

Characterizing and Classifying Mayan Ritual Deposits

Caracterización y clasificación de los depósitos rituales mayas

JOHANN BEGEL

Programa de Becas Posdoctorales en la UNAM

Centro de Estudios Mayas, Instituto de Investigaciones Filológicas, UNAM

ORCID: 0000-0002-5038-1820 / johann.sinan.begel@gmail.com

ABSTRACT: Initiated almost a century ago, the study of Mayan ritual deposits has undergone a gradual genesis, which until recently distinguished only caches and burials, while all cases that didn't fit neatly into these two categories were classified as "problematical deposits". Over the past decades, thanks to technical advances and a better understanding of the contexts, new types of rituals have been identified, such as secondary burials, termination deposits, ritual feasts and, more recently, foundation scatterings.

The aim of this methodological approach is therefore to bring together the various hypotheses already formulated to propose different ways of characterizing ritual deposits. To this end, the discoveries on the site of Tikal, the most prolific site in the Lowlands in terms of traces of rituals, will be supplemented by those of seven other sites occupied during the Preclassic and Classic periods.

The first series of criteria questions the stratigraphic position of the deposit in order to replace the ritual within the historical trajectory of the building or of the architectural group. The second point concerns the repetitive nature of these rituals which can sometimes be classified according to recurrent Ritual Complexes. These stratigraphical, morphological, chronological and artifactual information thus makes it possible to establish different etic categories and subcategories, while taking into account the probable variability of the emic meanings and purposes of these deposits. This proposed typology is neither definitive nor exhaustive and will evolve with future findings and studies of archival collections.

KEYWORDS: Maya, Cache, Burial, Offering, Ritual Deposit.

RESUMEN: Iniciado hace casi un siglo, el estudio de los depósitos rituales mayas ha experimentado una génesis gradual, que hasta hace poco distinguía sólo los escondites y los entierros, mientras que todos los casos que no encajaban claramente en estas dos categorías se clasificaban como "depósitos problemáticos". En las últimas décadas, gracias a los avances técnicos y a una mejor comprensión de los contextos, se han identificado nuevos tipos de rituales, como los enterramientos secundarios, los depósitos de terminación, los banquetes rituales y, más recientemente, los esparcimientos de fundación.

El objetivo de este enfoque metodológico es, pues, reunir las distintas hipótesis ya formuladas para proponer diferentes maneras de caracterizar los depósitos rituales. Con este fin, los descubrimientos en Tikal, el sitio más prolífico de las Tierras Bajas en cuanto a vestigios de rituales, se completarán con los hallazgos de otros siete sitios ocupados durante los periodos Preclásico y Clásico.

La primera serie de criterios cuestiona la posición estratigráfica del depósito para situar el ritual dentro de la trayectoria histórica del edificio o del conjunto arquitectónico. El segundo punto se refiere al carácter repetitivo de estos rituales, que a veces pueden clasificarse según complejos rituales recurrentes. Estas informaciones estratigráficas, morfológicas, cronológicas y artefactuales permiten así establecer diferentes categorías y subcategorías etic, teniendo en cuenta al mismo tiempo la probable variabilidad de los significados y finalidades emic de estos depósitos. Esta tipología propuesta no es definitiva ni exhaustiva y evolucionará con futuros hallazgos y estudios de los fondos de archivo.

PALABRAS CLAVE: maya, escondite, entierro, ofrenda, depósito ritual.

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After more than a century of excavations in the Maya area, almost every site, from the Preclassic to the Postclassic, has revealed ritual deposits. These particular contexts very early attracted the attention, first of the amateurs of antiquity, then of the scientists at the beginning of the major archaeological projects from the middle of the twentieth century. And for good reason! These are burials and cached associations of artifacts, probably symbolic, which sometimes include very high-quality crafts. They were deliberately placed within the structures, platforms and plazas, either during their use, their period of construction or abandonment. Unearthed by the thousands, whether by looters or during official excavations, they attract the envy of some and the interest of others.

Today, it is possible to go beyond the limited classification most commonly used, that is, to distinguish only burials, caches and termination deposits, while isolating all ambiguous cases in the temporary category of “problematical deposits”. Indeed, it’s now possible to propose new etic classification hypotheses on the basis of the analysis of exhaustive corpuses from various cities: Tikal, Uaxactun, Naachtun, Dos Pilas, Calakmul, Ucanal, El Zotz and Altar de Sacrificios (Figure 1). Other sites are currently being analyzed to complete the panel of rituals presented here. To do so, it’s important to take into account not only diachrony, but also stratigraphy and the type of structure involved, in order to bring to light new rituals and thus enrich the range of religious practices identified among the ancient Maya liturgy. This methodological attempt is intended to be developmental, reflecting the discoveries made at major sites. While a number of clues suggest that certain analytical criteria apply to the Central Lowlands and, in some cases, to the entire Maya area, others will need to be

confirmed by further study of the corpses from other sites in the future. Indeed, in Mesoamerican rituals, local variations rather than exact uniformity are the rule.

Beyond Caches and Burials

The distinction between burials and non-funerary “caches” was first used by Sir Eric Thompson (1931: 269) at Hatzcap Ceel and Cahal Pichik, two sites in Belize and then underwent a long genesis. The definition is formalized by William Coe (1959: 77) in his monograph on Piedras Negras: “The term caches refers to one or more objects found together, but apart from burials, whose grouping and situation point to intentional interment as an offering”. These caches are therefore deposits that can sometimes contain a few human remains, but also ceramic vessels, jade, hematite, worked lithics such as chert and obsidian, and even fauna or flora. They are distinguished from burials since the artifacts aren’t organized around one or more deceased. Bones, when present, seem to be only one of the deposit components among others.

Very soon, however, this dichotomy became problematic, as a number of cases were found to be unclassifiable since they contained many human remains but were apparently not formal burials. From the beginning of the Tikal Project excavations (1958-1969), these ambiguous contexts were grouped together in a temporary category called “problematical deposits”. Before long, this category came to encompass all types of questionable contexts (Moholy-Nagy, 2019: 1), that is, those which don’t fit into the narrow criteria that define a paradigmatic cache or burial. For example, PD. 146 (Coe, 1990: 396) was a sealed pit in Temple 5D-22 on the North Acropolis, which contained only 2 jade and 1 shell mosaic elements, 2 unidentified bone fragments, 1 sherd, 1 unused chert flake and 6 grams of wood charcoal. A limited inventory, but definitely reminiscent of a well-identified cache recurrent pattern (*Leum*). Another type of deposit long considered problematical concerns termination rituals during which breaking and scattering of vessels and censers mixed with wood charcoal took place on the last floors, as in PD. 121 and 122 in Structure 5D-75 (Begel: forthcoming Tikal Report No. 35A, later abbreviated TR. 35A). Many others of the problematical deposits at Tikal turned out to be disturbed or secondary burials where the bones in disconnection raised the question of the nature of the deposit. This is notably the case for PD. 30 in Temple 5D-23 (Coe, 1990: 427-428). Finally, a good share turned out to be domestic trash (Moholy-Nagy: personal communication 2023).

Fifty years after its genesis, this dyad of burials and caches is still valid, although it’s increasingly complemented and nuanced by a better understanding of other types of practices (Chase, 1988; Becker, 1993; Kunen *et al.*, 2002; Awe *et al.*, 2020). Deposits once deemed problematical or not previously identified as such can now be analyzed. Previous attempts have been made to characterize the different types of rituals (Maxwell, 1996; Calligeris, 1998 or Moholy-Nagy, 2019, for example). Faced with the variability of the ceremonies to which these deposits testify, these precursors found themselves confronted with numerous theoretical and methodological

difficulties to define, classify and sometimes select a representative sample. Since then, the multiplication of cases and progress in the various analyses have made it possible to highlight enough recurrences to enable reinterpretations. The following proposal is a further attempt, in the hope of moving one step closer after them.

For this reason, it seems important today to review the progress that has been made in the analysis of rituals, to propose other methods of classification that are more comprehensive and hopefully better adapted. It's necessary to regroup the hypotheses already published in isolated works and to add new ones, in order to give coherence to the whole. The objective is to deduce a typology, which will, of course, evolve later according to future discoveries and theories and which will be able to adapt to the great variability of Mayan contexts.

To this end, it would seem appropriate first to draw on recent excavations, carried out as knowledge had evolved. For this purpose, the 204 ritual deposits discovered at Naachtun (Nondédéo *et al.*, 2011-2023), a regional capital in the northern Central Lowlands excavated since 2010 by the French CNRS, will be taken into account. In addition, it's imperative to refer to the richest corpus in the Maya area, that of Tikal, which reaches the stunning total of 1121 referenced deposits (forthcoming TR. 35A). Of these, 246 have been classified as "problematical deposits", a major statistical bias but also a mine of information for the present subject, since this is clearly a heterogeneous group of different kinds of rituals. The study was later extended to include the 22 deposits found in Ucanal, 101 in Uaxactun and satellite sites, 23 in Dos Pilas, 72 in El Zotz and secondary centers, 49 in Calakmul and 66 in Altar de Sacrificios (for the latter only those of the Peabody Museum excavations between 1958 and 1963 for now; Figure 1).

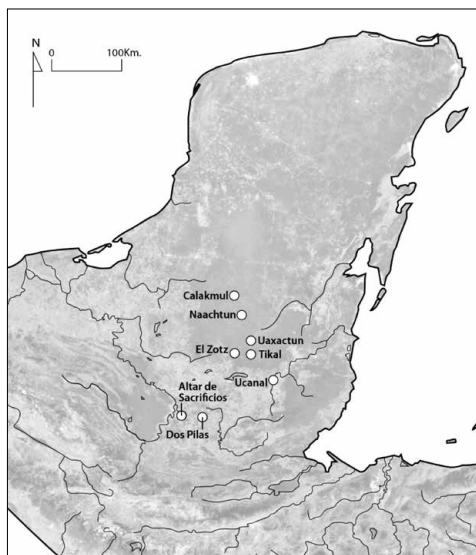


Figure 1. Map of sites included in this study.

(Re-)identifying Ritual Deposits

One of the main questions archaeologists generally face during excavations is how to determine what is ritual and what is pragmatic. For present-day Mayans, the problem doesn't arise in these terms, since ethnography teaches us that, in absolute terms, every gesture of daily life has a symbolic resonance, from healing a soul loss to preparing tortillas or clearing a *milpa* (Vogt, 1976; Guiteras Holmes, 1961: 42-46). For theoretical purposes, therefore, it's preferable to distinguish between acts that proceed from a liturgical codification, and those that are more domestic or profane, without denying the latter a semantic or religious significance (see Figure 2).

In current literature, the first statement is the extreme variability of the criteria used to identify a deposit, whether it be from one project, one site or one excavation report to another. Besides, there is also a strong heterogeneity in the accuracy of the descriptions. Monographs are among the most complete (Smith, 1937; Kidder *et al.*, 1946; Coe, 1959, 1990 for example) but the interpretation needs to be revised in the light of the latest advances. Recent field reports take into account the hypotheses proposed since then, but are more descriptive and offer less analysis and inter-site comparisons. In addition to the ongoing excavation campaigns that are gradually increasing the total data, the study of deposits therefore requires, as a priority, a reworking of more or less precise archival data.

Identification of New Deposits

Publications and archives are naturally the most fertile source for the study of rituals. The major problem, however, lies in the identification of new deposits. Faced with contexts that are considered intentional but still incomprehensible, archaeologists of the past have cautiously recorded the data as "special deposit" or "problematical deposit", which easily allows for a later reevaluation. In contrast, other traces of rituals weren't recognized as such at the time: either that the artifacts weren't considered particularly characteristic, or that the deliberate nature of the gesture wasn't sufficiently clear. In these cases, the artifacts are then drowned in the inventories of much larger material lots and it's often impossible to determine their exact location in the stratigraphy, or whether they were found grouped together or not.

To take an example, the work of the archaeologists of the University of Pennsylvania at Tikal was carried out with an exemplary precision for the time, both during the excavation and the writing of the Tikal Reports. Nevertheless, a few biases came to complicate the data. Thus, some structures were excavated from the surface of the mound until a first stuccoed floor was found, without necessarily isolating the artifacts from the last centimeters that could constitute the traces of the final occupation. When this distinction has been made, the location of the different lots is sometimes quite imprecise. Yet, some deposits are scattered on the floor and not buried, such as termination deposits that were only brought to

light in the 1990s (Schele and Freidel, 1990: 459-460). It is therefore difficult to identify unknown deposits from the inventories of ancient excavations, but not impossible.

Today, a better understanding of the various vestiges makes it possible to apprehend the most complicated contexts without restricting ourselves to caches, burials and problematical deposits. The Naachtun Project, initiated in 2010 in the north of the Guatemalan Petén, marks a significant advance in field study. The systematic expertise by physical anthropologists -as soon as a single human bone was found-, has allowed the separation of burials and other types of ritual deposits. There was therefore no need to resort to the label of “problematical deposits”. However, because their nature is so variable, a number of likely ritual deposits were again only identified in the course of the post-excavation study. This is why it seems that an adaptive typology would allow a better reading of the vestiges in the future, and thus a much better identification of the different ritual contexts.

Recording and Analysis of Archaeological Data

A thorough post-excavation analysis implies the most exhaustive survey possible in the field. In this regard, advances in modern recording and analysis techniques are increasingly opening up new perspectives on Mayan rituals. The democratization of digital techniques such as photogrammetry or laser scanning is a significant advantage, without replacing the traditional sections and plans —too often absent in publications. The descriptions are also sometimes misleading. For instance, the frequently used but imprecise expression “under Floor No. 2” sometimes means “included in the construction fill under Floor 2” and in other situations “intrusive pit through Floor 2”. Unfortunately, these basic descriptive problems sometimes make it impossible to determine the exact stratigraphic context of the deposit.

Furthermore, the new specializations of the archaeological discipline give access to the invisible part of the rituals, whether they are microscopic clues or organic remains degraded by the effects of time. To cite only a few possibilities, some deposits at Oztoyalco in Teotihuacan have revealed pollen and phytoliths (González *et al.*, 1993). At Naachtun, the physicochemical analysis of residues under a ceramic has demonstrated the use of an aromatic resin (Nondédéo *et al.*, 2022), which gives a new sensory perspective to these ceremonies. At this same site, the anthracological study points to a strong variability in the selection of burned taxa, correlated with the type of ritual (Dussol, 2017). Finally, at Tikal, among other studies of the same type, the analysis of strontium isotopes in Burial 10 confirmed that all the deceased were native people (Wright, 2005). The possibilities are multiplying, without even mentioning the options opened by DNA, a resource that is still not sufficiently exploited in the region.

These innovative methods, added to the more traditional ones used by archaeologists, offer the opportunity to characterize in greater detail the various forms of deposits and thus to better distinguish different categories of rituals.

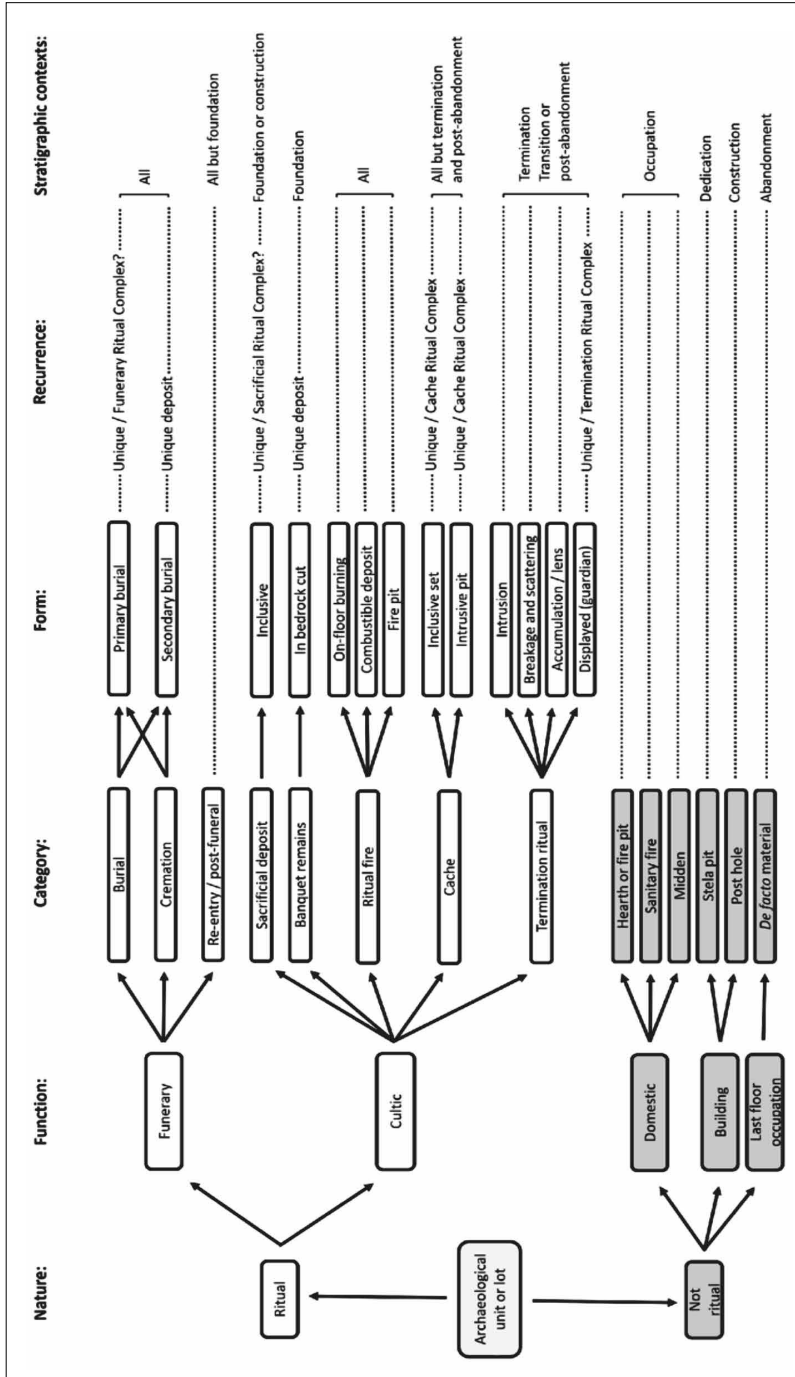


Figure 2. Proposed categorization of ritual deposits.

Characterizing Ritual Deposits

Ritual deposits are, of course, highly variable in their nature, form and definitely in their function, but they stem from the same logic. For a long time, archaeologists have presumed that there was a link between deposits and architecture (Coe, 1959: 78). This line of inquiry should therefore be analyzed first. When they planned to rebuild a structure, the ancient Mayas often dismantled it partially beforehand. They included it more or less intact in the foundations of the new version of the construction, before rebuilding over it identically or almost identically, simply in a more massive version. Thus, the excavation reveals particularly well-preserved architectural sequences composed by several stacked and therefore successive architectural developments of the same structure or architectural group. In fact, the succession of deposits and the sequences of construction and reconstruction of the structures are totally intertwined. The example of Group 5D-2 in Tikal is quite illustrative (Coe, 1990) since for the ten main architectural developments, 349 deposits are identified. Consequently, the stratigraphic and morphological information of the deposits are crucial and allow a first classification to be established. Furthermore, epigraphy can sometimes provide contextual information of prime importance for some deposits, particularly, but not only, for those associated with altars and stelae.

On the basis of these criteria, the second focus to be investigated concerns repetition, since different recurrent patterns can be identified on a same site (Begel, 2020a: 326-397).

Stratigraphic Classification

It is impossible to discuss deposit stratigraphy without examining the notion of “dedication”. William Coe (1959: 78), offers a first definition after Piedras Negras excavations:

Recognition depends on the deposit’s position. If evidence indicates placement with a monument, or during construction of an architectural feature planned to cover it, the cache is presumed to be involved with ‘dedication’ of the monument or structure. Its position may be axial or non-axial. However, if the deposit was made through an existing surface, it may be interpreted as dedicatory or non-dedicatory, depending on such factors as method of concealment and actual stratigraphic relationship

By definition, a dedicatory deposit is therefore placed before or during the initial construction work. By extension, some authors consider that any deposit linked to an architectural remodeling is also dedicatory (Calligeris, 1998 for instance). For nearly fifty years, this stratigraphic category dominated in the descriptions, to differentiate “dedication deposits” from the implied “occupation deposits”, which, as their name indicates, are placed during the use of the buildings. Recently, other stratigraphic positions have been highlighted, as “termination” deposits (Schele & Freidel, 1990: 459-460), “foundation” (Pereira, 2013: 458), or “transition” (*idem*: 457).

Foundation

As the name of this first category indicates, these deposits are related to the foundations, meaning the very first levels built. In general, the initial occupation is characterized by a leveling of the bedrock, on which a first floor and its construction fills are established. Strictly speaking, only these first layers can host foundation deposits. The latter are sometimes inserted in bedrock cut, laid flat on it, or directly included in the first fill. In the fictitious section shown in Figure 3, these cases are numbers 1 to 3, if Level 3 is a circulatory level. If the latter is only a change in the nature of the fill, and thus the initial work continued until the setting of Floor 2, then deposit No. 4 is also in foundation. Their contents are generally placed intact, but deposits of intentionally broken sherds have also been identified at Naachtun and Tikal (Nondédéo *et al.*, 2011-2023; TR. 35A).

However, this definition is perhaps too restrictive. By extension, we can consider including in this category the deposits that accompany the first permanent constructions whether it is a stuccoed floor, a structure, or both. According to this extended definition, deposit No. 4 is necessarily a foundation one. Unsealed deposit No. 5 is intrusive in Floor 2, but covered directly by Structure 2nd, while No. 6 is laid on Floor 2 and covered by its staircase. Finally, deposit No. 7 is included in the fill of the basement. All three could thus also be considered as foundation deposits, provided that Structure 2nd and Floor 2 were built in at the same time.

Transition

This kind of deposit happens when a structure is no longer in use and is to be covered by a new construction. In terms of stratigraphy, they are located at the interface between the two architectural developments and are not only associated with the old building termination but also with the construction of the new one. They seem to address both, as if to accompany the transition. They are very similar to the termination deposits described below. At the material level, they can be unsealed pits that perforate the masonry or lenses placed on top of it, as illustrated by deposits No. 8 and 9 in Figure 3. They are composed essentially of broken artifacts, ashes and charcoals. They thus differ from the other stratigraphic categories in which the objects are generally placed intact.

Construction

This category was created to distinguish deposits placed during any modification occurring after the initial construction, which are therefore not in foundation. This can be large-scale work, such as the reconstruction of a structure. In Figure 3, if deposits No. 8 and 9 contain whole, unburned artifacts, like foundation or occupation deposits, they are likely to be construction deposits placed during the building of Structure 1st. They can also be installed directly inside the new masonry: in the fill of the staircase (No. 10) or the basement, and more rarely in the vaults (No. 11)

or the walls. These deposits also occur at the time of more limited modifications such as the addition of a bench (No. 12). Morphologically, they can take any form: unpatched intrusive pits, lenses placed on a floor, inclusions in masonry... In practice, these deposits aren't very different from foundation deposits, and the question arises as to whether this distinction is really relevant.

Occupation

These deposits are set during periods of use of the premises when no architectural modifications are in progress. As there is no new construction to opportunely cover the generally intact artifacts, the only solution is to intrude into the existing masonry. These are therefore for the most part intrusive contexts, except in rare cases sealed in "wall vents" or niches. In Figure 3, deposit No. 14 penetrates the floor of the plaza. The sap-shaped pit allowed the cache to be placed under the first step of Structure 1st. In the front room of the building, deposit No. 15 is a masoned chamber, a more common arrangement for funerary deposits. As these two intrusions deteriorated existing floors, a plaster patch was laid to seal the pits and repair the floors. Such a patch showing traces of wear is an indication of the continuity of use of a floor before possible renovations. It is a particularly reliable identification criterion for recognizing an occupation deposit.

Construction or occupation?

When a floor is too damaged or stained by on-floor burnings to be cleaned or repaired, a new one covers it. On this occasion, it is common for intrusive deposits to be made in the old floor before being sealed by the new one. Should they be considered as construction or occupation deposits? If the new floor is thick, significantly enhances the structure or plaza level, and is part of a larger project to expand the entire building or architectural group, it's a major change. This more often concerns exterior floors of plazas or platforms. Like No. 13 in Figure 3, the deposits placed on these occasions are therefore presumably to be classified as construction deposits. When the new floor is only a repair on a limited surface, the deposits are then to be classified with those of occupation. They are probably sealed and hidden in an opportunistic way during these maintenance works. This last scenario concerns especially the addition of a new floor inside a building, like deposit No. 16.

Dedication

The term dedication is restricted here to monument inaugurations since it presupposes an intention. In Figure 3, these deposits were placed after Floor 1 had been in use for some time, since the stela pit is intrusive into this floor while the altar is erected on top of it. Deposit No. 17, in the sealed stela pit, and No. 18, covered by the altar, accompany the placement of the two monuments. The artifacts are generally placed intact in the deposit, although they may later be fragmented by the pressure of the fill. This time, the dedication intention is very likely.

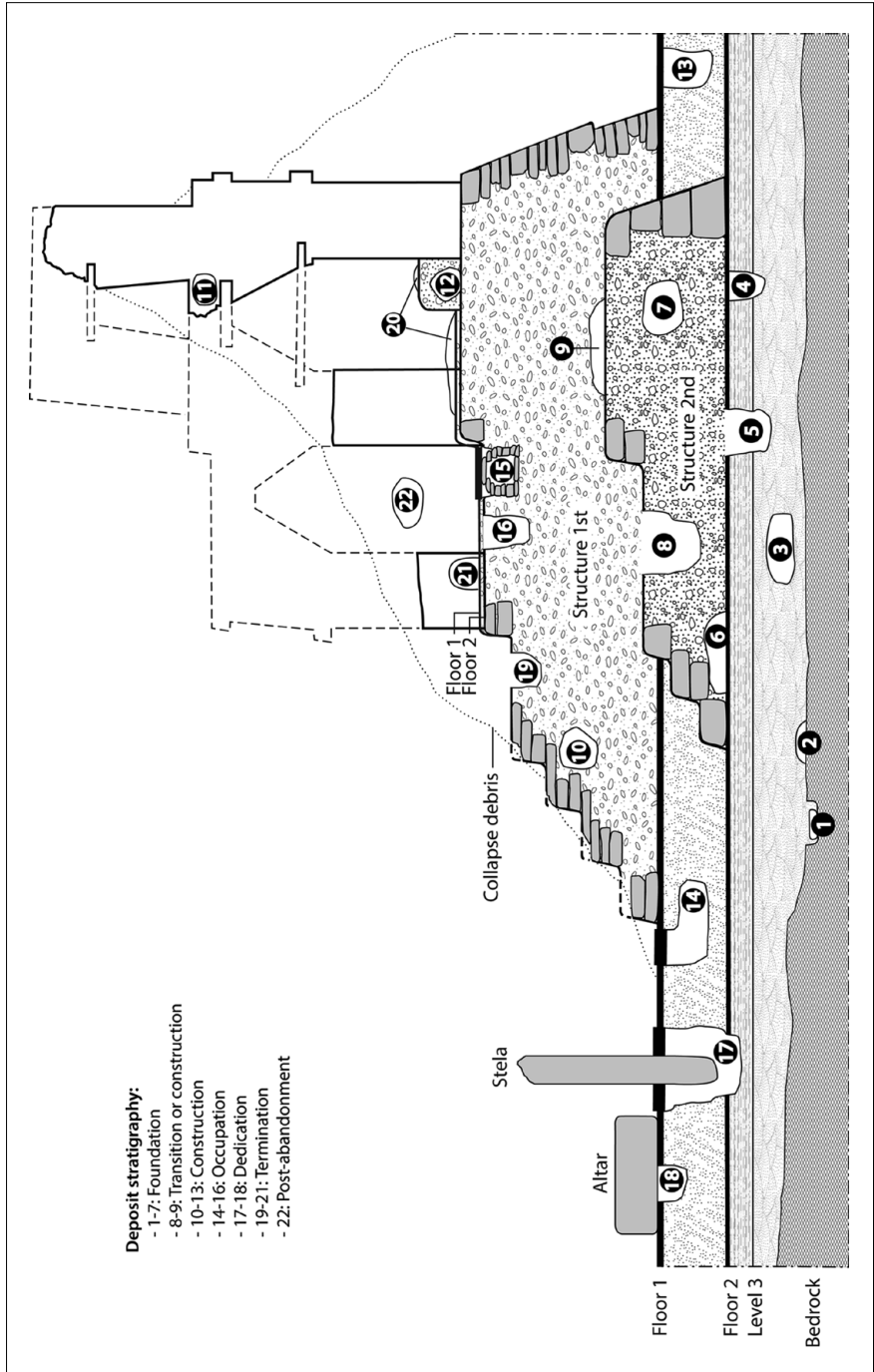


Figure 3. Possible stratigraphic positions of ritual deposits.

Termination

After centuries of occupation, the fictitious site in Figure 3 is finally in the midst of being abandoned by its last inhabitants. Various forms of deposits conclude these long sequences of architectural evolution and rituals. First of all, intrusions can be made through the floors. This is the case of deposit No. 19, in front of the threshold of the building. These pits are sometimes roughly refilled, or repaired with a new sealing patch, and sometimes left unsealed (Coe, 1990). Broken material, ashes and charcoal may be deposited in circumscribed lenses on the floors or benches, or even scattered throughout an entire room in vast quantities (Chase & Chase, 2020: 78), as in deposit No. 20 in the rear room. Finally, across the traffic paths, specific objects can be placed to symbolically block the accesses, here deposit No. 21 at the level of the threshold of the front room (see “guardian deposits”, below). As with the transition deposits, these differ from the other stratigraphic categories where the objects are mostly placed intact.

Post-abandonment

The departure of the inhabitants doesn't necessarily constitute the permanent cessation of all ritual activity. For decades or even centuries after the abandonment of a site, visitors sometimes practice rituals in the decaying buildings. These deposits are very simple to recognize in stratigraphy, insofar as they are placed in or on the first levels of collapse debris, such as deposit No. 22 in Figure 3. They may include intact artifacts, such as construction, occupation and dedication deposits, or broken and burned ones, such as those in transition and termination.

Thus, there is a range of stratigraphic categories that allow for the characterization of deposits with presumably different functions from one another. This first set of descriptive criteria is to be complemented by another sort of categorization, which is based on the repetition of rituals.

Classification by Recurrence

In the second half of the twentieth century, archaeologists confronted with the multiplication of ritual deposits noted that there were repeated models. In spite of the major interest of this observation for the classification of the different rituals and their understanding, few of them took a close interest in the question.

It is again in the Maya area that this phenomenon was observed for the first time, in the 1960s at Tikal. However, it wasn't until the publication of the artifact catalog in 2008 that a short summary by William Coe described the different “Offertory Assemblages” (Moholy-Nagy, 2008: 17-20). Of the 203 caches excavated by the Penn Museum staff, 188 are grouped by Coe into 18 Assemblages and 8 variants. This discovery, which could have triggered a wave of enthusiasm and equivalent studies on each site, unfortunately, didn't inspire others. This too synthetic typology was to be detailed

in the Tikal Report No. 35, a publication that the decease of William Coe has unfortunately postponed. The data were nevertheless revisited and complemented since by the results of more recent archaeological project on the site (Begel, 2020a). Coe's intuition has been confirmed, as repetition is undeniable. Symbolic associations of intact artifacts are the rule and there are specific repeated patterns as well in civic-ceremonial groups, as for the dedication of stelae, but also in residential groups. But the term "Offertory Assemblage" is too connotative. As ethnography demonstrates, not all deposits are offerings. They may also serve as performative devices, that is, they could be agentic, intended to achieve a tangible effect, for instance, as a medium of communication with ancestors or the underworld. Some modern deposits combine both functions (Pitrou, 2012: 80). Last but not least, some caches contain only one artifact and aren't then symbolic "Assemblages" (Figure 2). It thus seems more prudent to use "Ritual Complexes", to emphasize the repeated nature of these groups of identical deposits pertaining to different categories of rituals: Caches, Sacrificial, Funerary and Termination Complexes.

At this point of the revision of Tikal's data, out of 342 caches, 97 % were distributed among 23 Cache Complexes and 27 variants at last count (TR. 35A). As a result of ancient disturbances or because a few contexts were incompletely excavated, 44 were only provisionally attributed to one of these complexes. There would thus remain *a priori* only 10 unique cases in the Tikal collections. To give an example, the *Bool* Cache Complex has only been found under stelae of the Late Classic. Variant A combines sets of nine chert eccentrics and nine incised obsidians (eight caches, plus three uncertain cases). Variant B is composed of the same elements, although the obsidians are typologically different, with the addition of incomplete human remains (five caches plus another provisional one, Figure 4). Finally, for variant C, the chert eccentrics are identical, the typology of the obsidians is once again different, while ceramic vessels replace the human remains (four caches, four uncertain cases). At last, the non-recurring deposits constitute only 3 % of the total collection. And even then, it's possible that these unique instances actually belong to lesser-used Complexes, for which only one example has been found to date. It is also conceivable that they were used only once at Tikal, but that this practice was shared at the regional level. For example, sacrificial deposit Esc. PNT-53 was composed of a dish containing eight human foot phalanges and a shell fragment placed at the time of covering a Group 6C-XVI residential structure (Laporte *et al.*, 1992: 49). Similar "finger bowls" have frequently been found at Caracol, Cahal Pech, Baking Pot, and Lower Dover but this time in domestic shrines (Chase & Chase, 1998: 319; Guerra & Romih, 2017: 126); or accompanying royal tombs such as in El Zotz (Houston *et al.*, 2015). What seems unique at one site may thus sometimes be part of a wider tradition.

Each Cache Complex generally groups together deposit of the same stratigraphic category associated with a specific structure type (Begel, 2020a: 420-423). More recently, analysis of the Naachtun collections has also revealed four Termination Complexes belonging to a new type of closing rituals, the guardian deposits, discussed below (see also Figure 2).



Figure 4. Deposit Ca. 95 of Tikal, belonging to *Bool B* Cache Complex (Courtesy of the Penn Museum, Tikal image No. 60-4-487).

Although they were first identified in the Maya area, Ritual Complexes seem to be a Mesoamerican phenomenon. Leonardo López Luján (1993: 221-403) was able to define twenty different recurring “offering complexes” and six “sub-complexes” within the Templo Mayor of Tenochtitlan. This is the first published recognition of repeated ritual patterns. Indeed, it’s more than likely that a thorough study of the collections would show such recurrences for most Mesoamerican cultures. For the Olmecs, excavations at La Venta have uncovered 45 deposits and 10 probable burials, dated from 650 to 309 BCE (Drucker, 1952; Drucker *et al.*, 1959). All of these deposits but three can be grouped into six Cache Complexes (Begel, 2020b). One of them, characterized by jade and serpentinite celts —sometimes arranged in a cruciform pattern—, can also be identified between 1000 and 450 BCE at the Maya site of Seibal (Aoyama *et al.*, 2017).

This study of Cache Complex has so far been carried out exhaustively on the eight sites presented here (Figure 1). In Ucanal, 100 % of caches and sacrificial deposits pertain to recurrent Complexes, 97 % at Tikal, 95.7 % at Dos Pilas, 94.8 % at Uaxactun and its secondary centers, 91.6 % at El Zotz and its territory, 90.3 % at Altar de Sacrificios, 88.4 % at Calakmul and 85.4 % at Naachtun. These Complexes are mostly local ritual practice. Nevertheless, some Ritual Complexes have been found throughout the Maya

area. *Koxol* skull sacrificial deposits, alone or protected by one or more vessels, have been identified on 76 occasions at 29 sites (TR. 35A). Similarly, *Sinan A* caches comprising a single ceramic or *Lucum* caches featuring a pair of lip-to-lip bowls or dishes have been identified at numerous sites in Yucatan, Petén and Belize. Consultation of excavation monographs or reports easily reveals that Cache Complexes exist on other sites, such as the *Buch* jade ornaments caches at Altun Ha (Pendergast, 1979, 1982, 1990) or those containing sets of chert and obsidian eccentrics inserted in pairs of lip-to-lip vessels at Piedras Negras (Coe, 1959). These are just a few examples which tend to show that this tradition of repetition goes beyond Tikal's sphere of influence, but it seems imperative to study more exhaustive corpuses in sites spread over the entire Maya area before any conclusions can be drawn.

In summary, a whole set of criteria must be considered when studying and analyzing Mayan ritual deposits. It is by combining morphological, stratigraphical, chronological and artifactual observations that it becomes possible to group the deposits into Ritual Complexes. The latter are an additional element to be taken into account in the establishment of a typology, an approach proposed in the following lines.

A Nuanced Functional Categorization

At this point in the analysis, a categorization that goes beyond the simple distinction between caches and burials can be tentatively established. It also seems possible to finally get rid of most of the catch-all category of problematical deposits for ancient excavations described in published or archival data (Figure 2). Of course, there will always remain a few rare cases that are unintelligible to archaeologists or unclassifiable. The following proposal is by no means fixed or exhaustive, but rather evolving. Future excavations as well as the gradual inclusion of ancient collections will undoubtedly allow it to be reshaped and refined in the future. It is in a way a state of the art, a sum of the work of generations of researchers, reordered, and to which some more recent hypotheses have been added.

The first question that arises during fieldwork is to determine whether a concentration of artifacts or a particular stratigraphic unit such as a pit belongs to a codified liturgy or not. Charcoal at the bottom of a posthole may have come from a fire-hardened point, just as a few sherds in the fill of a stela pit are unlikely to be significant inclusions. Similarly, not all traces of fire are linked to religious practices, since the hearths obviously also had culinary or lighting functions, or could have been used to prevent humidity inside the buildings during the rainy season. Some objects may have been abandoned *de facto* without it being a symbolic act (Lamoureux-St-Hilaire and Snetsinger, 2020: 100; Aimers *et al.*, 2020: 68). Finally, the middens that gradually accumulate near the residential patios are evidence of the handicraft activities and diet of the inhabitants. By contrast, other deposits are probably vestiges of ancient ceremonies.

Funerary deposits

In the event of primary burials, which took place shortly after the death, the nature of the deposit is generally quite easy to recognize. The artifacts probably constitute a funerary trousseau, in other words, the possessions of the deceased. The objects are usually arranged close to or around the body or bodies. Primary burial doesn't preclude the possibility of reopening graves as part of post-funeral rituals (Fitzsimmons, 2006: 33). There are also some instances where ritual deposits are in direct stratigraphic contact with burials. At Altun Ha in Belize, burial B-4/6 included three "subfloor caches", B-4/1, three "wall caches", and F-8/1 a deposit laid on the vault slabs of the burial chamber (Pendergast, 1982: 82-93, 112-118; 1990: 263-273). In addition, the deceased may be accompanied by other human remains from sacrifices. In this particular case, it may be supernumerary skulls, as in tomb A-III of Kaminaljuyu in Guatemala (Kidder *et al.*, 1946: Figure 27), or "accompanying dead", such as the nine children and adolescents who flank a central individual aged about 35 years in Bu.10 at Tikal (Coe, 1990: 479-487). However, these are indeed burials and shouldn't be confused with the sacrificial deposits described below.

The question gets thornier when human remains are present in quantity, but in anatomical disconnection. Obviously, the burial was carried out after the disappearance of the soft parts, in a very advanced or complete state of skeletonization (Leclerc, 1990: 16). It may be a body that has been stored—under the ground or not—while waiting to reach its final resting place, for example if it had to be repatriated from a long distance or if the grave wasn't ready (Weiss-Krejci, 2011: 20). These are then secondary burials. It also happens that architectural redevelopment work intersects former primary burials. In this case, either the undamaged part of the body is left in place and carefully covered by the new construction, or the bones and artifacts are moved to a secondary burial site.

These secondary or disturbed burials are generally difficult to analyze and were thus often classified as problematical deposits. For this reason, at Tikal, Hattula Moholy-Nagy (2021: 494) distinguished "Burial-like Problematical Deposits" which are the remains of the destroyed primary burials of high-status individuals. Destroying or desecrating elite-related features is a longstanding Maya tradition, for instance inscribed stone monuments (Moholy-Nagy, 2016) or ritual deposits (Coe, 1990). When there are accompanying artifacts, the identification of such contexts is facilitated. Indeed, the content is more varied and the quality of the artifacts—sometimes broken—superior to that of non-funerary deposits, since they are personal possessions: body adornment, polychrome ceramics or tripod vessels... Further study could confirm the impression that there are recurrent Funerary Complexes just as there are Cache Complexes (Tikal Report No. 35B, still in project). Funerary contexts can be found in any stratigraphic position, from foundation to post-abandonment. A final word must concern cremations. The subject has been amply commented on by Marshall Becker, who considers them "exceedingly rare in the Maya realm" (Becker, 2016: 19; Moholy-Nagy, 2021) and adds that often ashes contain

ning some human remains are misidentified as such (Becker, 2020: 20). Nevertheless, cases of partial cremation are confirmed, notably at El Zotz (Houston *et al.*, 2015).

Sacrificial deposits

The sacrificial deposits of the great pyramids at Teotihuacan (Pereira *et al.*, 2011) seem to demonstrate that recurring Sacrificial Complexes existed in Mesoamerica, but this subject remain largely understudied for the Maya area (Tiesler, 2007). In Tikal, two possible sacrificial deposits were discovered by the *Proyecto Nacional Tikal* (Ent. PNT-22; Laporte, 2005) and the *Proyecto Siete Templos* (Ent. P7T-1; Gómez, 2006: 787). Insofar as the victims here aren't deceased buried with consideration, surrounded by their belongings, but are probably reduced to a function of "ritual tools", of sacrificed, this type of deposit is somewhat between caches and burials. These individuals aren't the subjects or recipients of a funerary ritual but rather a component of a sacrificial liturgy, part of the raw material necessary to one of the stages of the ritual. This aspect is reinforced by the stratigraphic position of these deposits in foundation or construction, and their symbolic location: at the foot of the stairs of the central temple of the Lost World E-Group (Str. 5D-86) and in the approximate center of the Seven Temples Plaza. It is therefore expected that these rituals differ significantly from reverential Funerary Complexes (Tiesler, 2007: 20).

It should be added that numerous cases of skulls (*Koxol* Complex), teeth or phalanges (*Kiix* Complex) deposits between lip-to-lip bowls are documented in the Maya area (TR. 35A; Coe, 1990; Nondédéo *et al.*, 2022; Chase & Chase, 1998: 319; Guerra & Romih, 2017: 126; Houston *et al.*, 2015). Here, the question of retrieval mode arises: *in vivo* or *post-mortem*? In all cases, it is a sacrifice in the primary sense of the term, since there is voluntary deprivation with religious intent. They are neither burials, since they are dismembered body parts, nor caches, insofar as human remains are particularly emphasized. In some cases, such as a stela dedication or during the (re)construction of a ceremonial group or temple, the deposition of a whole and articulated skeleton of an immature between two lip-to-lip dishes (*Kaa* Complex) also seems to stem from this type of ritual (Houston *et al.*, 2015 for instance). At other times, they are indeed burials, and the distinction is not always easy to make, except in the presence of other funerary furniture.

Foundation rituals

Possible new types of rituals, for the moment specifically linked to the foundation stratigraphic category, have been detected in excavations over the past few years. Recent excavations in Group 6D-III by *Proyecto Arqueológico del Sur de Tikal* have revealed foundation scatterings (Román Ramírez *et al.*, 2020, 2023). These are massive concentrations of sherds, charcoal, censer fragments, faunal remains and human bones placed in layers beneath the first level of construction, sometimes on bedrock. They thus seem to be the direct counterpart of the terminal scatterings.

In addition, three problematical deposits from *Proyecto Nacional Tikal* excavations (DP. PNT-4, 19 and 21; Laporte, 1989: 217-218; Iglesias, 1988) could pertain to this new type of ritual.

The second subtype concerns the remains of banquets that are identified by the association of faunal remains and service ceramics. Laura Gámez (2013), in her thesis on the Maya site of Yaxha, demonstrated the existence of this kind of ceremony in iconographic sources. Unfortunately, the most common foods are completely perishable (*idem*: 105). Only chemical, palynological, or phytolith analyses can be helping. While the shape of the vessels indicates their function: pots, jars, bowls and dishes for cooking, *ollitas*, bowls, plates and vases for serving and consumption; the surface treatment and decoration make it possible to distinguish the utensils from decorative ceramics (*idem*: 108-109). As regarding archaeozoology, traces of butchery on the bones, the presence of fleshy parts and animal species are significant (Burke *et al.*, 2020: 127). Such banquets have been found in the foundations of residential patios in Naachtun, consisting of accumulated sherds or simple shape vessels accompanied by the remains of deer, peccary, or turkey, among others (Nondédéo *et al.*, 2011-2023). In the Olmec realm, deposits 20 and 21 at La Venta each included more than twenty whole or fragmented red monochrome vessels of very poor workmanship (Drucker *et al.* 1959: 218-220). Perhaps it is a single-use mass production for a banquet. A final important criterion is indeed the time scale of the deposit's formation, insofar as a ritual feast is a one-time event and not a progressive one as in the case of a domestic midden. For now, they are identified as occurring during the foundation and possibly occupation periods.

Ritual fires

Fire pits and combustible accumulations are quite rare, since the floors of plazas and structures are generally cleaned before being abandoned. Rare examples could be identified in the different stratigraphic positions, which means that fires thus accompanied the erection, occupation, modification, and abandonment of the different religious and residential groups of the sites (Dussol, 2017; Begel, 2021). There is also another way to identify ancient fires. The on-floor burnings are certainly not deposit *per se*, since they are negatives printed on stucco, but they had to be included here since they come to testify to deposits that were later eliminated by sweeping. Of course, the ritual nature of these fires is difficult to establish, but the repetition and superimposition of traces on successive floors is a clue to be crossed with the function of the architectural group or building.

The ritual use of fire in ancient times is attested to by epigraphy. The glyph meaning *Ochi K'ahk'*, can be translated as “fire-entering” and would, according to David Stuart (1998: 388-390), be an indication of an architectural inauguration ritual. On Palenque tablet 96, for example, the expression *Och K'ahk' ta-y-otot* would read “fire has entered his house”. Another glyph depicting a smoking censer could also be transcribed as *el-nah* “the burning of the house” or “the incensing of the house”.

Caches

The term “cache” is very appropriate, since these are systematically sealed deposits containing symbolic associations of artifacts and ecofacts. According to their repetitive nature, the majority can be grouped into Cache Complexes, found both in residential and ceremonial groups.

While they are often referred to as “offerings”, the biggest question remains what meaning or function the ancient Mayans gave them. In the absence of iconographic or epigraphic evidence, the emic intentionality behind these ritual gestures, their supposed agentivity, remains controversial. In this field, only ethnography can provide some information, if the contemporary metadiscourses, prayers and ceremonial performances have their source in Classic period traditions. Two possibilities seem to emerge: an oblation, a gift dedicated to non-human entities, in which case they are indeed offerings; or performative devices, which would make them agentic ritual tools to create a desired effect. On the one hand, in current rituals, some elements such as smoke, food, or drink are consumed by supernatural beings, thereby currying their favor. What status then for the other components of the deposit? Are ornaments, rare crafts, and hard-to-acquire items such as marine ecofacts some kind of presents? Gift and counter-gift, reciprocity between humans and non-humans is often expressed in Mesoamerican metadiscourses (Pitrou, 2012: 87). On the other hand, the goal may be to trigger a very specific effect rather than appease or please entities. In this case, the associations of artifacts carry a symbolic meaning. This message can be figurative, like the figurines of characters in front of stelae (celts) in Ofrenda 4 of La Venta (Drucker *et al.*, 1959: 152-161) or the quadripartite organization of artifacts inside deposits to recall the figure of the cosmogram. It can also be narrative if we consider that the set of objects forms a discourse intelligible by the entities, an explanation that works well for the chert and obsidian eccentric sets, mosaic statuettes, unfired clay deity heads or shell Charlie Chaplin figurines for instance. It is often hazardous to speculate on the emic purpose of a Cache Complex in the absence of written sources. This is nevertheless possible for the *Xik* chert biface caches at Tikal, which are positioned at the four corners of buildings for variant A, and in the vaults for variant B. The former seems to delimit and frame the structure, while the latter “radiate” over the entire edifice. These are probably apotropaic rituals to protect a space.

As often in Mesoamerican rituals, it’s highly likely that these two concepts: offering and agentive devices coexist, overlap and complement each other during the same ceremonial performance. The artifacts in caches are varied: ceramics, worked chert or obsidian, elements of jade, hematite and pyrite ornaments, isolated human bones, faunal remains -especially marine-, plants, composite objects... Deposit Ca. 95 from Tikal (Figure 4), is a good example of an association of chert eccentrics and incised obsidians set up to dedicate a stela.

In epigraphy, many Maya inscriptions, if not most according to David Stuart (1998: 374-376), are correlated with construction and/or inauguration. Three verbal forms re-

fer to the period of construction or completion of work: *patwaan* or *patlaj* “to be built, to be formed” for buildings, *ts’ahpaj/-ts’apa’w* “to be planted/have planted” and/or *wa’waan* “to be standing” for stelae. These verbal forms do not therefore refer specifically to a foundation ritual, although this may be implied. Mention of rituals specifically associated with buildings is rarer than for stelae.

Termination rituals

Concerning the ancient excavations, the majority of problematical deposits correspond in fact to a particular type of ceremony identified much more recently: the termination or closing rituals. Although William Coe (1959: 94-95; 1965: 462) proposed early, limited but accurate definitions, he didn’t use this category in the Tikal Reports. As a consequence, it wasn’t until the 1990s that the concept resurfaced and was formalized: “termination rituals involving the smashing of artifacts of pottery, jade, and other materials, and the layering of these materials in white earth, are found not only upon the occasion of the permanent abandonment of buildings, but also at their reconstruction” (Schele and Freidel, 1990: 459-460). In the following years, a number of case studies flourished and clarified the characteristics of this new category of rituals (Pagliaro *et al.*, 2003; Aimers *et al.*, 2020, for instance), including whether the abandonment was organized or seemingly hasty and unplanned (Lamoureux-St-Hilaire & Snetsinger, 2020: 100). Recent work at Tikal and Naachtun has distinguished three general subcategories which will certainly have to evolve and multiply as the subject is so complicated and still under study.

First, the deposits mentioned above for the stratigraphic category of “transition”, may evoke agricultural gestures. According to M. Charlotte Arnauld (2022) for Structure 6E12sub at the Maya site of La Joyanca, the scattering of broken artifacts and charcoals could be assimilated to the preparation and fertilization of the soil, while the complementary intrusive deposits would be a metaphor for planting. This analysis, which may be puzzling at first sight, works quite well since it is based on the creation myth mentioned in the Popol Vuh, where present-day humanity would have been shaped from corn (“sowing” associated with “dawning”; Christenson, 2007: 125). Transition deposits would then be a reenactment of the myth in order to regenerate disused spaces before rebuilding. This hypothesis doesn’t necessarily support the one of the building’s animation. This theory (Boteler-Mock *et al.*, 1998), which has been strongly followed over the last twenty years, is based on extremely specific rituals in the ethnography of a few villages in the Chiapas Highlands and doesn’t fit in with the majority of contemporary Mayas and Mesoamerican cultures (Begel *et al.*, 2022). To mention a particularly significant case, Stela 31 from Tikal was buried in the small Temple 5D-33-2nd at the foot of the North Acropolis, along with several deposits. These include unsealed pits and scatters of sherds (vessels and censers), chert, obsidian, ashes and charcoals within the two rooms and on the stairs (Coe, 1990). This temple

was then immediately covered by the massive pyramid 5D-33-1st. Whether or not this reenactment hypothesis is valid, these are transition deposits, closing one temporality and opening another.

In residential and ceremonial groups, deposits are also installed during final abandonment. They may take the form of lenses or scatters of material, sometimes recovered by means of intrusions in former burials or caches through the floors. Such deposits are now documented in the large majority of Maya sites (Pagliaro *et al.*, 2003; Stanton *et al.*, 2008; Newman, 2019). Much debate has attempted to determine whether these are reverential or desecratory acts (Aimers *et al.*, 2020: 72). Without dismissing either hypothesis, another motivation may have come into play. The patio is the place of the ancestor's final resting place; the temples those of the kings and where the reverence towards tutelary entities was expressed. They were two symbolic spaces of the community formed by the inhabitants of the city. It isn't impossible that the objective, the emic intent here is to make these emblematic places unusable after the departure of the inhabitants, to avoid any undesirable reoccupation. It is true that in some circumstances, termination deposits are interpreted as traces of occupation by squatters of modest origin who appropriate already deserted elite residences (Aimers *et al.*, 2020: 71). But the issue could also be to prevent access to exogenous people or non-human entities. These potential repellent deposits are in fact composed of detrital material, which could have been partly taken from the most recent surface layer of middens: sherds, ashes, broken objects... not to mention the organic wastes that were perhaps still in the process of putrefaction... This hypothesis has the advantage of also explaining the lack of consistency observed in the combinations of artifacts (Chase and Chase, 2020: 78; Newman, 2019: 806). Their difference with the middens lies not only in their location in the middle of the traffic paths, but also in their temporality. Indeed, their sedimentary matrix is homogeneous and not stratified, indicating a single-event placement and not an accumulation over time. It is the last act before the departure. In Naachtun, where they have been studied particularly thoroughly, they are ubiquitous: inside the buildings, at the thresholds, in the accesses to the patios or plazas (Sion, 2016). In addition, part of the elevations is sometimes demolished before abandonment. Again, it doesn't seem to be a matter of "killing" buildings that would have been "animated" by "ensoulment" ceremonies, contrary to a theory still in vogue (Boteler-Mock *et al.*, 1998). The overall effect must have been quite unpleasant, and the effort required for reoccupation significant. Some post-abandonment contexts take this form too, perhaps to renew this protection. A late commemorative deposit dated by radiocarbon from 1033 to 1254 CE was thus found in the center of the ancient royal palace of Naachtun (Figure 5; Dussol *et al.*, 2019). It was composed of large quantities of sherds, including censer fragments, peccary teeth, worked bones, ashes, and charcoal. This idea of protecting against intruders, human or non-human, by means of repellent deposits with physical and perhaps metaphysical effects, is reinforced by the final subcategory: guardian deposits.



Figure 5. NCT-A012 is a commemorative post-abandonment deposit in the center of Naachtun Palace 50-4 (Courtesy of Philippe Nondédéo, *Proyecto Naachtun*).

The identification of this new type of ritual is attributed to Julien Sion (2016: 515). During his excavations at Naachtun, he spotted the recurring presence of isolated objects—neither in lenses nor in scattered layers—placed across thresh-

holds or at the foot of jambs at the time of final abandonment. These blocking devices seem to serve as “guardians”. Indeed, while some doors are walled up, others are blocked by these deposits, when the two precautions aren’t combined. Forty deposits seem to meet these characteristics in Naachtun, not only at the level of thresholds but also on sealing patches of intact burials, on temple staircases or across the accesses to architectural groups. These may be *manos* and *metates* (Figure 6a-c), single or stacked vessels (Figure 6d), bifaces, projectile points, or even human long bones (Figure 6e). They could be objects left *de facto* during abandonment, but the recurrence of their discovery in significant locations seems to be meaningful and contradict this. Moreover, it’s interesting to note that the placement of a human long bone or even projectile points across access has a clear prohibitive meaning. The grinding tools, on another note, may again refer to a symbolism of earth regeneration, death and rebirth (Christenson, 2007: 125). Because of the nature of the material involved, they are particularly difficult to identify in the inventories of ancient excavations but some cases were also potentially identified in Tikal (TR. 35A). These deposits are used more rarely during post-abandonment rituals as well.

Conclusion

After decades of research, progress, trial and error, and above all innovative hypotheses whose potential has long been underestimated, it seems important today to bring together these initiatives in order to conceptualize the approach and analysis of ritual deposits in a more formal way. The process followed in these few lines is a first attempt in this direction. There is no doubt that some hypotheses, some categories or subcategories of these stratigraphic and functional classifications will be disproved, modified or added in the future. Concerning ancient excavations data, the main issue, from our point of view, is to get out of the overly restrictive constraints of the triad “caches / burials / problematical deposits”. The increased precision of field recordings, the multiplication of cases and the revision of archives allow progressing more and more in the (re)analysis of ancient Mayan rituals. It is to be hoped that, step by step, this etic approach brings us closer to a better understanding of the primary emic meaning of these acts of devotion, of the intention of those who put them in place. Offerings, performative tools? This primordial question remains open and the debate promises to be fascinating for many years to come.

Data Availability Statement

Most of the data used in this article are published. Unpublished data about Tikal are held in the Tikal Project Archives at the Penn Museum. All annual reports of the other projects are kept at IDAEH in Guatemala City and at INAH in Mexico City.

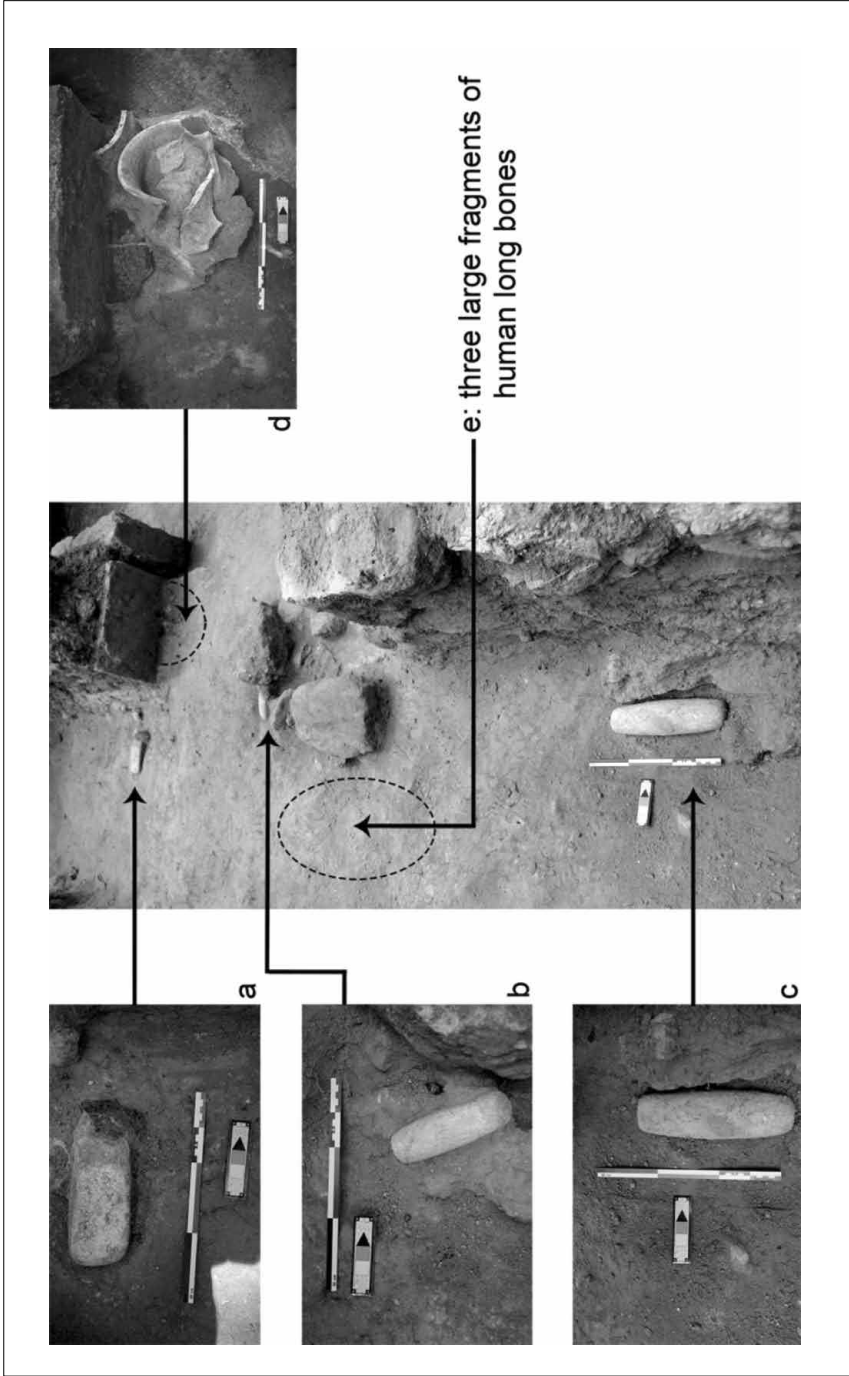


Figure 6. NCT-A136 and 137 guardian deposits in Naachtun's 5N-6 residential group (Courtesy of Hemmamuthé Goudiaby, *Proyecto Naachtun*).

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