

ALMA MATER STUDIORUM - UNIVERSITÀ DI BOLOGNA

# OCNUS

Quaderni della Scuola di Specializzazione  
in Beni Archeologici

21  
2013

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*Il logo di Ocnus si ispira a un bronzetto del VI sec. a.C. dalla fonderia lungo la plateia A, Marzabotto (Museo Nazionale Etrusco "P. Aria", disegno di Giacomo Benati).*

*Editore e abbonamenti*

Ante Quem soc. coop.  
Via Senzanome 10, 40123 Bologna  
tel. e fax + 39 051 4211109  
www.antequem.it

*Abbonamento*

□40,00

*Sito web*

www.ocnus.unibo.it

*Richiesta di scambi*

Biblioteca del Dipartimento di Storia Culture Civiltà  
Piazza San Giovanni in Monte 2, 40124 Bologna  
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Le sigle utilizzate per i titoli dei periodici sono quelle indicate nella «Archäologische Bibliographie» edita a cura del Deutsches Archäologisches Institut.

Autorizzazione tribunale di Bologna n. 6803 del 17.4.1988

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ISSN 1122-6315

ISBN 978-88-7849-100-7

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# SETTLEMENT PATTERNS AND HOUSEHOLD ARCHAEOLOGY IN SELVA EL OCOTE (CHIAPAS, MEXICO)

*Davide Domenici, Arianna Campiani, Nicoletta Maestri, Lorenzo Zurla\**

*Surveys carried out in the Selva El Ocote (Chiapas, Mexico) by the Río La Venta Archaeological Project led to the discovery of several archaeological sites ascribable to the local Zoque cultural tradition. In this article we compare the settlement patterns of the Late/Terminal Classic (ca. AD 600-1000) and Late Postclassic (ca. AD 1200-1500) periods, discussing both their common traits – partially due to the ecological constraints of the karstic region –, as well as differences that we correlate with changes in the political landscape. Parallel changes are also detected in the use of urban space, as shown by extensive excavations carried out in the site of El Higo, where spaces that in the Classic period were devoted to public activities were transformed into residential areas during the Late Postclassic. The available evidence suggests that the Late/Terminal Classic settlement patterns reflect a complex polycentric and hierarchically articulated local political system where public activities functioned as integrating socio-political devices; on the other hand, the Late Postclassic settlement patterns reflect a system composed by of modular, semi-autonomous households loosely bound to a quite ephemeral central authority, with much less emphasis on the organization of public performances.*

## *Introduction*

Since 1997, the Río La Venta Archaeological Project has been studying the Pre-Hispanic occupational dynamics of the Selva El Ocote, along the middle course of the La Venta river, in Western Chiapas, Mexico (fig. 1). The research area is located at the hearth of the region that, according to various lines of evidence, has been inhabited at least since 900 BC by Zoque Indians, that is, by indigenous populations speaking one of the two main languages of the Mixe-Zoquean linguistic family. In recent years, these groups have received a good deal of attention by archaeologists and epigraphers alike, mostly concentrating on the Early and Middle Preclassic periods (ca. 1500-400 BC) and on the relationships linking the development of the Mixe-Zoquean Olmecs of the Gulf Coast area and the emergence of the Maya civilization of the Southeastern Lowlands (Lowe 1999;

Clark, Hansen 2001; Clark, Pye 2011; Bachand, Lowe 2012; Clark 2013; Inomata et al. 2013). Much less attention has recently been paid to the later developments of the Zoquean groups, whose Classic (AD 300-900) and Postclassic (AD 900-1500) pre-Hispanic history is still scarcely known.

Research by the Río La Venta Archaeological Project (see Domenici 2009a; Domenici, Lee Whiting 2009; Lee Whiting et al. 2009; Domenici, Lee Whiting 2012), contributed to the partial filling of this gap: the extensive surveys carried out in the Selva El Ocote, in fact, led to the identification of two different occupations phases of the area, respectively dated to the Late-Terminal Classic (ca. AD 700-1000) and to the Late Postclassic (ca. 1250-1500); in addition, evidence has been found of a long and continuous tradition of ritual use of caves, spanning from the Middle Preclassic to the Late Postclassic (300 BC-AD 1500).

Both aspects were strongly influenced by the peculiar environmental characteristics of the region. El Ocote, in fact, is a vast area of tropical forest – today protected in the El Ocote Biosphere Reserve – growing on top of a Middle Cretacic formation of dolomite and limestone uplifted by tectonic movements that began around 87,000 years ago (Antonioli, Improta, Puglisi 1999). The middle course of the La Venta River, maintaining its original altitude, excavated the 500 meters-

\* Davide Domenici, Director of the Research Project, wrote the whole text of the present article; Arianna Campiani participated in the topographical and architectural analysis of the sites; Nicoletta Maestri managed the GIS analysis of the regional settlement pattern; Lorenzo Zurla, coordinator of the Sector I excavation unit, also managed the GIS-based spatial analysis of the architectural compound.

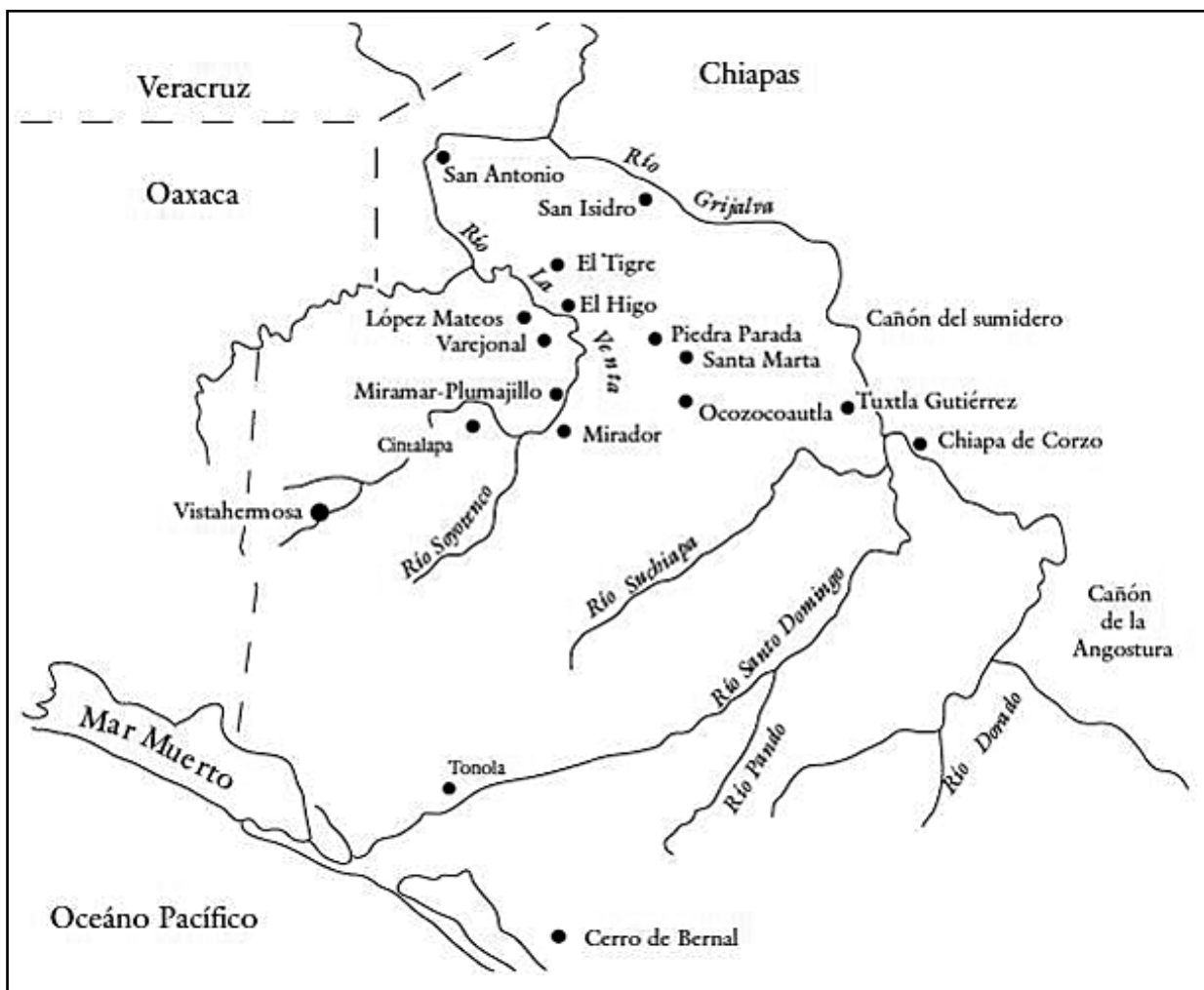


Fig. 1. Map of Western Chiapas with the main sites mentioned in the text (D. Domenici)

deep and 84 kilometres-long canyon that today, with its meandering course, crosscuts the El Ocote limestone massif (fig. 2).

The long interaction between limestone, rain-water and thick vegetation resulted in a strong karstic phenomenon that shaped the typical “egg carton” landscape of El Ocote (fig. 3): a maze of residual hills separated by small dolines, solution valleys, or “cockpits”, on whose bottoms sinkholes and caves give access to the subterranean world. Here, a web of galleries conveys most of the rainwater to the canyon cliffs, where several cascades fall into the La Venta River, which is the main collector of the whole hydrological system (Giulivo 1999).

As we will see, the harsh environmental condition of El Ocote strongly limited its occupation by agricultural communities that, on the other hand, inhabited the rich and fertile neighbouring Jiquipilas and Middle Grijalva alluvial valleys. Nevertheless, El Ocote’s landscape composed by

water-filled mountains, accessible by means of caves, should have appeared as an almost perfect embodiment of a widespread pan-Mesoamerican cosmological concept centred on the idea of caves as the mouths of a prototypical fertile mountain, whose interior was perceived as the bountiful place of origin of water, foods, and living beings. Being a place where the Mesoamerican sacred geography was so graphically reproduced, the El Ocote limestone massif was thus perceived as an appropriate place to establish various forms of ritual communication with the extra-human forces associated with fertility and the watery interior of Earth. In fact, since the Late Preclassic (that is, well before the first permanent human colonization of the area), people from neighbouring areas started entering El Ocote to perform ritual activities in caves, paving the way to the long hypogean ritual tradition that lasted until the close of the Postclassic period.

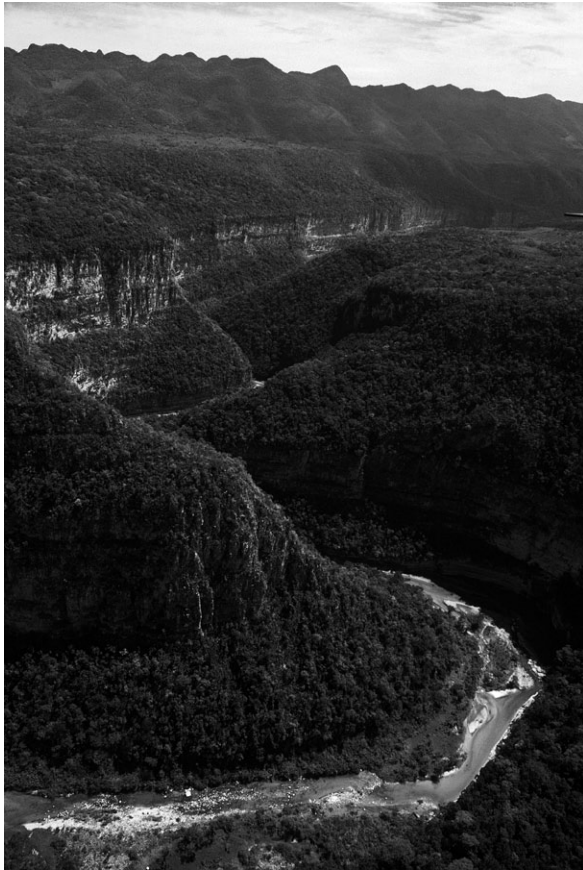


Fig. 2. View of the Rio La Venta canyon crosscutting the El Ocote jungle (photo: U. Vacca/La Venta Archive)



Fig. 3. View of the karstic landscape of El Ocote (photo: T. Bernabei/La Venta Archive)

Having dealt elsewhere with the results of our research on the rich hypogean archaeological contexts (Domenici 2010; Domenici, Pongetti 2012; Domenici 2013), in this paper we will rather discuss the chronological transformations of the settlement pattern detected during our surveys (also see Maestri 2009), along with focusing on the parallel changes in the use of urban space as shown by our extensive excavations in the site of El Higo.

### *The Classic Settlement Pattern*

If the richness of underground waters was the main reason of the long lasting frequentation of El Ocote for ritual purposes, the paucity of pedogenetic processes and the almost total absence of surface watercourses strongly limited its agricultural potential. This is the reason why, in contrast with the adjacent Jiquipilas and Middle Grijalva valleys occupied at least since Early Olmec times (ca. 1300 BC), the first permanent colonization of El Ocote – reflected by a florescence of settlements with stone-masonry architecture – began only at the onset of Late Classic period (AD 600), in coincidence with the demographic peak of the whole pre-Hispanic history of Western Chiapas. The best chronological marker for dating this process within the Late Classic Mechuq phase (Lee 1974a; 1974b) are the ubiquitous Fine Orange ceramics with creamy slips pertaining to the Zuleapa Group, also suggesting that the Gulf Coast – where similar wares were widely used – was the area of major cultural interaction for the Chiapas Zoquean populations.

The Late Classic settlements identified during the project surveys can be arranged in four different rank levels based on site dimensions and presence of special structures such as buildings with decorated façades, pyramids, or ball-courts (fig. 4). The four levels are: sites larger than three hectares with patio-groups and a central area always including a main and a secondary plaza; on the main plaza stands at least a pyramid (usually on the south side), one or more buildings with decorated façades and a ball court (1<sup>st</sup> rank); sites between one and three hectares, composed by residential patio-groups and various monumental buildings, sometimes including ball-courts, pyramids and buildings with decorated façades (2<sup>nd</sup> rank); monumental complexes of less than one hectare, including both residential platforms and one or more monumental buildings (3<sup>rd</sup> rank); isolated households composed by one or more low platforms, usually arranged around central patios (4<sup>th</sup> rank). Due to harsh environmental conditions, it was impossible to systematically survey the whole El Ocote area, so that the data presented herein can only have a qualitative value; nevertheless, a selected sample area around the El Higo site was intensively surveyed, basically confirming the site typology first defined for the whole area.

The only two first rank sites, López Mateos and Varejonal, are located on the left side of the La Venta river canyon. Both López Mateos and Varejonal have more than one building whose

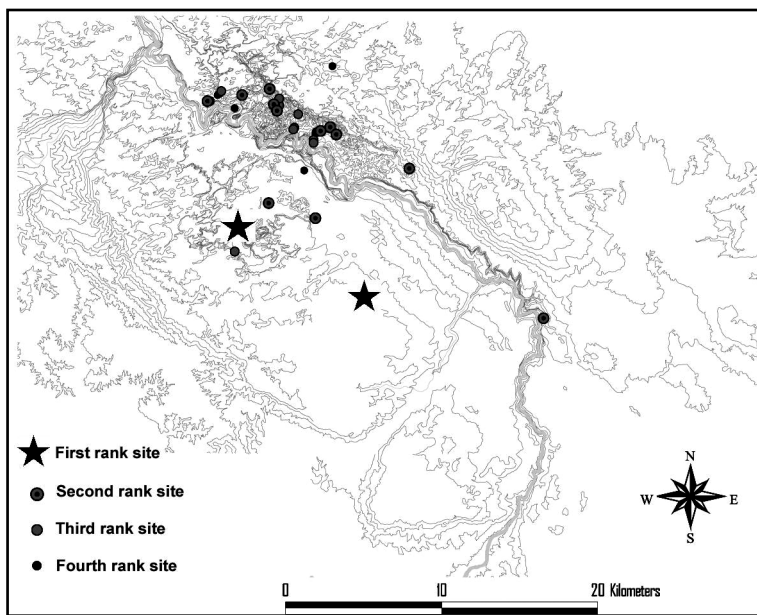


Fig. 4. Map of the Middle La Venta River region with Late Classic settlement pattern (drawing by N. Maestri)

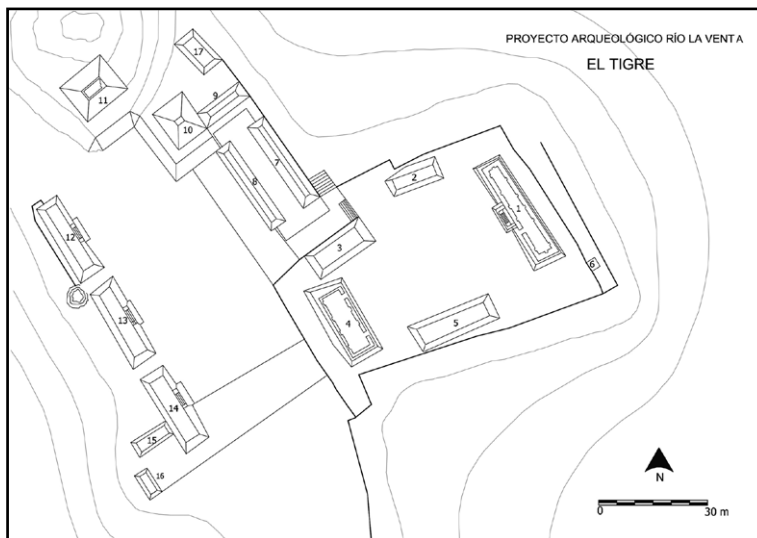


Fig. 5. Map of El Tigre site (drawing by D. Domenici, A. Campiani)

façades are decorated with geometric motifs obtained by means of panels and frames at different levels of relief; it is worth noting that Varejonal has two ball-courts and that its main pyramid contains a large “beehive shaped” burial chamber.

Ten second rank sites were identified on both sides of the canyon. Despite the high formal variability of these sites, we can here exemplify their structure by means of El Tigre (fig. 5) and El Higo, discussed below in more detail. Usually located on top of huge, partly artificial basements retained

by massive walls (fig. 6), they all have a rectangular central plaza, flanked by high platforms and monumental buildings, one of them usually with decorated façade. El Tigre includes both a ballcourt and a pyramid, El Higo has a probable ballcourt covered by later (Late Postclassic) buildings. Among the features identified in some of the second rank sites we can list plain stelae or stone pillars and masonry funerary chambers; at El Tigre a looted funerary chamber is located on the summit of the main pyramid.

Third rank sites are often located atop natural rock formations and are usually constituted by one or more monumental buildings looking over a central open space; some low residential platforms are usually associated to the main buildings or located in the low terrain around the rock formation; at least in two cases a masonry funerary chamber is located inside the main monumental building.

Fourth rank sites, which are particularly rare in our database surely due to surveying constraints, are usually composed by one-to-three low rectangular platforms arranged to delimitate open central spaces and built with big dressed stone blocks (aprox. 50 x 30 x 30 cms); the platform must have sustained huts built with perishable materials. Fourth rank sites are usually located along the margins of dolines’ bottom, where the scarce cultivable lands are concentrated. The diminute dimensions of fourth rank sites in our study area could well be a consequence of the local geomorphological traits which induce a strong dispersion of the rural settlement pattern, preventing the formation of major agglomerates or rural villages.

Some observations regarding the settlement pattern so far described and its socio-political meaning are now necessary. Despite a notable formal variation of urban plans, a recurrent pattern is shared by first and second rank sites, which is, the main buildings are usually located along the sides of a rectangular central plaza. Besides pyramids and ball-courts, the most important category of buildings is represented by rectangular and elongated structures, with front stairways

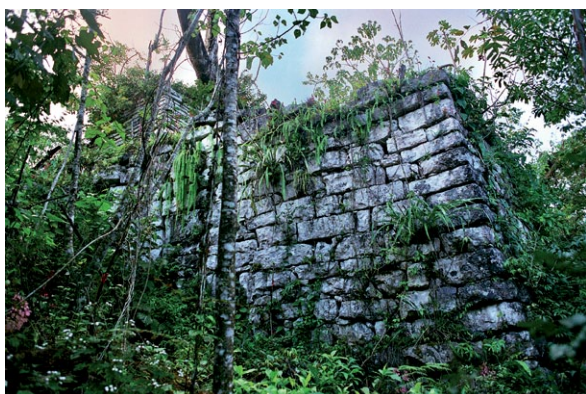


Fig. 6. The artificial basement that on which stands El Tigre central plaza (photo: D. Domenici)

and geometric motifs on their façades (figs. 7-8). Significantly, more than one decorated building can be observed in first rank sites, while usually only one of them dominates the central plaza of second rank sites. This suggests that this kind of buildings could be associated with local governmental structures of second rank sites, functioning as formal seats of lineages or “houses” and that the different geometrical motifs embellishing their façades could have functioned as identifying symbols of specific lineages or houses. The multiple presence of this kind of buildings in first rank sites could be related with their function as capitals of multi-lineage political entities. The well preserved interior of El Tigre Structure 1 shows a series of niches running along the inner walls that could have hosted images of gods or ancestors.

In first and second rank sites, beside the main decorated buildings, various similar non-decorated structures are usually present, often containing masonry burial chambers. The partial excavation of one of this buildings in El Higo (Structure 2) showed that on its summit a frontally open portico preceded a more secluded back room. Since one or two of these buildings are usually present in third rank sites, we suppose that they represent the formal seat and burial space of the heads of lesser social units, probably households living in nearby patio compounds; the small groups of platforms of fourth rank sites could correspond to simple farmsteads inhabited by non-elite households.

The fact that the two only first-rank sites are located on the more open left side of the canyon – as well as other architectural details suggesting slight chronological differences among sites – suggests that the Late Classic colonization of El Ocote started on the left side of the canyon with the foundation of the two large first rank centres

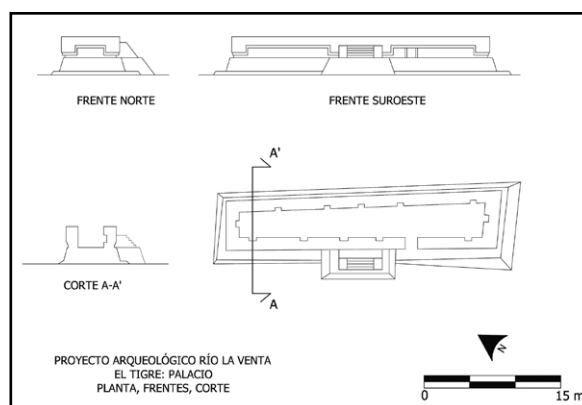


Fig. 7. El Tigre Structure 1 (drawing by D. Domenici, A. Campiani)



Fig. 8. View of El Tigre Structure 1 (photo T. Bernabei/La Venta Archive)

surrounded by second, third, and fourth rank sites; when the colonization proceeded toward the highly karstified area on the right side of the canyon, its peculiar environmental conditions prevented the growth of other large first rank sites, rather inducing a “fission” of the settlement pattern that caused the proliferation of second rank sites.

To adequately perceive the interplay between environmental constraints and political implications of the local settlement pattern, it is important to stress that El Ocote “large” (aprox. 6 ha) first rank sites are actually dwarfed by the larger sites of the neighbouring Jiquipilas and Middle Grijalva alluvial valleys. In both areas, sites approximately matching the El Ocote settlement tiers are also found, but a higher rank is represented by Late Classic sites such as Miramar, in the Jiquipilas valley (ca. 32 ha), and especially San Isidro, in the Middle Grijalva valley (ca. 40 ha) (Lowe 2006). Thus, our local four-tiered settlement system should probably be understood as part of a wider, regional five-tiered system. The total absence of epigraphic records prevents any firmly grounded



interpretation of the regional political landscape, but it seems reasonable to imagine either the existence of a single, large regional polity headed by the capital of San Isidro, or the coexistence of two adjoining regional polities headed by San Isidro and Miramar and spatially divided by the highest peaks of the El Ocote mountain range. It is worth noting that both San Isidro and Miramar had long occupational histories going back to Middle Pre-classic Olmec times, an element that could have increased their status as regional capitals.

The identification of five different hierarchical tiers in the regional settlement pattern should not be taken too mechanically as an evidence of a tightly articulated and strongly centralized political system. In many ways, the differences between the highest settlement tiers is more of a quantitative (site extension, number of structures, etc.) than of a qualitative kind; function-specific buildings such as palatial compounds, pyramids, buildings with decorated facades, and ball courts – usually associated with elite-related political and ceremonial activities – are commonly found in sites pertaining to the three highest settlement tiers. Such a pattern seems to fit with typically Southeast Asian and Mesoamerican political systems variously described in the literature as “segmentary states” or “galactic polities” (Tambiah 1977; Demarest 1992). These polities, characterized by the key role played by power-generating ritual displays managed by royal elites, are described as polycentric systems, lacking a strong economic and administrative centralization. The political capitals, seats of royal families and other high-ranking noble houses (*sensu* Gillespie 2000a; Joyce, Gillespie 2000), act as gravitational focuses of loosely aggregated galaxies of secondary centres, also dominated by lesser noble houses and qualitatively similar to the capitals. The main “gravitational force” keeping the peripheral centres tied to the central royal capitals is essentially hegemonic and mainly grounded on the rulers’ performances in warfare, marriage alliances, and ritual. The direct control of political elites on rural agricultural production is even weaker, and tribute paying is often performed in the context of gift-giving-like reciprocal exchanges of subsistence and luxury goods. The fundamentally ideological character of their political and economic bonds makes these “galactic” systems extremely volatile, resulting in the frequency of sequential cycles of fusion and fission, or growth and collapse (Marcus 1992).

To avoid any kind of environmental determinism, it is thus in the context of such a political landscape that we should perceive the role that the karstic environment had on the El Ocote set-

tlement pattern. In other words, the fact that key resources as cultivable land and surface waters are extremely dispersed on the physical landscape seems to have induced a fission of the settlement pattern in a socio-political organization that, due to its intrinsic organizational characteristics, was already prone to such a process.

The frequency of political collapses affecting “galactic polities” seems to have also affected El Ocote and the neighbouring areas. Most of Late Classic sites do not show any evidence of Postclassic occupation, indicating that the settlement system so far described experienced some sort of collapse at the end of the Late-Terminal Classic leading to the abandonment of the whole region. The causes of this abandonment are still unknown, but an hydrogeological event that between Terminal Classic and Early Postclassic affected the whole area causing the disappearance of some lagoons and water sources should be considered as a possible concause (Antonioli, Improta, Puglisi 1999: 60).

#### *The Postclassic Settlement Pattern*

The identification of a previously unknown Postclassic phase in El Ocote pre-Hispanic history has been the result of the excavations carried out in El Higo, where – in association with diagnostic Postclassic artefacts such as copper alloy jewellery – we first identified local Late Postclassic ceramic types, apparently a development of the Late Classic Fine Wares tradition (Chiessi 2009).

The complete lack of diagnostic Early Postclassic materials outside of El Higo is the main element that makes us suppose a period of total abandonment of El Ocote, approximately between AD 1000 and 1200. Early Postclassic evidences in El Higo are limited to the interment of an adult woman in a burial chamber created in one of the main buildings of the plaza (Structure 2) and the remains of a looted offering originally buried on top of Structure 1. These elements, coherent with practices related with a “taking of possession” of an ancient abandoned site, suggest that the second wave of colonization of El Ocote could have begun at the end of the Early Postclassic with the reoccupation of El Higo, followed by the creation of a small local polity that flourished during the Late Postclassic. Unfortunately, the Early Postclassic is a period poorly known in Western Chiapas, so that a better understanding of the length of the abandonment and the initial reoccupation of El Higo should wait for new data hopefully deriving from future investigations.

Anyway, the Late Postclassic reoccupation was limited to the southeastern area of El Ocote, giving shape to a simple two-tiered settlement pattern (fig. 9), whose distinguishing architectural characteristics will be described in the following section dealing with the site of El Higo. In fact, this site became the only monumental centre densely reoccupied, with patio compounds on its terraces and surrounded by isolated rural households, now built on top of natural elevations even if this location made them quite far from the low-lying cultivable lands. This last trait, clearly differentiating the Late Postclassic rural settlement pattern from its Late Classic antecedent, is highly significant. In fact, Postclassic colonists were also clearly selective in their choice of which older sites were to be reoccupied, always preferring sites located on top of hills or mountains. Large Late Classic sites in lower locations, such as El Maculis, were avoided even if rich in dressed stones, potentially useful as building material. This clear and generalized “uphill tendency” suggests that the Postclassic settlement pattern could have been shaped by a strong defensive need. In light of historical data indicating that the intrusion of the Otomanguean-speaking Chiapanecs in Western Chiapas led to the submission of many Zoquean communities, we would suggest that the Postclassic colonization of El Ocote could have been driven by the need of seeking refuge from the Chiapanecs living in the Chiapa de Corzo-Suchiapa area (Navarrete 1966). Significantly, we know that the Chiapanec were exacting heavy tributes from the Zoques of Tuxtla and Jiquipilas, the latter being one of the main settlements of the area from where the colonists of the southeastern section of El Ocote arguably came from. Such a “refugee” population could well have formed that rather simple Postclassic settlement pattern we identified in our surveys.

### *El Higo*

Both phases of colonization of El Ocote are represented in the site of El Higo, a monumental site first built during the Late/Terminal Classic period Mechung phase, when it functioned as one of the various second-rank sites of the local four-tiered settlement pattern. After the still poorly

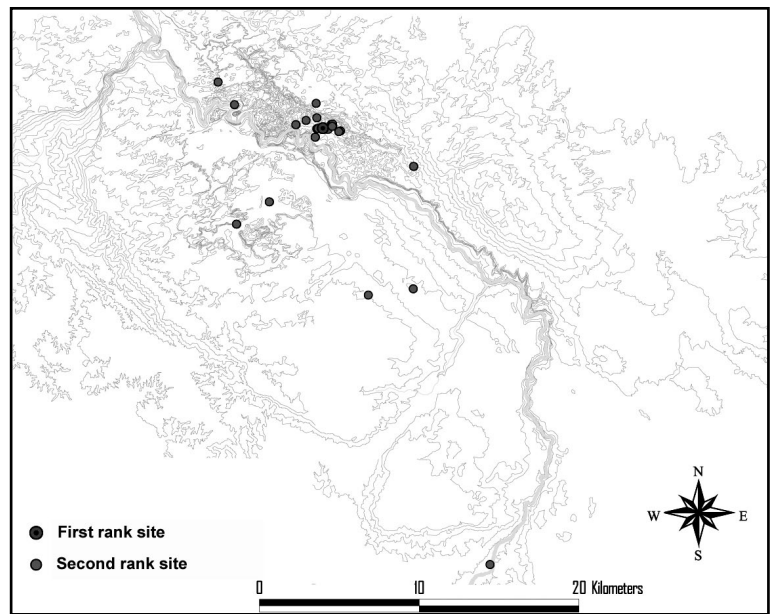


Fig. 9. Map of the Middle La Venta River region with Late Postclassic settlement pattern (drawing by N. Maestri)

understood Early Postclassic period of abandonment, the site was reoccupied and functioned as the only first-rank site in a simplified two-tiered Late Postclassic settlement pattern. Due to its representativeness, the site – first discovered in 2002 – was selected for intensive surveying, mapping, and architectural analysis, as well as for carrying out excavations in selected places (Domenici 2006; Campiani 2009; Zurla 2009).

El Higo (fig. 10) is located on the summit and on the terraced sides of a small karstic hill. Its Central plaza is located on the highest part of the site and is oriented North-South. The flat, stone-slabs paved, space of El Higo’s central Plaza was obtained by means of the artificial modification of the hill summit, where a massive fill of limestone blocks is retained by imposing stone walls, up to 5 m high, that circumscribe the central area of the site. Various stairways or stepped retaining walls connect the Central Plaza with the surrounding lower terraces, where similar retaining walls, even if smaller in scale and often connected to natural cliffs, were built in order to shape the terraced sides of the hill.

El Higo monumental buildings – that is, those that reflect major labour investments, all of them first built during the Late/Terminal Classic period – are located on the margins of the plaza, conforming a civic-ceremonial core that constitutes the highest part of the site. The most imposing building is Structure 1, which closes the North side

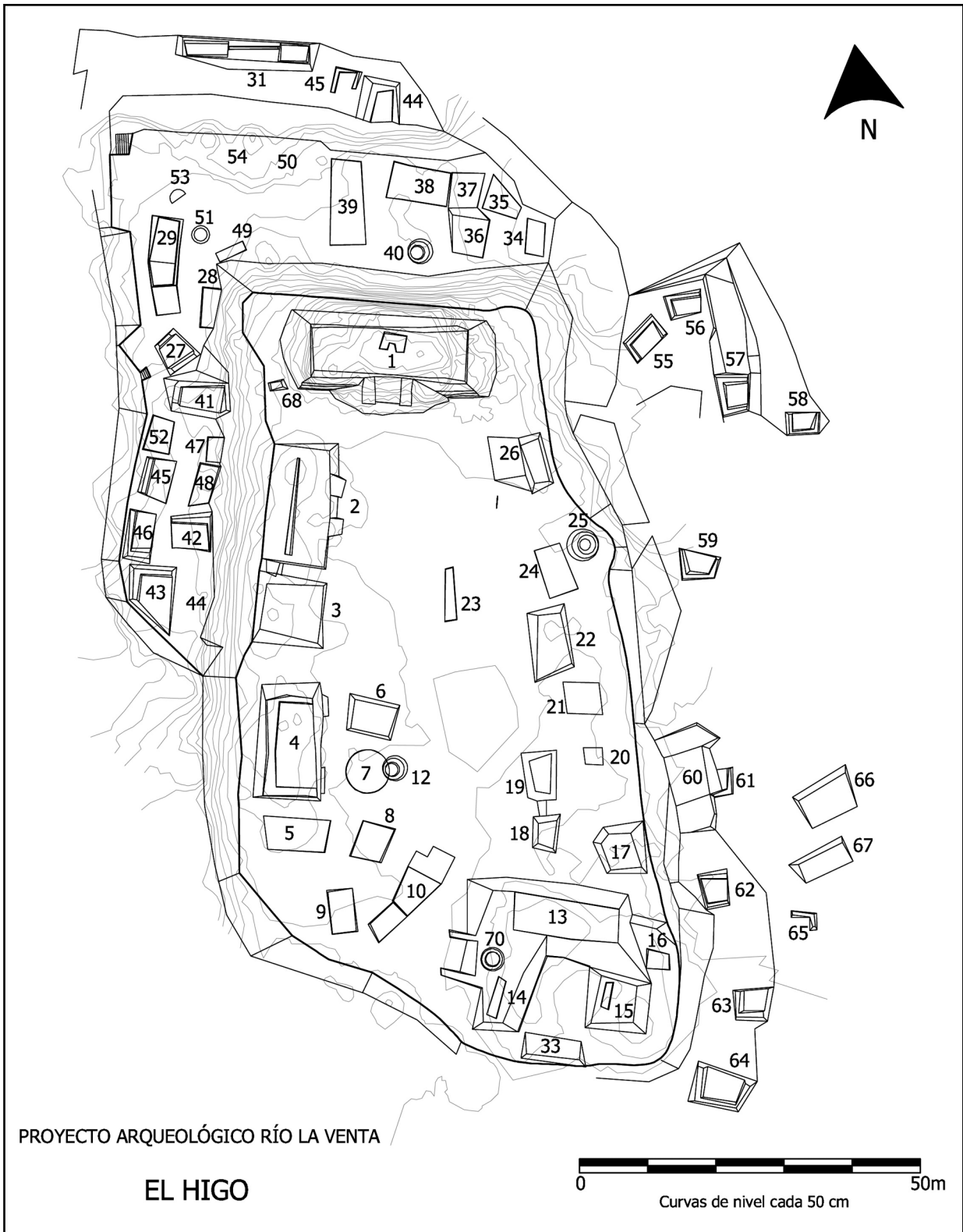


Fig. 10. Map of El Higo site. Note Sector 1 the terrace immediately to the North of Structure 1 (drawing by D. Domenici, A. Campiani)

of the plaza (fig. 11): it is a typical Late-Terminal Classic structure built with finely dressed limestone slabs and with a central staircase reaching the level of the façade where a distinctive geometrical decoration is obtained by placing the stone slabs at different depths.

Three massive basements (Structures 2, 3, and 4), up to 1 m high, stand on the Western side of the Plaza; at least two of them (Structures 2 and 4) show a frontal stairway. The reduced height of the freestanding walls on their summit, as well as the lack of any evidence of vaulted spaces, suggest that these basements supported walls and roofs of perishable materials. The partial excavation of the collapsed northeastern corner of Structure 2 showed evidence of various Late Classic modifications, suggesting a complex architectural dynamic.

The southeastern corner of the plaza is occupied by a large residential compound with a massive C-shaped basement that, together with a shallow platform on the south side, defines a restricted inner patio. The architectural configuration of the compound, as well as the domestic pottery and animal bones located during the partial excavation of Structure 14 and the patio, suggest that the whole compound could have functioned as a palatial complex, most probably the residence of the highest-ranking local elite.

If many other Late Classic structures were obviously built in the site, the heavy Postclassic occupation seems to have obliterated most of them. Actually, the architectural analysis of surface remains showed that the Late Postclassic reoccupation of the site led to quite radical changes in the use of urban spaces, when many of the Late Classic public or ceremonial areas were invaded by residential groups of different forms and dimensions. Huge amounts of undressed stone blocks banked up against the stepped wall retaining the fill of the main plaza under Structure 1, indicate that the Postclassic occupation of El Higo initiated with an important labour investment aimed at avoiding the collapse of the Classic architectural fill and structures that had suffered important breakdowns during the period of abandonment.

Postclassic architecture is sometimes located on top of Classic basements and is often built with salvaged Classic dressed limestone blocks. The main structure type defining Late Postclassic households is a platform with low stone walls on three of its sides, thus forming a “C” shape with an open front side; when not using earlier salvaged building material, these platforms are usually built with undressed or roughly dressed limestone blocks, often taking advantage of natural limestone for-

mations; their average extension varies between 25 and 40 m<sup>2</sup>. Both urban and rural households are composed by at least one “C” structure, implying that it constituted the main and basic element of the household, usually flanked by secondary platforms, working areas and structures devoted to specific, non-residential functions. Among these, quite common are rounded structures of approximately 1-1.5 m of diameter, at times connected to frontal paved circular platforms. Circular structures of this kind are quite common in the region but, despite our excavations of two of them (see below), their function remains elusive. Their shape and red-painted floors recall similar Postclassic structures excavated in Las Margaritas, Chiapas, and interpreted as sweat baths (Lowe, Álvarez 2007: 330), an hypothesis that seems reasonable even if at El Higo is not confirmed by the finding of any diagnostic element. However, their clear association with platform compounds implies that their function was strictly linked with the performance of domestic activities in Postclassic residential compounds.

Postclassic domestic units – that is groups of platforms containing at least a “C” structure, usually arranged around central patios or courtyards and associated to circular structures – are widespread both in the main plaza of El Higo and on the surrounding terraces; their high degree of variability, both in extension and in complexity, seems to reflect rank differences among the different households that inhabited the site.

### *El Higo Sector 1*

The intra-site changes in the use of urban space occurred during the two occupation phases of El Higo are best represented in Sector 1, on the North Terrace lying immediately below the rear façade of Structure 1. Surface remains in Sector 1 clearly correspond to a Postclassic household compound (figs. 10, 12), but since extensive excavations revealed the superposition of two different occupation phases (fig. 13), the following description will start from the earlier structures (fig. 14).

During the Late/Terminal Classic occupation of the site, the surface of the North Terrace was a mostly open space paved with irregular limestone slabs. A lower terrace (TN1), lying immediately below the north side of the North Terrace, probably housed a ball court, today partially covered by the later Structure 31; the presence of a possible Late/terminal Classic ball court, as we will



Fig. 11. Frontal view of El Higo Structure 1 (photo: P. Pettrignani/La Venta Archive)

see, is quite important for our understanding of the activities carried out in Sector 1.

On the northern edge of the Sector 1 terrace, in fact, a huge rectangular, semi-subterranean sweat bath (Structure 38sub, fig. 15) was located (Domenici, Lee, Zurla 2012). The sweat bath main room (9.30 m long and 2.95 m wide), built with dressed limestone blocks, has a paved floor and benches running along the north, south, and west walls. The east side of the room, on the other hand, is connected to a small quadrangular antechamber with an access step on the east side; the total length of the whole structure thus reaches 11.49 m. Excavations constraints impeded exposing the outer western side of the sweat bath to verify the presence of a burning chamber; nevertheless, the western half of the main chamber had been filled by accurately piled burnt fragments of coarse pottery and burning residues; the excavation of three m<sup>3</sup> of fill yielded 28.379 kgs of pottery. The presence of such a fill indicates that the broken pottery was heated on fire and then used as a steam-producing device by throwing water on it, arguably together with aromatic plants. Fragments of burnt daub with vegetable fibre impressions suggest that the sweat bath was once a completely underground structure covered by a wattle and daub roof. Curiously, the burnt fill apparently accumulated in the chamber without being removed, at least during the last period of use of the sweat bath; the finding of a greenstone celt deposited on the floor directly below the fill suggests that the filling of the room could have been intended as one of the “termination rituals” that often marked the closure of public buildings in Mesoamerica.

The hygienic, medicinal, and ritual usage of the sweat bath is one of the most long-lived tra-



Fig. 12. View of the architectural remains of Sector 1 during excavation (photo: D. Domenici)

ditions in Mesoamerican cultures, thoroughly studied by both archaeologists and ethnologists (e.g. Alcina Franch et al. 1980; Alcina Franch 2000; Child 2005; 2006; 2007). Nevertheless, the great majority of known sweat baths are much smaller than the one at El Higo, even those located at the core of huge monumental centres such as Chichén Itzá or Tula. More interestingly, the only two comparable sweat baths in terms of dimensions and architectural traits have been excavated at the sites of San Antonio, Chiapas (Agrinier 1966; 1969: 16-28) and Malpasito, Tabasco (Cuevas 2004), both of them Late/Terminal Classic Zoque sites pertaining to the very same cultural sphere of the El Ocote ones. In both cases, the monumental sweat baths were also filled with burning residues and burnt pottery, and are located on one side of a ball court. This spatial location, the same that probably occurred at El Higo, indicates a strict relationship between the usage of the sweat bath and the performance of the ritual game, a relation also attested in many other

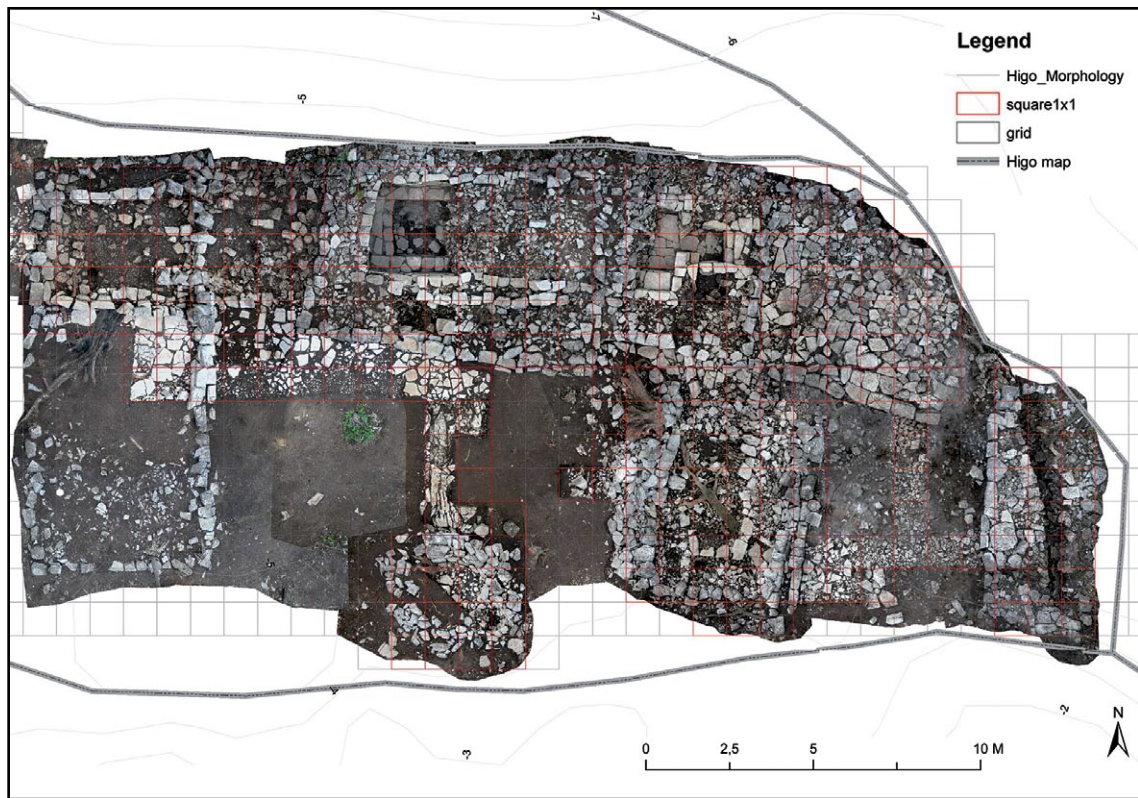


Fig. 13. Photogrammetric image of Sector 1 at the end of excavation. While most of the visible structures are Postclassic, the large structure to the north is a Late Classic sweat bath (elaboration by L. Zurla)



Fig. 14. Map of Late Classic structures in Sector 1 (elaboration by L. Zurla)



Fig. 15. The large Classic sweat bath during excavation. Note the semisubterranean space, the benches along its walls and the peculiar burnt fill still visible on the right side of the room (photo: D. Domenici)

Mesoamerican sites (Taladoire 1975); the fact that the Zoque monumental sweat baths could have hosted up to thirty individuals suggests that they could have been used by whole teams of ball players for ritual purifications.

The analogies in architectural structure, technical use, and association with ball courts in the three described cases indicate that we are dealing with a cultural trait typical (and, as far as we know, exclusive) of Terminal/Late Classic Zoque polities. The spatial location of the sweat bath/ball court architectural pair in the monumental core of high ranking sites also suggests that the performance of the ritual game and associated practices was one of the main “theatrical performances” functioning as socio-political integrating devices in Zoque polities; this interpretation is in accord with a similar function attributed to the ball game in other Mesoamerican areas and periods (Hill, Clark 2001; Daneels 2008; Clark 2013). If so, during the Late/Terminal Classic period, the North Terrace of El Higo was an eminently public space: even if we don’t know the degree of accessibility that it could have had for common people, it is clear that its use was strictly linked to the public domains of ritual and politics.

After the partial filling of the chamber with burning debris, the sweat bath was abandoned together with the whole site of El Higo. After almost two centuries, the Postclassic reoccupation of Sector 1 began with the building of two retaining stone embankments in order to consolidate the terraced artificial landscape: a first one was placed against the slope connecting the terrace to

the plaza, while a second one was placed against the slope connecting the North and East terrace, expanding in this way the eastern margin of the North terrace. Then, the semisubterranean space of the Classic sweat bath was filled with stones and earth, in order to obtain a relatively even and flat surface. On this surface, a Postclassic domestic architectural compound was built, apparently in a single building event. Its excavation provided a good amount of data regarding an almost unknown aspect of Postclassic Zoque culture, thus providing fresh data that could be interpreted along the lines established by the always burgeoning literature on household archaeology in Mesoamerica (e.g. Manzanilla 1986; Wilk, Asmore 1988; Santley, Hirth 1993; Hirth 2009; Hendon 2010; Arnauld et al. 2012).

Sector 1 architectural compound (fig. 16) is a fairly complex household composed by seven structures arranged around two adjacent patios and covering a total area of approximately 484 m<sup>2</sup> on the eastern side of the North Terrace; the empty area on the Western side of the terrace divides, both spatially and visually, Sector 1 from a similar architectural compound on the West Terrace; no evidences of a more substantial segregation (e.g. walls, enclosures, etc.) has been identified, so that probably there was no tendency to form sharply separated house compounds. The two compounds, located on a same level and sharing a privileged access to the main Plaza, represent the most densely occupied residential compounds in El Higo and could have been part of a same high-ranking neighbourhood. The empty area on the North terrace was not submitted to excavation, but obviously it was functionally related with Sector 1, maybe as a garden area.

The two patios of Sector 1 are separated by Structure 36, a C-shaped structure whose two-stepped access opens on the smaller and more restricted East Patio; in light of the spatial arrangement of the architectural compound, Structure 36 functioned as the articulating element of the whole compound, also standing out in terms of labour investment, formal complexity, and visibility. Structures 34 and 35, both of them paved and probably unroofed platforms also insist on the East Patio. Platforms 38, 39, and the circular structure 40 surround the larger West Patio, with structure 37 standing amid the two areas, immediately north of the small walking corridor con-



Fig. 16. Map of Late Postclassic structures in Sector 1 (elaboration by L. Zurula)

necting the two patios. Structures 38 and 39 are the biggest of the whole complex in terms of area and are the only ones showing evidence of internal partitioning; if the internal arrangement of Structure 39 is not clear due to limited excavation, Structure 38 seems to have had an inner room surrounded on its western and southern sides by a roofed portico open toward the West patio. The occupational density and formal complexity of the architectural compound, together with the presence of a circular structure – the only one so far identified outside of El Higo central plaza – and the strict relationship with a ramp that rises on the embankment toward the plaza immediately north of Structure 40, indicate that Sector 1 was the most important Postclassic residential compound outside the plaza, suggesting that it was inhabited by an elite household.

Despite the obvious disturbances caused by rainwater erosion and by the thick vegetal cover that invaded the site after its final abandonment, spatial analysis of the distribution of artefacts in Sector 1 showed meaningful patterns, suggesting a quite good spatial congruence between locations of artifacts' use and locations of artifacts' discard.

Comparing the distribution of pottery strainers, or *pichanchas* (used for the nixtamalization

or lime-soaking of maize; fig. 17), cooking griddles or *comales* (fig. 18), ollas, and serving bowls we observe that most of these items are concentrated in the northern part of Structure 39, in the frontal part of Structure 38 and adjacent West patio area, and – albeit in minor quantity – in the southern part of Structure 36 and adjacent area of the East patio. This spatial coherence indicates that the three mentioned areas were devoted to food processing, cooking and consumption, probably suggesting the existence of three different nuclear families living in structures 36, 38, and 39; the presence of a limestone block used as a *metate* in the portico of Structure 38 and the presence of n.i. mammal bones in the East patio fits with this interpretation. No refuse dumping areas were located during excavation, so that domestic refuse – when not recycled for gardening activities – was probably thrown in the steep ravine located between structures 34 and 35. No hearths or fireplaces were identified in the whole compound, suggesting the usage of portable ceramic braziers or outdoor ephemeral structures whose traces were obliterated by post-abandonment disturbances.

Structure 37, located midway between the two patios and devoid of any cooking implement, is



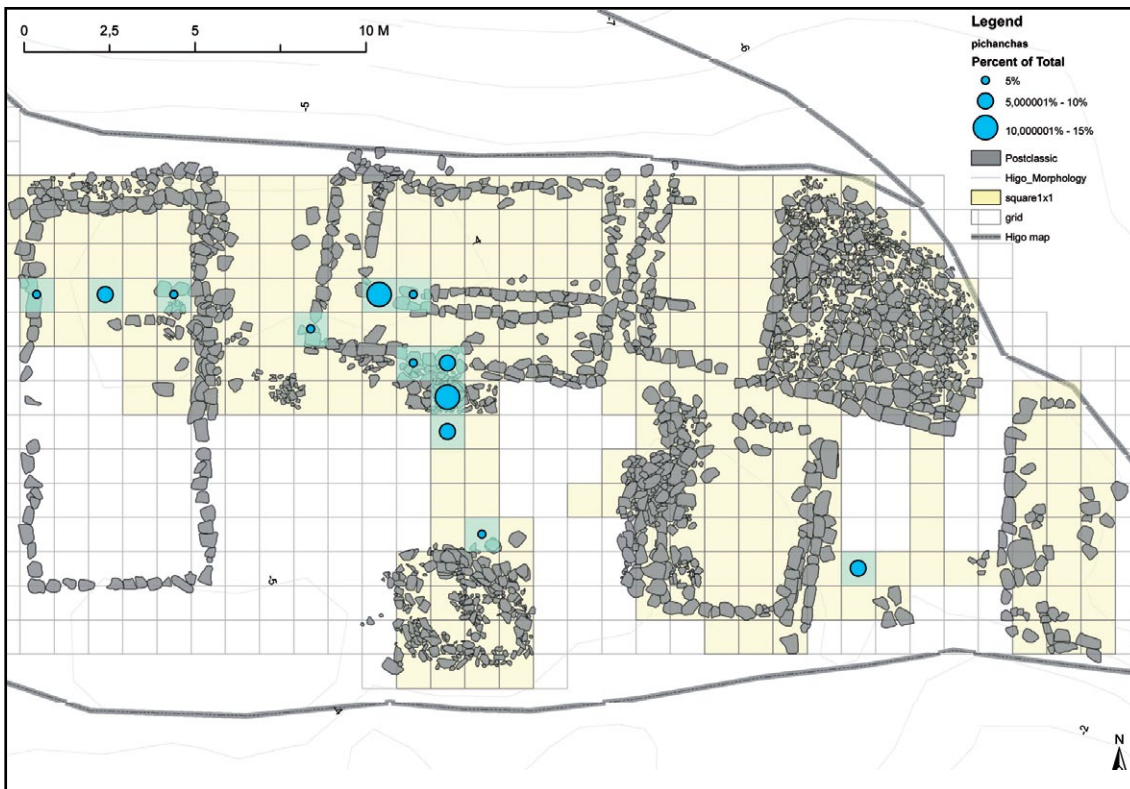


Fig. 17. Distribution of maize strainers, or pichanchas in Sector 1 (elaboration by L. Zurla)



Fig. 18. Distribution of cooking griddles, or comales in Sector 1 (elaboration by L. Zurla)

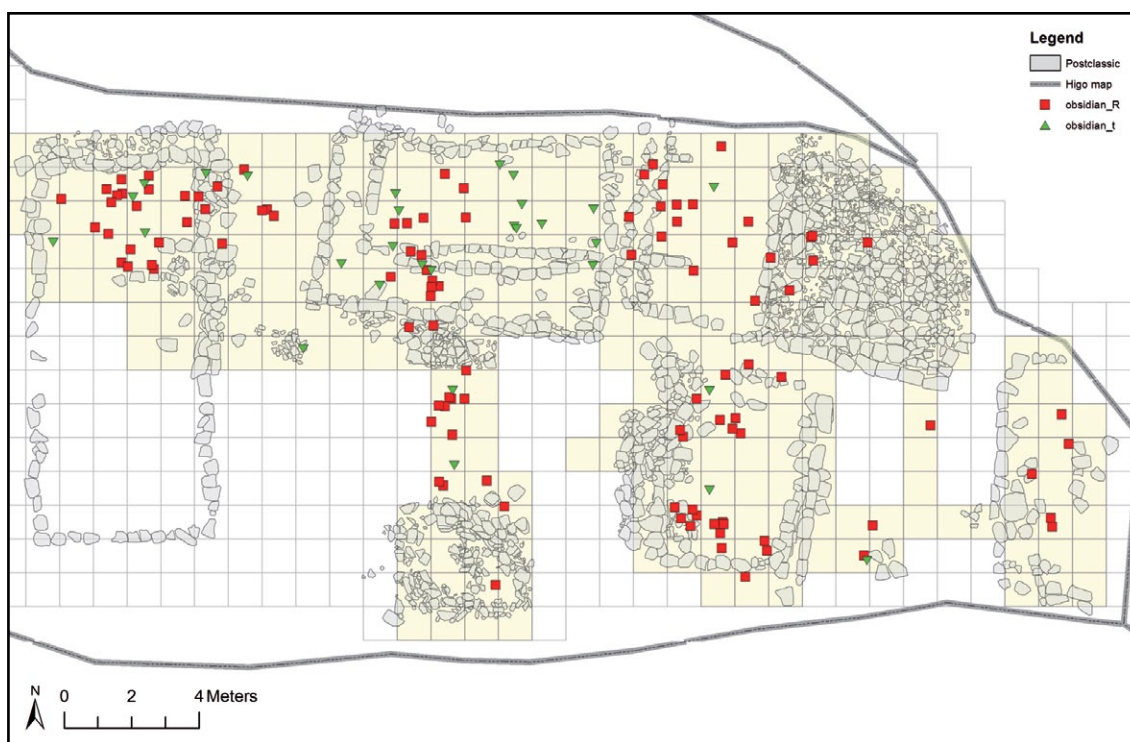


Fig. 19. Distribution of obsidian prismatic blades in Sector 1; symbols indicate prevalent use as suggested by wear traces (red squares = scraping; green triangles = cutting) (elaboration by L. Zurula)

characterized by the presence of ollas, bowls, and tripods, possibly indicating its use as a common storage area. It is interesting to note that the paved and unroofed structures 34 and 35 are characterized by the complete absence of the abovementioned items, suggesting a completely different function. The same can be said for Structure 40, which anyway contained an almost whole long-necked olla that, when submitted to chemical analysis of residues, showed traces of a fermented drink (Pecci, personal communication), a fact not easily understandable in light of its tentative interpretation as a sweat bath.

More than 500 obsidian specimens were excavated in Sector 1, most of them individually located by means of three-dimensional recording with Total Station (fig. 19). The vast majority of the obsidian is of a veined grey variety probably proceeding from the Guatemalan Highlands, but a small amount (4%) of green obsidians visually identified as proceeding from Sierra de las Navajas (Hidalgo) was also encountered. Prismatic pressure blades conform more of the 90% of the total specimens, more than 80% of them being final series blades. The presence of a single fragment of an exhausted polyhedral core and of an extremely reduced amount of cortical percussion blades, flakes and *debitage*, rules out the possibil-

ity that Sector 1 was an obsidian workshop. This means that already prepared blades entered Sector 1 (maybe from local workshops located elsewhere in the site) to be used in some other kind of productive activity. Simple eyesight analysis with magnifying lens of wear traces suggests that most of the blades were used for scraping and cutting a quite soft material. In order to further characterize the kind of productive activity that was performed in Sector 1 and its spatial organization, it is worth noting that tools such as a flint scraper, a bone awl or perforator, a stone polisher, a spindle whorl and three small stone pestles are clearly concentrated in the eastern part of the household compound. Again, no tools are associated with the surfaces of Structures 34 and 35.

Available evidence does not permit to clearly identify the main productive activity, but the transformation of perishable materials such as animal skin could be a viable hypothesis in light of the composition of the blades and tools assemblage: if the whole household area was employed in cutting and scraping, the East patio could have been the place where skins were tended and dried on the paved platforms of Structures 34 and 35 and later transformed using implements as the bone perforator. The processing of animal skins would be a reasonable activity for a household located in



Fig. 20. Distribution of working tools in Sector 1 (elaboration by L. Zurlo)

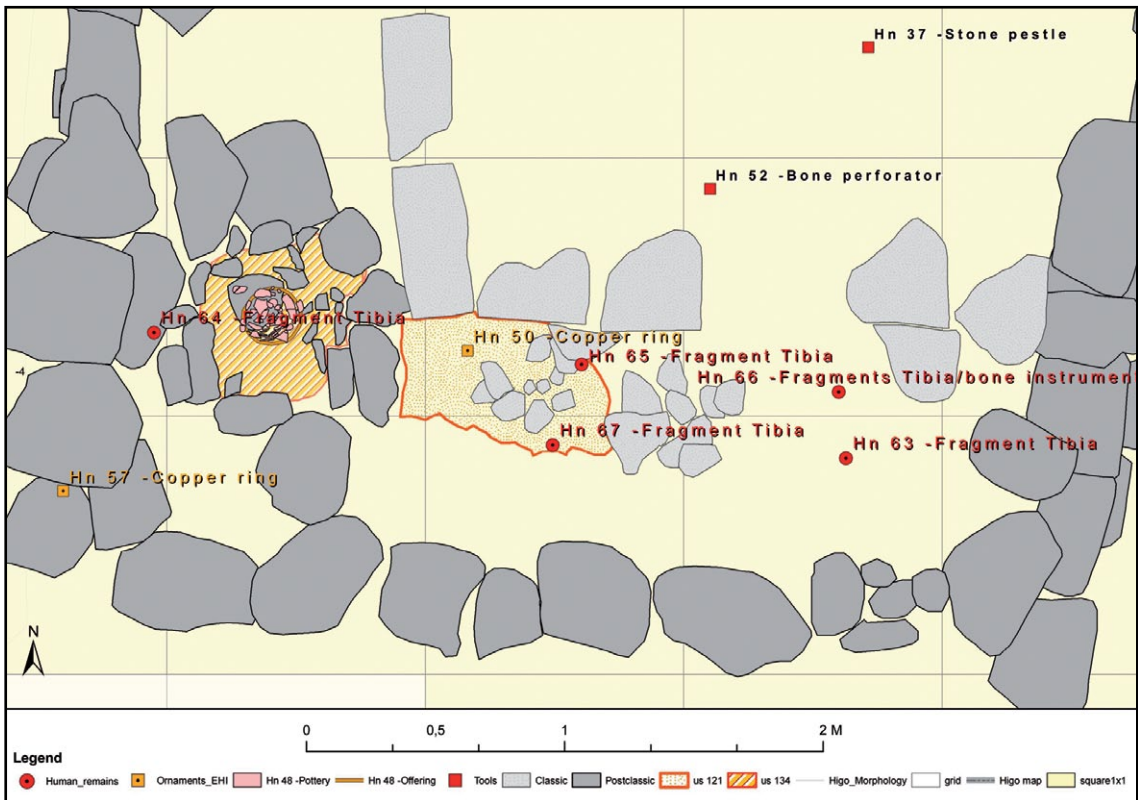


Fig. 21. Map of the elements composing the offering cache under Structure 36 (elaboration by L. Zurlo)

a dense jungle that even today is extremely rich in wildlife.

Evidence of food preparation and consumption, as well as of productive activities, characterizes the Sector 1 domestic compound as the residence of a joint household, defined as a task-related residential unit of production, consumption, and reproduction (Hirth 1993a: 22; Santley, Hirth 1993: 3). The three concentrations of artefacts related to food preparation in the three main structures of the patio compound, arguably corresponding to specific loci of feminine activity (cfr. Hendon 1996: 49-52), suggest that the whole Sector 1 was inhabited by a joint household corresponding to an extended family composed by three nuclear families, that is, by a fairly typical unit of co-residence in Postclassic Mesoamerica (Hirth 1993a: 29; Kellogg 1993). Elements such as the proximity to the main plaza, the amount of labour investment, the presence of the only circular sweat bath out of the plaza, the complex articulation of architectural spaces around two different patios, as well as the diversity of sumptuary materials and exotic goods (ceramic figurines, copper alloy jewellery, greenstone beads, and a porphyry mosaic tessera) suggests that it was a quite high ranking household, at least for local standards (Hirth 1993b).

The fact that production areas marked by the distribution of obsidian blades overlap with the areas devoted to food preparation and consumption indicates a scarce functional separation between different activity areas. This general pattern indicates that productive activities were not of a highly specialized type, performed by specialists in workshop-like facilities, but rather a household-based part-time activity. However, the important amount of obsidian refuse and the fact that the productive activity was carried out in one of the largest households in El Higo suggest that it was an “household industry” (Santley, Kneebone 1993: 41) aimed not only at internal consumption but also at local or regional distribution, probably of an intermittent kind and in the context of a multicrafting production (Hirth 2009). The even distribution of obsidian blades also suggests that the main bulk of the productive activities was performed in a collective manner, while only some specific operations, probably involving more specialized skills (indicated by the concentration of function-specific tools as scraper, perforator, polisher, and pestles, as well as by the two paved platforms 34 and 35), were carried out in the more restricted East Patio (fig. 20) in front of the C-shaped Structure 36, thus functioning as the spatial and functional focus of the whole household.

In light of these observations, it is interesting to note that below Structure 36 we found the remains of an offering cache composed of the stacked bases of at least three coarse ware ollas associated to various human long bones and two copper alloy rings (fig. 21). The long bones (four fragments of fibulae and ten fragments of two different tibiae) pertained to one or possibly two adult individuals. The two tibiae pertained to a robust male affected by *ostiomylitis* and were reworked in the form of spoons with wear traces. One of the fibula fragment was exposed to an open fire (< 600°) for a prolonged time (Tiesler, Cucina 2005: 24-27). Even if postdepositional taphonomic processes disturbed the spatial distribution of most items, the location of the base of the ollas - still in their original position - set against a Classic stone alignment, suggests that the cache was deposited during the construction of Structure 36, probably as a dedicatory offering. The presence of burnt and reworked bones in caches or “problematic deposits” fits a quite common Mesoamerican pattern (Tiesler 2007: 28), often interpreted as non-funerary – that is, post-sacrificial – contexts; the pathological condition of one of the Structure 36 individuals is also a quite common trait in post-sacrificial deposits but cannot be taken as a straightforward indicator (Cucina, Tiesler 2007). However, it must be stressed that the distinction between funerary and non-funerary contexts is particularly difficult for secondary or tertiary assemblages such as Structure 36 cache (Tiesler 2007: 29). In this specific case, we think that the presence of the two copper rings, as well as the interment of the cache under a house floor – a place commonly devoted to ancestors burials in Mesoamerica – suggest that the cache should be interpreted as a secondary funerary context containing ritually treated ancestral remains; these remains, arguably brought from elsewhere by the colonists, were interred as a dedicatory act for the foundation of the newly established household. Thus, the interment of the cache prior to the construction of Structure 36 not only reflects a common Mesoamerican pattern of “living with the ancestors” (McAnany 1995), but suggests that the burial of cached ancestral remains was perceived as a “precondition for living”, that is, an act of ritual “place-making” and “ancestralization” that transformed the physical house in a living entity embodying the social memory as well as the continuity of the corporate identity of the house as a social unit (Gillespie 2000b; Hendon 2000; Joyce 2000; Hendon 2010; McAnany 2010). In sum, the architectural characteristics of Struc-

ture 36 and its associated remains strongly suggest that it should be interpreted as the residence of the household's head (Domenici 2009b: 147), that is, as the main physical house of the architectural complex, functioning as the focus of the sociological house both in functional and moral sense.

Notwithstanding the interpretative constraints due to incomplete excavation of the household compound and to the high level of postdepositional disturbance, the detailed excavation of Sector 1 provided useful information in order to sketch the social and economic organization of a Late Postclassic Zoque household. Unfortunately, we still lack comparable data from other Postclassic households in El Higo or in the general El Ocote area in order to better perceive formal, functional, and rank differences between the various interacting households that generated the social institution of El Higo community (*sensu* Yaeger, Canuto 2000).

#### *Concluding remarks*

The settlement pattern analysis showed considerable differences between the two occupational phases of El Ocote. The Late/Terminal Classic settlement system reflects a complex polycentric and hierarchically articulated local political system, most probably part of a wider regional polity extended between the Middle Grijalva and Jiquipilas valleys. The frequency of sites and their refined architectural style - actually much better represented in El Ocote than in the neighbouring valleys where intense colonial and modern occupation caused heavy disturbances of the ancient sites - seem to reflect a quite rich and flourishing Late Classic Zoque society, with intense interactions with other Mesoamerican regions such as the Gulf Coast (Domenici 2009b). Social and political integrating ritual activities managed by the elite are reflected by the abundance of public buildings and spaces in monumental centres, as well as by the frequency of ball courts and their unique association with monumental sweat baths, the largest so far detected in Mesoamerica. In this context, the colonization of the harsh landscape of El Ocote during the Late Classic should then probably be attributed to the economic needs of an expanding Zoque population in Western Chiapas, precisely in the period of its demographic apogee. Specific traits of the El Ocote settlement system, such as the high degree of territorial dispersion of the rural farmsteads and the proliferation of small monumental sites are interpreted as consequences of the adaptation of an already prone to fissioning

settlement system to the peculiar environmental characteristics of the karstic landscape.

On the other hand, after the collapse of the Late Classic polity and the following abandonment of El Ocote, a completely different settlement system was created during the Postclassic period. A much smaller "refugee" population gave shape to an extremely simple settlement pattern, with one single monumental site and lacking intermediate politico-administrative nodes linking the centre to the rural households. The general "uphill tendency", most clearly reflected in the movement of household compounds far from cultivable lands and by the selective choice of Classic sites to be reoccupied, probably reflects a strong defensive need. This need seem to have resulted in a network of modular, semi-autonomous households loosely bound to a quite ephemeral central authority residing in and around El Higo central plaza, that suffered a quite radical refunctionalization of the urban space. Its transformation in a mainly residential area, capable of accommodating a much smaller quantity of people during ceremonial gatherings, seems to reflect a reduced ability of local elites in organizing social and political integrating ritual activities. The abovementioned scenario is reflected in Sector 1, where the formerly public space devoted to ritual sweat bathing related to ball playing was transformed in the residential space of a relatively high-ranking household, with a clear shift from the ritual/political public domain to a more private and domestic one.

If the reduction of elite-managed ceremonial activity and the qualitative similarity between urban and rural households speak of an increasing household autonomy, the fact that the largest households of El Higo are those located in the plaza and its surroundings, joined with the above discussed hints of intermittent production of specific items for local or regional distribution, indicates that the spatial proximity to the main plaza was still an indicator of socioeconomic status, suggesting a certain degree of political and economic centralization. In fact, this nearness to the centre could have also determined the degree of participation in the long-distance trade networks that should have controlled the inflow of exotic items - such as obsidian, greenstone, copper, etc. - as well as the extra-site distribution of local products. Obviously, differences in the degree of participation in such long distance trade networks will only be thoroughly understood by means of future excavations of more peripheral households.

Albeit with strong differences in the two periods of colonization, the centripetal, centralizing

efforts of local political elites seems to have always been counteracted not only by the typical tendency toward peripheral autonomy that characterizes most polycentric Mesoamerican political systems, but also by the centrifugal, fission-inducing characteristics of the karstic landscape of El Ocote; in such a political and physical landscape, the social, political, and economic identity of social units as lineages, houses, and households was a matter of unstable equilibrium.

#### Acknowledgments

Financial and logistical support for the Rio La Venta Archaeological Project, directed by Davide Domenici and Thomas A. Lee Whiting, has been provided by the Departments of Archaeology and Medieval History (today joined in the Department of History and Cultures) of the University of Bologna (Italy), the Universidad de Ciencias y Artes de Chiapas (Mexico), the Italian Ministero degli Affari Esteri (Direzione Generale per la Promozione e la Cooperazione Culturale) as well as by the La Venta Association (Treviso, Italia). Fieldwork was carried out under permission of the Mexican Instituto Nacional de Antropología e Historia, Secretaría de Medio Ambiente y Recursos Naturales, and Reserva de la Biosfera Selva El Ocote. To all them, as well as to all the students and local friends that took part in surveys and excavations, goes our gratitude. Above all, our deepest feelings of esteem and affection go to our friend, mentor, and colleague Thomas A. Lee Whiting, who recently passed away and whose ashes are now sheltered by the awesome trees of the El Ocote jungle. We would like to dedicate these lines to his beloved memory.

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