m in diameter at the base (Aveni 1980:267, 270; Pollock 1936:115).
Pacot	6	Late Postclassic (?)	Stucco ring similar in shape and dimensions to that from Chutixtiox; round platform ca. 1 m in diameter, 0.2 m in height with smaller stucco wall on top; no doorway found; dating of the whole site based on pottery sherd collection from the surface (Smith 1955:21–23, fig. 70).
San Gervasio Cozumel	Multiple Round Structures	Early Postclassic (?)	More than 100 low structures, not exceeding 0.5 m in height, scattered throughout the site; possible domestic function; data missing (Sierra Sosa 1994).
Tancah	14	Late Postclassic	Round platform made of two superimposing terraces, 4 m in height; with rectangular superstructure on top; not fully excavated (Sidrys and Andresen 1978:643–649).
Tulum	45	Late Postclassic	Round platform with rectangular masonry shrine on top; with stairway (Pollock 1936:117–118).
Xcaret	Group E Structure IV	Late Postclassic	Round or rectangular platform, 6.4 m in height, with round shrine on top; thick coat of plaster; beam and mortar roofing (Andrews IV and Andrews 1975:26).
Xcaret	Group D Structure I	Late Postclassic	Round platform, 13 m in diameter at the base, 7 m in height with balustraded staircase; rectangular shrine on top (Andrews IV and Andrews 1975:22).
Xcaret	Group E Structure III	Late Postclassic	Rectangular platform 4–5 m in height, with round shrine on top, with balustraded staircase; very poor state of preservation (Andrews IV and Andrews 1975:31).
Xelha	4	Late Postclassic	Round platform, data missing, without superstructure (Pollock 1936:118).
Xolpacol	6	Late Postclassic (?)	Round platform, ca. 6 m in diameter, with round masonry building, ca. 4 m in diameter, with 4 doorways pointing to the cardinal directions; dating of the site based on surface sherd collection (Smith 1955:25, fig. 76a).
Yalku	Circular Courtyard	Late Postclassic	Circular enclosure bordered by a crude wall, 4.4 m in diameter, ca. 1.3 m in height; with rectangular vaulted shrine, also 1.3 m in height, bonded to it; traces of stucco; no substructure, whole complex constructed on bare bedrock (Andrews IV and Andrews 1975:88).

Unknown Chronology

Site	Structure	Dating	Description
Caucel	?	?	Data missing (Sidrys and Andresen 1978:648).
Dos Hombres	Round Structure	?	Round platform, 8 m in diameter, 0.6 m or more in height; with courtyard; partially exposed, data missing (Aimers *et al.* 2000:72).
Dzibilnocac	?	?	Round open platform without superstructure; data missing (Aveni 1980:268, fig. c).
Edzna	?	?	Round or keyhole-shaped open platform without superstructure; data missing (Aveni 1980:268, fig. c).
El Pilar	EP-9	?	Round platform, data missing, with thick coat of plaster; no superstructure (Ford *et al*. 1995; Aimers *et al.* 2000:79).
El Tigre	B2	?	Oval platform, 25 m x 18 m in diameter, 0.5 m in height; postholes suggest existence of perishable superstructure (Pincemin 1987:7).
El Tigre	C3	?	Oval platform, 16 m x 14 m in diameter; no evidence of superstructure (Pincemin 1987:7).
Rio Bec	?	?	Round open platform without superstructure; data missing (Aveni 1980:268, fig. c).
Tikal	?	?	Round platform, data missing (Coe 1990:fig 49).
Uaxactun	H-Sub-1	?	Round platform, data missing (Valdes 1992).

Comments on the Catalogue

The corpus of data listed above was gathered from the literature and the author's field research. Unfortunately, it turned out to be impossible to obtain complete information about some structures, found either as brief notes in the bibliographic research or encountered at the visited sites. Thus some ten structures (entries in the catalogue marked as "unknown chronology") have to be excluded from any further discussion because of the lack of data. The purpose of listing them in the catalogue was to note their existence and signal potential possibilities for verification of this paper.

Among round structures with a complete set of information, a few can be distinguished as having a domestic character: probably all the structures from Colha, San Gervasio Cozumel and Chakantun, both buildings from Barton Ramie, all but one (Structure 342 – the sweatbath) of the platforms from Cuello, Structure 1 from K'axob and Structure 605 from Dzibilchaltun. Authors of excavation reports from these sites suggest their function based on features discussed in the chapter on the origins of round structures – presence of domestic pottery, spatial context indicating a domestic character and lack of evidence of ritual activity. In some cases, burials of prominent members of the family were found under the floors of those platforms; similar burials have been found within rectangular domestic platforms across the entire Maya area (Hendon 2000:300; Sharer and Traxler 2006:205–206, 695–696). It is worth noting that round domestic structures are present in every period of Maya history: from the first half of the Middle Preclassic Period in Cuello, Colha and K'axob, through Early Classic in Barton Ramie and Late Postclassic in Chakantun.

There are several peculiar structures which do not fit the general pattern. Three of them, the Late Classic B4-2nd from Altun Ha, the Late or Terminal Classic B20 from Xkipche and Early Classic

A-Sub-(1–9) from Uaxactun, have been described as altars. Usually altars were circular or square monolithic blocks of stone, placed directly on the ground or on three stone feet; they were often paired with stelae and richly carved. The presence of stela paired with an altar is not essential, though. Their function was to place the offerings upon them and to express the power of their founders (Demarest 2004:90; Graña-Behrens and Grube 2006:428). In the case of Altun Ha there is no evidence of carvings, but the function as a tablet for the offerings is possible. A "stage" function would not have much sense, since the round structure was placed on top of the highest pyramid, where it could not be seen by potential spectators from the plaza level (Personal observations 2008; Pendergast 1982). In Xkipche, a plain stela was found on top of the structure, therefore pointing to the function of a pedestal or a stage (see below) (Góngora Salas 2002). The author could not obtain sufficient materials to discuss the function of A-Sub-(1–9) from Uaxactun.

The early Middle Preclassic Structure 342 from Cuello possesses all the features of Mesoamerican sweatbaths: small internal area, sweating chamber and sunken channel connecting it with a firebox, and traces of heavy and repeated burning. In ancient Mexican and modern Maya sweatbaths, the sweating chamber is usually round; in ancient Maya ones, the groundplan was rather rectilinear. In Joya de Ceren, again, the sweatbath was rectilinear, but covered with stucco dome (Hammond and Bauer 2001:683–684; Cresson Jr. 1938:88–104).

The Early Classic Structure DZ 12 from Oxkintok is thought to have been originally constructed as a sweatbath as well. Five subsequent construction phases, however, lasting through the Late Classic, converted it into a shrine, although the round shape was preserved during the process. Its function and significance is unknown. The Late Postclassic circular courtyard with a shrine from Yalku is unique as well. The round shape of the courtyard could not be explained by rational purposes (again, it is more

Fig. 3. Sweatbath covered with dome, Joya de Ceren, El Salvador; photo by the Author, 2008.

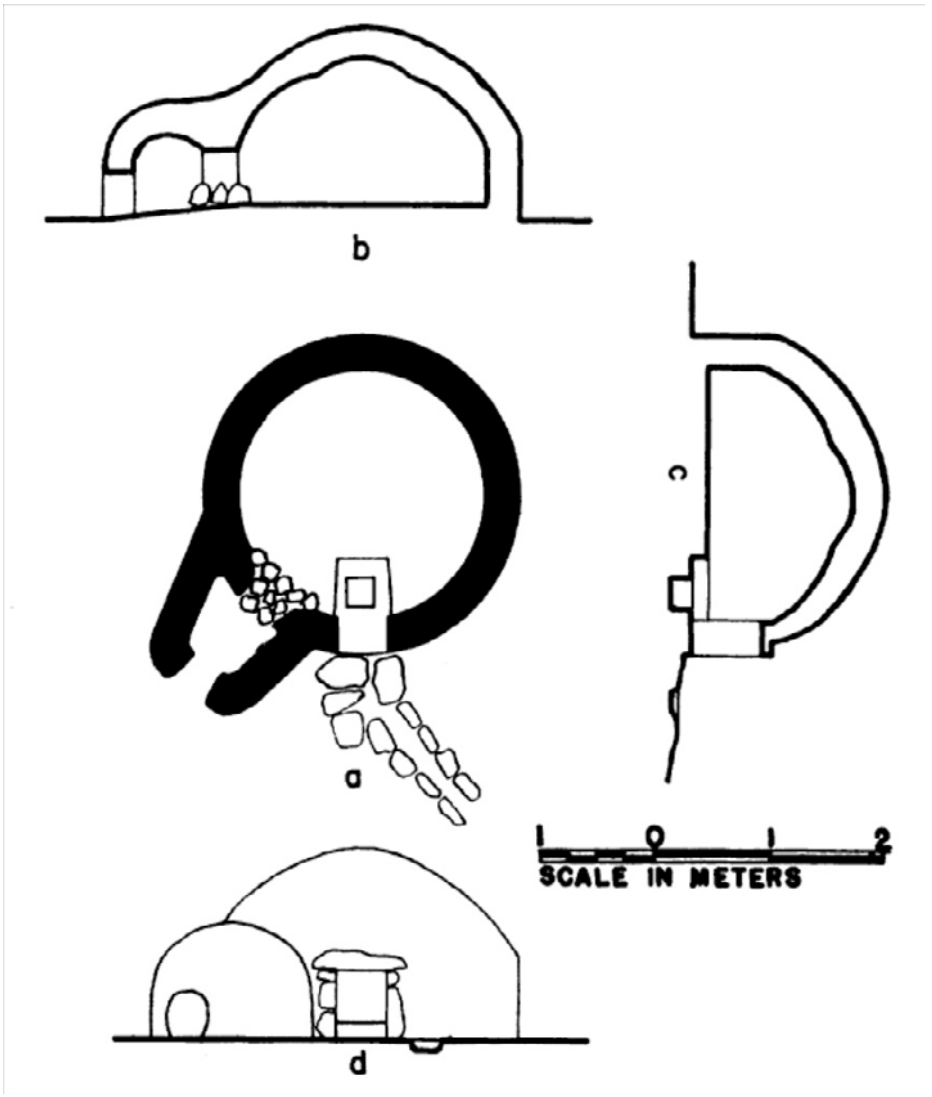

Fig. 4. Early 20th century round Mexican sweatbath from Milpa Alta, Mexico; after Cresson Jr. 1938: fig. 4.

difficult to fit it in the general urbanization pattern), and the rectangular shrine does not provide any clues of what deity it was dedicated to (Gonzales Arana 1992; Andrews IV and Andrews 1975:88).

The last two peculiar buildings without even tentatively ascribed function are the unique free-standing round tower from Puerto Rico in Campeche and structure 22N-1 from Komchen, which might have once been similar constructions. The existence of small shafts piercing the body of Puerto Rico tower suggested to some scholars a possible astronomic function. But careful archaeoastronomic studies showed no relation of shafts to any particularly prominent celestial bodies. The Komchen ruins resemble a tower, but their poor state of preservation hinders speculations as to the function of the structure (Aveni 1980:270–272; Ringle and Andrews V 1988: 186–189).

Fig. 5. Round tower at Puerto Rico, Guatemala; after Andrews IV 1968:10.

The remaining structures are generally thought to be of ritual function. So called "observatories" are included in this group as well, because astronomic observations were strongly connected with the ritual calendar and worship of gods.

A certain tendency can be observed by careful study of the chronological sequence of circular constructions in the Maya area. Almost all the Preclassic and Early Classic structures lack superstructures, forming a group of "open platforms" or "stages." The only three exceptions are Middle Preclassic structure C13-4th from Altun Ha, Late Preclassic structure F from Chan Chen and Protoclassic/Early Classic BA-20 Structure 2 from Rio Azul. There is a virtual disappearance of round structures during the second half of Early Classic and nearly entire Late Classic Period. The Terminal Classic brings the appearance of two types of round buildings: the "observatories" and perishable or masonry temples, either round or rectangular, on round platforms. In the Postclassic (or possibly the Terminal Classic), the stage-like type of structures returns. A possible explanation for this pattern will be proposed in the following chapter.

FUNCTION AND SIGNIFICANCE OF STAGE-LIKE ROUND STRUCTURES

From the Middle Preclassic Period, socially stratified communities were common in the Maya territories. The function of *chief* emerged, and his role became more and more central in the life of a village. The chief's family members became the elite, with specialized persons such as shamans and priests. Their livelihood was supported by lower levels of society, namely specialized groups of hunters, agriculturalists, fishermen, potters, craftsmen, etc. (Sharer and Traxler 2006:155–157).

Preclassic Stages

When permanent settlement was fully established, monumental architecture began to occur, but at first seldom reached a sophisticated level. In the Middle and Late Preclassic its role was entirely public, i.e. served the community, not for glorification of a particular ruler. At about that time, the first stage-like round structures were constructed. They all lacked superstructures, and were constructed in, or near the very centre of the monumental part of a site, usually on the open plaza or another broad, open space. Their function was to provide a proper spatial context for the ritual performed on them; but they were not only stages in the modern sense – the shape and localization of them were also meaningful for both the performers and spectators. As Aimers and colleagues note in reference to the Cahal Pech buildings,

"The extreme architectural expressiveness of later Maya history supports an interpretation of the Cahal Pech round structures as embodiments of significant social/religious ideas to their builders and users. Whereas the highly decorated monumental architecture built during and after the Late Preclassic in the Maya area (such as Structure B-4 in the site core of Cahal Pech) conveys meaning clearly through its mass, shape, and decoration, more modest, earlier ceremonial structures such as open platforms derive their deepest significance from the actions of those who move on and around them. In this sense, they may be considered reflective of the less hierarchical, more charismatic, community-focused organization and ritual now considered to be characteristic of the Maya before the emergence of monumental architecture and the stela cult in the Late Preclassic and Classic periods (...). Because the stage-like qualities of round platforms are their salient feature, even a small circular dance or ceremonial platform is in a sense protomonumental (...). For similar reasons, Marvin Cohodas placed round structures in the same category as the radial pyramid, portal arches, ballcourts, and causeways, suggesting that they *are all specialized forms to serve distinct ritual functions* (...). Current evidence suggests that only during the Late Preclassic did monumental architecture in the Maya area take on elite

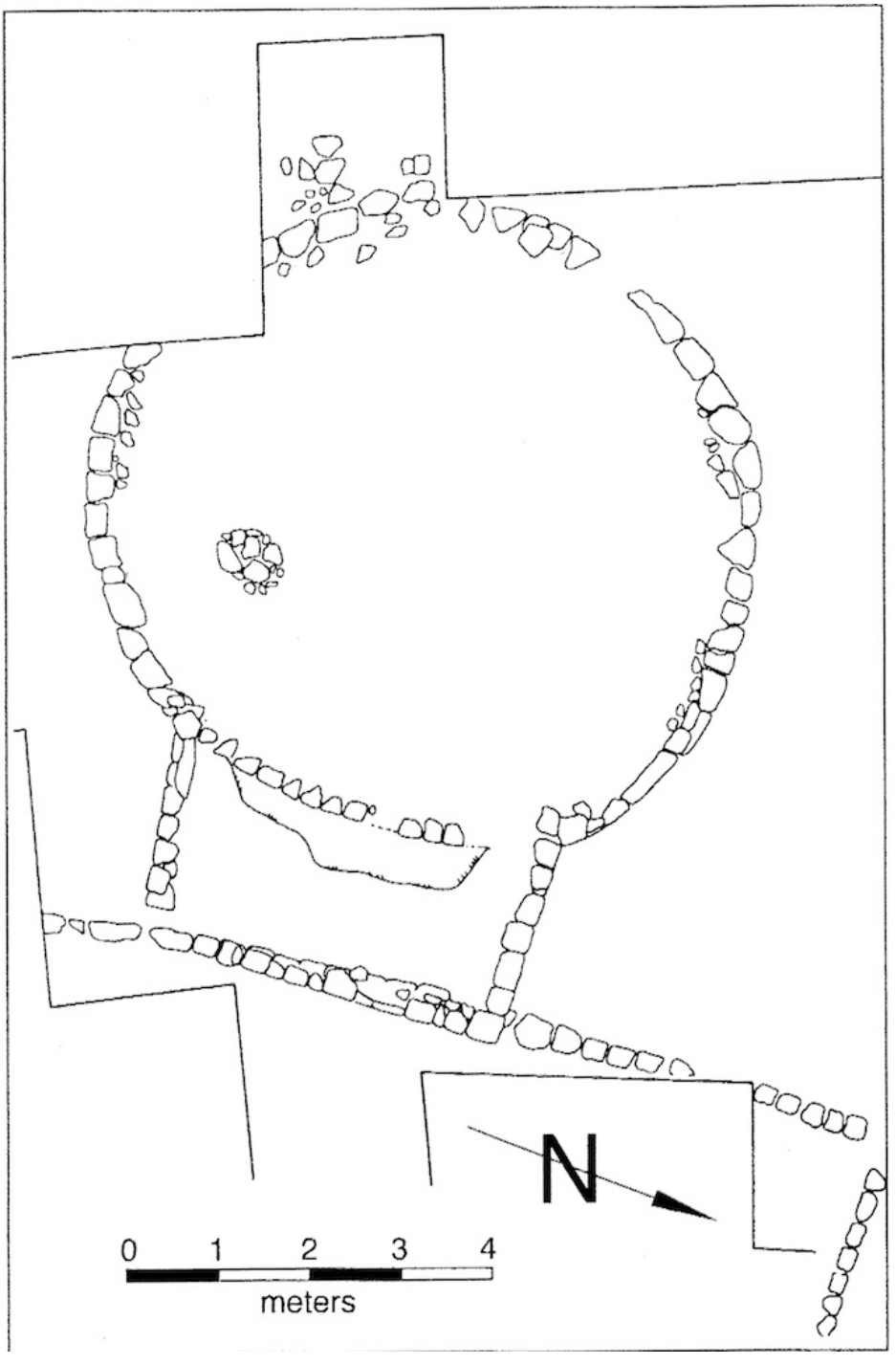

Fig. 6. Structure F, Barton Ramie, Belize; after Willey *et al.* 1965: fig. 20.

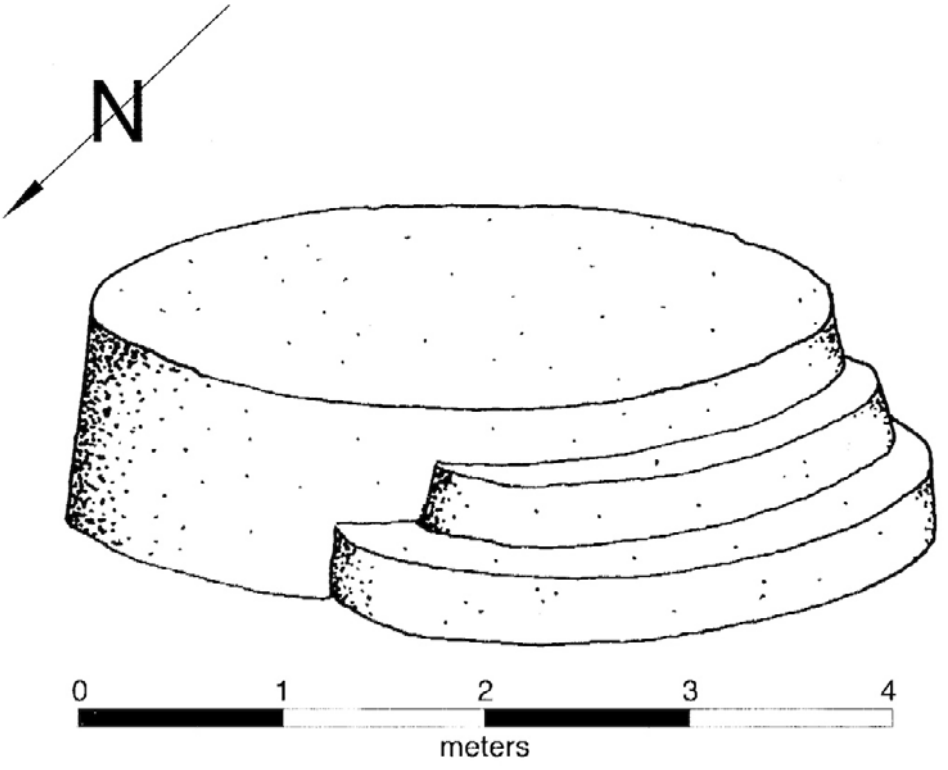

Fig. 7. Reconstruction drawing of Structure 2/2nd, Cahal Pech, Belize; after Aimers *et al.* 2000: fig. 5.

mortuary functions (...). Subsequent Classic period monumental temple-type architecture and carved stelae appear to have glorified and even deified an ascribed elite. In contrast, the symbolic significance of an open-air platform would seem to be necessarily linked to the performance of individual living agents" (Aimers *et al.* 2000:82).

The stage-like round structures were therefore connected to a particular ritual, not to the elite "possessing" or "managing" them. The purpose of ritual was to provide the means for specialized diviners and shamans to negotiate with gods on behalf of the whole community. Even if the ruler himself performed a dance, he was by no means a central person – he just served as a *medium*, along with the stage. The ritual itself was the central action, and it had to be watched by the community; perhaps a passive participation in the religious event might be as essential as the active one – the stage-like features would testify to that. The crowd would gather around the platform, metaphorically turned into the *Axis Mundi* during the time of performance. In an egalitarian society it would not be meaningless for the people to have an absolutely equal possibility to view a ritual, for the stage was round. Standing far from the center would be compensated by height of the structure, usually more than 0.5 m, so dancers or other performers could be easily seen from any point on the plaza.

Such a situation occurs in Cahal Pech, preclassic Becan, Xunantunich, Uaxactun, Nakbe and many others (see *Catalogue*). A possible function and meaning of round stages from Yaxuna have been proposed in great and exhaustive analysis by Friedel and Shuler. They posses additional features improving the dramaturgy of a performance, like trap doors and labyrinths (Friedel and Shuler 1999).

Terminal Classic and Postclassic Stages

Sometime during the Late Preclassic, a rather sudden disappearance of round stages can be observed. They are either converted into square platforms for temples, or buried under raised plaza floors and within other structures. That process occurred simultaneously with the emergence of a new type of a leader: the *K'uhul Ajaw*, Divine Lord. Former chiefs had gathered more power in their hands, and that fact caused further stratification of the society. The institution of Divine Lord probably originated in the Lowlands, and then gradually spread out, until the mosaic of *K'uhul Ajaws* and *Ajaws* ruled all the Maya cities in the Early Classic (Sharer and Traxler 2006:298).

The construction of round stages ceased for the next couple of centuries. They became obsolete in the era of divine rulers with absolute power. During the Classic Period, the Ajaw was the central person in any action or ritual; he (or seldom she) negotiated with gods and it was he who spoke on behalf of his subjects as an equal to other divine beings. In addition, Takeshi Inomata, in his recent paper "Plazas, Performers, and Spectators: Political Theaters of the Classic Maya," presents another aspect of ritual performances in the context of Ajaw's power: public performance, or "political theater," was a very important factor for the internal integration of society; it could also be a way to identify oneself with the ruler and evaluate his abilities to govern. He states that successful performance mirrored triumphs in another fields of rulership, so the increasing importance of a ruler's performance could be the cause rather than the outcome of political change (Inomata 2006a:808). Acting became more sophisticated and demanded more space and items, such as elaborate headdresses and backracks. Hence the ceremony moved from the stage to the top of the temple pyramids, providing more space to perform and increasing the visibility for the crowd, which was also growing in number as the city developed. Some scholars consider stelae scattered on main plazas of most Maya sites as monuments commemorating the most successful performances (Inomata 2006a:810). Since the ruler and his court become extremely elitist, there was no need for further equality in access to the stage. The round buildings, space-consuming and difficult to fit in the urban landscape, became an unnecessary extravagance and lost their reason to be maintained.

At the end of the Classic Period, a certain political change took place. The concentration of power in the hands of K'uhul Ajaw, so pronounced during the Classic Period, began to fade. An idea of more egalitarian, shared power, abandoned in the Late Preclassic, returned in a slightly modified form. A city council (called *multepal*) formed of the elite members and probably present also during the Classic Period, became an actual ruling body. So-called *popol naah* (literally "the mat house"), the council houses, were constructed. An early example comes from the Late Classic/Terminal Classic Copan, where the Structure 10L-22 bears a carved design of a mat, which suggests the function of that building as a meeting place for the council. The ongoing weakening of K'uhul Ajaw's authority stimulated further change in the balance of power – in the Postclassic Period the *multepal* became very common, and the form of shared rulership spread out (Inomata 2006a).

Simultaneously with that process, the return of stage-like round buildings can be observed. However, unlike the Preclassic platforms, the Postclassic ones are very rare. Some of the Postclassic stages were more monumental and sophisticated – like the one from Xolchun. Despite the decrease of importance of K'uhul Ajaw and decentralization of power, the ruling body of a city could retain the possibility of organizing massive construction works. Simple platforms were constructed as well; an example is provided by Structure 16 from Becan. Still, the basic form of stages remained unchanged – they were open platforms, either single- or multistory, with a staircase, constructed on a plaza near the monumental core of a site. Ritual functions, reserved for the ruler during the Classic Period, again became egalitarian events concentrated on symbolic levels of performance. Scenery for the performance moved back from more restricted premises – like tops of the pyramids – to plaza floors,

Fig. 8. Structure 16 from Becan, Mexico; photo by the Author, 2008.

providing equal access for everyone. Once again, the place of ritual – instead of a person – was of essential importance to the divination.

ROUND TEMPLES OF WIND GOD

During the Early Classic, the great city of Teotihuacan flourished in the Valley of Mexico. Due to its military and cultural strength, it established a vast material and ideological exchange network with other surrounding cultures. Particularly the Maya area was profoundly influenced by Teotihuacan's religion and war ideology. To facilitate the exchange process and gain some real power over the Maya territories, Teotihuacan took control over certain important centers, like Kaminaljuyu and Tikal. These outposts transmitted the culture and ideology further to other cities in their respective regions. Among other things, some Teotihuacan gods had been adapted to the Maya pantheon. One such deity was Feathered Serpent, worshipped in various aspects, not only in Teotihuacan; representation of plumed serpents can be found in different regions of Mesoamerica. The origins of that god are unknown; some scholars, however, point to its roots as coming from the Olmec culture, since the first known representation of a feathered serpent has been found on the Monument 19 from La Venta (Miller and Taube 2007:141–142).

After the fall of Teotihuacan sometime during the 7th or 8th century, a certain religious change took place. The already-established cult of Feathered Serpent spread out even further to the Maya area and major cities of Central Mexico, such as Cholula and Xochicalco. It often merged with existing gods, absorbing some aspects of local deities. Probably the best recognized pan-Mesoamerican aspect of Feathered Serpent was Quetzalcoatl, worshipped by Maya people under the name of Kukulcan. Ethnohistoric sources mention Quetzalcoatl as a god and a king, who left Central Mexico and travelled to the east, to Yucatan. When he arrived, his religion and teaching grew in importance and popularity among the Mayas, first among big cities, and then reaching even smaller, less important sites. There is a disagreement among scholars as to whether the Quetzalcoatl-god and Quetzalcoatl-king were the same person; the very existence of that character, as well as the number of persons by that name who were travelling from one region to another in order to bring their religion to the new lands, are also under discussion. But new aspects of ancient beliefs certainly emerged during the Terminal Classic. According to William Ringle and his colleagues, sites forming the so-called "cult axis" were involved in a specific exchange of ideas and, subsequently, their visual aspects, such as sacred architecture connected with Quetzalcoatl. It can be said that this complex ideological set formed some kind of pan-Mesoamerican religion (Ringle *et al.* 1998:183–232).

Especially the aspect of Quetzalcoatl as the god of the air and wind is of interest for this dissertation. He was known by the Nahuatl name "Ehecatl"; his role was to sweep the way for Tlaloques – gods of rain and lightning. Temples of this deity, broadly constructed during the Late Classic and Postclassic period along the cult axis, were round in shape. The reason for such construction plan lies in the fact that a cylindrical building would not "disturb" the wind, which would go around it smoothly; other historical sources explain it also as a visible manifestation of air, which goes around the world just like round walls of a temple surround the space inside (Miller and Taube 2007:84–85; Pollock 1936:8–18).

In the Maya lands an archetype of the Wind God existed long before the fall of Teotihuacan. He has often been depicted with "blowing lips" and was considered a patron of music and sound. When the

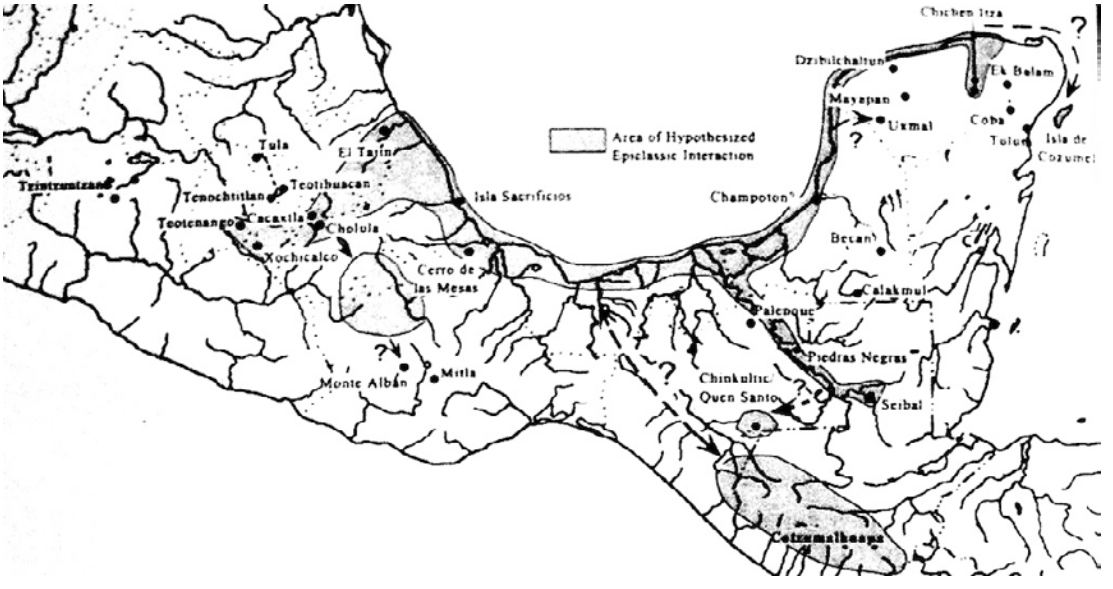

Fig. 9. Regions of Quetzalcoatl cult activity; after Ringle *et al.* 1998: fig. 1.

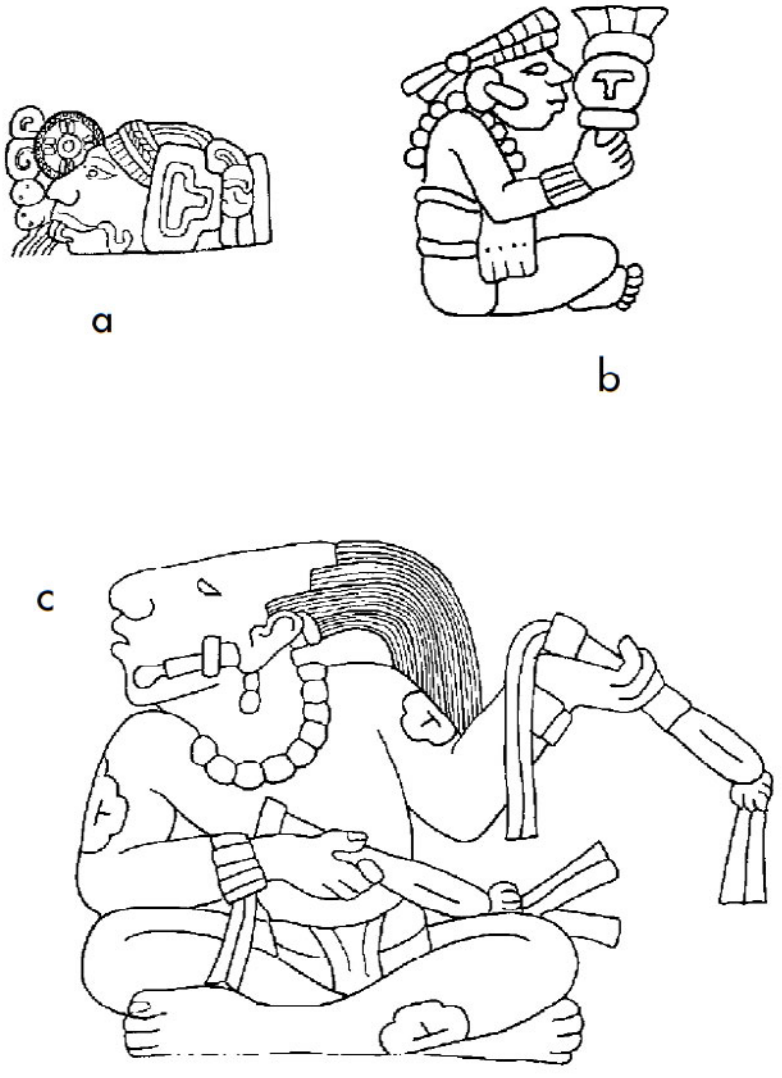

Fig. 10. The Maya wind deity - God H; after Houston *et al.*: fig. 4.13.

cult of Quetzalcoatl-Ehecatl arrived in the Maya area, it conflated with Maya Wind God and introduced new kind of ritual architecture connected with it (Houston *et al*. 2006:91, 150–153).

Round temples of Quetzalcoatl had been constructed in different ways, depending on the range of the site and the cult's importance in that particular place. Some of them were monumental masonry temples with conical roofs made of perishable materials, constructed on round or square platforms. That was the case in big and important cities such as Chichen Itza ("Casa Redonda"), Mayapan (Structures Q-126 and Q-214), Nohmul (Structure 9), or Uxmal (Round Structure), among others. They were mostly constructed during the Late and Terminal Classic, with the exception of Postclassic Mayapan structures; that city, however, has been thought to be a copy of Chichen Itza, and so this kind of structure was found there. It

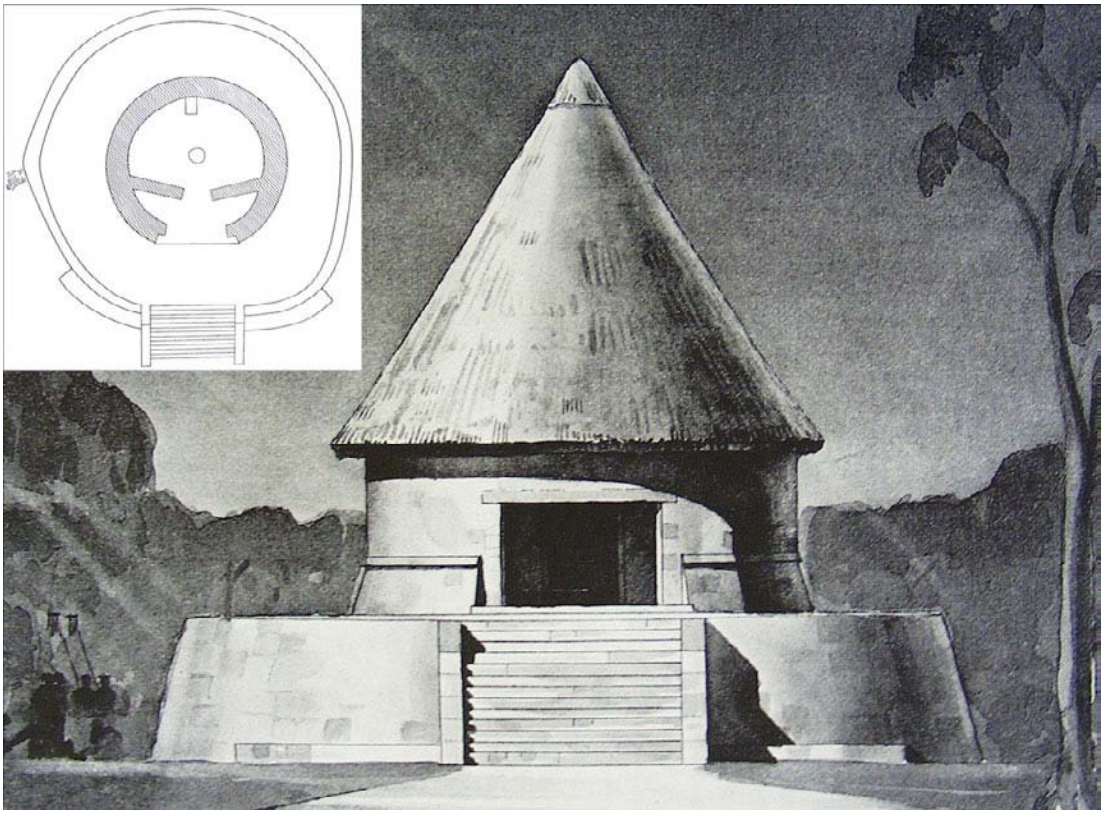

Fig. 11. "Casa Redonda", Chichen Itza, Mexico; after Pollock 1936: figs. 35, 37.

is possible that the upper walls of some of those temples had been made of perishable materials, because the circular walls have only been preserved to no more than 1 m in height, and the amount of rubble found within and outside those structures rather excludes the existence of high masonry walls (Miller and Taube 2007:85; Shook 1954; Shook 1955; Chowning 1956).

The Platform 1A from El Tigre is very similar to those mentioned above. However, there was a thick layer of rubble found on the floor; it was identified as remains of a stuccoed ceiling, making the El Tigre temple the first known to have a flat masonry roof (Vargas Pacheco and Delgado Salgado 2003:963–964).

During the transition between Classic and Postclassic in some smaller cities, round temples of Quetzalcoatl preserved their symbolic roundness only in the shape of the substructure, easier to construct and maintain than a round building. The superstructures were constructed from perishable materials as rectangular temples, possibly covered by stucco. A broadly known example is provided by Structure C-79 from Seibal; another one could be Structure 209 from Baking Pot (Audet 2006:249–251; Smith and Willey 1969: 154–7; Willey 1990).

Another kind of round temple of Quetzalcoatl is represented by such buildings as Structure 45 from Tulum, Structure I of Group D from Xcaret, Round Structure from Isla Mujeres and others on the Caribbean Coast. They comprise a round masonry substructure and rectangular masonry temple with a flat masonry roof. They are all Postclassic and made of rather poorly worked stone, covered

Fig. 12. Platform 1A, El Tigre, Mexico; photo by the Author, 2008.

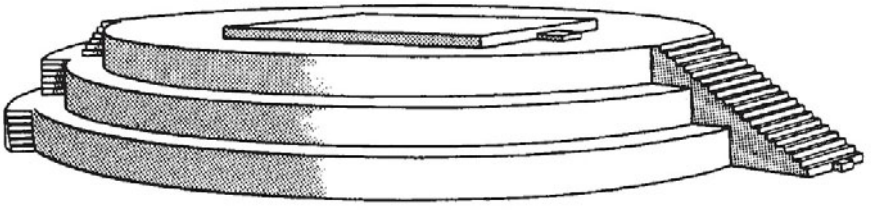

Fig 13. Structure C-79, Seibal, Guatemala; after Smith 1982: fig. 135; photo by the Author, 2008.

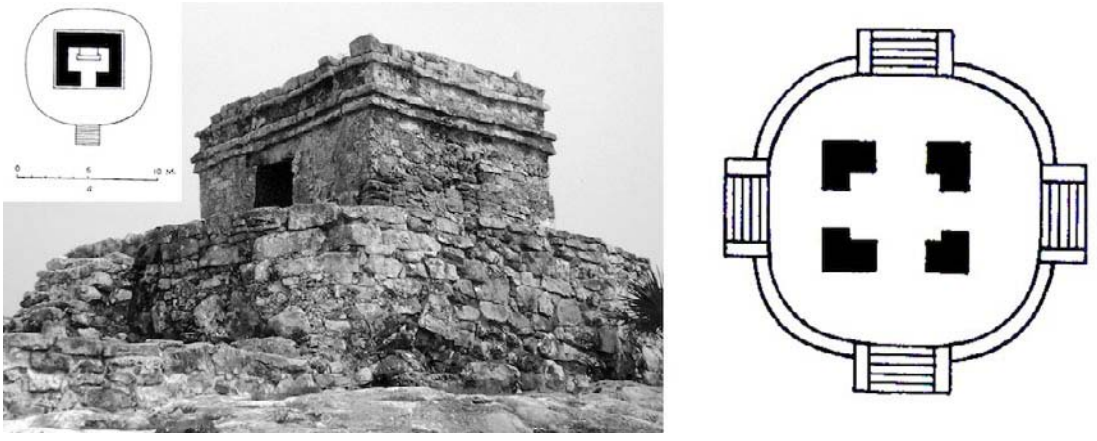

Fig. 14. Structure 45 from Tulum and Round Structure from Isla Mujeres, Mexico; after Pollock 1936: figs. 40-41; photo by the Author, 2008.

by a thick coat of plaster. The explanation for this form of these constructions could be a synthesis of two earlier types – masonry temples on round substructures. Essential ritual roundness was present, but the difficult to construct and maintain round building on top was replaced by a rectangular one; although the monumentality of the whole structure was preserved by constructing the temple of stone – an important feature in an area of frequent hurricanes (Andrews IV and Andrews 1975:22; Pollock 1936:117–119).

The Pan-Mesoamerican cult of Feathered Serpent had been growing from the time of Teotihuacan's demise and lasted until the Conquest. The spread of the new religion has been proved by archaeological and iconographic evidence as well as ethnohistoric sources. Among others, the presence of cult ceramics, radial pyramids and stelae with Quetzalcoatl painted or sculpted on them and a certain variant of a ballgame are considered indicative of the existence of that cult in a particular site or region. Occurrence of Terminal Classic and Postclassic round temples, which is limited exclusively to the same area as that covered by the Feathered Serpent religion, enforces their ascribed function as temples of either Kukulcan/Ehecatl or another one of the original Maya wind deities. Hence it can be safely assumed that every Terminal Classic or Postclassic complex structure, i.e. comprising both sub- and superstructure, of which at least one is round in plan, was a place for the worship of Feathered Serpent. Some of these temples, however, were of more than one function. They will be discussed in the following chapter (Ringle *et al.* 1998:183–232)..

ASTRONOMIC OBSERVATORIES

The idea of stargazing in Mesoamerica is at least as old as that of the calendar. The first calendrical notations are dated to Late Preclassic, like Stela C from Tres Zapotes. The development of such an exact calendar as that of the Mayas had to be preceded by careful, prolonged observations of celestial bodies and their movements. Further skywatching was required to maintain the calendric notations and agricultural intervals. To improve and facilitate that process, the Mayas eventually invented the observatories. Some of them were simply marked steps from which the sunrise and sunset could be observed; later on, the E-groups emerged; but the first known multifunctional observatory was the Late

Fig. 15. Structure 3C-15 from Chichen Itza, Mexico; photo by the Author, 2008.

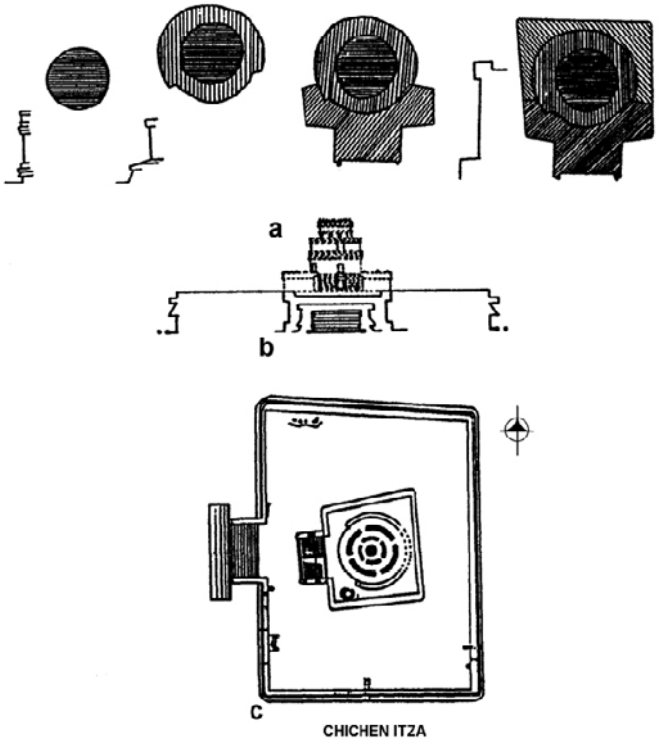

Fig. 16. Construction phases, section, and plan of Structure 3C-15 from Chichen Itza, Mexico; after Pollock 1936: fig. 31.

or Terminal Classic Caracol, or Structure 3C-15 from Chichen Itza (Sharer and Traxler 2006:225–227, 261).

It was constructed in several phases to reach the ultimate shape. On the great basal platform, a smaller stylobate was constructed. Its walls were oriented differently than that of the basal one; an earlier circular platform was embedded in it. The tower itself consisted of two concentric cylinders, the smaller one on top of the bigger. Within the lower cylinder, two round concentric chambers were built, each with four entrances, but set at different angles. A spiral staircase, constructed inside the central pillar, led to the upper cylinder with one round chamber. The only preserved part of the walls is less than half of a circle, but in that fragmentary wall three narrow windows were constructed. It is probable that there were more in the ruined part as well (Ruppert 1935:78–97; Aveni 1980:258–263).

Another structure of this kind is the Q-152 from Mayapan. It was probably built as a copy of the Caracol from Chichen Itza. There is only one chamber in the lower portion of the tower, and the upper part was almost completely destroyed by lightning in 1869. However, both early Colonial chronicles and 18th century travelers described and drew it with at least one window just over the entrance in the lower part (Aveni 1980:269–270; Pollock 1936:109–113).

Several common features of these two structures point to their function as observatories. Anthony Aveni and Horst Hartung list three of them: round groundplan, similar to modern observatories; narrow windows in the uppermost chamber, for making observations of celestial bodies on or near to the astronomic horizon; the general plan of the building presents a series of asymmetric lines and angles, marking some important points on the horizon, which, in case of Yucatan, lacks natural points of reference (like mountains etc.) (Aveni and Hartung 1978:3).

The round shape is a functional feature in case of observatories designed for watching multiple points in the sky. From the center of the observation chamber, an equal distance to every window is

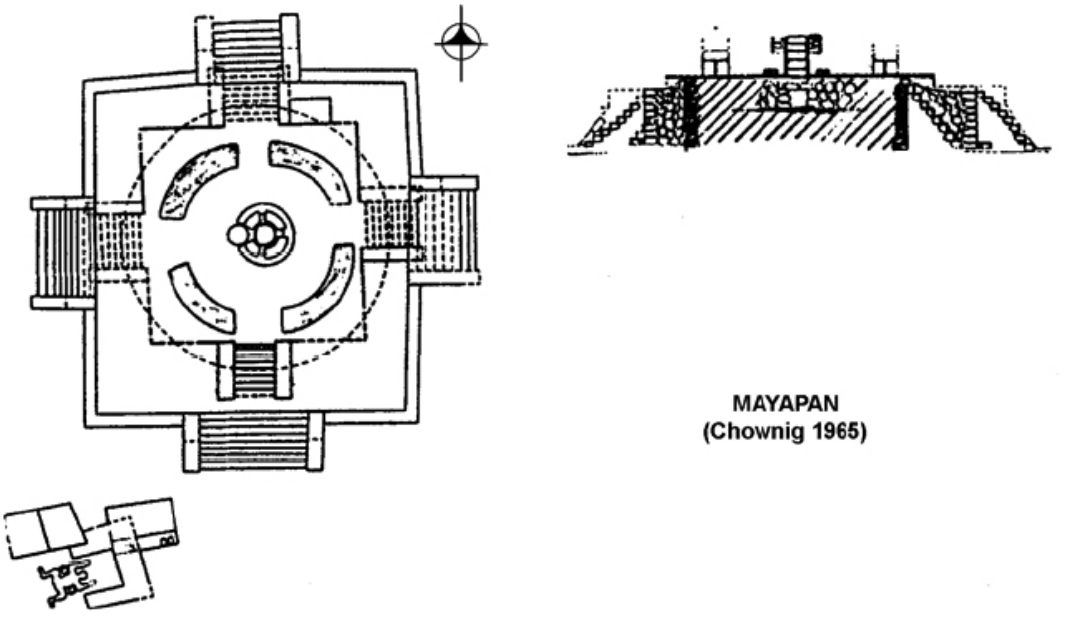

Fig. 17. Structure Q-152 from Mayapan, Mexico; after Morales 1993: fig. 6.

Fig. 18. Structure Q-152 from Mayapan, Mexico; photo by the Author, 2008.

maintained. Hence the walls of a chamber become a so-called *false horizon*, providing reference points for observation. This idea was also known to ancient Egyptian astronomers, who built circular mud-brick walls for the same purpose. Also meaningful is the fact that both structures were set in almost exactly the same geographic latitude and their main entrances face the same north-of-west direction (Clagett 1989:10–11; Aveni and Hartung 1978:7–9).

The round building in Paalmul on the Caribbean Coast was set along the same line as two previous ones, but its plan is slightly different. The substructure consists of two oval platforms with stairs at the shorter curve facing northwest. At the opposite end of substructure are two superimposing cylinders, of which the lower one contains a small niche in front; the uppermost cylinder has a single doorway exactly above the niche, leading to a square chamber (Pollock 1936:115–116).

Unlike Chichen Itza and Mayapan observatories, the Paalmul observatory lacks a round observation chamber with numerous lookout slits. If the square chamber was counterpart to round topmost rooms in 3C-15 and Q-152, observations performed through the only door had to be limited to a small northwestern sector of the horizon. However it is possible that the whole construction had several observation points and reference points. Besides, the asymmetric design of Chichen Itza 3C-15 stylobate proves the possibility of such features in all three of them. Unfortunately, the present condition of Paalmul observatory hinders any exact measurement and archaeoastronomical research.

Ancient Maya astronomers were interested in observing celestial phenomena which would be useful in divination and other religious practices as well as calibrating the calendar and agricultural activity. Anthony Aveni lists general categories of those phenomena, as "solar, lunar, and planetary extremes on the horizon, [and] positions of bright stars" (Aveni 1980:270). Special attention seemed to be drawn to the planet Venus, because "this luminary represents the celestial manifestation of the man-god Quetzalcoatl-Kukulcan, a deity who in the form of the wind god Ehecatl, is symbolized by round structures throughout Mesoamerica. He is the one pictured in various evil manifestations in the Venus tables on pages 46–50 of the Dresden Codex, especially when he makes his first appearance in the predawn sky. (...) These tables give heliacal rise-set dates and ritually significant times of

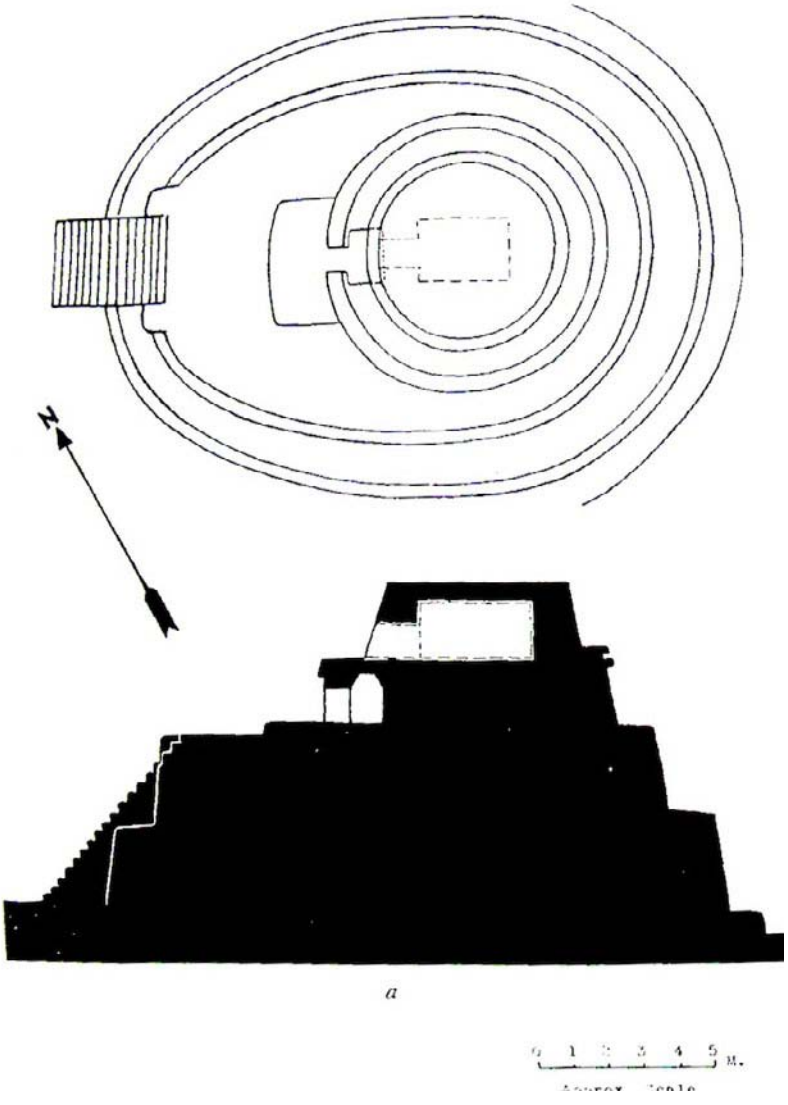

Fig. 19. Paalmul Observatory, Mexico; after Pollock 1936: fig. 39.

appearance and disappearance of the Venus god in the sky. (...) The Venus tables provide means of relating ritual site function to observations of the planet at about the time the Caracol (3C-15) was erected. Furthermore, the Venus tables were drawn up not far to the east of Chichen Itza. Thus, it is very probable that the astronomical observations delineated in the Venus tables in the Dresden Codex were collected by astronomers perched in the observation chamber of this tower and possibly in similar observatories in northern Yucatan" (Aveni 1980:262).

Skywatching, among other scientific activities, was considered a ritual in ancient Mesoamerica. Apart from its functional explanation, the round groundplan of Maya observatories was just another way of pleasing the god whom Postclassic stargazers would ask about the time and calendar.

CONCLUSIONS

In the modern world, the primary feature of most architectonic constructions is practical functionality. Other characteristics, such as visual design and symbolic meaning, even though important, usually constitute a secondary level of features. Pre-Columbian Maya architects did not distinguish these levels, for from their point of view the function, symbol and visual design were inseparably intertwined. Symbolic meaning embedded in the shape and localization – by its very nature created by a visual design – was essential to the functionality of a temple or other ceremonial structure. Some rituals or divinations demanded that certain symbolic conditions be provided, because the success of the performance depended on them.

Round structures follow that pattern particularly well. All three types of circular buildings discussed above are of profoundly ritual character – stages for performance, temples of Feathered Serpent and astronomic observatories connected with the sacred calendar and, indirectly, also with the worship of Quetzalcoatl. Practical considerations for their design, although sometimes distant from the modern understanding of that term (circular shape does not "disturb" the wind), together with design symbolism (round stage as *axis mundi* or round walls surrounding a sanctuary as an illustration of air surrounding the world), fulfill conditions essential for the proper and successful usage of the structure, i.e. performing, worshipping a god or "consulting" the sky, on both physical and metaphysical levels.

Every ancient civilization followed a certain set of development stages, from emergence through demise. The number and order of stages vary from one civilization to another, and each phase has many nuances. The task for archaeology is to distinguish them and recognize patterns of changes leading from one stage to another. Such knowledge makes it possible to establish a canvas for more detailed studies and often reveals new traces and facts, which would be missed or misinterpreted otherwise. Perhaps the best general indicator of a civilization's development is its architecture. This is usually easily traceable by using standard archaeological methods and has been present from the very beginning of a particular culture, when the society-forming process starts, to the stages of decline and end, when the construction activity comes to a halt. Characteristics such as size, design, materials used, complication, quantity, quality, finishing and decoration of buildings provide archaeologists with information about the size and importance of a particular site, and therefore of the whole culture or civilization. Sometimes salient features of certain kinds of architecture let scientists obtain facts proving the existence or non-existence of elites and rulers, society stratification and types of religious practices. This logical process can be reversed or modified, depending on which elements of the archaeological equation are known. If technical research on ancient architecture has been done and socio-cultural data obtained from anthropological and ethnohistorical sources is available, an attempt to explain the function and significance of a particular building or group of buildings can be made.

The detailed study of formal evolution and temporal occurrence patterns of round structures in the context of changing power structure in Maya civilization, presented in this dissertation, has shown a possible explanation of the function and significance of that kind of architecture. The connection between changes in power patterns and the occurrence of circular structures has been presented both on the micro- and macroscale.

The microscale explanation is based on internal changes of society limited only to the Maya culture. The emergence of round stages seemed to be induced by religious demands of the early egalitarian society. Their disappearance during the Preclassic/Classic transition was caused by ongoing social stratification, and a shift in religious doctrine. The center of ritual moved from performance on a stage, symbolizing *axis mundi* connecting the world with the pantheon of gods, into the personified *axis mundi – K'uhul Ajaw*. The reappearance of stages, again, followed a certain change in power balance. When Ajaw's importance declined, the society did not return to an egalitarian model, but the elite gained more control, and a modified concept of shared rulership, *multepal*, became an actual governing body. The lack of a singular, unquestionably divine, central person ascribed to the ritual initiated a return to the previously neglected religious practices.

The macroscale theory connects the major pan-regional shift in power balance with the emergence of round temples and observatories. A new religion was introduced by Teotihuacan along with other aspects of its ideology to all surrounding cultures. After the fall of Teotihuacan, major political and ideological changes were triggered on the influenced territories. A shift in doctrine of the widely professed cult of Quetzalcoatl spread out, becoming a pan-Mesoamerican religion. In the new denomination of that cult, some divine aspects of Feathered Serpent required specific conditions of worship. Wind god, Ehecatl, was worshipped in and symbolized by the round temple. Observations of celestial bodies, especially the movements of the planet Venus, which were necessary for calendar adjustments and controlling the agricultural activity, were in fact a means of "consulting" the Venus aspect of Quetzalcoatl. Hence the observatories had to be round in shape as well.

A society's evolution is a complex process, changing in speed and direction of development while it lasts. Just as the society is at the center of the civilization, its evolution is the center and cause of all the cultural changes. In the case of round buildings, major changes in their evolution chronologically overlap with changes in the society's development. Rapid shifts – like sudden ideology change after the fall of Teotihuacan – and gradual, smooth transitions – as the emergence of the K'uhul Ajaw – were all mirrored by the functional evolution of circular structures.

Round buildings have been considered an extravagant rarity and exception in the Maya architecture, but they should rather be viewed as yet another natural outcome of the process of cultural evolution – not only among the Maya cities, but throughout all of Mesoamerica.

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