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THE SUBSTRUCTURE OF THE STUCCOS (5C4-I): AN EXAMPLE OF EARLY ARCHITECTURE AT CHICHEN ITZA

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As part of the investigations conducted by the Chichen Itza Archaeological Project in the Initial Series Group, the exploration and integral restoration of Structure 5C4 or Temple of the Initial Series proved particularly important. The building gave its name to this group, located south of the Nuns Complex. The structure is located in the northeast section of the leveling that corresponds to this group.

Little more than 100 years have passed since the first excavation works in this structure, and to this day, different explorations and restorations have taken place, up to where evidence permitted. Since 1998 and to our days, this structure has been the object of continued investigations, giving way to the discovery of four occupational phases very well defined in the building, of which the first corresponds to the earliest occupation of the group and is up to now the oldest architectural evidence found at the site.

Throughout all these years, it was possible to define the total distribution of the group, as well as the interaction between the main buildings that integrate this residential and public complex, that no doubt belonged to some dominant lineage of the local society.

BACKGROUNDS

The first evidence of the building was provided by Edward Thompson, following his discovery of the lintel with the date of the Initial Series during the excavation of the upper temple of the mound. This excavation was poorly controlled, and was carried out late in the XIX century (Vaillant 1926; Pérez de Heredia 2001; Osorio 2004).

Together with the initial interventions conducted by the Carnegie Institution at Chichen Itza, an interdisciplinary research project was initiated, which comprised the excavation and restoration of several buildings located within the central area of the site. As to the Initial Series Group, the sections excavated by Thompson were consolidated, and test units were opened at the Temple of the Initial Series, aimed at obtaining a ceramic sequence for the site. At that time, works led to the discovery of an earlier construction that was denominated Temple of the Sacrifices, or 5C4-II.

Thanks to the efforts of the current project, it was possible to define four construction phases for this building, each one of which was given a different name that responded to a distinctive feature. Thus, in the first place we have the Substructure

of the Stuccoes (5C4-I), in the second place the Temple of the Sacrifices (5C4-II), in the third, the Temple of the Atlantes (5C4-III), and last, the Temple of the Lintel (5C4-IV). The latter three show clear traces of ceremonial function, and the first, a possible residential function related to the subject matter of the current presentation (Figures 1 and 2).

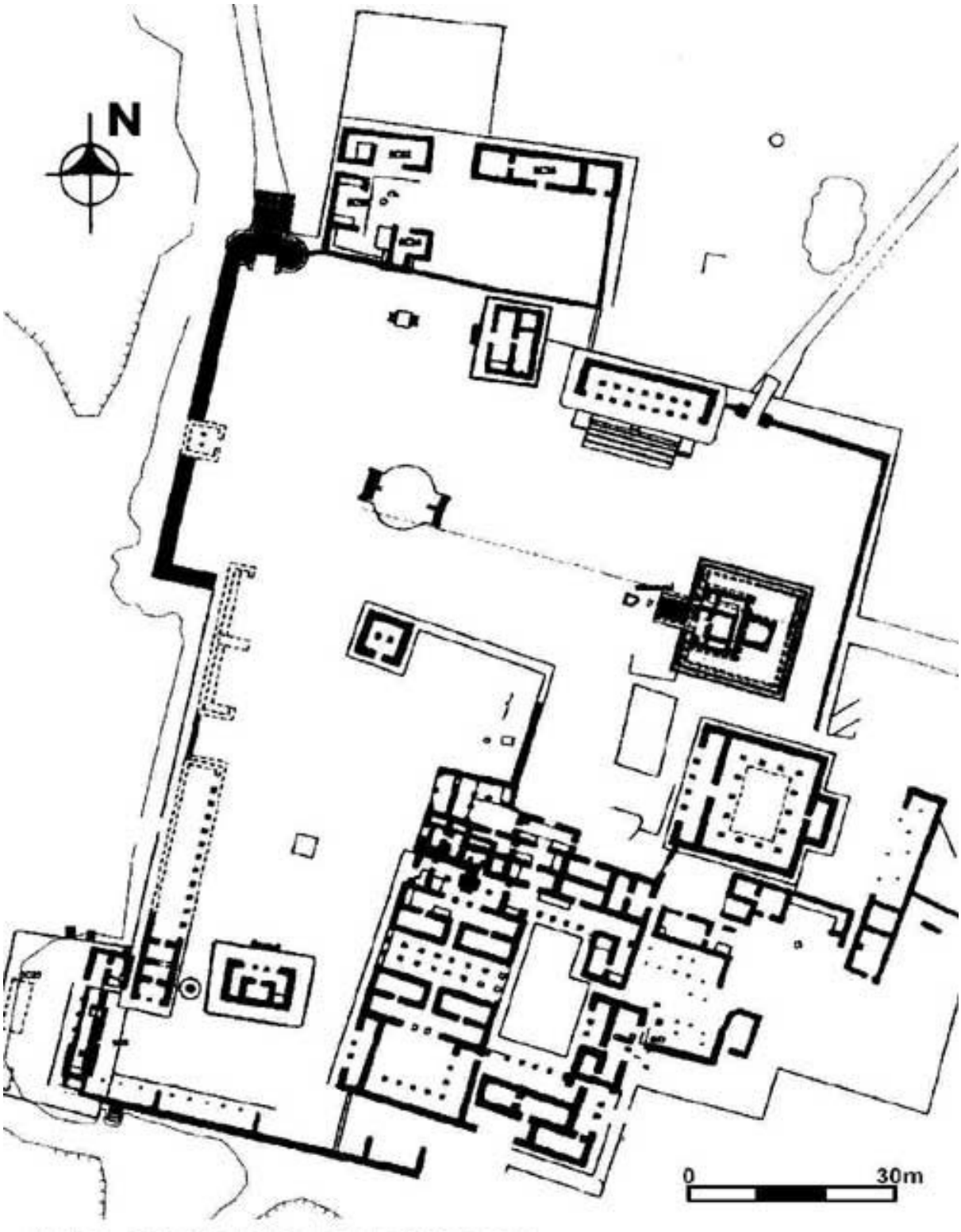

Figure 1. Plan of the Initial Series Group.

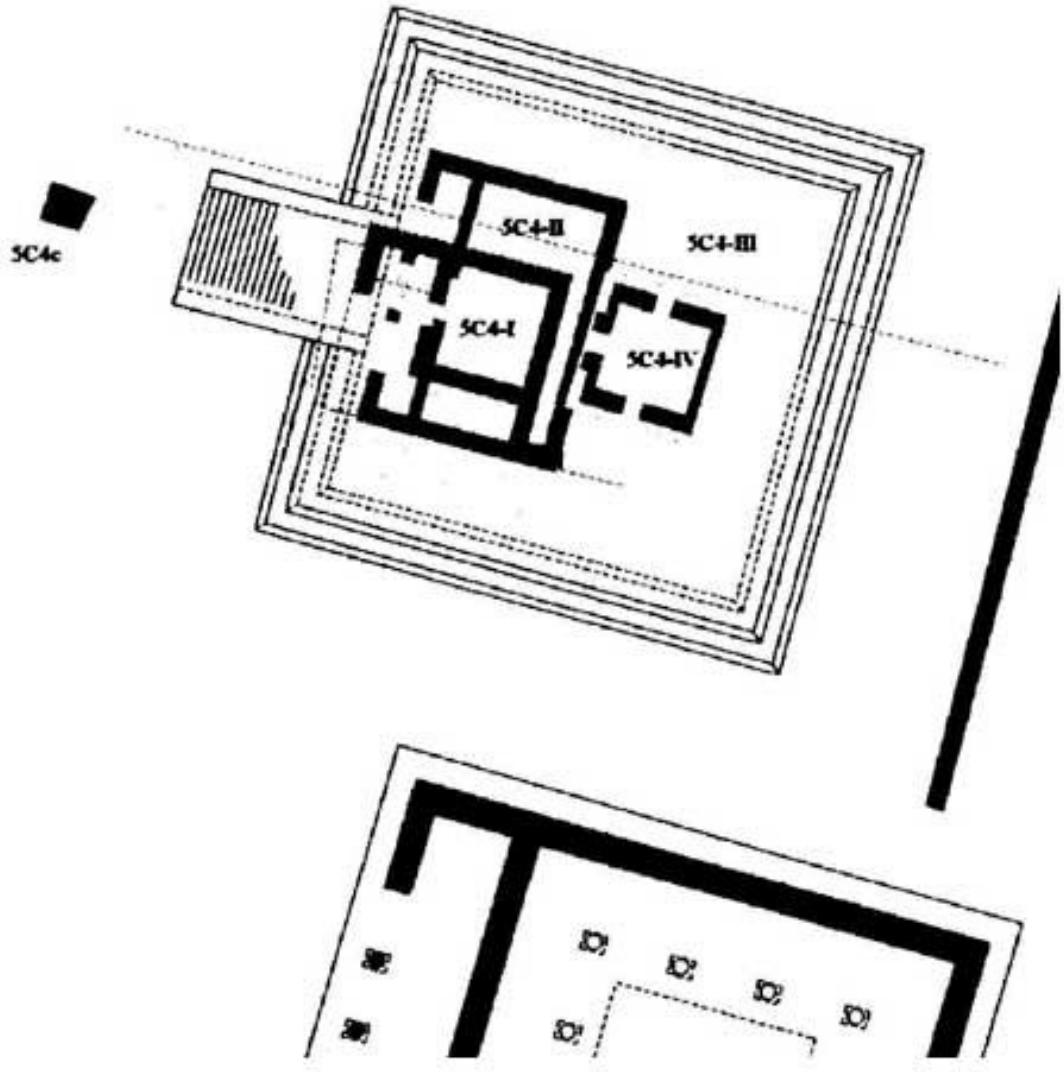

Figure 2. Plan of the Substructure of the Stuccoes and its four phases of construction.

During the test excavations at the Temple of the Sacrifices (5C4-II), with a 2 x 2 m pit at the front of a properly built sacrificial stone, the first fragments of modeled stucco with remains of polychromy were exposed. These features, used in the past as construction refill, evidently integrated the decoration of a façade that belonged to an earlier and now dismantled structure. Due to the occurrence of these features, we decided to give the building a name. Later, as excavations proceeded, we noticed the presence of a foundation and of a level with a stucco floor, which presented, at its northwest end, traces that showed the remains of a wall base. This is how the first room was defined. Given the significance of this discovery, the excavations were expanded, so as to clearly expose, in the most complete manner possible, the architectural layout of this substructure (Pérez de Heredia 2001; Osorio 2004).

Even though humble in its present looks and modest in its elaboration, the Substructure of the Stuccos (5C4-I) is for the time being the most important architectural feature of the place occupied by Structure 5C4 and its predecessors,

because it is the only building with such characteristics –and temporal frame- excavated so far at the site.

The structure rests right on top of a leveling platform (the original one in this place). For what it seems, its main access is located at the south end of Room 1 and presents a slight drop of 0.30 cm in height with respect to the overall foundation, to form a plinth that embraces the entire building.

The dimensions of the general basal platform of the group at that time have not yet been defined. In recent explorations, only the north edge of it could be recorded, which extends almost to the Platform of the Turtle (5C17), towards the west of the foundation. Towards south, in the excavations conducted at the annexes of the Palace of the Phalluses (5C14), some ceramic evidences were found, related perhaps to the same epoch of this construction.

The structure presented at least two well defined phases of construction. The first one comprised Rooms 1 and 2. The first room includes a bench placed against the north wall, which still preserves its stucco cover. The north, east and west walls were dismantled at a certain height and in some cases only the springing of the wall remained visible. Its north-south dimensions are of 3.80 m, and the east-west ones are of 1.80 m. The bench is 1 m wide, and 0.45 m tall; the average thickness of the walls varies between 0.50 m and 0.45 m (Figures 3 and 4).

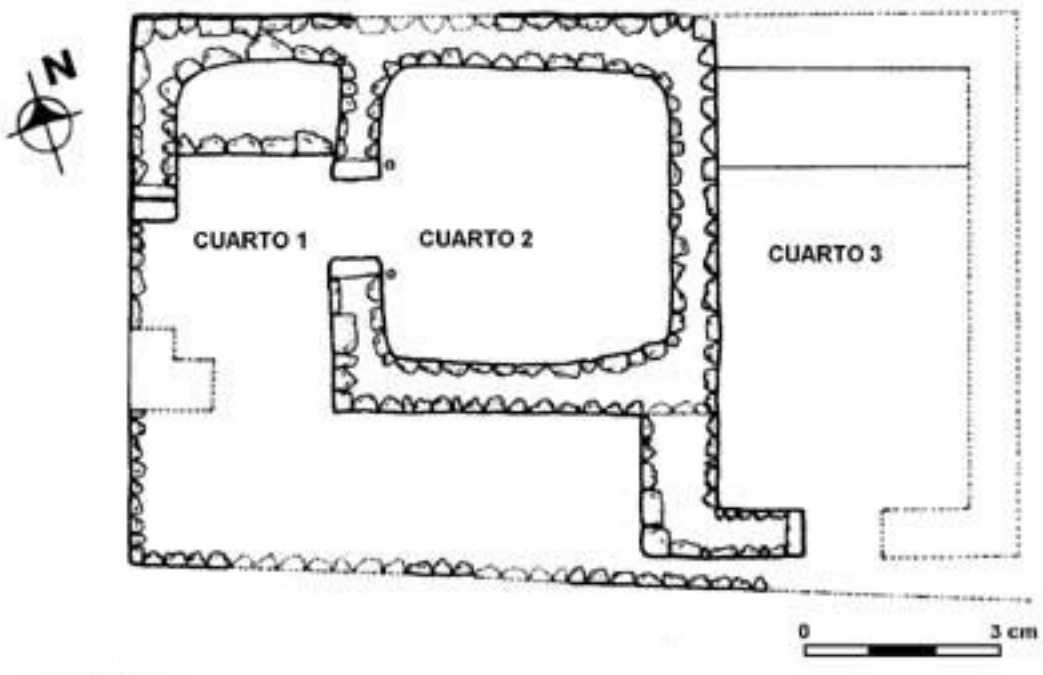

Figure 3. Floor plan of Substructure 5C4-I, with rooms 1-3.

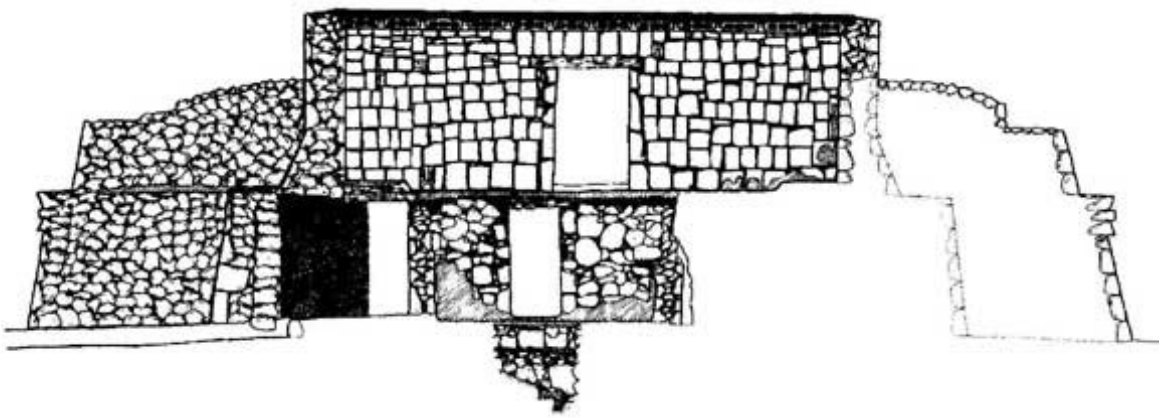

Figure 4. Profile of the excavation showing the construction phases.

The east side features the access to the second room, with a square plan; its measures from north to south are of 3.20 m, and from east to west, of 3 m; the height of the wall on the south side is well preserved, and is 1.85 tall. In both rooms, the stucco floor was perfectly preserved, and included an edge also made of stucco in the access, as a limit to prevent rainwater from draining inside this room.

The second occupational phase corresponds to Room 3 (annexed to the east). Its eastern portion was completely dismantled to give way to the construction of the basal platform of the Temple of the Sacrifices (5C4-II). However, its dimensions could anyway be defined, with 4.95 m from north to south, and 2.20 m from east to west. This room extends 1.63 m to the south, and includes a bench placed against the north wall, very similar to the one in the first room, with measures of 0.26 m in height, and 1.10 m in width. To build this room, it was necessary to dismantle the southeast external corner of Room 1 and to extend the wall to the south.

It is possible that the portico at the entrance of the first room had a wooden or masonry column in the southwest corner to support a perishable roof, or in its defect, a flat roof with wooden logs, an idea that has been inferred from the dimensions of the rooms (very large), and because of the fragile appearance of the walls, inadequate to support a vaulted roof. However, no evidence whatsoever was found of any of these features, and should it have had a peaked roof, the floor should have shown traces of the wooden columns that supported the roof. Another possibility is that the springing of the beams was built directly on top of the walls.

One very significant characteristic in this excavation was the finding of fire traces on the floor and at a certain height of the walls, confirming the presence of a perishable roof that caught fire. On the stucco floor there were vestiges of two perforations near the access to Room 2, which may have served as a base to hang a curtain or a door made of some perishable component. It is possible that the fire and destruction of the building were intentional, perhaps the product of a ritual, as no evidence was found of a hasty abandonment or of human remains on the floor and the rubble. Possibly, the modeled stucco features were arranged in the upper section of the external walls, now fully dismantled.

CHARACTERISTICS OF THE CONSTRUCTION SYSTEM

The basal platform on which the structure was built has not yet been defined in full; however, it may possibly present several aggregates. The construction was erected right above the natural ground level, using large boulders at the base, and coarse stones of an identical size for delimitation. The explorations conducted in this part of the foundation revealed the presence of Preclassic ceramic materials, tentatively dated between 800 BC and 100 AD, of the Tihosuco Complex defined by Smith (Smith 1971; Pérez de Heredia 2002; Osorio 2004). This leveling presented an average height of 1.30 m. On top of this refill the builders extended a layer of small stones *(bakchi'ich)*, as a firm subfloor for the stucco that finally covered the entire surface. On top of this stucco floor, of a solid consistency, is the springing of the small plinth that extends all around the building.

At that time, the construction system of the structure included blocks of carved stones used at the base, the corners, the jambs and the bench, as opposite to the stones that were used for the walls which did not exceed an average of 0.48 m in thickness, and which are totally coarse, badly cut, of a standard size, and covered with a thick and much polished stucco layer. The mortar used for the construction of the walls was prepared with a red dirt denominated *pakluum* (a mix made using a red earth known in the region as *kankabluum*, whose fragility is evident in the bearing walls, making it inadequate to support a vaulted roof.

The construction of this structure, its use, enlargement and destruction, all corresponds to the Late Classic period, represented at Chichen Itza by the recently defined ceramic complex of Yabnal/Motul, dated between 600 and 800 AD (Pérez de Heredia 2001; Osorio 2004).

The characteristics observed in the construction of the Substructure of the Stuccos (5C4-I), have already been noted by different researchers elsewhere in Yucatan, in the first buildings erected in prehispanic times. In the first place, and in regard to the foundation, this is associated with platforms through which the surface of the ground was leveled, while its level was raised to prevent flooding. In general, these short platforms have vertical walls. Later, the foundation or leveling was modified for a better resistance to gain height with slopes or taluses, consisting of a compacter core with a refill of earth and stones until much larger dimensions were obtained (Marquina 1981; Andrews 1986; Gendrop 1993).

Moreover, in the first buildings, in general, *"there is no sign of the use of lime as a construction feature, therefore, they were externally finished with coarsely laid stones, and flattened with clay or with small and much compressed fragments of tuff, which naturally could not provide a sufficient resistance"* (Marquina 1981:15). In the case of the Substructure of the Stuccos (5C4-I), which has yielded the earliest architectural evidence of the site, this characteristic was only partially revealed, with an external flat stucco finish above the stone surface; for this reason, the walls present some degree of irregularities. Obviously, the use of this material represented a breakthrough in terms of construction systems, and as a result, provided buildings with a greater durability and protection (Figure 5).

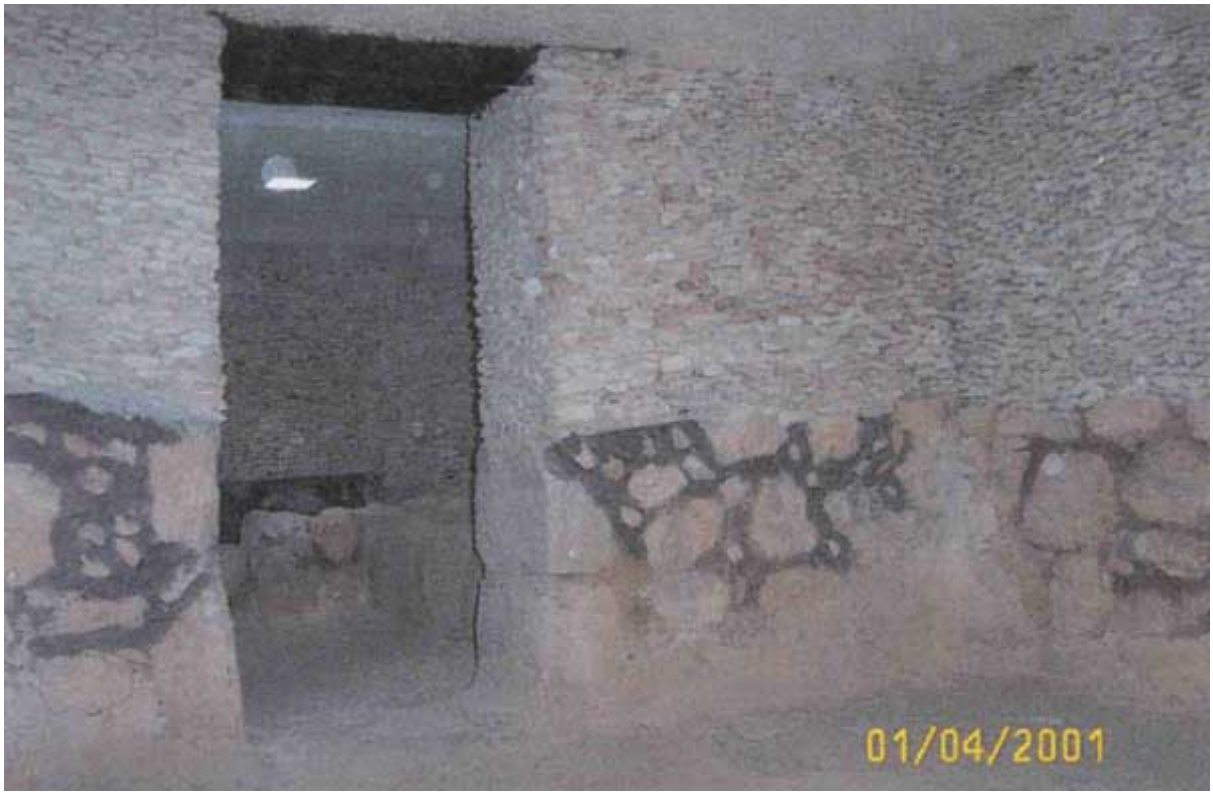

Figure 5. Interior view of the Substructure of the Stuccos after restoration.

The most representative feature in this building is stucco, used not only for covering floors and walls, but also for the decoration it had in origin. It is possible that this decoration was part of some upper ornamentation now fully destroyed. It consisted of elaborate and complex vegetal and anthropomorphic modeled designs, subsequently polychromed. Fragments were found exclusively in the refill that corresponded to the second phase of construction.

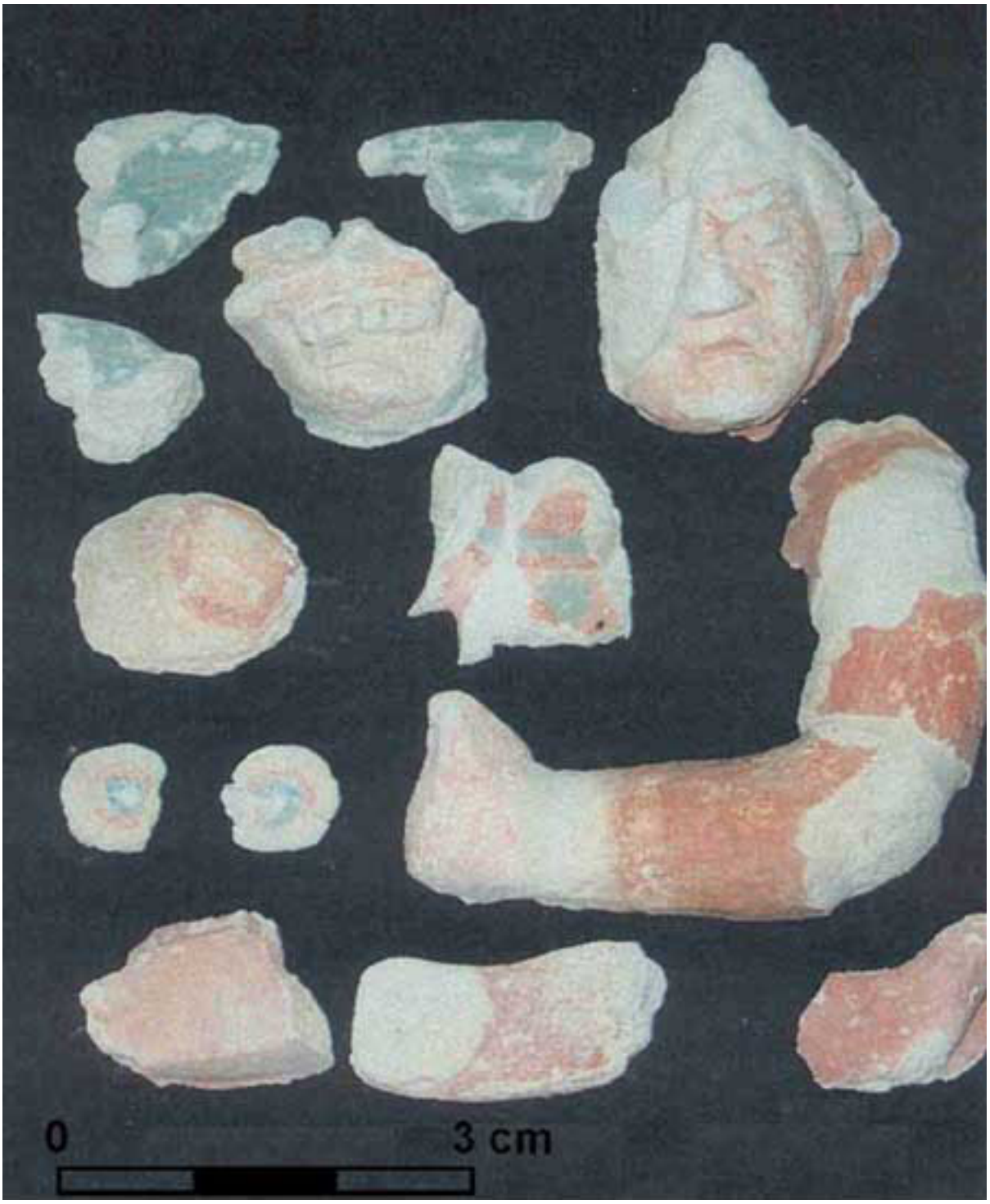

Figure 6. Examples of modeled stuccos after which the structure was named.

After analyzing over 800 fragments of different sizes and shapes, we could identify two different manufacturing techniques for the stuccos used in this structure. The first corresponds to flat fragments of coating with linear and polychrome designs that most likely integrated a mural painting; occasionally, portions of the characters depicted and the ornamentation they used could also be observed. The second is constituted by fully modeled stuccos where the manufacturing process can be distinguished; in other words, the design, in some areas, was independently

elaborated, and subsequently, these parts were added to the overall design to complement the scene on top of the flat background. This detail has been corroborated with the observation of several pieces that preserved the primary color and the coarse form, and that were fully repaired at a later date with an additional layer of a finer stucco in the form of a final finish (Figures 6 and 7).

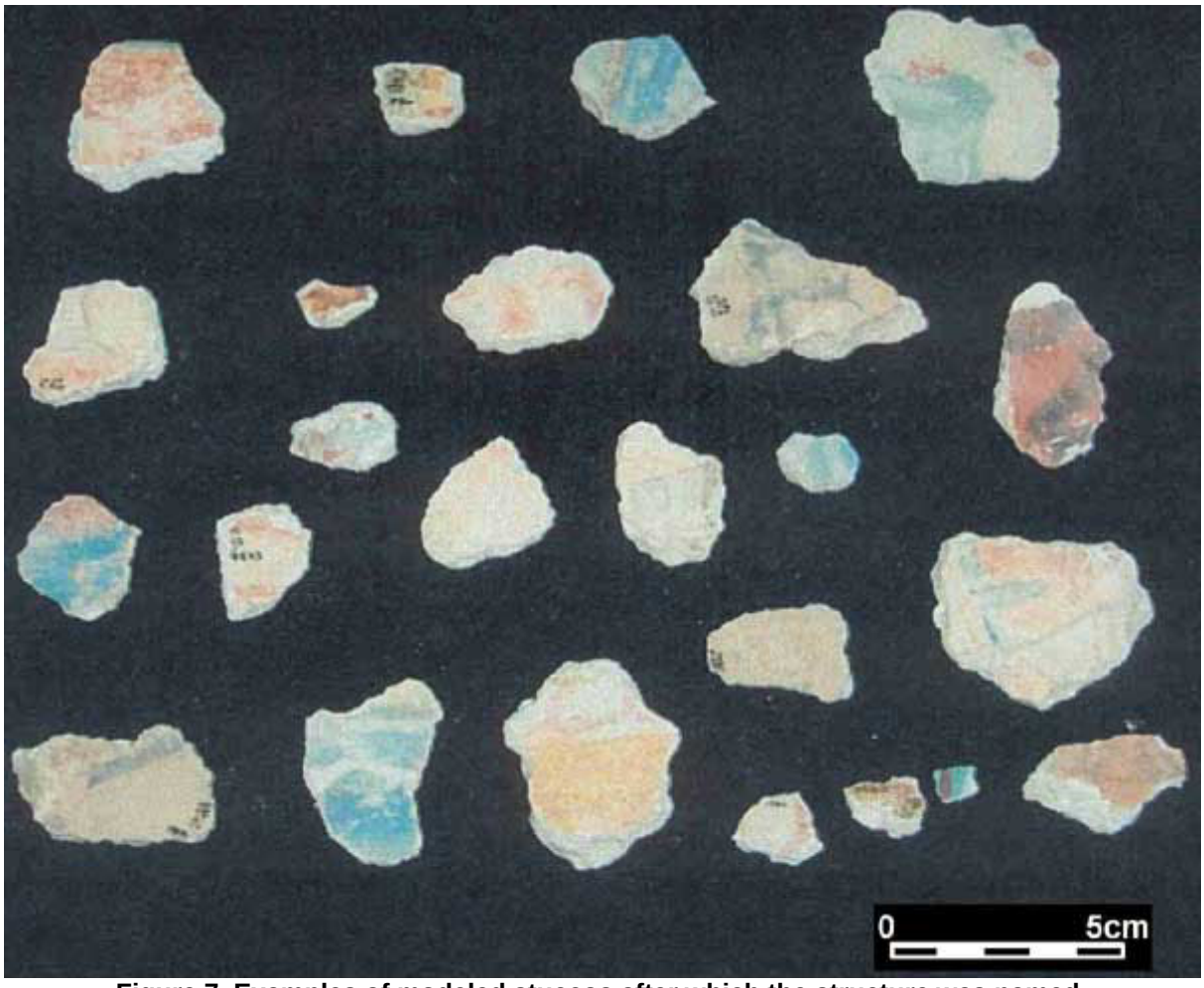

Figure 7. Examples of modeled stuccos after which the structure was named.

Unfortunately, none of the two examples was found *in situ*, as a consequence of the destruction suffered by the building. All the material was exclusively found in the refill that worked like the base for the first body of the Temple of the Sacrifices (5C4-II).

Among the recognizable modeled features, there are feathers with two varieties of green, which apparently integrated the headdresses of the individuals, several human faces, one cranium fragment, and one complete fragment of arm and forearm, which was restored. The latter features the hand in a classic position and is very similar to the characters recently found in Structure 1 of the Ek Balam Acropolis (Vargas and Castillo 2000). Also, there are a number of features that look like cocoa fruits, as well as others in the shape of fangs and red in color that resemble the serpentine designs with open jaws. Among these modeled remains, we also found a number of fragments that are apparently part of two large masks (eyes, ear flares, teeth, etc).

Somehow, the presence of this stucco decoration has led us to presume that the residential function of Structure 5C4-I was of the elite type, and chance exists that this was a very modest “palace”.

FEATURES ASSOCIATED WITH THE STRUCTURE

In the excavated refill of the foundation of the second construction phase, some decorated stone features were found integrating large masks of big-nosed gods. These reliefs are complemented with those that were reused in the interior walls of the Temple of the Sacrifices (5C4-II), and share some similarity with the masks located in the upper façade of Structure 7B3 or Temple of the Three Lintels, and with those found on the four accesses to the interior of the Observatory (Structure 5C13).

Included in this refill there were two little reeds, one cross-stone that completes a lattice-type window and two small drums with bindings. These features are present as a part of the decoration of the Temple of the Phalluses (5C14), in the same group. On the other hand, there is a fragmented merlon which could be completed in full. Up to now, the design of this merlon is unique at the site; however, at the site of Xcochkay, in the Puuc region near Xculoc, Campeche, there are three merlons very similar in design and size to the one found in this structure (5C4-II; Becquelin and Michelet 2000:148). In addition, in Labna’s Structure 8 –of the tower-type in the Puuc region-, and during the excavations conducted, several such features with a similar design were found, also associated with modeled stuccos (May 1999). It is possible that these sculptural features belonged to some other structure now fully dismantled.

As a part of this refill, we were able to recover several grindstone fragments with very pronounced traces of wear, suggesting an apparent residential use of the building at that time, with the cautions already anticipated in regard to the rich stucco decoration.

One important trait are the two rectangular platforms directly associated with the structure (5C4a and 5C4b) that apparently supported, each one of them, a perishable construction, and that may have corresponded in time and origin to Structure 5C4-I. Interestingly, in the orientation of its walls, Structure 5C4 shows slightly different guidelines (around 7º more to the west) than those of the site at a later time. The structure was probably a part of an earlier construction complex in the group, different to the remaining standing constructions today. In the area that separates Platform 5C4b from the Substructure of the Stuccos, there was a concentration of cultural material that helped to define the ceramic complex known as Yabnal/Motul (between 600 and 800 AD) for Chichen Itza.

This evidence of archaeological materials (ceramics, shell, chert, etc), constitutes the first collection of a pre-Sotuta ceramic material isolated, very well documented and found in a sealed context. Ceramic is the most representative material, followed by lithics and shell, and is presented below.

Among the worked lithic objects there are 12 fragments of obsidian blades, in total, that were recovered in association with this context. Most of the obsidian represented is of a translucent grayish material with thin black veins. The place of origin of this obsidian may have been El Chayal, in Guatemala, according to macroscopic estimations, and would be associated with the pottery of the Yabnal/Motul complex.

One fragment of black obsidian was recovered in layer 1 of the pit opened under the sacrificial stone, and could be originated in Central Mexico, particularly Zaragoza, thus showing, provided the identification is correct, that exchange contacts existed with the region of the Lower Usumacinta river and the Gulf Coast, for example with Comalcalco (G. Braswell, personal communication 2000).

Different chert features and fragments were recovered during the excavation: one cutter-striker, one fragmented axe, two sections of a knife, one secondary flake, three tertiary flakes, and seven fragments of refuse.

Besides, there were fine shell ornaments. In the excavation, a collection with 32 shells perforated through percussion and of the *Columbella Mercatoria* type, was recorded. They were found in a little heap in the dumpster adjacent to Room 1 and Structure 5C4b, on the west side, possibly stringed together to form a necklace or otherwise a bracelet.

Five shells of the type *Olivella Floralia*, with three perforations through cutting were separately obtained from the same context. Finally, one snail bead carved and polished possibly on a *Strombus* columela was as well recovered there.

Also, a spindle whorl manufactured with a white, polished stone, probably alabaster, and one quartzite fragment from some cave were recovered.

Finally, some of the bones recovered are mandible and long bone fragments of a white-tailed deer *(Odocoileus virginianus)*. Besides, there were human bone remains very badly preserved and eroded (portions of the skull and long bones). In both cases, they show traces of burning and were part of the same garbage pit located at the west side of Room 1, between Structure 5C4-I and 5C4b. Moreover, in the excavation of Room 3 there was a bone corresponding to a human vertebra and an additional one corresponding to a phalanx, that were part of the construction refill.

The ceramic material was richer and decisive at the time of defining a chronological correlation for the building. In the past, the site revealed the occurrence of ceramics similar to those of Dzebtun, initially considered as a pre-Flourishing slate in eastern Yucatan (Brainerd 1954:180), though that material had not been directly associated with any building or particular context. However, in studies conducted on the Sayil ceramics by Sylvianne Boucher, she was able to identify pre-Flourishing slate ceramics denominated Slate Say, which, as a consequence of being pre-Cehpech, dated to the Late Classic period, between 600 and 800 AD. At the site of Oxkintok a similar finding took place, this time denominated Sat (Varela 1998). As to Chichen Itza, almost 4% of the analyzed ceramic of the Sacred Cenote corresponds to this

complex (Yabnal/Motul; Pérez de Heredia 1999), though at that time it showed no association with any particular building.

MODELLED STUCCO AS AN ARCHITECTURAL FEATURE IN NORTHERN YUCATAN

Since the earlier research works conducted in the Maya area, it has been said that stucco "had two essential functions":

- The first was to be used as a covering for architectural complexes, to cover the cut stones, to smoothen the walls, ceilings, floors, etc. Many times stucco was used as well to rectify and complement defects in decorated designs and in the joints between the stones, as observed in a number of decorated columns and pilasters at Chichen Itza.

- The second consisted in using it as a malleable material for the elaboration of modeled pieces and for ornamenting buildings, both outside and inside (Andrews and Andrews V. 1980; Morley 1972; Góngora 1997; May 2000).

Throughout the Maya area, stucco has been used since very early in time, and developed to such a degree that entire cities were later decorated with elaborate designs. Evidence of this is present in different places located in the northern plains of Yucatan, such as Dzibilchaltun, Ek Balam, Izamal, Acanceh, Oxkintok, Xcambo, Yaxpoli, etc. To this day, the best known example of modeled stucco preserved *in situ* within the region occurs in Ek Balam, located less then 50 km away from Chichen Itza, with the execution of large façades modeled with this material, depicting the image of high ranking local characters (Vargas and Castillo 1999). For what it seems, these modeled pieces were more frequently created during the Late Preclassic and the Early Classic periods (Góngora 1997), although they reappeared in Postclassic times, for example in Mayapan and all along the Eastern Coast.

FINAL CONSIDERATIONS

As already said, it has been possible to define so far four very clear construction stages at the Initial Series Temple (5C4), revealing a whole technological evolution, an improved construction and a final decrease throughout six centuries of intense populational activity in this part of the site.

With the discovery of Preclassic sherds in its foundations, there is no doubt that the occupation in this section of the site began in the Preclassic period, traditionally dated from 300 BC to 150 AD, and representing the ceramic complex of Tihosuco, the moment of the probable initiation of construction works for the general foundation of the Initial Series Group, which achieved a considerable dimension at a later date which is still to be established. Occupation was scarce, perhaps at a level of isolated households or villages.

In regard to the first construction stage of the building, it is now confirmed that the construction of the Substructure of the Stuccos (5C4-I) took place during the Yabnal/Motul Complex, showing improvement in the handling of certain construction materials, particularly in the use of the modeled stucco technique, whose influence may have come from other nearby sites such as Ek Balam or Yaxuna, as some similarities exist, construction-wise.

With all the features documented in this cultural period we are entitled to suggest the occurrence of early architecture with a well defined style for the site, associated with this new ceramic complex known as Yabnal/Motul, according to the definition suggested by George Andrews (1986), one that accurately applies to Maya buildings and primarily based on the different attributes of their architectural, constructive and decorative features, that include as well several construction techniques and materials used, size, form, etc. Possibly, this construction could lay the foundations to define the characteristics of the earlier buildings of the site.

All these issues considered, it is possible to place the Substructure of the Stuccos (5C4-I), the only one for the time being representing the early architectural style of Chichen Itza, as corresponding to the Yabnal/Motul complex between 600 and 800 AD. It is possible that the decoration of the upper façade featured decorated stones complemented with modeled stuccos, with designs that represented masks and lords lavishly dressed, and evidence of mural paintings inside. On the other hand, no remains were found that could point to a vaulted roof, at least as far as this building is concerned.

However, coexistence with other buildings or constructions of a ceremonial or ritual character, like the pyramids and other kind of temples of which there is still reference, should not be ruled out.

It should be admitted, though, that the greatest part of the site has not been subjected to such extensive excavations like the ones carried out in this building (5C4), adequate to provide information on the presence of similar architectural features corresponding to this period. This is why the finding in the Substructure of the Stuccos (5C4-I) of the Initial Series Temple is so important, a discrete context of the Yabnal/Motul Horizon where it is possible to associate an early construction with Pre-Cehpech ceramics.

Moreover, the association with other materials, like obsidian, must contribute to illustrate the trading networks of this period, as well as the cultural affiliation of the people who built and used the Substructure of the Stuccos (5C4-I). It is possible that at this stage the site had an irregular settlement and a considerable size, and that the Initial Series Group was one of the most remote ones, or either an important landmark for the city that was growing north of the central group, to which it was connected through a *sacbe* (25), located under Door 1 (5C35), the current main access to the group.

Finally, we do not rule out the possibility that this structure was intentionally destroyed and burnt, as part of some kind of conflict. This kind of events are clearly shown in the murals of the Upper Temple of the Jaguars in the Large Ballgame, in

the substructure of the Temple of the Warriors and in the upper rooms of the Nuns Quadrangle, at a later stage.

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Figure 1 Plan of the Initial Series Group.

Figure 2 Plan of the Substructure of the Stuccos and its four stages of construction.

Figure 3 Floor plan of Substructure 5C4-I with rooms 1-3.

Figure 4 Interior of the Substructure of the Stuccos after restoration.

Figure 5 Interior of the Substructure of the Stuccos after restoration.

Figure 6 Examples of the modeled stuccos that gave its name to the structure.

Figure 7 Examples of the modeled stuccos that gave its name to the structure.