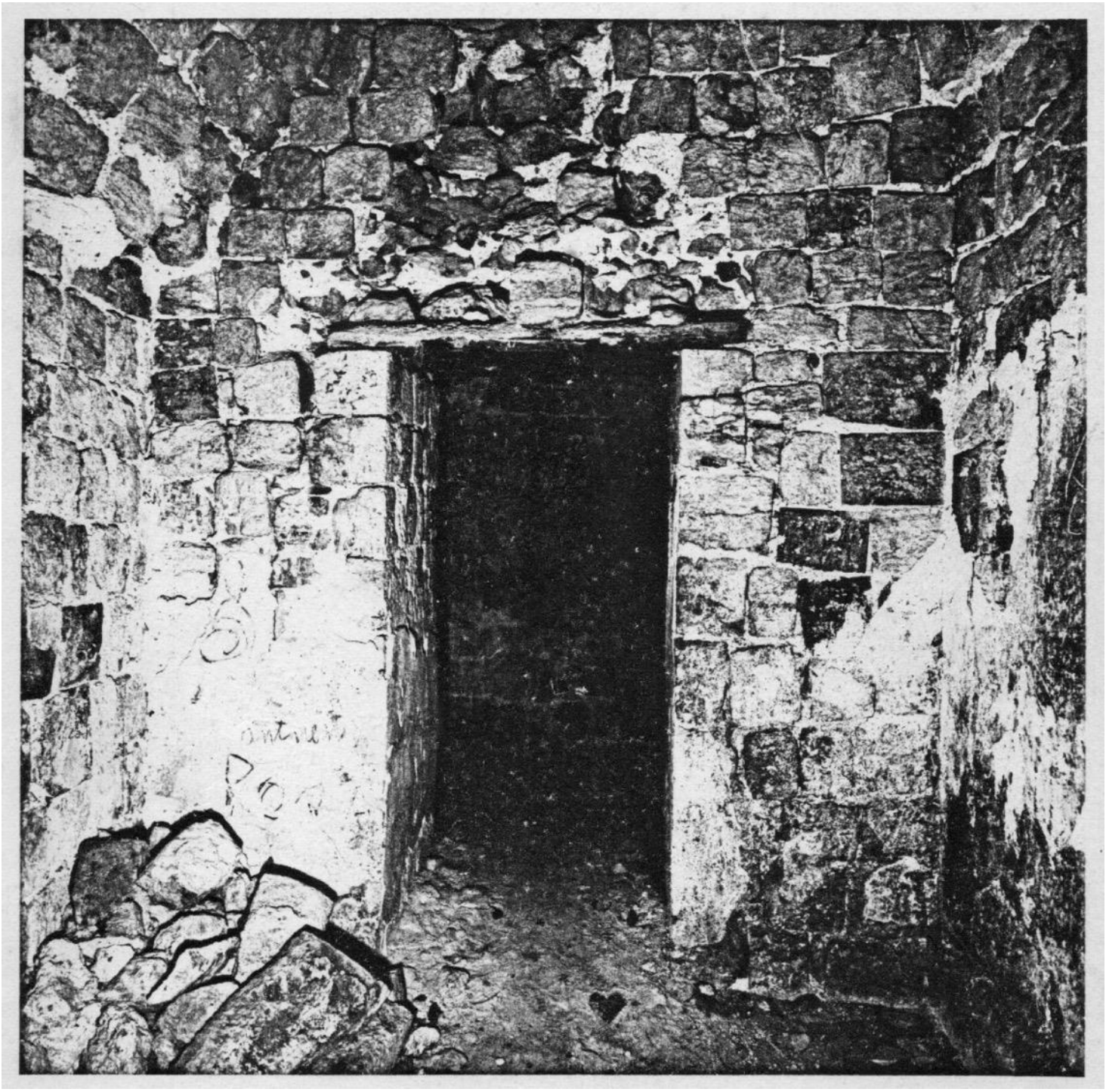
ADVANCES IN KNOWLEDGE

OF THE MONUMENTAL ARCHITECTURE



OF SANTA ROSA XTAMPAK

Based on Photography and Mapping of June-July 1989

This is Number 12 out of the pre-printing limited to 20 copies

for

benefactors of research on Maya civilization

at

Santa Rosa Xtampak,

Campeche, Mexico.

ADVANCES IN KNOWLEDGE OF THE MONUMENTAL ARCHITECTURE OF SANTA ROSA XTAMPAK

Based on Photography and Mapping of June-July 1989

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Foundation for Latin American Anthropological Research

1989

This version should be considered as raw field notes and as the purely text edition, as it does not yet itself include a full set of illustrations. These will be in a season's end report.

Comments from readers pointing out errors of fact, of opinion, or omissions are welcomed.

Front Cover. Main Palace, standing in Room 13 looking north into Room 15. The wooden lintel is still preserved yet the end wall masonry overhead has already begun to crumble and fall, typifying the situation throughout Santa Rosa Xtampak--remarkable preservation yet imminent collapse

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PREFACE

In producing this field report two options were available, first, wait until all illustrations were finished, wait until everything was edited and corrected; or, second, just get the basic facts out so that others could have access to these data.

Normally I select the first option, which is why it has taken over 10 years for F.L.A.A.R. iconography reports such as the two ballgame volumes to appear in print. But for the Santa Rosa architectural photography and mapping reports it seemed more appropriate to get the basic information available and leave the fancy typesetting, layout, even editing until later--since I had to leave for two months and could not get the editing finished before leaving.

This report was typed on Nota Bene software, which has a 900-page manual--so I have nowhere near mastered its capabilities. Furthermore, this was printed on a laser printer that would not accept half the commands, such as going into smaller type, which is why the bibliography of the earlier two volumes ended up so spread out. Underlining would not print, nor would boldface type, no accents would print properly (although Nota Bene itself types simultaneously in German, Spanish, and English complete with accents) and in many instances, no page numbers either. Yet I had to leave 36 hours later to drive a ton of supplies and equipment down to Xtampak, where the entire Graz photogrammetric surveying crew was waiting at Santa Rosa.

Thus, this report is "as is." If colleagues would prefer to have a more organized and consistent layout, better editing, an absolutely complete bibliography, and a more finished style, this report would have been delayed for over a year, since F.L.A.A.R. has a backlog of manuscripts on iconography awaiting typesetting. In effect it was now or never, so I elected to have it as raw notes rather than a slick report. Constructive criticism is welcomed by the author as to whether this uncorrected first draft type of field report is bearable.

ABSTRACT

Nicholas Hellmuth as architectural historian and photographer, and Eldon Leiter as Project Photographer, spent 13 days photographing and mapping Santa Rosa Xtampak in the summer of 1989. This represented their second session of the first season. The first session, 5 intensive days of photography in April 1989, has already been reported upon (Hellmuth 1989a, 1989b, 1989c, and Leiter 1989).

The unique interior stairwells of the Main Palace were the focus of Hellmuth the first June week; Leiter devoted the same time to finishing his report on the number and conditions of the thousand-year old zapote wood lintels and cross beams still remarkably preserved in the Main Palace. Hellmuth produced the first three-dimensional drawings of both inside stairways, the only set of two such interior stairways yet known in the entire Maya area. Subsequently he photographed and measured to the centimeter as many of the pilasters and pillars of the Main Palace with a view to completing data necessary for an eventual three-dimensional drawing of the back of the palace, It has not been shown from this angle since Catherwood's time in 1842. With that in mind the team measured both sides and the entire back of the second floor.

In order to better understand the Main Palace, as well as to improve the quality of the map of the downtown area, the final five days were invested in intensive photography of the Cuartel,

the Serpent Face Building, the Red House, the Adjacent Building, the Southwest Building, and the Southeast Quadrangle. The data thus salvaged gives a totally different view of the position of the Main Palace in the interconnection among Puuc, Chenes, and Rio Bee. The most unexpected discoveries were a round Puuc style doorway column; monumental building remains including corbeled vaults where earlier reports said none were standing; the first recording of a unique Puuc masonry style with monolithic corner stones; and a host of other architectural tidbits which resulted from the intensity of the data gathering. An entire vaulted room was found, complete up to the capstones, that had escaped notice of earlier expeditions. It is described later in this report for the first time.

Totally unexpected was final recognition of the degree to which the existing Carnegie Institution of Washington era map was in error, incorrect in angle, in distance, and in relationships, and especially inaccurate in number and orientation of rooms and doorways. What was shown as two buildings with 4 rooms turned out to be a single building with 7 rooms—and doors on both sides. And on a building mapped by three expeditions the back side has two sets of overlooked rooms, including one similar to that under the Rio Bee towers of the Main Palace—demonstrating how important it is to survey the entire site in order to understand fully the remarkable Main Palace. The crowning achievement of the satisfyingly successful season was the discovery of what seems to

have been perhaps a four tower Rio Bee temple-pyramid palace combination, part of the same aforementioned building that had already been mapped and described so often before. The jungle was so thick they had missed the towers even though they were only three yards away.

The moral of the story though is grim, that the remaining dozen Chenes sites, the score of Rio Bee ruins, not to mention over 150 Puuc sites, probably have the same number of surprises. The very success of this field session demonstrated how much more work is needed. Based on this need we unabashedly appeal for checks for any amount, $100, $300, $500, since we have now canceled everything else in order to return immediately to Santa Rosa as soon as we can raise the necessary funding. A check for a thousand dollars will record an entire building; a check for $2000 will take care of a complete plaza; $3000 pays for a complete month's research. We thus especially appreciate the check for $2000 sent in by an understanding couple who had already sent in $1000 a week before, but doubled this with a second check when they learned of the potential of Santa Rosa Xtampak. Every penny is going directly into the F.L.A.A.R. emergency expedition fund specifically for Santa Rosa Xtampak. Money which is made available for the direct field costs is monitored by the Universidad Autonoma del Sudeste, titular sponsor of the mapping and photography.

Donations are especially needed to cover the Technical University of Graz crew which is coming with a complete set of Swiss-made infra-red beam surveying instruments, made by Wild, the best such equipment in the world. The accuracy of these instruments is something that Maya buildings have long deserved. A check for $5000 will cover the entire summer for the full team of three (they are cost-effective).

A final plum in recent July research at Santa Rosa Xtampak was the discovery behind the Serpent Face Building of the remains of what must have once been another monster mask, possibly even another Chenes-Rio Bee monster mask facade system. Despite visits by Teobert Maler, John Stephens, several Carnegie Institution of Washington expeditions, the New World Archaeological Foundation for 10 weeks in 1969, and several teams of architectural historians in more than four sessions at Santa Rosa, this mask had never been noticed or even expected, since its position relative to the building (which is itself unique) is without precedent. The F.L.A.A.R. team even found what appear to be the remains of murals with a complex interactive figural scene. I have checked all descriptions of the site other than Maler, and not one mentioned murals in this particular room. Discoveries such as these miniature paintings are the direct result of people who simply wrote out a check, sent it in the mail to F.L.A.A.R. -- and we have been in Campeche ever since making one architectural discovery after another.

Since there are entire square kilometers of the site that we have not yet even set foot onto, the reader can be assured there is plenty more to find, not to mention gathering the data with which we will eventually produce three-dimensional reconstructional line drawings of each of the major palace quadrangles. Only with these drawings can the full comparison and contrast be made to the magnificent Main Palace, the focus of F.L.A.A.R. research at Xtampak.

INTRODUCTION

A team of topographers from the Universidad Autonoma de Sudeste, and William Folan, Director for Santa Rosa, have been mapping the Maya ruins of Santa Rosa Xtampak, Campeche, Mexico since March 1989. Permission for mapping and photography has been extended by INAH Centro Regional Campeche, through the courtesy of Arquitecto Sergio Palacios Castro.

This topography crew has been at work now for six productive months as the site occupies 9 square kilometers. Their future reports on their discoveries will be issued by Rogerio Cohou M., archaeologist Abel Morales, and William Folan.

The Foundation for Latin American Anthropological Research (F.L.A.A.R.) was called in to provide technical assistance and

equipment. F.L.A.A.R. was also asked to fund this Maya study program, which we are doing with the help of donations from private individuals and hopefully corporations. We feel that the site of Santa Rosa Xtampak is scientifically a unique chance to gather data about the interaction of the Puuc, Chenes, and Rio Bee regional cultures of the Classical Maya civilization of the Northern Lowlands. Simply put, "there is only one Santa Rosa Xtampak." The data being uncovered by the F.L.A.A.R. team will serve as basic reference for the coming decade—especially since no other Chenes site is being studied, or has been studied for years. And, aside from Dzibilnocac, no other Maya site exists which has all three major regional Mayan architectural styles—Puuc, Chenes, and Rio Bee—next to each other in the same plaza. Indeed the F.L.A.A.R. team found a second Rio Bee multiple-towered edifice at Santa Rosa two weeks ago. In addition, Folan discovered during his 1989 reconnaissance that Santa Rosa has a Uaxactun Group E type Solstice-Equinox Observatory Complex, something that no report on this astronomical group type had ever previously recognized. Even though what moderate amount of research funds we had was long ago committed to the F.L.A.A.R. program to photograph all tropical flora and fauna which appear in Maya art or diet, as well as the feline pelage pattern iconography study, we mothballed those immediately and yanked their entire budget away to invest in Santa Rosa—for the simple reason that there is no other Santa Rosa Xtampak. Teobert Maler, John Stephens, and Frederick Catherwood long ago wrote that Santa

Rosa Xtampak was the one site they had seen that most deserved further time. We have now given Santa Rosa six months, and if donations come in the mail we will produce enough archaeological reports to record for all time the architectural importance of this remarkable ancient city.

Even more, the pyramid-temples and palaces of Santa Rosa are tottering (several walls collapsed just two weeks before our arrival due to a wind storm which threw down trees whose roots pulled out the corbel vaults and walls of the 8th century palace ruins). The site needs immediate conservation to protect the fragile buildings.

The reader should keep in mind that no excavation whatsoever is required to record the architecture of Santa Rosa at this stage. The palaces are all above ground, still standing—but so cracked that every time a tree is blown over more of the buildings are crushed by the falling giant tropical forest trees or pulled out by the roots. It is thus imperative to institute a rescue program, whose initial step is to photograph everything and prepare a feasibility study, at the same time mapping the site to recognize the extent of the standing (as well as already fallen) remains. Our work so far demonstrates how much data about the Maya civilization can be obtained from pure photography and mapping with no digging, no searching for tombs.

Session Schedule

June 23 Hellmuth and Leiter flew down separately, with Hellmuth being stuck about 6 hours in the Miami airport because the plane could not leave Newark due to a storm. They arrived in Merida at 2 a.m. on June 24th. It took several hours to find a rental car under $60 a day (we got one for about $45 a day). Everything else in Mexico is economical except rental cars. After tracking down a rare edition of the book on Campeche by Roman Pina Chan for the F.L.A.A.R. libraries in Graz, Guatemala City, and Rollins, we drove to Uxmal. The 25th we photographed Uxmal, Kabah, Labna, and Xlapak (wrong lighting at Sayil) for comparisons with Xtampak. We arrived tired in Campeche where Mexican beer at the Folans rejuvenated us. June 26th was spent waiting for a meeting on the 27th to visit with the INAH Centro Regional Campeche, to answer whatever questions they wished to pose, to present the results of the April session, to explain the plans for the June-July session, and to provide information on the Graz photogrammetric mappers who were en route later that month. This INAH meeting took place on June 27th, after which we bought supplies while Leiter photographed a considerable number of artifacts from Calakmul for various lectures the Calakmul Project was preparing to present at an upcoming UNAM symposium in San Cristobal de las Casas. We drove to Xtampak accompanied by an INAH cargo truck to haul not only food but also water, since the nearest water is about 50 km away. F.L.A.A.R. donated a new and heavy-duty battery and an

electrical system to this INAH vehicle (it had not functioned since April). On June 28th we were up at 6:30 a.m. and kept photographing seven days a week ten hours a day until we left July 9th after an especially intensive day of photography. There is so much standing architecture to record and we do every room in color and separately in black-and-white.

Acknowledgements

The monumental 1988 report, *Architectural Survey Santa Rosa Xtampak* of Professor George Andrews, University of Oregon surpasses all other research accomplished at Santa Rosa in the last century. The achievements produced in this book are all the more remarkable when it is considered that the site was totally overgrown and hardly any details outside the Cuartel and Main Palace were visible. I thank Andrews for his generous donation of the pre-publication manuscript as well as for his gracious offers to assist the new Xtampak research program as a consultant. His years of experience in Puuc, Chenes, and Rio Bec far exceed that of any other Mayanist. Indeed, with Pollock and recently Gendrop no longer with us, the entire Chenes and Rio Bec areas are devoid of any serious long-range research outside that of Andrews, who has labored throughout the peninsula for several decades.

I thank Professor David Browman for his continued hospitality at Washington University (St. Louis, MO) and to Professor Robert

Lemon and the other faculty and deans who provided office space at Rollins College, where this report was written (on a Rollins Zenith computer). Mac MacDonald, director of Media Services at Rollins, helped get my camera equipment upgraded for the August session by suggesting several items of equipment I had not previously known about. Since I have never studied photography or ever taken a course in the subject it was helpful to learn from a full time professional. Karen Slater, secretary of the English Department, Rollins College, rescued this report when I could not get either of my two printers to accept Nota Bene text--my printers were too old (five years old is outmoded in the computer era), so the readers eyes are saved from dot matrix through the Hewlett Packard LaserJet Series II which set the type. Due to time constraints it was not possible to design the layout, so many section headings ~re orphaned at the bottom of pages. At 2 a.m. In the morning I am not inspired to alter an entire 200-page manuscript just to move an orphan to the top of the next page.

The March-April initiation of the mapping and photography was covered by a donation of $10,000 by a generous couple who are interested in supporting scientific field research and in preserving Maya ruins, as well as a check for $2,000 by a considerate lady who wished to make the project possible. The June--July session was funded with three checks each for $1000 all by a different generous couple who have helped cover the costs of Maya studies each year for the past 17 years. The rest of the field expenses were provided by F.L.A.A.R.

The photography was accomplished by the author and by Eldon Leiter, an archaeological photographer who has also been taking photographs on several occasions for the Calakmul Project (also of the Centro de Investigaciones Historicas y Sociales, Universidad Autonoma de Sudeste, Campeche). He generously volunteered his time and all his costs.

Special appreciation is due to attorney William R. Korp of the firm Isphording Korp Payne Muirhead White & Horlick, for donating his time and staff to help as the F.L.A.A.R. lawyer in Florida.

F.L.A.A.R. loaned a transit to the centro de Investigaciones Historicas y Sociales for Santa Rosa, purchased for this specific purpose, since all our Yaxha-Nakum-Topoxte Island transits have been stolen during 14 years of storage, except for one transit which F.L.A.A.R. has on loan to the archaeological field project of Fred Bove in Escuintla, Guatemala. Eldon Leiter donated a Nikon camera and two lenses to F.L.A.A.R. to the Universidad Autonoma de Sudeste for use at both Santa Rosa and Calakmul.

Two universities in Austria arranged the loan of tens of thousands of dollars worth of Wild surveying equipment. We thank Univ.Doz.Dr. Robert Kostka of the Technical university of Graz for his considerable efforts in rounding up this sophisticated

equipment. In the report on the third session (August) this equipment will be described. Appreciation is also due to several considerate individuals at the software corporation Autodesk for cooperation with F.L.A.A.R. in our long-range program to introduce CAD (Computer Aided Design) to the study of Maya archaeology. F.L.A.A.R. is in the process of installing AutoCAD Version 10 for use at Santa Rosa Xtampak, though the help of Xtampak's CAD consultant, architect Daniel Hellmuth, St. Louis, Missouri. AutoCAD, the largest selling CAD in the world, offers fascinating capabilities to produce three-dimensional drawings of ancient Maya buildings. We will bring more information on F.L.A.A.R.'s program of field computerization in the next report, "Vol. 4."

Getting to Santa Rosa Xtampak

The turnoff from the Bolonchen-Hopelchen highway has never been marked but to assist visitors F.L.A.A.R. asked several times that a road sign be erected (since there are two turnoffs within a kilometer of each other). Mrs. Lynda Folan deserves appreciation of all future visitors who will no longer get lost, because She indicated a sign was in the process of being ordered.

This is the main highway between Merida and Campeche VIA RUINAS, that is, the route inland, not the VIA CORTA between Merida and Campeche. Xtampak is off the same highway that goes past Uxmal and Kabah, in fact the turn off is just down the highway an hour.

Go past km 80; ignore a semi-overgrown diagonal turnoff; the one you want is at right angles to the highway, closer to the km 79 marker (these markers vary from hard to see to impossible to find). (Turn onto this all-weather gravel road.

at 1 km you go uphill;
at km 2 (all measured from paved highway as beginning) downhill stay left;
at km 3 base of hill stay left. Here the "great plain" starts.
at km 24 keep straight, that is, not right;
half a kilometer further you are high enough you can see the profile of the ruins on the far horizon, 8 km away.
at km 25 you enter the final plain
at km 31 keep straight
at 31 and 1/2 INAH guards house on right (stone base); a house about 50 yards earlier, on the left, is the Folan-Xtampak mapping crew's quarters.
at 32 km take a right at the T-fork in the road.
about 1 km and you are in the parking lot. The shack here is the INAH hut that F.L.A.A.R. donated into fixing up.

The actual F.L.A.A.R. camp is up the trail, off to the left but is not manned all year. We hope that these travel directions make getting to Santa Rosa Xtampak easier, as there is nothing to ruin a vacation more than to get lost. The entire drive from the paved highway to the parking lot is about 32 kilometers. The road is "all weather" though at the worst part of the rainy season there

might be spots which are muddy. Low slung rental cars will scrape bottom if loaded with 4 adults--best a VW Combi which is higher axle.

No facilities whatsoever exist at the site, though there are two INAH guardians. Please sign their registry book, and do not climb the front steps of the palace or they will collapse, and don't hang on to walls for support or they will topple on you, especially on one corner of the north interior stairway. Please do not garbage around the site.

THE MAIN PALACE

Although the Main Palace has been mapped by Stephens over a century ago, by Teobert Maler in 1891, and remapped by several expeditions since then, none of these maps was done using a transit or engineer's level. In effect the existing maps of the Main Palace (and of all the other palaces at Xtampak) are at best measured sketch plans, very useful to present a general picture but not up to modern scientific standards of field research. In any single room the plans may be off half a meter, or 10 degrees in angle. A goal of the current program is to produce a surveyed map of the Main Palace (especially important is to map the palace before the thing collapses into a pile of rubble).

F.L.A.A.R. has helped organize various teams to prepare computer generated plans of this remarkable building. The most sophisticated approach is through computer generated drawings prepared by photogrammetric techniques as employed by the Technical University of Graz. Assistant Professor Robert Kostka, with considerable worldwide experience including mapping Buddhist temples along the silk Route, prepared the equipment for the mapping projects of Hasso Hohmann and Annegrete Vogrin at Copan and has worked with them there and at Quirigua and Becan. Kostka has gathered together the loan of the specialized wild surveying equipment and a trained team to send to Mexico to record the photogrammetric data and measurements for the eventual computer drawings of the palace.

A second approach will be through Computer Aided Design, with architect Daniel Hellmuth as technical consultant on CAD. He is trained in CAD in Zurich, Switzerland. We are currently sending out fund appeals to pay for transporting these consultants and their equipment to Mexico. We also need a computer and software to handle the CAD (a 386 Compaq, or clone, or a Zenith 386 or NEC 386 portable would be ideal).

In the meantime, since the basic measurements must still be gathered by hand, Hellmuth commenced measuring the palace. He concentrated on the two interior stairways, then on the pillars and pilasters (all unusual features in Maya architecture).

The Two Interior stairways

So far. no other Maya building other than the Temple of the Inscriptions of Palenque has an interior stairway preserved a full three flights. The Main Palace at Santa Rosa Xtampak has two different interior stairways, each preserved the full three stories of the building. See earlier Xtampak reports for a differentiation between formal interior stairways such as those at Xtampak and informal or secretive stairways such as at many Rio Bec sites (Hellmuth 1989a; b).

Although the stairways have been mapped by Stephens and Maler (and this work re-used by practically everyone since then with only minor modifications) there are considerable details that need to be revised, others added, others subtracted. The several recent (modern) drawings have been idealized, showing each stairway as a mirror image of the other, all at 90-degree angles. I would imagine that spot measurements were made at the bottom, center, and top to keep a general control. It looks from the drawings that everything else in between was estimated--and it appears that only one stairway was actually measured that well. The south stairway was presumed to repeat that of the north. Whereas the two stairways are indeed virtually mirror images of each other, the south stairway has at least one less step, has one less ledge at the second floor but an additional ledge lower

down. To be accurate, and complete, it is necessary to measure every step of each entire staircase. Ironically, Teobert Maler's map of 1891 is more accurate than any of the architectural drawings of 1970 or the 1980's. Maler was only at the site for 2 and a half days--yet his drawings are better than one mapper who was at the site a reported 10 weeks, plus recent architectural expeditions who were likewise spent many more days at Xtampak than Maler. Maler recorded the actual detail, the unexpected features. All the recent maps eliminated the true design and rendered the stairway as 90-degree corners--all the ledges, all the diagonal features of the stairway were thus airbrushed away in the process of mass producing an ideal image.

The uniqueness of these interior stairs made the chore of redrawing every step from scratch a challenge. Since only two weeks were available for this session for all Xtampak it was possible to measure the stairway only during parts of 5 days, so about 2 more days are needed in a future session just to finish the steps alone.

A major goal of the stairway aspect of the Main Palace analysis is to produce three-dimensional views of each stairway. The published plan drawings are impossible to understand, especially to convey how the stairway doubles under itself between the first and second floors. And, only in three-dimensions can the sophisticated vaulting system be portrayed. Due to the complexity

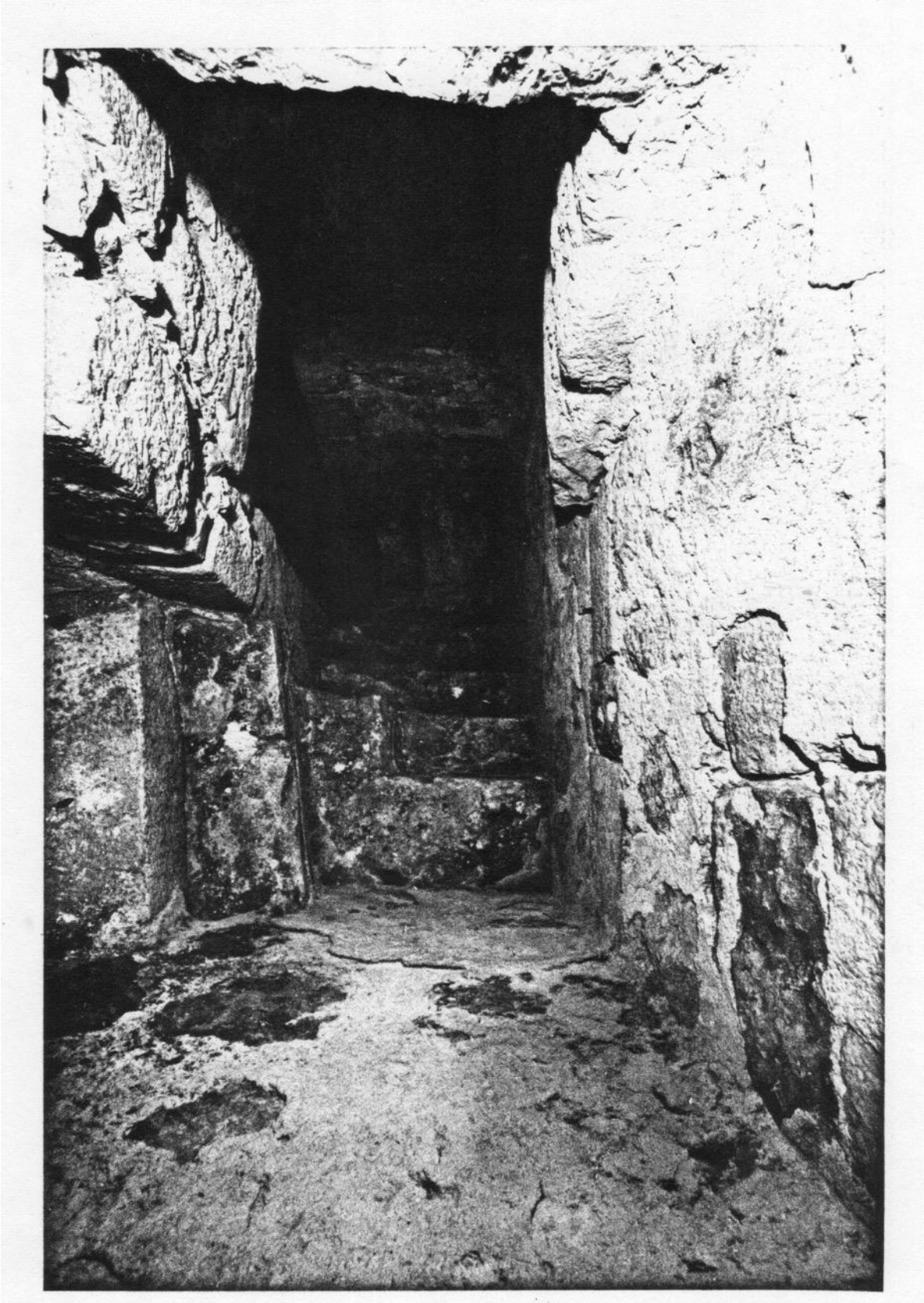

Plate 1 North Interior Stairway between first and second floor, looking down. Several of the L-shaped steps are visible. Looking down. Santa Rosa Xtampak, Main Palace.

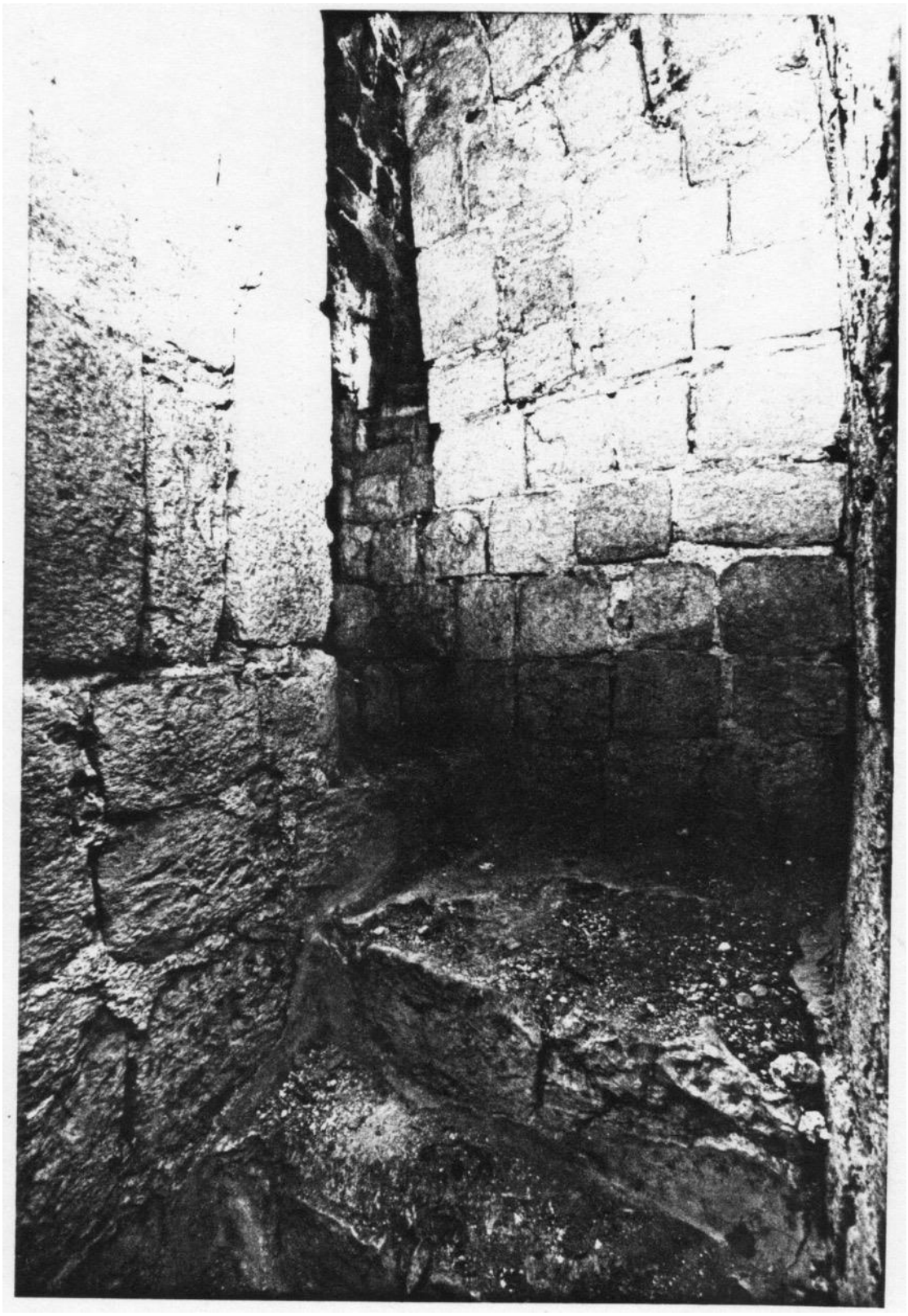

Plate 2. One of the landings in the interior stairways of the Main Palace, Santa Rosa Xtampak. All these stairway photographs were taken with the 15mm special Nikon lens and are the first such views published.

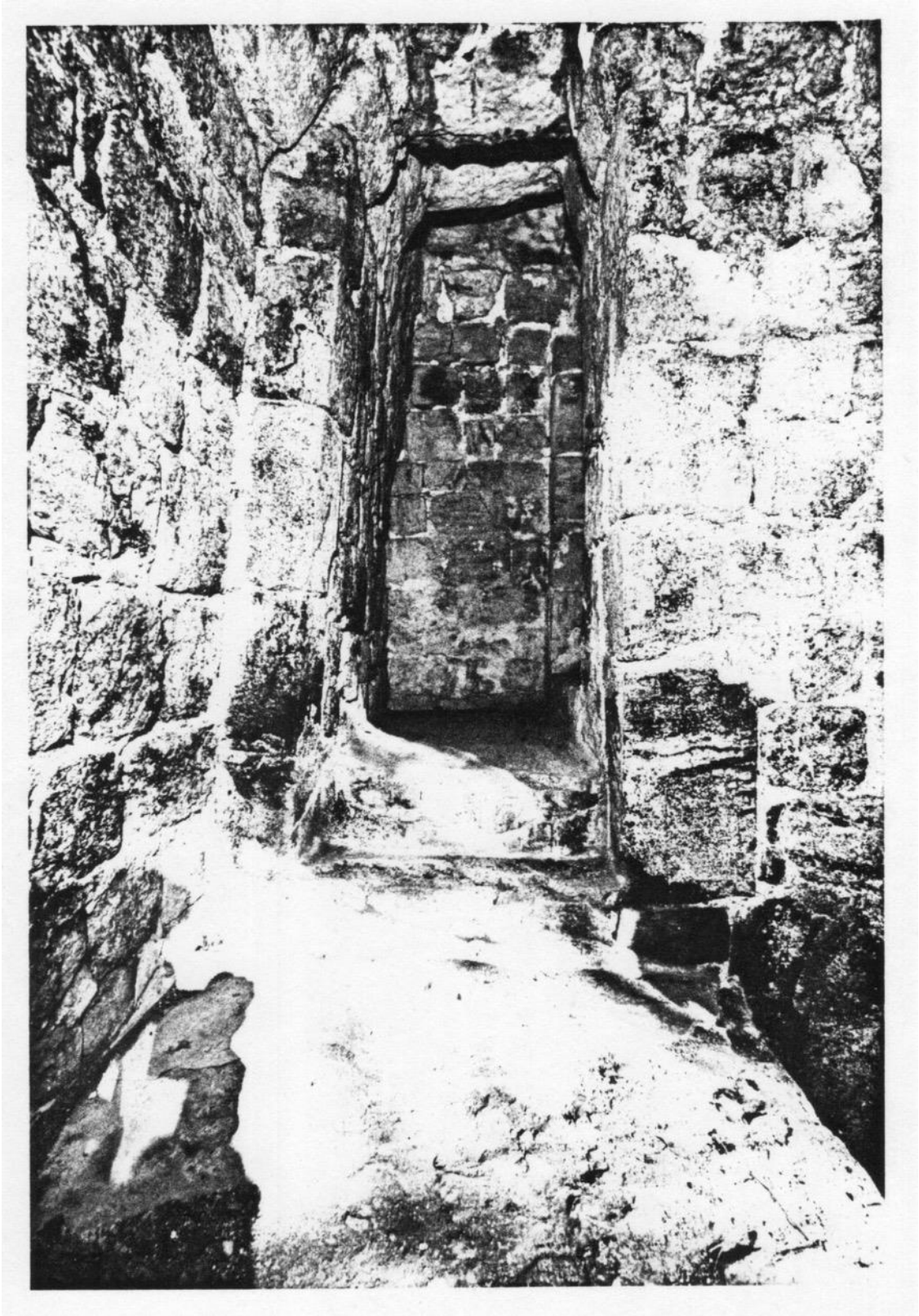

Plate 3. Long landing at second story level, roofed by the entry/exit "house" or hall. Main Palace. All the remaining photographs in this report are also of Santa Rosa Xtampak, and all by Nicholas Hellmuth, so that will not be further cited.

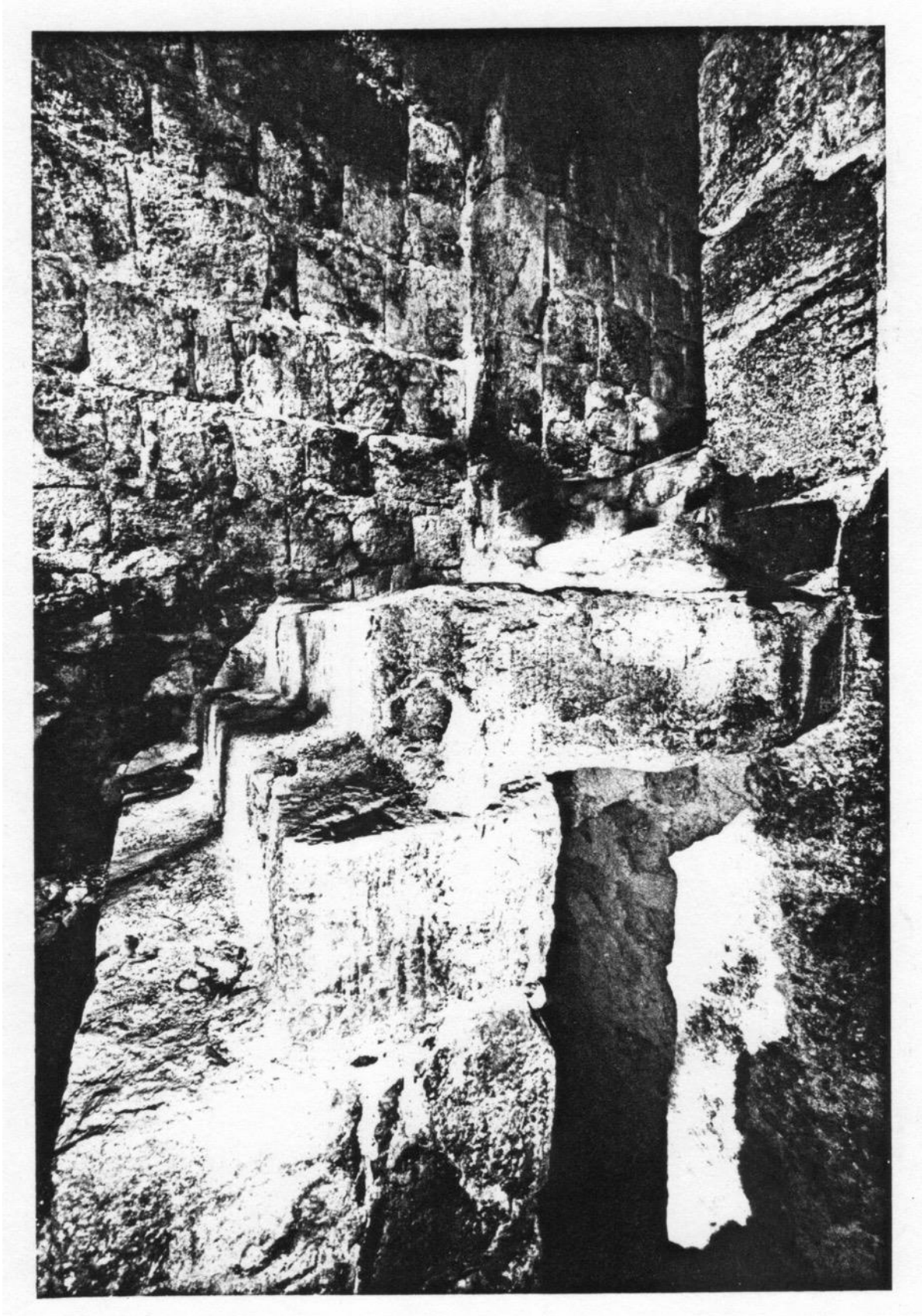

Plate 4. The only place on either stairway where the steps go under each other is on the second story level.

of the pilaster and vaulting system no one has even attempted to draw that other than a single sketch in Gendrop (1983: Fig.46, d). Due to the constant doubling-back of the steps as they seek to conserve space and create as little structural weakness as possible there are too many lines to draw on a single piece of paper to present the steps and the vaults simultaneously. So our goal is to finish the plans first, then tackle the vaults if time is available in a future field session. In the meantime, I measured and drew in the lower section of each wall section or vault base, but left off the top section, as it is the tops where the design gets complicated. That can be handled best by CAD.

The steps have variously been described as "winding." I understand how this popular term came into use, though in a strict architectural sense, and especially in a geometric definition, at no point is any stairway at Xtampak really winding. There is not a wedge-shaped step in the whole stairway (the L-shaped steps are just double rectangles arranged at 90-degree angles within the same step). There is no circular aspect at any stage. All facing walls are straight, aside from the occasional ledges, some of which are diagonal--but against 90-degree walls.

In effect the entire stairway turns at right angles (as close 90 degree as any Maya building can be).

2nd Session

Steps which are Buried

Portions of the entry/exit area of each stairway on the second floor have collapsed long ago burying the steps at that point. It must be Maler's drawing which works out what was actually present, though from his photographs and the drawing of Catherwood it appears that this collapse predates the 19th century, so I am not sure how he established the precise stone count. This point should be investigated. Perhaps he simply probed. The collapse is no more than a foot deep in any one place. In any event, several steps are buried, but it is easy to estimate their original placement because there is only so much space available for tread, and you can calculate the height from elevation differences. We made no attempt to probe. My preliminary drawings have used estimates since the elevation drawings for the stairway are not yet done.

The South Interior Stairway has the most collapse, and I did not yet run elevations to work out the precise number of steps. The step pattern illustrated by Stamps, and I believe by Andrews, presumes an approximate mirror image of the North Interior stairway and thus is wrong; off by at least by one step.

At the base of both stairways, down on the first floor, we have no idea how deep the floor is, since it is all buried by dust carried down by a century of people who have walked up and down the steps. A floor level could be predicted from comparison via a leveling instrument with the known floor elsewhere on the first

floor, but we did not yet begin to employ instruments, since we do not have assistants to handle the stadia rods. There is the slight possibility that it will be necessary to add one or more steps on the bottom. Such steps would have to be out in front of the wall, since the lowest step now visible is flush with the back wall.

Danger of Collapse of the Stairway

Parts of the vaults and walls of the second story exit landing rooms have already fallen on both stairways. Several steps on the south stairway have been crushed by the last four decades of tourists and the actual step stones pushed out and lost. Two more steps will be knocked out of place in the next year unless INAH makes the stairway off limits except to study groups, or unless the palace is restored.

But the major loss will be when an entire section of the better preserved north stairway collapses. Probably crushing the skull and bones of whatever hapless tourist happens to steady himself on that particular corner. (The stones here have all lost their mortar and are standing only by habit. The slightest push, shove--even a tourist reaching out to steady himself--will cause the stones to fall out. Since this is a major sustaining pillar for this entire section of the stairway, everything above will also fall, burying the surprised visitor under a ton of Chenes

masonry and rubble. It would seem that the north stairway should have either a warning posted or be closed.

The front stairway is even more precarious. Parts of the front stairway must have made a considerable noise rumbling down sometime in June, since it was all still in-situ when we photographed it in April--but the stones were all in a tumble at the bottom when we arrived back in June. I was surprised that no one's hands and feet were not sticking up from the rubble.

One of the only three remaining stones on the sole remaining west facade stairways was knocked over by the time we arrived back in June. Fortunately, we had photographed it in April, as had George Andrews in 1988, and we could even find the stone that had fallen away. Considering that there once could have been as many as twelve of these stairways, and considering that six of these are a type never before found on any Maya palace of any region, and that only 3 steps remain in situ (without excavation), the loss of a single stone represents a 33 percent loss of data. Obviously, it is imperative to consolidate these fragile remains--but that requires special permits (which have been solicited). It is not allowed to restore without the special permit, and then funds are required precisely $60,000 for mortar, masons, and also all the technical equipment, conservation specialists, etc. We are working to gather this together, but in the meantime, we are photographing every stone which is still in situ, because the

next storm will take down another wall, another vault, and the rest of one of the other stairways.

The Shelves on the Stairway

Teobert Maler managed not only to map the entire palace in two and a half days, he even included such details as the ledges (low shelves) in the interior stairways--details that Stamps--who was at Xtampak for 10 weeks, eliminated, as did all following idealized renderings.

Several low ledges are present, at least one in each stairway, and I can offer no reason for them whatsoever, either structural, practical, utilitarian, or decorative. Most are barely wide enough to have held anything, yet that is the only explanation that seems even remotely plausible. I cannot calculate any structural purpose.

One set of ledges is alongside Steps N16-N19 in the North Interior Stairway. It is diagonal and faces on two adjacent walls. Its top surface is flush with the landing, Step N19. The comparable ledge on the South Interior stairway is only against one wall, but the south steps have another ledge between the 2nd and 3rd floors, on landing Step H. This extra ledge is unfortunately too poorly preserved, in fact only the plaster turnup in the floor and the lack of facing stones in the wall reveal its former

presence. I will have to enlarge Maler's plan to see if he noticed this ledge as well as the other ones. He definitely drew in the double-diagonal ledge on the North Interior Stairway.

The southern stairway has a shelf (here a synonym for ledge) alongside Steps Y and Z as well as alongside landing Step D going from the second floor.

The Stairway Lintels

Most of the ceiling is formed by stone lintels. These are of hard limestone often of somewhat irregular rectangularity. Only once does a step stone serve simultaneously as a lintel, that is the one place where the stairway goes under itself, just before it reaches the second-floor exit/entry hall. In a few places there are short corbels sticking out of the wall but the ceiling is not vaulted as is that of Palenque, nor are the top stones that large or neatly fashioned. until it is possible to prepare a complete set of three-dimensional drawings it is fruitless to attempt to describe the ceiling. It is equally difficult to take photographs that someone who has not been in the stairway will understand since the space is so constricted that the view is limited. Suffice it to say that the ceiling steps upward in approximate unison to the steps below, though not in slavish parallel measurements.

THE MAIN FRONT STAIRWAY

Since the Main Palace may have more facade stairways than any other Maya building yet recorded, it is better to designate precisely which one we are describing. The "front" stairways are those on the east facade of the building. The "main front stairway" is the widest on the palace, the one that leads from plaza level all the way up three stories to the tower portal. The various stages of construction are already described in Hellmuth 1989a.

Between our August 1988 visit and our April 1989 photography a major section of the north stairwall (the Rio Bec style stair facing) collapsed when a chaca tree toppled over in a wind storm. Between the April and the June photography sessions a large section of the center of the stairway was undermined, almost certainly when someone attempted to climb it, causing a single stone to roll down--but that single stone was the underpinning of a dozen others. The rest of the top of the stairway will most likely tumble down during the coming rainy season. Actually, the movement of another single stone (from rainfall alone) could topple an entire segment of the whole stairway. The domino effect is beautifully illustrated on this fragile front of the palace.

The reader should keep in mind that this is the largest triple tower Chenes-Rio Bec stairway the Maya ever built and the only

one preserved even in the condition that it is in. Furthermore, it is only the mass of the stairway that protects the central Rio Bec monster facade portal. Shortly after the next section of the front stairway falls, the corresponding half of the portal tower will topple also. We have already asked that visitors be kept from the front stairway but as foreigners we have no jurisdiction, and are not supposed to butt in on local decision. Nonetheless we are preparing a list of all those areas of the palace which are next in sequence to collapse and will issue that as a separate report in the hopes that either a permit will be issued to consolidate those sections on an emergency basis, that some considerate individual or corporation will donate x-thousand toward the overall restoration costs, and that in the meantime visitors be asked to avoid those areas so as to protect the building--as well as protect the tourists.

New Information on the North Stairwall, Main Front Stairway

Bushing by the INAH guardians in June before we arrived revealed a wall that had previously been hidden by leaves and vines. This wall could have been part of the "second floor early-stage stairway," the stairway of beautifully pecked stones later covered over by the final grand stairway which led all the way to the portal tower. The wall of squarish stones is directly under the portal, and thus clearly at least one construction stage earlier. We do not know which stage of the stairway was associated with

this core wall. By directly under I mean almost precisely; the top stone appears only a few centimeters inside of the plane of the front of the portal. There is about 30 cm between this last core wall stone and the perfectly preserved bottom molding of the portal but it is too dangerous to get anywhere near to see whether the core wall once went all the way up to be underneath the portal, or whether (more likely) there was additional fill between the top of the core wall and the basal platform of the portal.

The stairwall now exposed is probably a core wall rather than one of finish masonry. It is of larger than usual squarish blocks, an estimated 28 x 40 cm faces. It is rather precarious getting close enough to the stairway to take actual measurements due to danger of collapse, so I did not venture anywhere near. Such squarish blocks should be compared and contrasted with the seemingly Xtampak standard stairwall core masonry of horizontally laid, flatter stones, as best seen on the back of the Serpent Mask Building, on both sides of the stairways of both the North Range and West Range of the Cuartel, and on other stairways as well at Xtampak. There is definitely a difference between stairway core wall masonry and facade core wall masonry; and between flat core wall stones and these squarish ones.

These stones are large enough (and therefore deep enough) to create a free-standing wall on their own, that is, they support

themselves, though they are not so evenly squared that they did not also need the support of the mass behind them. As it is they use a fair number of spall stones to maintain their proper angle.

This wall is terraced back, about 5 cm back each time (three stones in one case), in low walls (seemingly less than a meter height) just as are stairway retaining walls of horizontal flat masonry on other steps elsewhere at the site. Although the only portion that is visible is the north side, each terrace appears to turn the corner and run under the stair-mass of the later stage stairway. It should be pointed out that this wall is much wider than the inner stair, that is, the stones of the second stage stair would never have reached this wall.

On the opposite side of the main stairway there is no additional information available because on that side the later, outer stages are still preserved. Thus, this earlier stage core wall is simply not visible.

Left (South) Side of Main stairway, First Floor

Segments of stair-side facing masonry are visible on both the south and north sides of the main central stairway. These stones need to be compared with Rio Bec stair sidewalls elsewhere to ascertain whether they are a local variation of small stone Rio Bec masonry. This Rio Bec siding is definitely secondary against

Plate 5. Looking south at the central portal, third floor. In the right foreground is the end wall of one of the second floor rooms. Behind the stump is the crisp outline of the early stage fill retaining or core wall. Main Palace.

the north facing of at least one room. This is especially noticeable on the south facing of the upper zone; this upper zone went back (went west as it is past the corner) to whatever was the original facing to an earlier stage of the stair. since we are only photographing (that is, not excavating) we can document the sequence but not yet the specific details. Elsewhere on the Main Palace, and indeed on the Cuartel, it is quite clear when an upper zone and an adjacent stairway are contemporaneous--the facing masonry of the building simply neatly stops and a core wall begins. So when the finish masonry keeps going, that indicates that whatever other stone is over it is secondary.

Further Observations on stairway Construction Sequence

Standing on the stairway and looking up, it appears that the 15-riser stairway, the stairway with the beautifully hewn blocks, would barely serve the portal on the third floor. Thus, in my first session report I proposed that the portal was secondary. There is indeed a subsequent final stairway that definitely served the portal, the mass of this stairway is what is precariously clinging to the top of the stairway (though it will probably collapse in the next rainy season). But looking at the stairway of hewn blocks from the side, especially from the right tower or even from the third floor (northeast) the eye calculates that the hewn blocks might have reached the front, rather than underneath, the portal. Nonetheless, I doubt that would have left

enough space, especially for siding and for the special façade exterior stairways that Andrews discovered leading from the second to third floors). Thus, I still propose that the stairway of rectangular blocks was before the portal. Even if not, the discovery that the upper zone facing masonry of the end of at least one room goes behind (under) the facing masonry of the final stairway is evidence that the entire final stairway is secondary. We should remember that two towers is the norm for a Rio Bec palace in any event. The two flanking towers are stratigraphically contemporaneous with the rest of the palace, so they are not secondary. Thus, I propose that the original palace had two integral flanking front flanking towers and that the central tower was a secondary addition. One way to demonstrate this further would be to compare the facing masonry of the sides of the final front stairway (the only part still preserved that is visible without excavation). The stones look smaller, the style more Rio Bec than the rest of the Palace. But such an analysis awaits detailed photography to establish masonry traditions.

Further Data on the Two Earlier Stair Stages

The final stair sidewall sticks out (east) much further than either of the two preserved stairways. They both would have been inset stairways, but I doubt if the final sidewall existed at the same time. The steps with the beautiful blocks stop almost a meter short of this wall. No sidewall is apparent; where the sidewall was situated will have to be worked out.

The masons' stairway goes the entire width of the wall to the inner edge of the stairwall. I presume that it had its own rough core wall. The masons' steps are at an inner level relative to the final stairwall since the latter was most likely to accommodate the mass and dimensions of the final stage stairway. This final stairway has tumbled down totally except for its mass hanging on at the top just below the portal. But under the fallen rubble, the bottom steps of all stages of the stairways will be perfectly preserved.

The inner edge of the final stairwall is itself in the form of a fill retaining wall, when looked at standing on the south and looking north (seeing the back or inside of the outer stairwall, the part the stair mass abutted against).

It would be interesting to compare notes on the nicely cut step blocks and Chenes jamb stones. The step stones appear approximately the right size, but I do not have the necessary quantity of measurements to work out a statistical analysis. These stair blocks are often well shaped on most of their sides, including the bottom.

Although the fill under the finely cut stone blocks is all loose, and relatively medium sized flake-like (broken stone that is) the fill of the final stairway was held together with mortar. That is

why this curious mass is still perched precariously at the top of the block stairway. The stairway fill in most of the quadrangles is of much larger stones, blocks rather than large chips.

On the left (south) of the main front stairway the relative situation of the two remaining step systems is the same. The left edge of each system is clear as can be--there is no question as to how wide these stairways were. The lower and inner stairway is about half a meter wider. The stump of the final stairwall mass hides whatever may have served as a stairwall for either stage, though it is hard to figure out what could have served together with the large stone blocks unless a balustrade stuck out.

I should also point out the discrepancy between the end of the lower inner masons' stair and the beginning of the steps of nicely hewn blocks. The latter does not begin directly on top of the top step of the former, indeed the hewn blocks are out over (past, out in front, east) of the last step of the masons' stairway. This suggests there was some other stairway or landing which served as the base surface for the hewn blocks.

Still More Facts Documenting that the Front Stair is Secondary

Room 29 is about 25 centimeters away from the sidewall of the main front stairway (on the second floor). The end (north) wall of Room 29 is still partially preserved from the medial molding

over one meter upward. The facing masonry of the entire height of the upper zone definitely extends behind the facing masonry of the stairway. At this particular point there is a slim N-S wall to fill in the space. This facing masonry abuts the upper zone masonry of Room 29. This vertical stratigraphy is actually the most secure item of evidence so far that at least the facing masonry of the final central stairway is later than the palace itself. An enlargement of the central stairway was probably occasioned by the erection of the portal monster facade, which appears likewise to be secondary to the main structure.

Additional Information on the Right "Rio Bec" Flanking Tower

The INAH guardians so nicely bushed the north (right) front tower that it was possible to see a back wall of the stub of a temple. Previously there was not enough visible even to be 100% positive that a temple had existed here. Now there is photographic evidence of a wall still in situ. This is a facing masonry the inner wall of the temple room. This is further evidence that the structure was hollow as opposed to having a dummy room as at Rio Bec itself. A bit of the back (west) extension basal molding was also visible after the bushing.

Since the two towers have core walls on all three faces (except the back which is physically joined to the palace), and since Andrews has documented that the same core walls on the west

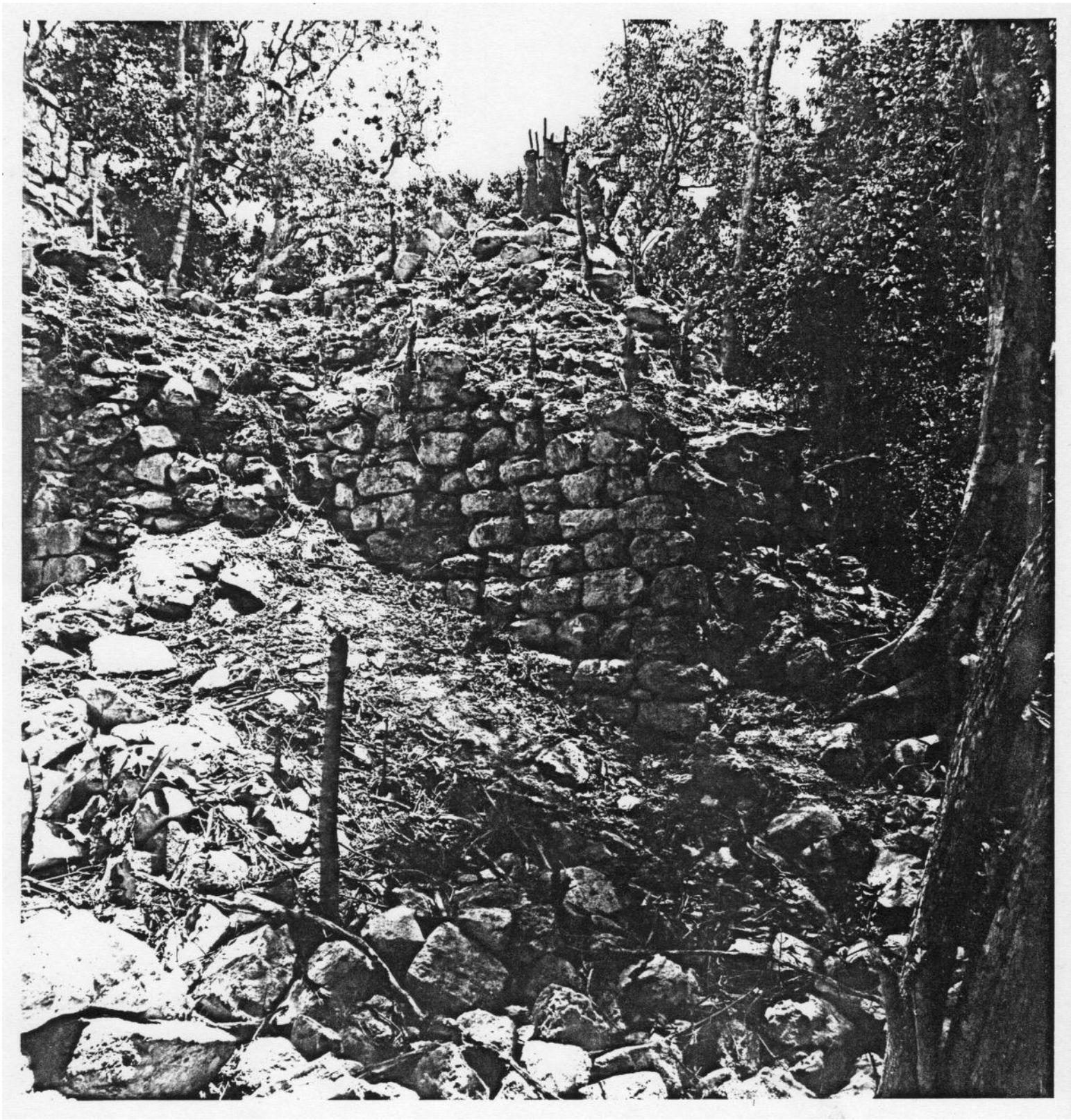

Plate 6. Looking north at the right of the two front flanking Rio Bec towers. The remains of the inside temple facing masonry are visible on the back of the mound which represents the remains of the temple. Main Palace.

Plate 7. Looking east at the west facade of the palace showing the change from facing masonry (left) to the core wall which is behind the fallen stairway (center). If this type of core wall represents the back of a stairway elsewhere on the Main Palace then there were stairways on three sides of the two flanking Rio Bec towers of the front.

Plate 8. Looking east from the second floor down onto the stump of the north flanking Rio Bec tower. This stump should be compared and contrasted with that recently discovered on the South Range of the Southeast Quadrangle at Xtampak. But this photograph is shown here to document the core wall (fill retaining wall) that may have backed a stairway also on this south side of the tower.

facade mean that a stairway was built against them, I am proposing the possibility that each of the two flanking towers had a stairway on each exposed side--that means, three stairways for each tower.

The central tower portal could not have had such full height side stairways since there is no space on its side--the central "tower" is actually on the main body of the palace, as opposed to the flanking towers which are nonetheless on the main body, but extended out somewhat. The side of the main stairway has vertical terraced walls on the first story; the same on the second story plus the side stairway that Andrews uncovered.

Recognizing Core Walls Behind Stairways

It was Andrews who first recognized the relationship between core walls and former stairways. He saw that when the back stairways fell away from the building they left specialized core facing walls. You can now see the well-preserved remains of the two left ones (most to the north) and portions of the other two.

I am taking his discovery one step further and suggesting that if such walls really universally designate where stairways once existed, then there have to have been stairways also on both the north and south of both main building corners, and also both Rio Bec towers would have had stairways on all three exposed

It will take excavation to prove or disprove this hypothesis. In the meantime, in case excavation does not get started at Xtampak, it is worthwhile learning to recognize sub-stairway core walls in order to check this feature at other sites. So far, the Main Palace is the only building in the entire known Maya area to have such rear stairways and so many of them. Yet it is unlikely that any building is not copying what was found at neighboring sites or borrowed from afar, so it is only a matter of time before the same features are recognized elsewhere, presumably in a Chenes or Rio Bec situation, though comparable steps should not entirely be ruled out for Puuc palaces as well until this detail is simply not found.

The following description is for the second proposed staining from the north. The entrance to the interior stairway is behind this.

The stones are approximately coursed across the entire width but since some of the stones are wedge shaped sometimes the course angles upward a bit. None of the stones is square or rectangular in front cross-section. At least a third are horizontal, the rest approach squarish but, as stated, are definitely not squared blocks. Spall stones are used but not excessively. Instead, space left over is simply filled by a stone of whatever size and shape could fit.

Core Wall at NW Corner, West Façade

Here is an outstanding example of the almost perfectly plumb end to the facing masonry and the immediate beginning of the core wall, all in the same plans. Chenes architects rarely wasted labor on installing finish masonry where it would not be seen (actually considering that it was all covered with plaster it is a wonder they went to the effort to peck the surface so carefully to begin with).

The entire height of the core wall is preserved immediately adjacent to the facing masonry to the right but has fallen away to the left, some of it between our stay in April and our return in June. The culprit was a tree falling directly on the stairway after being cut on the second floor, the most common cause of collapse of the buildings today. It was not the mapping crew since they are working 2 kilometers away and it was not us since we were 2,000 kilometers away.

The average core facing stone is quarried to the minimum shape required to create a wall with a flush front surface, actually it is rather well done especially considering it would all be immediately covered with a stairway. The majority of the stones are what a single mason could lift, with considerable strain. But a goodly number of small stones were used, as spalls, and to fill in the last bit of space next to the finish masonry to the right. In several places lots of chinking stones are used together

rather than having the main blocks nestle directly against each other. There is one band of appreciably smaller stones about the level of the top of the adjacent wall, and it would be nice to say this was a construction pause level, but this band sinks or angles down to the left, so I can hardly envision it as a standardized change in construction element, though equally clearly the mason was preparing for the "upper zone." Of course, there is no molding or any other differentiation between the lower zone and the upper zone on such a fill retaining or core facing wall.

PILLARS AND PILASTERS ON THE MAIN PALACE

The first series of three-dimensional restoration drawings of the Main Palace was unsure what types of wall sections to employ on all the fallen facades of the first and second floors, the ends and front piers and even round columns were suggested. The several more recent perspective reconstruction drawings of the Main Palace increasingly tend to show rectangular pillars as supports for most of the side and front rooms on the palace. The earliest published restoration drawing is in Heyden and Gendrop 1988: Fig. 179 and Gendrop 1983: Fig. 46 which differs from later drawings in several respects, most notably in using a high enough viewing angle so you can see some of the detail behind the central Chenes-Rio Bec portal. That all the elevation and restoration drawings of the Main Palace omit several indented panels, omit various corner frames for the upper zone, and are regularized

(making everything level to everything else whereas in fact there is a one-meter difference in adjacent units on the second floor alone), does not detract from their usefulness. The architects who rendered these drawings deserve compliments for their efforts. This rendering in the Heyden and Gendrop architecture monograph is especially handsome in that it includes the stucco statues that once decorated the upper zone.

This drawing is also correct in not suggesting any round columns for anywhere on the palace and for restoring pillars and not wider wall piers for most of the side and front door facades. The only thing I would correct is that there is never any flute on the sides of the pillars or pilasters--only on the front. And only the pilasters on the end room, lower floor, have the angled bound motif as capital. The others have simple horizontal moldings. Now we would also add an additional platform along most if not all of the north end room, something I discovered on the base of a pilaster. In general, the drawings to date do not show enough of the basal platforms, understandably since they are almost all covered by collapse. only when elevations are run around the entire building will it be possible to estimate where the roof line actually is, and thus to compare the roof line of the first floor with the floor level of the second story. That will determine how much Platform to provide for the second story. The same is necessary for the lower story, as parts sit rather high up above the base level of the surrounding plaza, most noticeably

on the south end of the palace. The third story will most likely be easier to work out, and probably a single constant level all around the palace (though by no means absolutely flat). It would be entirely normal if the entire palace level dipped by over a meter from north to south, indeed that should be expected. The ground level underneath the palace certainly appears to run at that diagonal angle. So far to my knowledge not a single Elevation measurement has ever been taken at Santa Rosa Xtampak--a site with so much monumental standing architecture yet all recorded without instruments.

Pilaster at the Northeast Corner, Second Floor, Room 33

This pilaster appears correctly rendered in Andrews' elevation of the entire north end of the palace as well as in his "Detail at Northeast Corner" one of his finer renderings. Here the moldings of the two adjacent wings do seem to be at the same elevation except for the bottom of the medial molding to the south. It appears to drop about 3-5 cm lower than that of the better-preserved extension of Room 33. I need to recheck in the field to see if that stone perhaps slipped, as the top member of the same molding seems flush with that of Room 33, as correctly illustrated by Andrews.

Something which Andrews surely observed but which cannot be rendered under current conventions, is that the pilaster is a

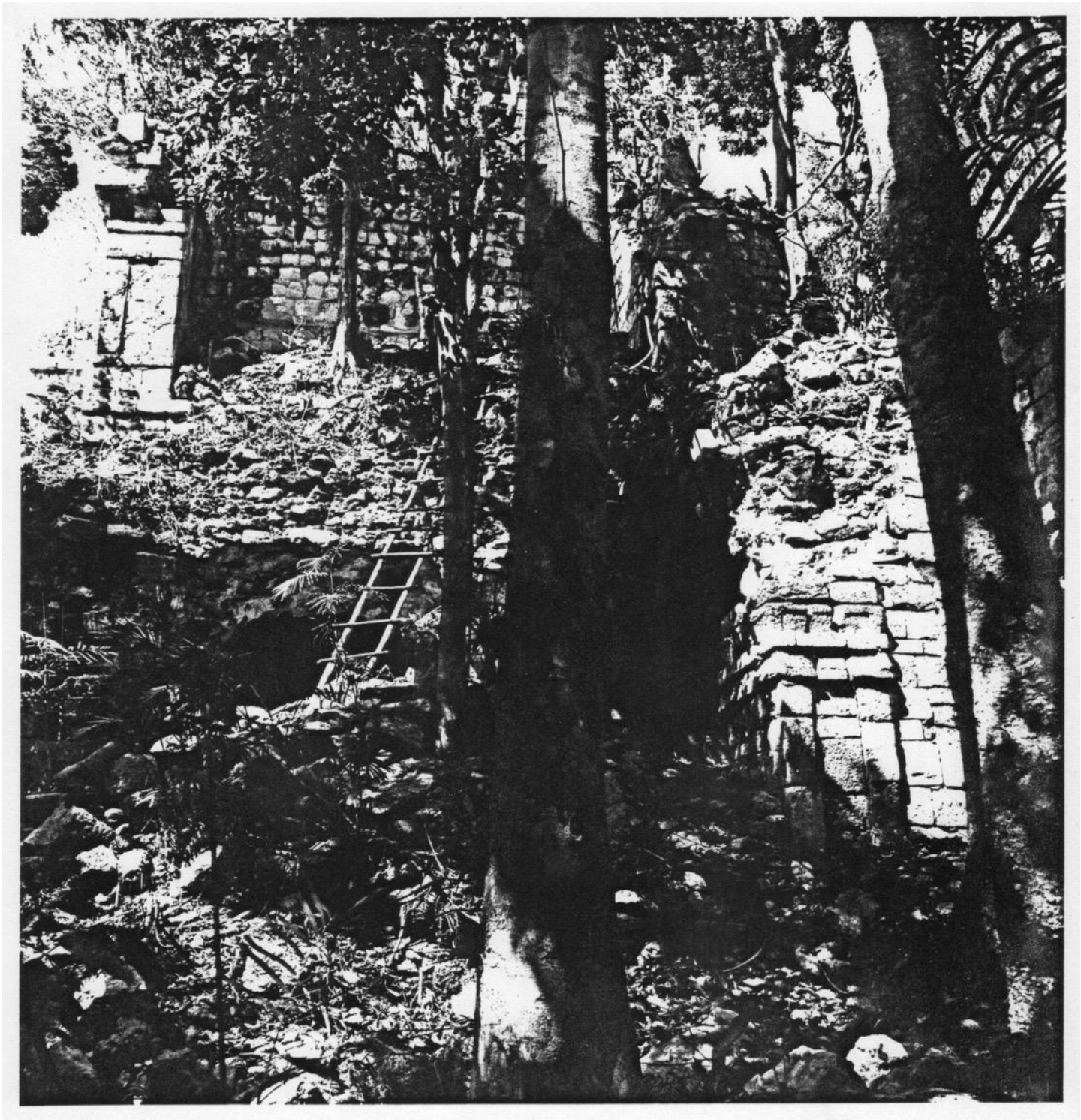

Plate 9. Looking south at the north end of the Main Palace. The west pilaster of Room 9 is still beautifully preserved as well as the east pilaster of the second story Room 33 above it. But only the first-floor pilaster has the capital with diagonal border; all the second story pilaster "capitals" have horizontal banding. All have vertical fluting--but only on the front. This section of the palace is illuminated by sunlight only for about half an hour each day.

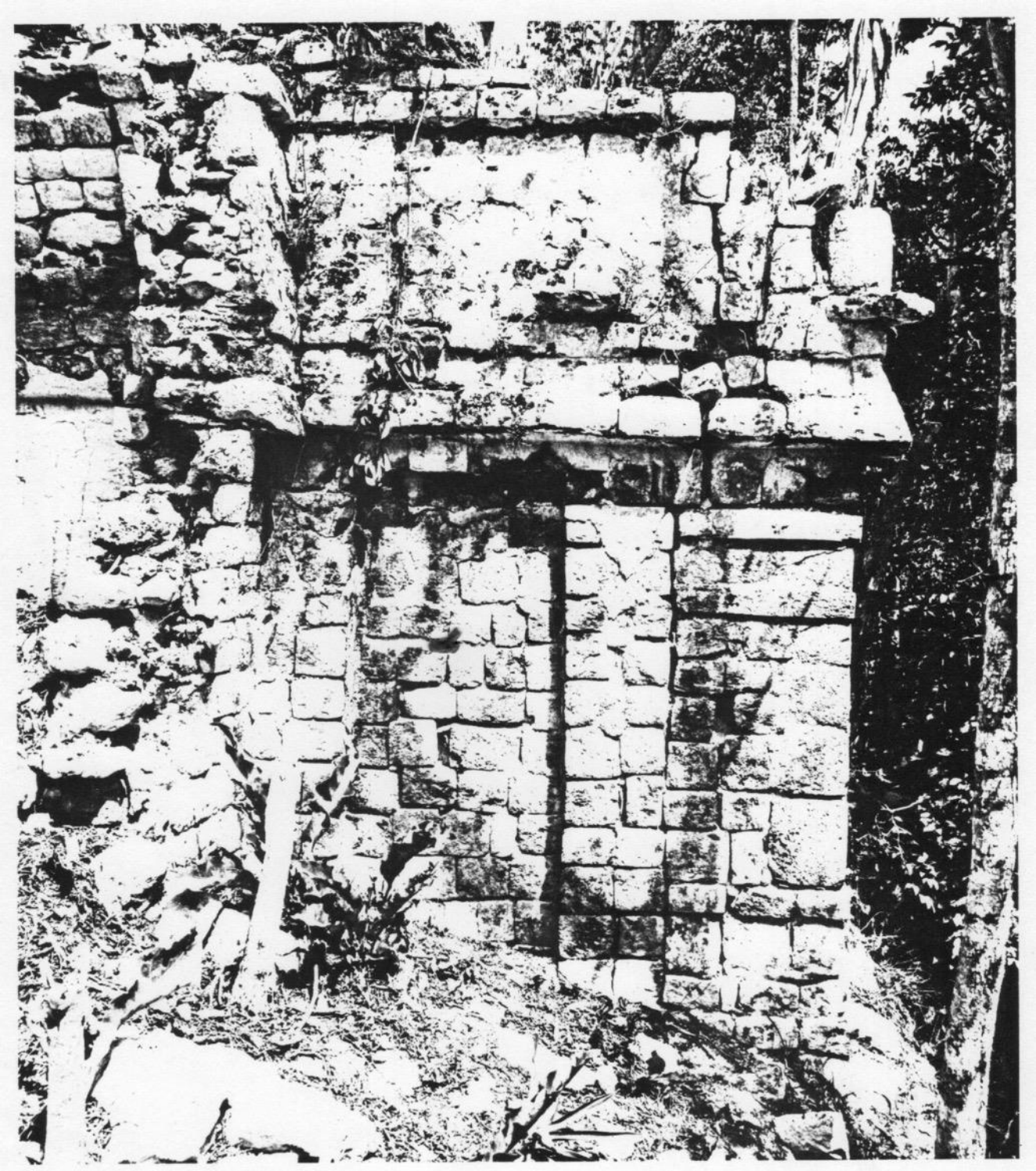

Plate 10. Northeast corner pilaster, second floor, Main Palace, Room 33. Notice that the masonry of the pilaster is not bonded anywhere with the adjacent stonework except above the capital and in the upper zone. This suggests the pilaster itself was built either separately (by a special crew) or before or after the main wall--yet is not secondary since the time difference could have been just minutes or at most hours.

separate construction almost its entire height except for the top course, which is in common with (bonds with) the adjacent flush wall between the pilaster and the recessed panel. Otherwise, there is a definite vertical line, created by a change in the coursing at precisely that point on each course, separating the main wall from the pilaster. The only way I can judge this is that the pilaster was built separately, not in the sense of being secondary by a decade, or even representing a change in construction plan, but the Maya almost certainly either had a reason for the break here, or two different mason's crews were at work, one for the main wall around the recessed panel, the other for the pilaster. On most of the other pilasters it is not easy to see the entire pilaster masonry against a large mass of adjacent wall stones to see if the same break is present everywhere, yet on the inside the stones of more than one pilaster are indeed often at a slightly different angle than the immediately adjacent room wall.

On the northeast corner pilaster, second floor, there is no such break in the upper zone, showing that in fact the overall design caught up with the pilaster and thus is that pictured By Andrews. In this case, though, I would make an exception to architectural tradition, and show the break in the courses, as least in a separate detail if not in the main elevation, though a photograph does this adequately, as long as a caption or explanation in the text points

The question then arises, was there a change in plan between the time the wall reached the "end" of the framing for the recessed panel; did the design, and the masonry, end at this point, physically or conceptually, before the addition of the pilaster. If so, this potential end is directly in line with the end wall of Room 34. Under this suggestion an alternative floor plan for the end could have entailed a single flush plane, that is, with Room 33 and the end of Room 34 being even. That would mean no pilasters and no pillars. Despite the alignment potential, this scenario is unlikely, since Room 33 needed some form of door jamb, piers or something, as well as a socket for lintels. An end wall that does not turn a corner to create a jamb is not usual. Actually, the fact that the pilaster creates only a 16 centimeter "corner" is virtually unknown in standardized Maya floor plans. In essence Room 33 and 28 have no front corners; their fronts are almost totally open.

The corner molding should be added to the modern drawings of the basal molding, since that can now be seen on the front. It was probably still obscured by weeds and leaves in 1988; the INAH guards completely bushed the palace during April, May, and June of 1989, allowing considerable detail to be seen for the first time.

Pilaster at the Northwest Corner of Room 33

Room 33 is the only room in the palace with two pilasters so well preserved, both complete up to the banding around the top. This NW pilaster is also practically flush with the end wall, a highly unusual position, though our knowledge of facades with pillars is limited since so few are known. It would be worthwhile to compare the placement of these with the comparable ones on the first level of the Nunnery Quadrangle at Uxmal. These rooms must have been unusually open, airy, and bright with sunlight. If form followed function their function must have been different than the dark, damp, constricted rooms elsewhere in the same building.

The molding at the top is present on the jamb side, the front, and the side adjacent to the main wall (end wall of Room 34).

Finding the Base of another Pilaster on the Second Floor, Room 33

Although reconstruction drawings show pilasters on the end rooms of the second floor no evidence for this existed whatsoever. There could just as well have been a wider wall section, a pier, and just two doors. After all, there are two-door facades on the first floor of the back of the palace. But the INAH guards did such a good job bushing the palace in June 1989 that it was possible to see the stump of a second pilaster for Room 33. It allowed for an entrance of 1.06m wide. Projecting this dimension across the entire room front alternating with a standard pilaster width gives a perfect series of doors and pillars. This stump,

just one stone high of the basal molding, is all it takes to allow restoring not only the front of Room 33 but also Room 28 at the far end of the palace. Thus Andrews' elevation restoration of Room 33 is correct (though off a full meter with respect to elevation relationship to the northwest corner, as the two units are each on a totally different level).

Also correct is Andrews' inclusion of a basal molding. Now we can add the corner detail, a 5 cm outset within the middle inset zone. Such a corner detail on the basal molding probably carries down here the model of the corner moldings on the upper zone. The handling of the upper zone corners is particularly Chenes, being found at Hochob and Tabasqueno among other sites (Seler 1916).

Pilaster II-E, Second Story, Room 37

This pilaster is in a corresponding position with that in Room 35; both are near the corresponding interior stairway entry/exit huts. Pilaster II-E has the top horizontal band preserved on its south (jamb side) and west (outside). It is plain on the inside (as seen from inside the room). There is no flute on the jamb face.

As with other pilasters it almost seems that a different or separate mason built them, as virtually all the pilaster stones are indented 15 to 20 rom and are at a slightly different angle

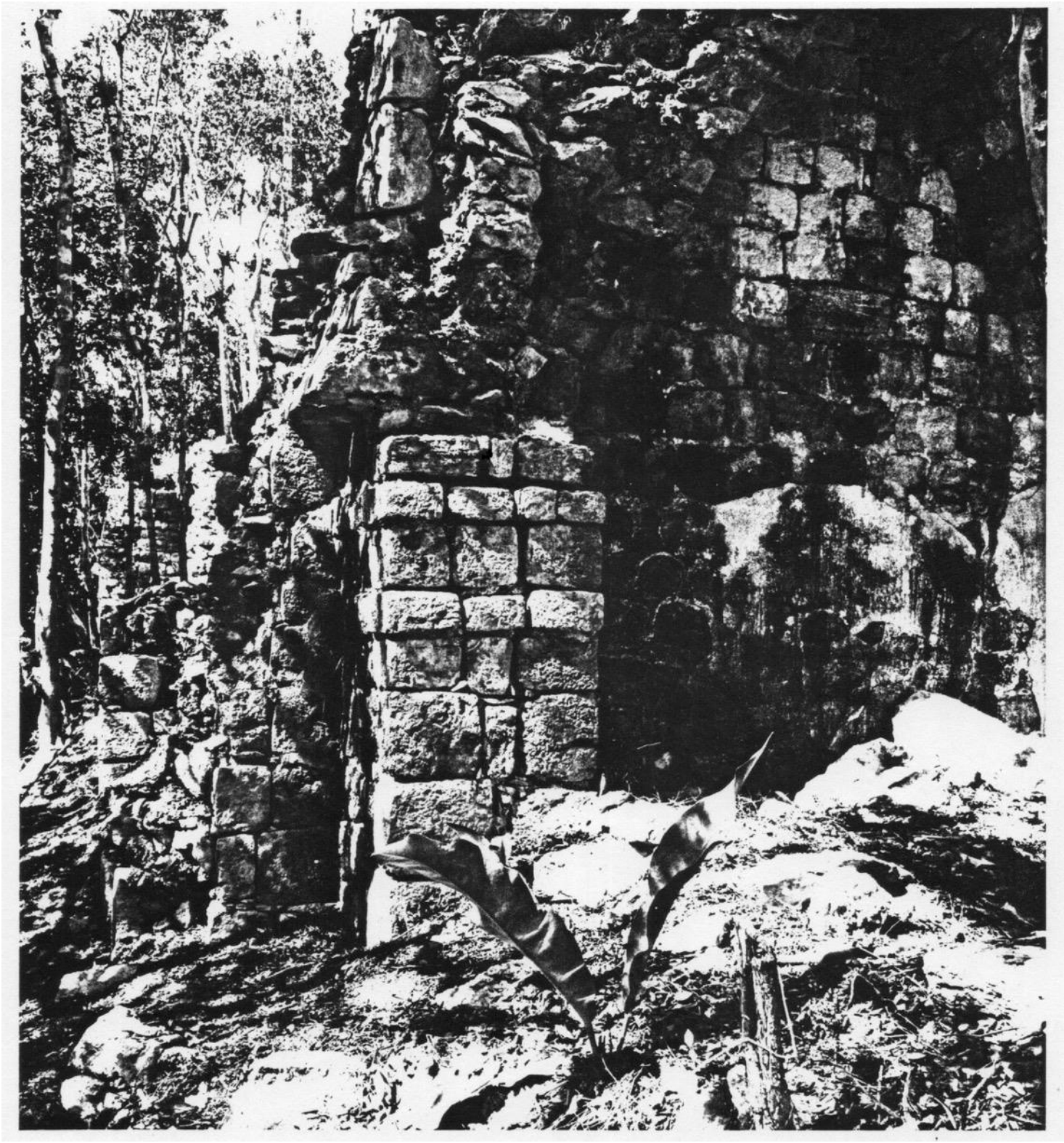

Plate 11. Second floor, Main Palace, Room 37, looking north, remains of entry/exit hall projection of South Interior stairway ~ticks out to the left. Here you can see that the pilaster has no vertical flute on the inside but the capital does go around this jamb side (but not around the inside, back).

(usually diagonal). My interpretation, though, is not yet that this indicates all the pilasters are secondary. "Secondary" implies something is added as a second thought and usually many years after the original walls have been in use.

Pilaster II-D. Room 34

Pilaster II-D is almost a mirror image of II-E and almost identically well preserved. Pilaster II-D does not stick out as far but is not as shallow as on end rooms (28 and 33). The wooden lintels must have been directly under medial molding. The top three corner stones on the back are at a slightly different angle to the wall surface as though a different mason were employed.

The floor plans available so far are not accurate in the smaller details, such as the distance the pilasters stick out. The pilaster actually stands out from the end wall, 51 cm, which is much more than in end Room 33 where the pilaster is almost flush with the wall, standing out only 16 cm. The end of Room 34 should be closer to being in the same plane as the north side of the stairway exit/entry "house."

Pilaster I-I. West End of Room 1

On the south "portico", first floor, is a well-preserved pilaster. Pilaster I-I has no fluting on the jamb face, indeed

Plate 12. First story, south end of the Main Palace, outside Room 1 actually looking at the projection of Room 26. The upper zone of Room 26 is typical of the entire Main Palace as well as the Cuartel. The immediately adjacent upper zone of Room 1 (and also of mirror image Room 9 at the extreme north end of the palace) is completely different begging the question of whether both were originally designed next to each other. So far, though, no one has noticed any evidence suggesting that any of the end rooms is earlier than the back ranges.

evidently none of the pilasters do. The pilasters on the end room porticoes of the first floor have a beveled binding motif and not just horizontal banding. That is first recorded in Maler's 19th century drawings and shown correctly on all subsequent drawings. Restorers should be careful not to add this extra detail to the second floor, though. For the front of the first story we do not yet know the details (it is only at each end that the pilasters are preserved).

The medial molding stone was laid directly on top of the wooden lintel. This is pictured correctly in Andrews' "section thru Rooms 1 and 2" (1988).

Corrections to the Published Plan

The pilaster sticks out 43 cm from the adjacent west-east wall plane, so on Andrews' plan the lesser protrusion should be extended. The back (inside) dimension is 1.13 m to the end wall of Room 1. This means that the end wall cannot be on the same plane as the outside north-south wall, so this almost 70 cm discrepancy needs to be changed on the plan. with almost a one meter error already in Room 1, it is no wonder that by the other side of the building the dimensions are hopelessly off.

On the corresponding position in Room 9 at the other (north) end of the place the pilaster there is 48 cm from the on the corresponding position in Room wall of Room

14, so that dimension should be lengthened on the map. The pilaster sticks out, though, only 6 cm. Judging from field measurements, the end wall of Room 9 should be in line with the end wall of Room 14, so that part of the 1988 map is fine.

Pilaster I-H; Mirror Image of Pilaster I-I

On the first floor, Room 9, next to Room 14, is a well-preserved pilaster which is effectively the same as the corresponding pilaster of Room 1.

There is presently no way of knowing whether the rest of Rooms 1 and 9 were fronted by a colonnade, with piers (wall sections), or with pillars as in Rooms 30 and 33 in the corresponding position on the second floor.

Remains of Pilaster in Room 29

Room 29 (Stamps Room 34) is Hext to the main front central stairway on the second level. The top moldings on the jamb face of this pilaster are still preserved just above the collapse level. The inside" had no banding (and probably as well no fluting). Thus, interior banding as well as the fluting on the sides except for the fronts needs to be removed from reconstruction perspective drawings of the palace.

Plate 13. This is the equivalent view of the north end, first story of the Main Palace, outside room 9, with the outside of Room 14 in the shade. Thus, there are two opportunities to ascertain--without excavation--whether there is any possibility that Rooms 1 and 9 represent an earlier stage, or an addition to Rooms 2/3 and 10/11. The particular angle of sunlight shows off the raised frame of the diagonal bound motif, actually a miniature bound thatch roof, not a mat symbol.

Pilaster P is so enveloped in collapse that it is not possible at the present time to ascertain whether it had any fluting on the front, though that is certainly predicted.

The remains of a pilaster at this point are more than enough evidence to document that there were pilasters and most certainly corresponding pillars for Rooms 29 and 31. In effect all outer rooms on the second story had pilasters except for Rooms 35 and 36 where the jamb type is unknown but presumed to be piers.

This pilaster is almost flush with the end wall, sticking out less than 16 centimeters (eye estimate from slide).

Andrews' Suggestion for a Special Facade for Rooms 1 and 9

The middle unit of the first story, north end and south end, has an upper zone that is almost plain (that is, has virtually no moldings). Thus, it has been uncertain how to show this large area in restoration views. Andrews is the first to suggest "My guess is that these 'special' facades carried large masks, perhaps similar to those seen on Structure 1 at Xkichmook or on the lateral facades of Structure 2 at Hochob. I should also point out that this detail was overlooked by all other investigators, even though it shows clearly in a photo included in Pollock's report (1970: fig. 70), (1988). But Pollock's photo is so fuzzy on the particular paper that was utilized to print that it would be

necessary to have a larger blowup and on more appropriate paper for a photograph to reveal the detail to an average viewer. Considering that only a few stones remain on this upper zone, nothing shows "clearly" other than that the left half is totally plain, the portion that is standing today. What Andrews must be referring to are vague remains of tenon stones or what he interprets as remains of the actual masks. For good reason were these details overlooked by all other investigators--they are effectively invisible. I sincerely compliment the powers of observation of an architectural historian who can rescue a facade from the remains of this part of the Main Palace. Yet Hochob and Xkichmook are quite different and may not necessarily be the ideal model in this situation.

Hochob structure 2 is pictured in several views by Pollock (1970: Figs.4, 10), with the lateral structures being in Fig.4. But every square centimeter of the upper zone there is covered with masks--and not any of the Santa Rosa upper zone area in question has any decoration, and there is almost a meter of this blank facade on the south end of Xtampak's place. Thus, if there were any fancy masks, they were over the doors--with the flanking area totally blank.

Xkichmook is in Pollock's later Puuc monograph (1980: 371 ff). Structure (Edifice) 1 is pictured in his Fig. 619. Whereas embedded wall columns and other esoteric features are indeed

shared between Xtampak and Xkichmook, there is no similarity in the upper zone of the end of the Main Palace with Edifice 1, that I can see.

The suddenly absolutely blank upper zone in front of the end rooms has yet to be satisfactorily explained. The upper facade lacks the corner outside molding detail; the surface is entirely flush. It would be far easier to predict a deliberately flat surface for something painted than an elaborate series of monster masks, which would be totally out of keeping with any other upper portion of any of the rest of the entire palace, not to mention with the entire Cuartel, which shares many features of upper zone with the Main Palace. Thus, I beg to disagree. I do not know what was on the end upper zone of the first floor, but it was certainly not anything like the flanking buildings of Hochob Structure 2 or even Xkichmook.

The Double-Course Angled Medial Molding Lower Member

All three stories, front, back, and corners at both sides, are all standard "Cuartel-Main Palace" Chenes. There are no major surprises and both buildings share many basic features, especially on the upper zone and its moldings. But the upper zone of both end rooms of the first floor are totally different. I do not believe this unique profile has yet been measured or drawn (correctly angled) by any earlier visitor. Lacking a ladder we did

not tackle it either. In the meantime, I can only say that it seems to lack the standard three-member system. In addition, it has a unique lower course.

This lower course actually consists of two stones, a long flat stone that must go a considerable distance into the wall to enable it to stick out so far. This stone is laid more or less horizontally. Curiously this stone never reaches the outside profile of the upper zone. One never notices it and it does not contribute directly to the profile that the eye notices. It is primarily a support stone for the course above.

The next course is what forms the "bottom" member of the pseudo molding. Andrews' drawing does present the two courses, at 90 degrees to each other, idealized. Aside from the lexicon used, " Pilaster/pillar" versus use of the word column, here 1S a case where a modern profile does not satisfactorily illustrate what is actually present; it would require a cross-section, to picture the actual angle of each of the two bottom course stones, to show how unusual this arrangement is. A profile is only an outline and does not show the angle of the butt of the constituent stones; a cross-section includes the "inside" of the wall as well as the complete outside profile. Here idealization and 90-degree angles obliterate the curious nature of the actual molding. Also, though I am somewhat disoriented by the overlay method employed in that specific combined elevation-profile, it seems that the pilaster

Plate 14. Looking northeast along the third floor. The entry/exit house of the South Interior Stairway is in the foreground. The roof of this exit hall is the same motif as the capital on the pilasters of Rooms 1 and 9--minus the raised frame.

Plate 15. Looking south along the back of the third floor, from the opposite direction as that of Plate 14. The opening is the collapsed entry/exit house of the North Interi9r Stairway. Tenon stones are visible projecting out above the medial molding.

is shown as having a flute on the inside, whereas I believe such a flute occurs solely on the front. Here is a good case where a three-dimensional isometric rendering would have removed the ambiguity as well as transmitted considerably more data. I am confused by some of the drawings which have been produced on the palace and that considering I studied this precise corner for hours and have a basic architectural background. The needed 3-D drawings do not accompany the present report since we are still gathering field data and have not stopped typing text long enough to do the field sketches to scale. But all the measurements being gathered are oriented to the production of three-dimensional views of every preserved feature of the entire palace.

THE INSET PANELS

The inset (recessed) panels along the back of the third floor appear in all photographs and drawings of the Main Palace. But there are also comparable inset panels, still partially preserved, on the ends. Stamps forgot to include them, and every other drawing since then has left off these third story panels. In final reports we will restore the complete set of inset panels on paper and describe everyone individually.

Andrews disagreed with Pollock who considered the panels as pseudo-doors. Andrews correctly pointed out that the insets have no wooden lintels as do the pseudo-doors of Rio Bec temples. That

is correct, yet nonetheless, in a design sense, the inset panels are very much door replacements. Several archaeologists have preferred to term them niches, which is fine, but they are not deep enough to have held major sculpture, and no tenon stones facilitate any such imaginary sculpture. All indications are that they were totally plain. Their predecessors in Rio Bec architecture had a checkerboard pattern, and were inset panels--not niches. I understand a niche to be an inset that is large enough to function as a storage place or a place to display sculpture.

A main design arrangement in both Chenes and Rio Bec architecture is the house unit. The Cuartel is designed on that principle, as Andrews and others have long recognized. The entire palace is to some degree a series of modulated monumental house fronts. After all, the word for palace, "house of the mat," includes the basic word for house, *na*. The insets on the Main Palace function as doorway substitutes for those facades where actual doorways were not needed or desired, yet for which a house front was wished to be maintained. The architects went to considerable effort to maintain each facade of the palace as a series of house fronts, even the "back" and especially the ends. Thus, it is important to restore all the inset panels on the three-dimensional drawings.

Restoring the Recessed Panel on the Second Story, South End

None of the end panels of the palace were spotted by Stamps, and most are correspondingly omitted by all subsequence drawings. It

Is the perpetuation of omissions that has led to the tentative conclusion that certain features of the drawings of the 1980's were derived from the earlier sketches of Stamps, no matter how many improvements and even though certain of the sketches appear definitely to have been redrawn from scratch, directly from the ruins and not from Stamps. In other words, most of the 1980's drawings are revised, indeed original, but a few features can come only from Stamps. There is nothing wrong with this, indeed I fully intend to borrow from both Stamps and Andrews. That is the purpose of publishing drawings, so the next generation of scholars can spare themselves the trouble of doing them all over again. What thee 1989 teams are instructed to do though, is to use surveying instruments, to measure each wall-all four walls of every room—and do all drawings relative to a single elevation reference point so the true difference in height will be known for every portion the of Main Palace.

But since at no time during the work was it secure that there would be enough funds for a continued season, in the earlier sessions it was necessary to gather data as expeditiously as possible in case it would be necessary to finish the drawings at home rather than in the field. In effect this text is the first stage; the second stage will be gathering the triangulated measurements. At the time of this writing the second stage has not yet begun, actually we are still gathering the basic data.

Nonetheless, the south end recessed panel, second story, outside the end of Room 37, is preserved most of its height for a width of one stone.

Difference in Elevation

Stamps labored 10 weeks at Xtampak under what must have been truly miserable conditions, since there was no road to the site at that early date, and the "road" that did exist required hours of uncomfortable travel from Hopelchen. The site must have been totally overgrown, though we can imagine that he bushed at least the Main Palace. Perhaps he spent much of his time in excavation of chultuns with DeBloois, because if he had spent much time actually measuring the palace it is hard to understand how the discrepancies that are not so noticeable could have been allowed to pass.

We have been at the site only 18 days, and this entire time has been occupied getting to know the immense site, taking notes, and undertaking comprehensive photography with complicated equipment. Thus, so far, we have not utilized either an engineer's level, transit, or theodolite at all, though F.L.A.A.R. has loaned the first two instruments to the project (where they are being used by the topographer). Aside from not having the opportunity yet to employ the instruments, I have presumed that the Graz photogrammetric crew would take care of all such measurements much more

accurately with their infra-red capabilities. Thus, at this stage I cannot yet comment on what changes will be necessary, but with the eye alone it has already been possible to detect a major design flaw in published renderings of the north end, and another at the north end of the west face.

The origin of the flaw is the understandable desire to produce a beautiful drawing. This goal combines with the tendency to produce the simplest drawing which is within the realm of realistically producing the building. The net result of these tendencies is that the drawings show all the roofs at about the same level from one end to the other. Stamps, ironically, correctly raises the end rooms of the second floor up above the adjacent area of the palace. He raises the medial molding but evens up the roof.

However, eyeball analysis of the north end and north portion of the west facade (second floor) suggests that the difference in elevation is a full meter or more. Thus, I am not sure that this evened up at roof level. How this was resolved in the floor level of the third floor I have not yet calculated. I doubt the present plans are accurate enough to estimate such details. This means that all the neat three-dimensional reconstruction renderings need to be rethought, as they regularize each story to present each as totally flat, completely horizontal, from end to end, side to side, all the way around. It seems that the central end rooms of both the second and first floor may have been at special

elevation relative to the rest of the palace. On the third floor there are no longer any doorways at the end, or at least none are preserved. If the set of drawings listed by F.L.A.A.R. as needed (Hellmuth 1989a) can be completed in a next field session then at last architectural historians will have enough data to render a full view of the palace, as best as humanly possible without excavation. And that is indeed the goal, to present an accurate drawing, complete in every detail. The palace is remarkable enough to warrant joining the ranks of the great buildings of antiquity. It is time that additional Maya buildings are utilized to present Maya architecture to the general public. until now it has been Tikal Temple I, Temple of the Inscriptions Palenque, Castillo of Chichen Itza, etc. which present the ancient Maya to the world. The achievements of central Campeche deserve to be in¬ this inventory of the monumental remains of Classic Maya architectural accomplishment.

Whenever the palace is excavated some surprises are in store, but if enough elevation measurements are taken without elevation, it should be possible to estimate where most of the floor and roof levels are, and thereby to produce the first truly measured drawings of the palace. A building this complicated should not have been attempted without cross-sections which were physically measured. Stamps produced a remarkable number of cross-sections, and I have to presume he took basic measurements, but either there was no "closing" of measurements or the measurements were rounded off to the nearest meter.

The easiest place to see the discrepancy in the drawings is on the north end of the palace, where the fully preserved west pilaster of Room 33 abuts the even better preserved outside end of Room 34. This area must have been totally overgrown, or simply reconstructed on the basis of earlier sketches making changes as deemed necessary, or recreated from transposing data from the south end, where perhaps the elevation difference is not so gross (I did not check this same situation at the south end). The idea that somehow this portion was not even studied first hand comes from the omission of the recessed panel on the exterior end wall of Room 34. It is missing on Stamps' drawing (1970: Fig. 11) and on all versions of Andrews (1987: Fig.73 c and 1988). Since the entire east half of the recessed panel is fully preserved the entire height of the wall can only suppose this wall was obscured by vegetation or was not visited; after all, -one "can only do so much, especially considering that Andrews was working at more than twenty sites the same field seasons. Nonetheless it is important to ascertain the reasons for the lack of drawing detail out of concern that comparable omissions in hundreds of other drawings may skew the very visual material on which the next generation of architectural historians are being trained. Few of these students will have the chance to visit these sites in person.

Both lower courses of the medial molding of Room 34 are lower than the level of the lower molding on the pilaster. This leads

me to question whether the floor levels were the same; Room 33 appears to be on a supplementary platform of some nature, the same way that the room below it appears to be higher than some of its flanking rooms.

Also missing from the 1988 elevation of the north end is the beautiful vertical fluting on the pilasters, the vertical molding on the upper zone of the outside end of Room 34, as well as the recessed panel on the end of the third story. The omission of both the recessed panel and also the lack of the vertical molding changes the entire appearance of this unit of the north elevation. As designed by the ancient Maya architect this unit formed a complete mock house front. The recessed panel was the mock door; the upper zone the native style roof. That is the basic unit of the entire palace, and also of the Cuartel. Andrews himself, as well as Gendrop and Pollock earlier, all noted the general tripartite division of Chenes and Rio Bec palace facades. I would carry their observation to its logical conclusion--the Maya are replicating a cluster of houses, of *na*, house in Yucatec Maya.

The question then remains of whether the moldings of the presumed pilasters of Room 34 would have extended as far as to be visible on the north end of the room. If so they would have disturbed the image of a bilaterally symmetrical house unit, though that disturbance may be entire ethnocentric on my part.

Elevation Differences Among Rooms at Each End, First Floor

Since no elevations have ever been established, I have to rely on eyeball estimates, compounded by the fact that most of the pertinent floor area is covered by tons of collapse. The east corner room, that under the Rio Bec tower, is the tallest room in the palace, yet it has a short soffit. Most of the height is in the wall. Since the room is actually halfway preserved it should be possible to get a floor elevation, and compare that to ground level at the adjacent plaza. It should also be possible to find a point to measure the floor level inside all the other end rooms. Only then will it be possible to estimate what kind of a terrace system was employed to keep all this even.

The best question is to establish the elevation of the roof, which of course forms the floor of the second floor. Up to now all reconstruction drawings have pictured all the roofs as completely horizontal all the way around the entire palace. I suspect that elevations will reveal first that the overall palace sinks in elevation since the ground level is probably not horizontal. Then it is possible, though not required by any rule of Maya architecture that we yet know of, that various parts of the second story floor level are terraced. The upper zone of the second floor certainly had changes in level from one adjacent unit to another of up to almost a meter in height. But the Maya

can make up for such differences in medial molding elevation by a higher or lower upper zone or cornice.

Elevation Discrepancy at North End, First Floor

Although changed in his 1988 drawings, Andrews 1987 (Fig. 73c) is published and illustrated the problem; this shows (on the north elevation, the end of the palace) a molding between the pilaster and where Room 14 juts out and then a molding continuing at the same level all along the rest of the north end. Aside from the fact that the area between the pilaster and Room 14's extension is the most unusual and least understood part of the entire palace façade (see "special upper zone") is the discrepancy in elevation of Room 14 which is lower than that of Room 9. Evidently both Room 9 and Room 33 above it were each somewhat higher than the wings to their immediate west. This fact needs to be measured in the field and illustrated, isometrically to rally show the difference.

Also, the sole stones of the north end need to be compared with the few additional remaining stones on the south end, to see if any reasonable restoration drawing can suggest what this looked like originally.

2nd Session

THE INSET ZONES OVER THE DOORWAYS

All visitors to Xtampak have spotted and commented upon this unusual feature, which actually occurs over four doorways--once each in first floor rooms 6 and 8, then twice in the longer end rooms 2/3 and 10/11 which have two doors into the next inner range of rooms.

Stamps produces the first attempt at an isometric view (1970: Fig. 18) which one of my students in Graz, (Hellmuth 1989a) was able to improve upon considerably for the two single doorway inset zones. This we reproduce in the volume on the first session. These drawings are direct tracings from 35mm slides shot with a 28mm lens. In the upcoming August session, we will do accurate measurements to the centimeter and produce an elevation. From the elevation we can produce a measured isometric to scale, since drawings traced from a camera lens are slightly distorted.

Inset Zone in Room 6 (Right, North)

This is completely preserved on all sides because the entire lintel is still holding up that entire soffit. In fact, it is holding up the soffit so well that the stress has shifted to sheering off the door jamb, especially the north jamb. This entire wall will collapse totally when the pressure reaches the breaking point. Ironically when the lintel itself fails, only a semi-circle of stones up above fall, often the room itself holds. But when the jamb goes, the entire vault falls, bringing with it

much of the rest of the wall. This lintel itself is described in Leiter's report as well as in my later section of the preserved wood at Xtampak, and my separate report on wood in Maya architecture, *Wood that has lasted one Thousand years ....*

The inset over the doorway is actually a central elaboration of a double spring outset that runs along the entire rear wall of the front from, which of course serves as the front wall for the back room. This serves to decorate the front room and at the same time adds emphasis to the entrance to the back room. The double spring is found elsewhere at Xtampak in the upper range of the Southwest Building. There the building is Puuc and the lower spring is rendered in plaster, not an original course of stone. Thus, the design and intent may have been different, as there is no raised feature above the nearest doorway and the double spring seems to have gone around the entire room.

When the double spring reaches the doorway, the bottom course turns 90 degrees upwards before the actual jamb. Actually, both springs stop before the jamb--there is no spring next to the jamb. The lower spring crosses the lintel one course above the course which rests on the lintel itself and the lower spring juts out more here than when it was on the wall.

The higher spring on the back wall, which is the "real" or main spring, sticks out even further when it runs horizontally, then

back to a normal spring as it crosses the doorway a total of five courses above. It is formed by the sixth course.

Crossing the doorway then are the following horizontal courses, all but the springs themselves would have been invisible under the thick original plaster, but with the plaster now long gone it is easier to describe all building features by their course position.

First comes the wooden lintel itself. Then there is a course the same height as the lower spring, yet the lower spring has by now gone up to the next course above. The second course is a continuation of the lower spring. Both these courses are of a specialized sized stone, slightly smaller than regular vault stones.

Then come three courses of normal vault stones, all flush with each other. Then is the upper spring and at least another flush with it.

Room 8 Supra Door Double Spring Inset Panel

This room still has its original plaster on the left side, including on both springs along the wall. The entire inset panel area is still preserved, as is the whole set of planks which form the lintel. The description is the same as for the equivalent inset in the equivalent room on the other side of the main stairway.

The soffits in both these rooms (the back soffit of the front room) have lots of spall stones because the vault stones are not always perfectly rectangular on their face. The best cut stones of the entire soffit are those of the two course immediately over the doorway; these also have more or less vertical faces, rather than slanted as on the corbeled part (though this vault is more likely held up by mortar than the corbel effect). This course of specialized rectangular stones is a different size and shape than the rest of the wall stones which are predominantly squarish, and the vault stones which are wider and higher.

The question should be asked whether this raised zone has any relationship to the raised zone over the front exterior doorways of the center of each wing of the Cuartel. The details are totally different but the concept of a raised molding is similar.

South End of the Palace

This is the end with the lintels crudely propped up with a few poles. It is only a matter of time before a tourist, or worse, an archaeologist, trips on one of the thousand fallen stones just waiting to trip people, and to catch their balance reaches out to grab one of the supporting poles. Actually, that will not cause more than a dozen stones to fall, since the main damage has already occurred when the lintels slumped, but every stone

counts, each one is as important than the other, and no stone should ever be allowed to fall. The reality of the matter is of course different. The palace is collapsing stone by stone, every month. More than eight stones were knocked off the northwest corner sometime in May, and a tremendous mass slide down off the main stairway probably in June. And probably during the same week of heavy rain a major section of the north stairwall of the main front stairway was torn down by the falling chaca tree. The wreckage is still there for everyone to see.

The left edge of the inset is well preserved and even mostly still plastered, but all the rest of the facing masonry fell when the right jamb gave way bringing the lintels down about 18 centimeters.

Entrance to Room 3

This soffit has fallen totally as the wooden lintel fractured and fell centuries ago. All that remains are segments of the double spring about a meter away from the door on the right (east) and actually most of the double spring up to the doorway on the left.

ALTERATIONS TO THE PALACE

All earlier visitors who have been interested in architecture have noticed that several rooms in the palace have alterations.

These alterations are, so far, all on the central third of the back of the palace, on the first and second floors. Evidently a structural insecurity was felt in this entire section.

The center room, first floor, had an entire new wall casing added, both end walls and also the back wall were thickened. The end walls actually appear a few centimeters wider than the original end wall. The back wall was not strengthened more than 20 centimeters, though I have not yet physically measured it. You can only estimate it from the vault soffit at the top where both are exposed. The new soffit seems only about one stone's thickness over the original soffit. It is not known whether the front wall was correspondingly added to, though I doubt it.

An immediate parallel comes to mind in several of the buildings at Yaxchilan, and the Early Classic Str. A-XVIII (at Uaxactun), especially the bottom of its two stories. And at Xtampak itself the Building with the Serpent Facade has secondary buttressing walls in three of the rooms.

Alterations to Create Rooms 35 and 36

Both Stamps (1970:42) and Andrews noticed the secondary nature of the dividing wall between Rooms 35 and 36 (Andrews' numeration; Rooms 29 and 30, Stamps numeration). Andrews noted "Wall and vault continue behind diving wall" (1988).

In their undivided state the combined Room 35-36 would have been the longest room in the Main Palace, indeed the longest room found so far at the entire site (with the possible exception of the West Range of the Southeast Quadrangle). Furthermore, it had only two doors although there was space for a central door, indeed a central door, or at least a recessed panel, would be called for to maintain the pattern demonstrated on the facade everywhere else on the building. The front facade is totally fallen but whenever this area is excavated caution should be exercised to see if a central door ever existed and was filled in when the dividing wall was erected, or if a recessed panel is in that position.

The next question is why is the dividing wall double thickness? If the original design called for no wall at all it would seem that someone was confident the building would stand as is. Nowhere else at Xtampak does a facing wall continue behind a corner, that is, there is no way to conceive of the joint Room 35-36 back wall as anything but an original design for a single long room. But the only way we will be sure is to check the front wall, and see if the front wall also went all the way across, or went across with a doorway. Otherwise, it is hard to imagine the Maya engineer daring to create such a long room.

2nd Session

THE THIRD STORY

The third story is the best-preserved part of the entire palace other than the interior stairways. This preservation is due to the fact that no doorways pierce the back or ends, and evidently there were no pilasters or pillars--always weaker than wall piers.

But since this is the top of the palace it has been the last to be investigated, since there is more than enough to occupy us on the lower stories.

Tiny Rooms 41 and 43

These small square rooms have so little space when compared to all other rooms in the palace one wonders why the floor plan was laid out in this manner, other than that was one possible solution to the disruption of the inner stairway. Also, by jutting out as they do Rooms 41 and 43 emphasize the courtyard, especially in the original stage where I have proposed that the monumental portal did not yet exist, though that is still subject to verification by stratigraphic excavation.

NO ROOF COMB

It is worth repeating that absolutely no evidence for a roof comb exists on the main unit of the third floor of the palace. In fact

the roof is distinctly flat, that is, evidence specifically against there ever having been a comb. Thus the beautiful comb which decorated the various UNAM reconstructions should be airbrushed away, a shame, as the combined Hochob-Palenque-Yaxchilan style comb was a masterpiece of restorative imagination. Nonetheless I would still maintain roof combs restored on the flanking towers and I would not be surprised if the central tower had one also. For the flanking towers we will never know for sure, since their tops are long ago toppled. For the central portal, no one has ever peeked on top.

East Facade. Room 42

Andrews' elevation (1988) correctly shows that the medial molding of the adjacent room is lower, though it is precisely one course, that is, the bottom of the medial molding of Room 42 rests exactly on top of the medial molding of adjacent Room 43. In fact, they touch, so a slight alteration of the distance apart (too far in the drawing) and in the relative height should be changed. Even though the amount is less than 10 centimeters, it alters the appearance somewhat. And the next course on Room 43's south upper zone is full height, the same height as the medial molding stone, not a thinner 10-12 cm course as presented in the drawing; though possibly the drawing is intending to present the third course as being 10-12 (which would be likely), since Andrews does not show two adjacent courses unless they change angle or jut out, but of

course two adjacent courses would not have been differentiated when everything was covered by plaster. That is why Stamps' drawings are easier to double check. Andrews suggests the roofline of both Rooms 42 and 41-43 were all the same. I have no field data on this question; his estimate is possible. In his 1987 side elevation he proposes though that Room 42 (the long center one) sticks up above the common roofline of 43 and 44, so a decision needs to be made; is Room 43's roofline the same as Room 44 or the same as 42, as both, or neither. with either the sun or rain beating down I must admit I did not investigate or even notice this discrepancy in the drawings while I was there.

The bottom two courses of the north medial molding of Room 41 are preserved right at the corner intersection with Room 42, but just the last stone of Room 41--all the rest is long fallen away. The two moldings come within almost 5 cm (eyeball estimate from slide) of each other, and are not as much different in elevation as at the north end (Room 42 and 43). The available drawing of Room 41-42 juncture is actually correct if it were just inched a bit closer to Room 42; and the other end, Room 43's molding should be lowered relative to that of Room 42. The ancient Maya did not use either a straight edge or a right angle in designing or erecting their structures, so we should strive to avoid employing these ethno-centric devices in our architectural renderings. Some of the architects of the Tikal Project suggested that all drawings of Maya architecture should be drawn freehand

in order to eliminate the false beauty imparted by ruled drawings. The drawings of those who used rulers at Tikal were definitely more handsome, but decidedly less accurate. Perhaps a happy medium could be compromised between ruled drawings and the style of Hohmann as employed at Copan. Less straight than the rigid style, more even than the other. And, when a straight edge is used for the line (in those cases where the draftsman cannot produce a straight line freehand, as in my case) at least the corners should not be locked into 90-degree angles in every instance.

On the subject of idealization of 90-degree angles, the north (end) corner horizontal molding on Room 42's upper zone is angled, not 90 degrees; it is noticeably wider at the bottom than at the top. This particular corner molding is formed of two stacks of stones.

The Front Facade of Room 42

Both inset panels on the front of Room 42 are correctly rendered by Andrews with a stepped upper course, the only such panel on the entire building. All the others are plain and rectangular (actually being typically Maya they are more trapezoidal than rigidly rectangular).

The overall facade is coursed but these are broken at the jambs by the tendency to use larger stones there that do not fit in

with the courses created out of standard facing stones. Most of the jamb stones are two stones wide. On the right (north) panel the courses also do not continue from the main wall to the panel. On the right panel some of the courses from the south do appear to continue across the panel, except for the top course of the panel, which is of a specialized height, probably 10-12 cm, seemingly a standard for special courses.

The upper zone appears to be somewhat lower than that of the first story yet the published drawings show all stories to be about the same. That needs to be corrected by using a leveling instrument and by drawing all details relative to a reference elevation from down in the plaza.

There may have been moldings on the "blank" upper zone space left over as the south upper zone of adjacent Room 43 slanted back, indeed the upper zone stones of this intermediate area of Room 42 are still in place. It would be best to record this detail with profile and elevations drawings done--and finished--in situ.

DETAILS OF THE PORTAL

Since it is risky to walk anywhere near the front or sides of the portal, I have to make my observations from afar, indeed from a projected slide. This is to comment on the published detail drawings which tend to show the portal with the same moldings as

occur elsewhere in the palace. In this respect the drawings of the 1970's are especially inaccurate (whereas in a few instances, such as for the rest of the third story, Stamps' are slightly more accurate than anyone else's). Andrews seems to have the correct measurements, a total height of 94 cm with the plain central area being 56 cm, quite high, indeed nothing like that is found anywhere else on the palace (that is yet visible, most of the base moldings are covered by tons of collapse and have never been seen since the 9th century). The molding that is visible on the north end of the portal is a considerable height above the bottom of that same molding area, showing that it is not the typical Chenes basal molding as found on the Cuartel and Main Palace.

The medial molding is also different, a further suggestion that the entire portal is of a slightly later date than the overall palace. It has no side decoration, no embedded columns.

On the subject of the portal an error should be pointed out on the reconstruction drawing used by Heyden and Gendrop which shows the ends of the portal enveloped in a rich Chenes iconography. In fact, the end is absolutely plain. Otherwise, the details on this Mexican perspective are outstanding, in details such as the tenoned sculptures even better than any other perspective. The square pillars are also more accurate than the columns or wall sections appearing in other drawings (though their beautiful side fluting should be erased).

Recessed Panels Missing on Restoration Views

The description of the third floor should include the recessed panels on the end of Room 40, and on the end of Room 44. That on Room 40 is especially well preserved, 90 percent complete, missing only its top right corner. This inset panel needs to be added not only to the elevation drawings but also to the plan.

It has already been pointed out that recessed panels also exist on the second story, north end and south end.

COUNTER-BALANCED VAULT STONES IN ROOM 28

The entire front half of Room 28 has long ago fallen--since the pillars could not withstand the outward push of all the weight pressing on them over the centuries. This collapse has left the entire mass of the fill which is above the upper vault exposed. Three layers of large flat stones are visible, about the size of capstones but more irregular. They seem arranged in a reverse corbel pattern, that is, as counterbalance to the last courses of the vault and the capstone. Similar layers of flat stones appear mid-way behind the vault of the remaining building in the East Plaza.

2nd Session

WOODEN LINTELS AND ROOM BEAMS

Folan considers that keeping the sagging lintels from falling will immediately save major portions of the palace from collapse. Naturally such a measure, however necessary and urgent, requires special permission from INAH, which he has applied for. Until the decision is reached on this request in Mexico City we cannot touch them, but can write up a report based on their present condition, make a list of how many lintels there were, which are still preserved, which ones need to be supported, etc. This research was entrusted to Eldon Leiter who spent two full weeks completing this feasibility study (Leiter 1989).

Rate of Collapse of the Jambs and Lintels

Rooms 6 and 8 are further demonstration that the collapse of the palace .is being occasioned both by weakening (rotting and sagging) of the wooden lintels and also by weight creating sheer along the jambs. As mentioned in the first report on Xtampak (Hellmuth 1989a) the better-preserved lintels are causing the worst destruction. When the lintels rot, fall, and bring down the adjacent vault soffit that relieves, for a time, the stress and strain of that particular room. Under such a situation the jambs and walls may remain standing.

But when the lintels remain perfectly preserved, they distribute the sheer along their ends. This causes the jamb masonry to

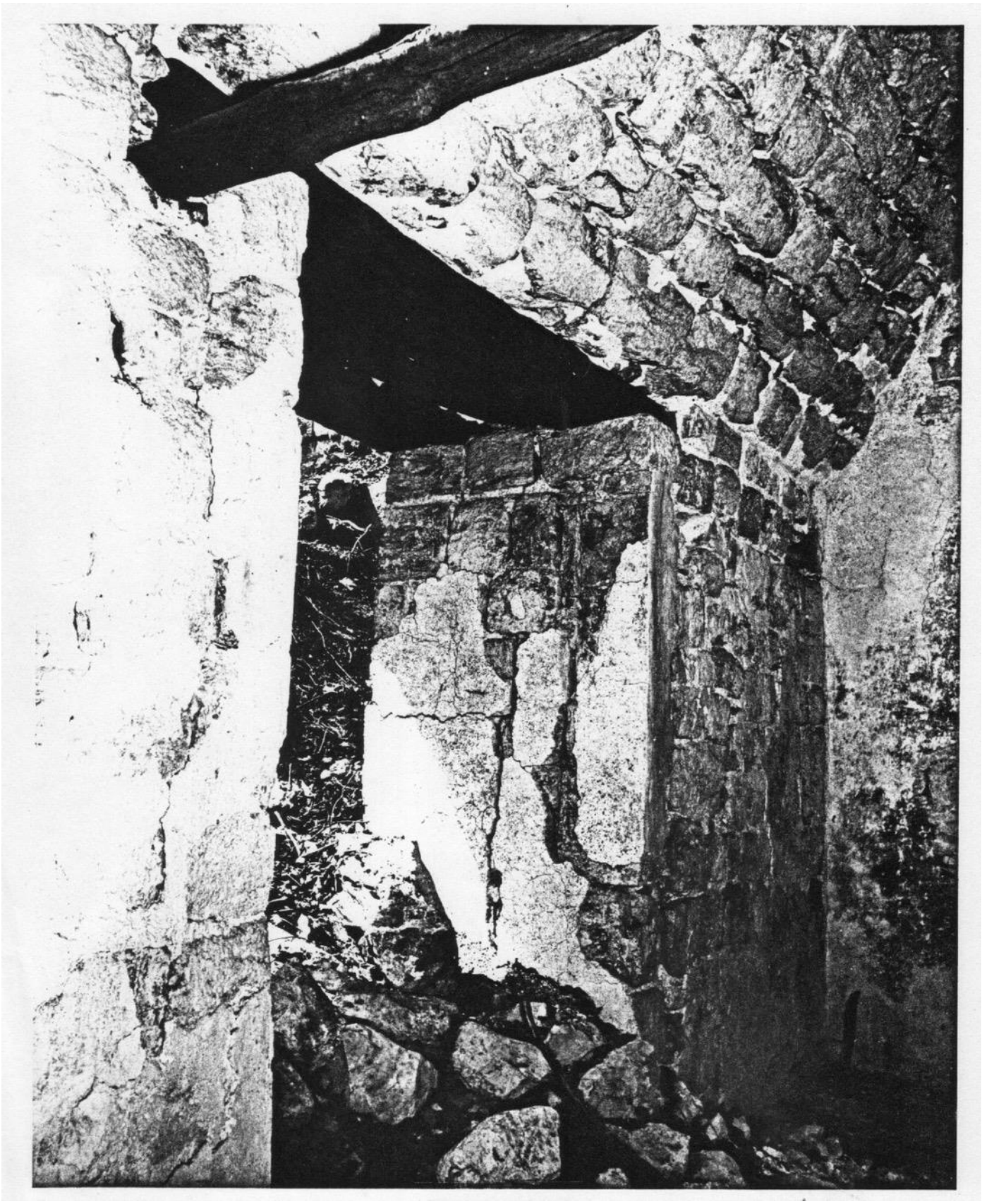

Plate 16. Inside Room 8 looking out; first floor, east side, Main Palace. This room has more preserved wood than any other in the entire Chenes area.

buckle slightly (at first, eventually these same stones will be crushed or buckle outwards altogether). Thus, there are several inner doorways on the first floor where the jamb masonry is already separated from the rest of the wall by several inches. This. has the result of showing that the wall itself is weight bearing--it does not require mortar to stand by itself, since usually the mortar has been split by the buckling.

This situation means that merely replacing the sagging lintels with new ones will not solve the structural failure of the overall palace. Water is getting into the core; it is the water-soaked core that weighs more than the jambs and lintels were designed for. The Maya designed sealed buildings, whereby the rain landed on slick plaster surfaces and flowed off predetermined corners. The palaces at Palenque are the most sophisticated evidence for the Maya situation of rainwater control among the Maya.

The core of mortar and limestone acts as a giant wick soaking up rainwater. At some point all this weight will simply be too much, and the palace at Xtampak will suffer the identical fate as befell the palace at Tzikin Tzakan, Peten--it will crumble to rubble in a single momentous collapse. Mayanists might consider consulting competent engineers who have experience with this sort of thing instead of continuing to slap and sloop cement around as though that were going to make the problem go away. The current

collapse-in-progress of the Pyramid of the Magician at Uxmal is the best example of the worst restoration in more ways than one. The entire restoration is now slumping, indeed an archaeologist with experience in Yucatan has predicted that it is just a matter of time before the entire structure self-destructs, tumbling down the entire Puuc-Chenes temples on the top. It is a shame that this is what it will take to wake people up to the idea that should not be undertaken without people with an engineering and restoration background.

A perusal of the doorway into Room 6 shows a section of the Xtampak palace in the actual status of slow-motion collapse.

Wood in Room 8

Room 8 ·has the most photogenic wood in the entire site. In fact, here are the only still preserved wall beams. Only in one other room is a sub-capstone pole still in place. I believe it is an original Maya pole, since it is rare for local farmers or curiosity seekers to insert poles that high up. Otherwise, the local Mexican visitors in years gone by have inserted poles in most of the beam holes in order to sling their hammocks or to create platforms so they could knock out the painted capstones to steal them for sale on the illicit market. Most Maya ruins, especially in Yucatan and Campeche, have such modern poles stuck into the ancient sockets. Since ordinary wood is utilized, these poles rot and fall after a few years.

But Room 8 has its entire set of wall beams on the north half of the room, the double set against the end wall and a single one at the butt of the lintels. The wall beams are round, but thicker than a "pole." It is their ends that are being decayed the fastest (if over 1000 years of resisting decay can be called decaying fast). Thus, shortly these poles will drop out of their sockets and fall into the room. At that point (in the past at least) they would be chopped up into firewood to boil coffee water. Today they are simply abandoned to fate, a situation we certainly hope to remedy. This room represents the last opportunity to study such a complete set of beams still in situ. No matter how many times I enter this room and look at them I cannot fail to continue to be impressed by this durability.

On the back (west) wall of Room 8 the plaster is still perfectly preserved in the area where the wall beams stick into the wall. The plaster still fits relatively tightly around the thick poles, suggesting they have not shrunk as much as the wide planks used on the lintels. Is that because the poles are a different species of wood, because they are round, or because they are not crushed by tons of weight?

Although the north jamb is only partially fractured, the south jamb is already leaning out and separated out from the wall. It will be necessary to jack the entire lintel up, remove both

jambs, develop a special binding material that will function like super-glue, and return the jamb stones back to the wall. With fresh mortar they will last several more centuries. In their present state they could sheer off and fall in within a year or so. Concomitant with repairing the jambs it is essential to remortar the vault. As the jamb and lintels sag, the vault courses come unstuck one after another, the mortar crumbles and ceases to bind the stones, and nothing in the vault is holding on to anything--¬everything is pressing downward on the lintels and through them to the jambs. If the vault stones were stuck to one-another they would not all be sagging onto the lintel.

Supra-Lintel Beams

In the previous session report, I had presumed it was Gendrop who had first noticed the supra-lintel beams but on reading Stamps' 1970 report I find that Stamps noticed them in 1969 (p. 51). Although not one of these beams is still preserved, since the beams were encased in mortar, their entire span is now visible in a concrete-like mold. Thus, they can be measured in the many doorways where the facing masonry has peeled away. In fully preserved doorways there is no way to detect whether they are inside or not. Leiter immediately noticed that only interior doorways have these beams. That pattern was not specifically stated in earlier reports.

WHAT IS UNDER THE MAIN PALACE

Since Chenes architects did not create acropolises there is not that much space "under" most of the present buildings to hide completely buried structures. We already know there is an earlier wall encased (hidden) in the East Range of the Southeast Quadrangle, and in fact I suspect the entire quadrangle may cover something which is buried, since all the fill in front of the West Range looks loose, as though it filled in a giant chultun, cave, or something out of the ordinary. I have not yet noticed any other plaza at Xtampak with such a curious fill material. There are places in front of the West Range where you can see down through the loose fill a considerable distance considering that this is supposed to be solid fill and once presumably supported a solid plaster courtyard floor.

If another construction ever existed on the present locus of the Main Palace, where would it be hidden, and is any part of the present palace remaining from such an entire hypothetical (and at this stage entirely imaginary) earlier structure?

Rooms 5/6 and 7/8 are about the only candidates, possibly along with Rooms 2/3, 10/11, as being even remotely possible, from a point of view of ground plan alone, as being part of anything that would be buried. Because anything smaller would not have been much of a building, but a palace consisting of Rooms 5/6 and

7/8 would have been fair sized, about the minimum that would be expected in so central a location. Such an imaginary palace could well have a third range facing the back, and would have had a much narrower central stairway, even if indeed such a structure was multi-storied, which is unlikely, though it could have been one of the standards (for Xtampak) palaces with a stairway front and back without much of a second story to speak of.

Rooms 5 and 7 are collapsed; Rooms 6 and 8 are the ones with the attractive insets over the doorways, the same as in Rooms 2/3 and 10/11. Does that mean that Rooms 5, 6, 7, 8, 2, 3, 10, and 11 are part of some earlier phase? These latter rooms also have decorations of the type that might be expected on an exterior but are totally out of role for a back wall of a room. Did the front of Rooms 2/3 and 10/11 ever form a front facade of a stage when Rooms Land 9 were not yet constructed?

I cannot yet answer this question since no one has ever posed it. I and everyone working on the palace has used the interior stairways as structural evidence that the entire palace was built in one campaign, other than minor room divisions and the addition of the central portal on the third floor. Even these additions still leave the basic palace as erected in a single campaign--theoretically. But the interior stairways are in no way associated with Rooms 2, 3, 5-8, 10 and 11. Independent structural (vertical) stratigraphy is needed to assess whether this entire

side and front section of the first floor is contemporaneous with the entire back section. I still presume the entire palace is contemporaneous, but now realize this statement must be demonstrated with observation and photographs if possible, no longer simply presumed, since the evidence, the stairways and similarity of design features throughout the building, does not pertain to the ends or front. In fact, it is precisely the ends and front that have different features than the rest of the palace, the recessed areas over the doorways and the diagonal edges of the architectural motif on the pilasters. On all the second story pilasters the moldings are rectangular; on the first floor they have edges which are diagonal.

I must admit that I have spent practically no time inside any of these rooms in question. The imaginary palace can be eliminated if Rooms 4 and 12· mesh with the fill of Rooms 3 and 11, or can it? The question is really whether Rooms 1 and 9 are secondary or not. From a review of the ground plan, totally without knowing anything of the stratigraphy at all, Rooms 1 and 9 are intrusive. The upper zone facade of Rooms 1 and 9 does not fit with the design of any upper zone elsewhere in the palace, or even with the Cuartel or the Serpent Facade Building, the buildings closest to the Main Palace in Upper Zone details (of which the Cuartel is far closer than the other).

The two interior stairways demonstrate contemporaneity of that entire west facade and all associated portions of the rest of the

building, but still does not allow or disallow an earlier stage across the front, on the first level.

In closing I should point out this is not a proposal that I believe in, it is an entirely hypothetical mental exercise done thousands of miles away from the painful reality of the actual building. Unlike other armchair models, I have no intention of making any claims for it whatsoever until it has been possible to inspect all the inside corners of the rooms in question, to see if Rooms 2/3 and 10/11 could ever possibly have formed an outside facade and to see if the masonry of Rooms 5/6 and 7/8 is in any significant manner distinct from that of Rooms 14 through 27.

It would be hard to find an archaeologist who would not wonder what could possibly be inside the massive core of the Main Palace: To find a buried earlier Chenes building might reveal the earliest such Chenes building yet known.

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THE MAIN PALACE RELATED TO THE REST OF XTAMPAK

Although preserving an exhaustive photographic record of the remains of the Main Palace is the goal of the F.L.A.A.R. participation in this Campeche Mexican study program, to fully understand the Main Palace it is essential to have comparative data with the rest of the site. The palace did not then exist in isolation, and certainly not today either. Studying the portal of the third floor of the Main Palace requires knowledge of the very similar Chenes monster facade on the Serpent Face Building just across the plaza. Studying the general Chenes features, especially of the upper zone of the Palace, implies understanding the very similar upper zone on the Cuartel, just a hundred meters away. And to make cogent comments about the Rio Bec related towers on the Main Palace it helps to know about the equally Rio Bec related towers on the South Range of the Southeast Quadrangle. There is no way to make meaningful statements about the architecture of the palace without knowing, on a feature-by-feature basis, where else at Xtampak the same feature occurs--or is conspicuous by its absence.

And because the stylistic situation of the Main Palace is academically attractive due to the Puuc, Chenes, Rio Bec interaction it is crucial to know about Puuc architecture at Xtampak. We must sooner or later make a decision as to whether Xtampak was a

Chenes site with Puuc influence, a Puuc site with Chenes influence, or a truly Puuc-Chenes hybrid--or some of each over several centuries of stylistic evolution. That decision requires an understanding of all building remains at Santa Rosa. It is precisely the focus on the Main Palace that makes such a study so productive.

And over and above the facade architecture, the goal of the Folan team is a map of the entire site. Since the center of the site has already been mapped by the Carnegie Institution of Washington, amended by Stamps, and then corrected by George Andrews it was considered that the center was sufficiently mapped, so the survey crews were sent to the outer limits to do the settlement pattern out there. But the map of "downtown" Xtampak is a sketch map; parts were done solely by eyeball estimation. Only a few areas were mapped in detail, and that in an idealized fashion without even a Brunton Compass (if the Carnegie used a compass or transit, their result does not reveal such use, and is nonetheless off in angle and distance more than should be acceptable). Therefore F.L.A.A.R. will donate to the Campeche project a map of as much of the central area as possible. I must admit that after 5 seasons experience mapping Yaxha I am not going to invest the intense time and cost required to remap this entire core area (though any kind benefactor could allow us to hire a professional surveyor who could do it in less than 6 months). Given the realities of time and funding, it is more efficient use of our

resources to prepare feasibility studies of the remaining standing architecture than mapping mounds that are already totally and irreparably collapsed. Thus F.L.A.A.R. will do its best to map at least the Cuartel and the Southeast Quadrangle in August if at all possible, to add to the overall 9 sq km Folan map of the greater site.

The necessity of mapping at least these two palace quadrangles is revealed when comparing what is actually visible today and what is pictured on the maps in their current idealized state. The Southeast Quadrangle needs to be totally remapped, starting from the beginning. The southern half of the present map of this quadrangle is not even a good starting point it is so inaccurate, in the sense of not showing half of what is actually present. That is to say that the present map should not be amended or added on to, it should be scrapped and started from the beginning. And this is not even considering that there is an entire palace room complex immediately to the east of the Quadrangle, plus adjacent rooms in the northeast corner, and I vaguely remember another whole group to the south. There was not a chance of even beginning with this in our short July 1989 stay. Hopefully those will be picked up by Abel Morales when he does this area after September.

For example, the latest map of Xtampak shows the West Range of the Southeast Quadrangle as two separate buildings, each with two

rooms, and the possibility of a Puuc style portal arch between the two buildings. The same building, which has now been mapped at least by three institutions or projects (Carnegie, NWAF, Andrews), turns out to have at least 7 rooms, doorways also on the back side (shown as a doorless wall previously), not to have a portal arch, and not even to be two separate buildings, but rather one single palace.

The South Range is presented as a bilaterally symmetrical building with two rows of rooms. It turns out this building is distinctly asymmetrical in the center to the point of being one of the only Maya buildings now known with a front and back stairway about 3 meters off axis with each other and open to each other's sides; it turns out this building has three ranges of rooms, not two; that the entire two ends of the building were missed, along with a tower, floor cross-ways room at each end, together with an adjacent room (which makes the missing third range)--and two flanking towers, probably local variants of the Rio Bec manner. In fact, this structure turns out to be possibly the only four--towered Rio Bec building yet found and the most unusual structure at the site. The towers, rooms under stairways, and transverse rooms under towers, all are features that are essential for comparing with similar aspects of the Main Palace. Indeed, it is precisely the dedicated focus on mapping the site and studying the Main Palace that makes it essential to record the architecture of the major standing architecture throughout Santa Rosa

Xtampak. Architectural history is by its very nature a comparative discipline.

When it is said that Santa Rosa Xtampak has Puuc, Chenes, and Rio Bec architecture all together, and then discussion concentrates on the Main Palace, it is a natural conclusion that the Main Palace has Puuc features. The Puuc component of the palace needs considerable debate--at the moment Chenes and Rio Bec traits predominate. To better understand the lack of Puuc features in the palace it might help to see what full scaled Puuc attributes look like elsewhere at Xtampak.

PUUC REMAINS

BUILDING WITH PUUC DOORWAY LINTEL

There are two paths to get to the Southwest Building; one ends up at the front, the other goes by a Puuc doorway lintel and ends up at the back of the Southwest Building about 20-40 meters away. On our April trip the forest was so thick I was not sure as to whether the doorway lintel was a wing of the Southwest Building itself, or not. Since we have to finish the wholly standing architecture before we begin recording the stubs of buildings, it

was not possible to record or even set up for photography for the "Building with Puuc Doorway Lintel." But we can say that this building is nowhere described in any report on Xtampak, though the mound itself is most likely one of two adjacent to the Southwest Building (the direction towards the Main Palace). It is certainly not attached to the Southwest Building itself, though it could be part of the greater Puuc zone in this area of the ancient city. The stone lintel is still in place on typical Puuc door jamb stones. The bottom half of the doorway is covered and filled with collapse.

BUILDING WITH GIANT "CORNER STONES"

When the INAH guardians were bushing near the large stone column in the center of the Southeast Quadrangle, I asked them if they knew of anywhere else at Xtampak where such columns could be found. I explained that no such Puuc column had ever been reported for Xtampak. They replied that they knew of a building that had a whole row of columns so off we went, through brambles, vines, cobwebs, brush, across the low area north of the Cuartel. We arrived at a low mound which indeed had giant columns--but they were square, not round. I suspect that these are some form of specialized corner stones, yet cannot find anything comparable in a quick perusal of photographs in Pollock's monograph on Puuc architecture. The one I measured was 1.24 m high by 39 x 43 cm. I doubt that they are stelae or even stela substitutes, since they

are almost squarish in cross section. I doubt if they are jamb stones either, as they are not wide enough and there are other stones nearer where I would estimate fallen jamb stones would actually be.

Several fallen door lintels were visible on the same mound. One was 1.28 m long, 54 cm wide, 23 cm thick, a healthy sized building stone. There were also a number of jamb stones. All the major stones need to be measured and filmed. Ideally a classification needs to be worked out to utilize masonry the same way ceramic specialists utilize aspects of ware, size, shape, decoration for Maya pottery. Each time period in the buildings of the Maya had their own specific features, but until architecture is treated as an artifact no basis for such a beginning exists unless time and funds facilitate this happening at Xtampak.

ROUND COLUMNS IN PUUC DOORWAY ARCHITECTURE

The large East Plaza ballcourt of Tikal had round columns on its buildings. The west structure in the Plaza B of Yaxha had round columns, but these rare examples (less than 1 percent at any site) demonstrate that columns are not a typical feature of Peten architecture. And, the Peten columns are made of scores of small stones--the Peten columns are not monolithic as in the Puuc area. The same is true for Rio Bec and Chenes region, columns are not

characteristic. Even the megalithic colonnade of Ake is an exception. It is not until Toltec influence that columns become standard, at Chichen Itza. Gendrop mentions the rare as well as obscurely published example of Lacanja, in the Rio Usumacinta drainage of Chiapas (1983:100).

In the Puuc area doorway columns are best known for Sayil and Kabah. Less well known is a rare example at Uxmal, the Templo de las Columnas (Pollock 1980: 230). Even less known is another building with columned doorways at Uxmal, the buried Inner East Building of the House of the Magician (ibid.:Fig. 425). That this structure is buried reinforces the dating of some columns as early. Additional Puuc sites with columns are Xcalumkin, X'corralche, and Kiuic (Gendrop 1983: Figs. 114a, 116c, d). Columns are also present in the five-storied palace of Edzna, a building that includes a number of features derived from Puuc architecture (Andrews 1984). A good Puuc example, often overlooked since it is right outside the main Chenes town of Hopelchen, is Tohcok (Andrews 1987). Two columns there appear each to be made of two pieces of stone, rather than the monolithic examples at sites in the Puuc heartland. Columns of two stones on top of one another may be found in a Late Puuc wing of the palace of Labna (Gendrop 1983: 146).

A surprising presence of Puuc doorway columns within the Chenes heartland is at Dzibilnocac, structure 6, well recorded by Pol-

lock (1970: 30-33). The Puuc presence at Dzibilnocac needs to be studied closely when Santa Rosa is considered. Indeed, all models which present Santa Rosa as a leader in the Chenes region need to take Dzibilnocac into account, as it also has monuments, and more importantly, the only other ballcourt yet noticed for the whole Chenes area. Dzibilnocac is the only other Maya site in the Chenes area that presents a rival for Xtampak.

We are here distinguishing free standing columns from embedded columns (in running facades) or corner columns (which may be variants of embedded columns). Examples of all of these occur at Xtampak, though this report covers only free-standing columns situated in entranceways. Pilasters (rectangular and set in or against the wall) and pillars (both of which are featured on the first and second floors of Xtampak's Main Palace) will be discussed later in this report. Embedded columns are best covered in the section on the Cuartel, though there are also embedded columns in the two lower floor end rooms of the Palace.

The fanciest doorway columns are decorated ones, at Oxkintok, Xculoc, Xcochkax and elsewhere (Pollock, Gendrop 1983: 102-112; Mayer 1981).

Columns are listed by Gendrop as features of Puuc Temprano (1983: 145). That would coincide with Andrew's comment that the molding of the Southwest Building was more comparable to Proto-

Puuc--the first column found at Xtampak in an architectural situation is for the adjacent wing of this building. That would suggest that this Santa Rosa complex is early Puuc. If so, this would help immensely in understanding the timing of Puuc influence, or when Xtampak was part of the Puuc realm (whichever was the case).

The First Column Found at Xtampak

After the disappointment that the "columns" north of the Cuartel were square, and possibly specialized corner stones, we were surprised when the same INAH guardian, Fidel, found a round column three meters from where we were photographing, right in front of the upper double room area of the Southwest Building. We had walked within 4 feet of this column over six times, but it was obscured from view by vines, low branches, and leaves. In the process of bushing the guardians found the column and carefully swept the leaves away so it could be photographed. The fallen position was perfect for it being from the front rooms. I cannot picture it as a stela or set into the wall, as it is too large for an embedded column, which are usually in Chenes buildings and of several stones a meter or less in length. This column is 36 cm in diameter, 1.40 m in height. For comparison, the isolated column in the middle of the Southeast Quadrangle is 50 cm in diameter, 1.61 m high.

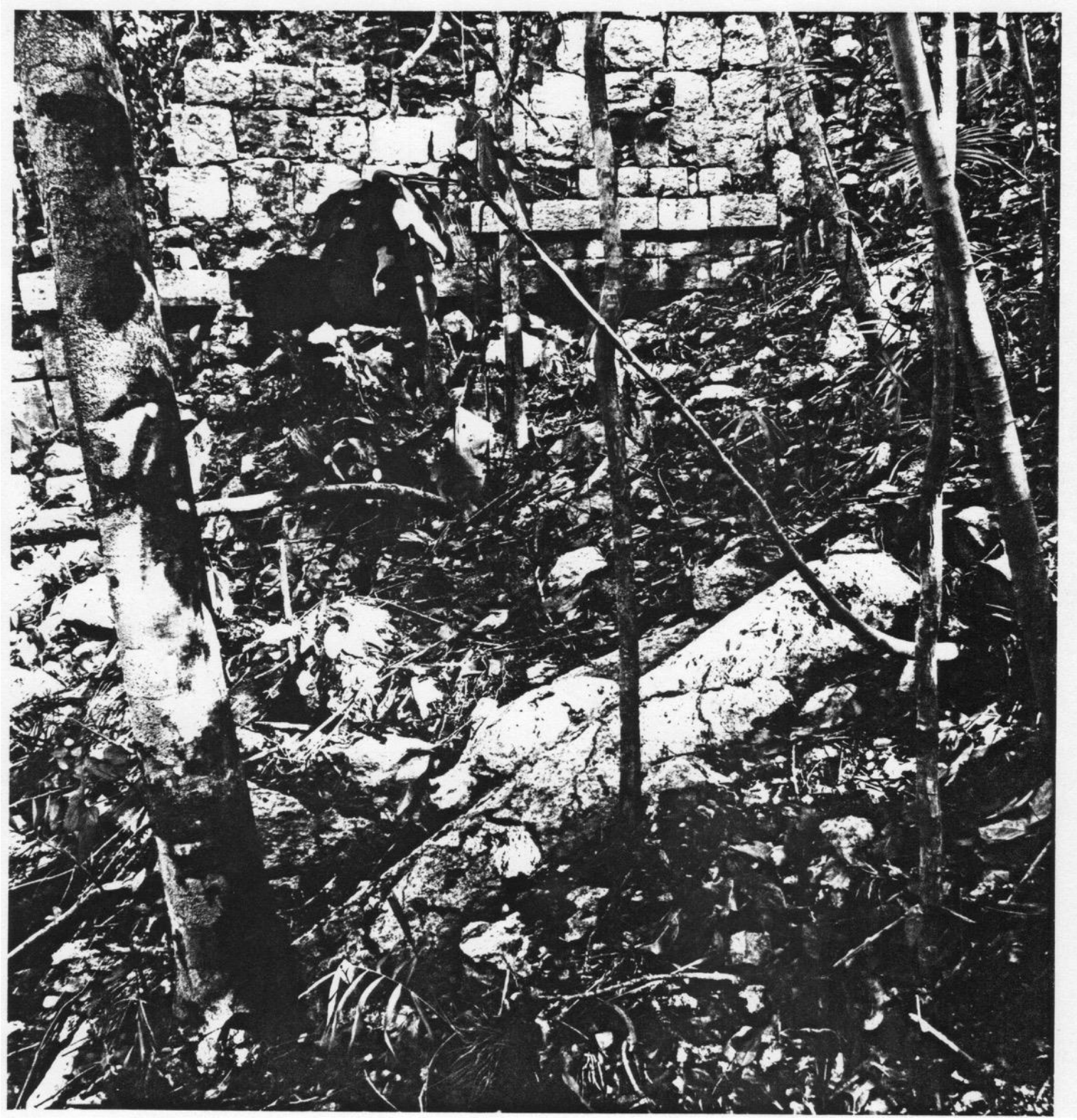


Plate 17. The first doorway column found at Santa Rosa Xtampak, in front of the upper area of the Southwest Building. In the back-ground is the facade of the lower area.

2nd Session

The Isolated Column in the Southeast Quadrangle

Appearing on all maps of Xtampak is a symbol for a monument on top of a low "monument platform" in the middle of Southeast Quadrangle. I had presumed it would be either a stela or a low altar, but the largest stone in the vicinity was a large megalithic column, 42 cm minimum diameter, 50 cm maximum diameter (they are rarely geometrically round), with a height of 1.61 m. When used as a building column they would have been topped by a plain rectangular capital about 28 cm high (based on Tohcok).

Considering that some Puuc area columns have portraits and/or hieroglyphic texts which make them comparable to stelae, it is not that surprising that the Maya would have erected a plain column in a situation where a stela would be expected. certainly plenty of plain stelae are known for the Maya area.

THE SOUTHWEST BUILDING

The Southwest Building was not discovered by either of the Carnegie Institution of Washington expeditions so there is no description of these vaulted rooms by Pollock (1980). Although the rooms are Puuc, Santa Rosa is not included at all in Pollock's Puuc monograph (1980) or anyone else's map of the Puuc

Plate 18. On the extreme left is the plain medial molding of the lower section of the Southwest Building. Across the background are the fallen remains of the upper section. The column must be from the front rooms of the upper section.

realm either, since any Maya site near any town spelled with a Chenes at the end (such as Hopelchen, Bolonchen) is automatically considered Chenes, period. When Puuc is noticed it is considered intrusive.

Andrews has been the first to recognize the degree of Puuc architecture in the Chenes region and even designates the style as "Chenes-Puuc," though there is still the feeling that it is Puuc architecture outside its original homeland, and that the site is simply an aberrant Chenes one. In fact, that may have been the case, I simply propose that the alternative be considered and tested before automatically accepting the model "Chenes area equals Chenes style."

The Carnegie archaeologists missed the Southwest Building by only about 20 feet, which demonstrates how thick the forest is at Xtampak. The Stamps (1970: Fig.2), DeBloois map (1970: Fig.4) shows the general arrangement properly but they missed the end rooms on each range, since these rooms are fallen and only stubbs remain. Andrews, as an architect, was able to interpret the debris and add the missing rooms. In the case of this complex, I did not check the rubble profile of the fallen rooms to see if this revised ground plan is correct, though it is certainly acceptable for the rooms with standing architecture. One should check for Room 5, and see how Room 4 joins Rooms 6 and 7, because Rooms 1 through 4 probably originally formed one building. Rooms 6

through 11 formed a second immediately adjacent building. It remains to be seen whether they are contemporaneous, physically connected, or separate. We were too occupied photographing the lovely masonry to check on the fallen parts. Room 4 is my choice for the most beautiful room in all Santa Rosa Xtampak.

Unfortunately, the Southwest Building tends to be the last that anyone visits, in fact Stamps (who discovered it) found it only one day before finishing his studies at Santa Rosa, and he was reportedly at the site for 10 weeks (working mostly on the Main Palace).

The Front Facade and its Decoration

Andrews considers the simple molding on the front of this building as proto-Puuc and defintely not Chenes (1988). Gendrop considers doorway columns as Puuc Temprano. Since a column is on the ground in front of the upper range, that suggests that the entire complex is early, certainly before the colonnette or mosaic styles. Is this why so far, no Puuc facade mosaic stones have been found in original wall, is the Puuc at Santa Rosa is all pre-mosaic? The reused mosaic stones found by earlier investigators as facing stones inside the rooms of the East Range of the Southeast Quadrangle (and I vaguely remember at least one reused stone in the South Range) are not the standard ones that are so well known at Uxmal and Labna.

Room 3

Room 3 is almost totally standing in the sense that all four walls and the whole capstone row are present, but hardly "in situ," since the capstones have already begun to fall as the vaults are slumping. The west exterior facing masonry of Room 3 has already begun to sheer off, in fact one stone of the interior masonry fell out between our photography in April and our return in July. Actually, the west wall is so insecure at the moment that a severe wind or rain storm could literally blow down this entire section of the complex. Ginger and Dana Lamb related how a severe wind and rain storm destroyed "the Lamb Site," which they had suffered so in discovering. Hardly anyone believed this tale until everyone recognized that their photographs of the sculpted lintels did indeed derive from a site that no one else knew. Ian Graham suggests the Lamb site is a section of La Pasadita; Donald Hales confirmed that assessment recently on the basis of data gathered about the past looting there, which was evidently several decades ago. So it is indeed possible for an entire site to be leveled in a single storm. The same fate befell Tzikin Tzakan, in the Peten near the Belize border, in the 1980-1983 series of severe monsoon years. It is obviously necessary to consolidate these Xtampak structures, but that requires a special permit, which has been applied for first for the palace, and until such a permit is issued, we are restricted to intensive

Plate 19. The front entrances of the lower rooms have half capitals on rectangular jambs; the inner doorways have no capitals at all. In the upper section the inner doorways have the half capitals—the front doorways are collapsed but may have been the location of the fallen column out in front. Inside Room 3 looking out. Southwest Building.

photography and mapping--which at least serves as a basis for a feasibility study. The basic feature of a feasibility study is a recognition of the full range of problems that are at hand. We are certainly developing such a list as a result of our survey of June-July.

The beautiful section of Room 3 by Andrews nicely pictures the wall thinness, the low bench, really a platform, and the simple moldings which he astutely points out as being proto-Puuc. But I would recommend that the cross section be entirely redrawn using a ladder and a plumb bob, to measure the exact curve of the vault, as it is precisely the curve that is so beautiful--and so Puuc. Eyeball angles are fine, and a time-honored field technique, albeit not always very scientific, but rooms such as this deserve a full measurement, and I suspect that such a measurement would reveal a profile totally unrelated to that pictured in the published drawing. Andrews does mention a "slight curvature" (1988, no page number) but a remeasurement might reveal a somewhat barrel curve.

On the south wall an entire course of chinking stones raises the wall to the proper predetermined height to receive the vault. The first vault course as well as first course of end wall is of horizontal stones; most other vault stones are squarish, though lots of other rectangular shapes are employed. All walls and all vaults are generally coursed. All door jamb stones are full width

of the wall, but not full height of the door (that means it took at least two stones to make up the jamb height, which is typical).

At the northwest corner juncture of the vault with the end wall, the end wall stones were custom fit except where space was too small to fit a major stone, in which case then chinking stones were employed, since they were small and irregular to begin with.

When you stand inside any Puuc, or indeed Chenes room, one imagines that the building stones are square or rectangular blocks, laid on top of one another, and that this wall is self-sustaining and in turn holds up the vault. A comparable myth has developed about the vaults, that they are held up by the corbel effect. Hasso Hohmann has exploded the corbel myth for most vaults by pointing out that it is really mortar that holds most Maya vaults together. I would like to point out a comparable feature with respect certainly to this complex, that the wall stones are not blocks whatsoever. The wall stones are diamond shaped at the back, and only "blocks" for their facing. Barely could even two such stones stand on top of one another by themselves. They are held up by mortar and by chinking behind (if not sometimes also from the interstices). This fact is seen best where the entire outside west facing masonry has long ago fallen away, then the core rubble peeled away, and now the mortar around the inner facing stones has been blown, eroded, or otherwise drained away.

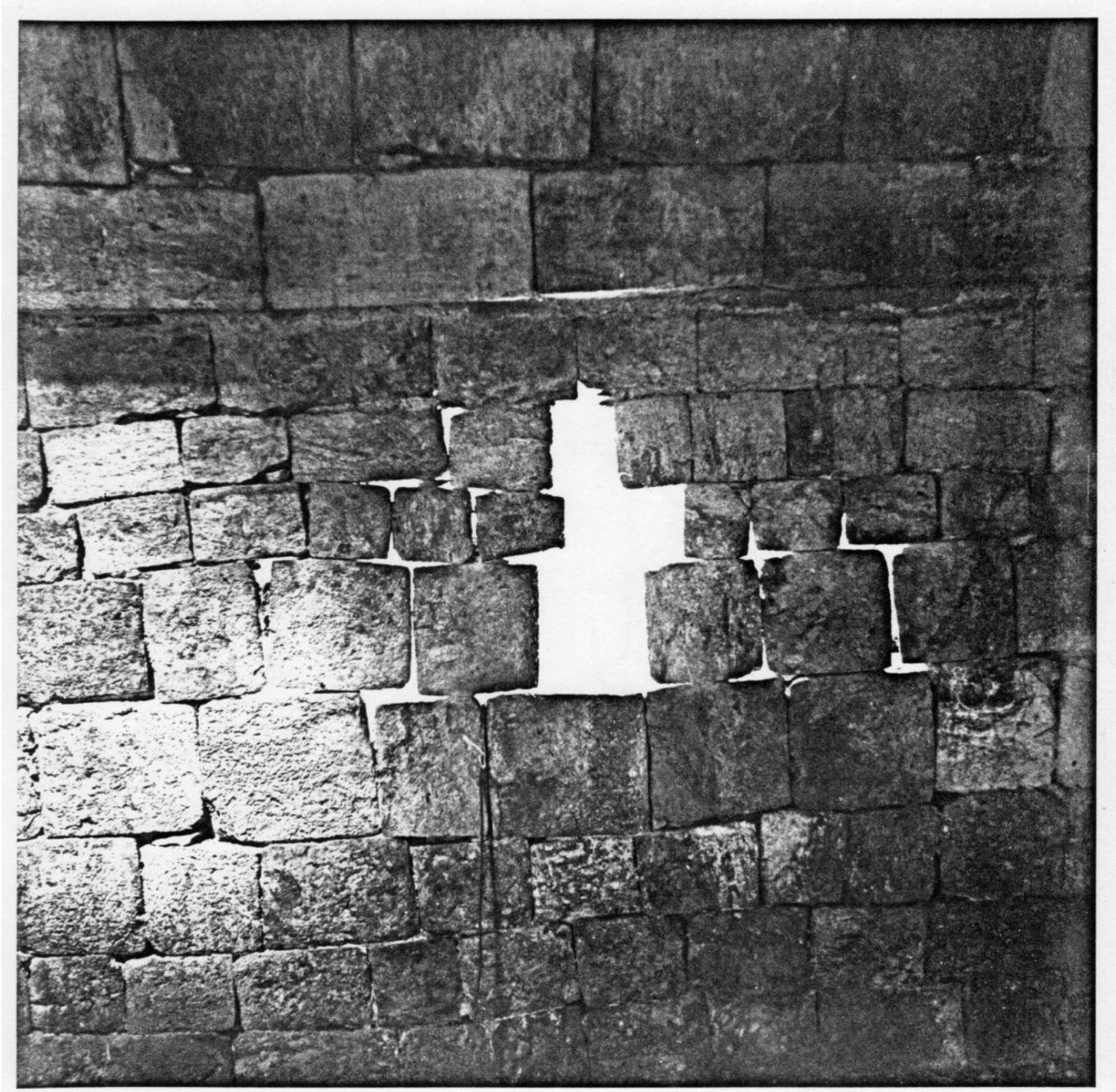


Plate 20. The west wall of Room 3 has crumbled about as far as possible without falling to ruin. The entire outside facade is gone, even the mortar between the stones of the inner facing. You can see right through the wall— (collapse in slow motion). Southwest Building. Unless this structure is repaired immediately these will be the last photographs--actually the only photographs since other expeditions were not equipped for interior photography.

Thus, the back of the wall stones are naked, and therefore you can see that they are not blocks at all. That is why this entire wall will collapse the next time some tourist enters this room and inadvertently backs against this wall to take a picture, since the room is so small one automatically backs up against the back wall.

Vault of Room 3

The second course of the west vault soffit is of tall stones, equal to two courses on the adjacent south end wall. The vault stones of Rooms 2 and 3 could be judged the most finely squared and fully pecked masonry in all Santa Rosa, though such workmanship is typical of the Puuc area in general. In Room 3 the vault stones are slightly larger than the wall stones.

The end wall stones are custom cut in order to receive the angle of the adjacent soffits. This is the pure Puuc manner of handling adjoining wall faces. Chenes masons would save time and stick in stones of whatever size they had on hand. Puuc masons did that only when the space was simply too small to cut down a larger vault stone.

Room 1 and Room 2

I have no information whatever on Room 1, or even whether it exists. I have to trust Andrews on this point. Room 2 is evident

from the jamb of its doorway which is still in place, though buried almost up to its top by collapse. If I remember correctly the lintel itself has fallen. The jamb has a rectangular corbel, or offset stone (which serves somewhat like a capital on top of a column). There is no way to get inside Room 2, but one would presume its masonry is identical to adjacent Rooms 3 and 4.

Room 5

Andrews does not mention or describe the basis for his broken line suggestion for Room 5. In fact, the broken line makes me suspect that he was also unsure whether to include a room here or not.

Room 4

The Maya could enter this from Room 3, but it is dangerous to crawl through the hole in Room 3's wall (the doorway is filled with collapsed masonry) since the stones over the hole are just waiting to fall in. Thus, the safest means is to step over the tree roots of the west wall directly into Room 4, since the west vault is fallen. All the capstones are also fallen. Actually, it is this openness which bathes the room in light and illuminates the masonry so attractively. This and Room 3 are the most photogenic at the entire site, though the quarters are too tight to use any lens other than the Nikon or Leica 15mm non-distorting

super-wide angle. The Hasselblad 50mm is not wide angle enough, and we do not have the 40mm Zeiss lens for the Hasselblad (it costs about $2800-$3500). Perhaps this would be the perfect situation for the new Linhof model 617S, a special wide-angle camera, though I do not know its angle of view or nature of distortion, or lack thereof.

When the angle of this room's vault is drawn (if that is possible before the entire building collapses to a heap of rubble), then care should be taken to exclude the extra curvature induced by the slow slumping of the vault. This building is actually in the process of collapsing, slow motion, centimeter at a time. The entire row of capstones has already toppled over and the vault stones are now beginning to fall, one course at a time.

Stamps produces a profile of either Room 3 or 4 (his Fig. 25 is not labeled as to which) which shows clearly, albeit idealized, the curvature, and he comments that "The vaults are more outwardly curved than any other found at Santa Rosa Xtampak." (1970: 78).

The door between Rooms 3 and 4 has a flat jamb, that is, no corbel or capital.

Andrews also correctly points out that these rooms are unusually wide, though not as high as those of the Cuartel. He considers

these Southwest Building rooms as "almost classic Puuc details" (1988). He draws attention to the stubs of several projecting stones tenoned into the walls on the inside.

The masonry is beautifully squared, finely finished, and aesthetically arranged. The stonework approaches the beauty of Inca masonry, though without the rounded or polished effect of that South American sophistication. The curvature of the vault is the most sophisticated at the site. Considerable effort and care must have been involved to make every course flush across the entire width of the soffit and most of the stones fit closely together with hardly any spalls or chinking as on Chenes soffits allover Xtampak. Clearly this is a wholly different form of masonry, and done correctly. It would take a Puuc specialist to certify whether this is "pure Puuc" but it is certainly not pure Chenes or even Puuc influenced Chenes. These masons had a completely different goal than those of the Main Palace or Cuartel.

Wall stone size is larger than average, though not as large as the north wall of Room 5 adjacent to Passageway 6 of the Southeast Quadrangle, or of the exterior wall of the West Range of the same complex.

THE "UPPER" RANGES OF THE SOUTHWEST BUILDING

I am tempted to propose that Rooms 6 through 11 are on a higher base level than Rooms 3, 4, etc., though I took no measurements,

Indeed, did not even measure by eyeball. The room size of each wing is certainly different, as are the room proportions and details, so I can hardly imagine them being contemporaneous, though they may well be both early, and in fact the inner (South) corner of the upper zone may demonstrate they are indeed both built together. I must admit I never inspected that facade carefully since I entered the rooms through the break between Rooms 7 and 9. The masonry in Rooms 7 and 9 seems (as a snap reaction) to be closer to that of the East Range of the Southeast Quadrangle rather than to Rooms 3 and 4. Indeed I cannot imagine that Rooms 3 and 4 are truly part of the identical building as Rooms 7 and 9, or if so, were certainly built to lesser standards and by a different mason.

Rooms 6 through 10

Time did not allow gathering any data on these rooms other than to suggest that the fallen doorway column must be from one of these room facades, unless it is reset as a stela substitute. It would take excavation to demonstrate whether the front range had columns or piers. Since none of the jambs are in place this aspect could not be studied at the present time.

Rooms 7 and 9

Room 10 is not discussed since I did not inspect that area even to see whether a room existed or not. This was the last part of

the site that the guards bushed, indeed on our April visit we could barely even wend our way out here, much less walk around and study the remains--too many entangled vines, thorns (actually more like hypodermic needles), and leafy plants everywhere.

The dividing wall between Rooms 7 and 9 is partially fallen revealing a beautiful cross-section, but I ran out of film before I could photograph it. The wall is quite thin, hardly over 50 cm, at the base, then widens out; after the spring (since these are Puuc rooms there is a spring on the end wall) the walls now continue to be angled out. They never lean out like a true end vault in the Peten sense, but they lean more than most Chenes end walls. The section on the top right of Stamps Fig. 25 is probably this wall, though it is not labeled.

The doorways of Rooms 7 and 9 are all intact but filled with rubble from the rooms in front. The lintels are in place over rectangular capitals corbelling out from rectangular jambs. In Rooms 3 and 4 the interior doors are completely rectangular without any capital under the lintel stone; for these rooms only the exterior doorway has the rectangular corbel.

An unusual feature of Room 7 (and presumably once present in Room 9) is a second spring created in plaster under the actual stone spring. This attractive feature is mentioned as "traces of plaster just below spring line" (Andrews 1982). Its profile,

Plate 21. Inside upper room 7 or 9 looking out. The debris is from the collapse of Room 6 or 8. Southwest Building.

Plate 22. Inside upper room 7 or 9 looking out. The jamb stones are not the monolithic type, another reason why I suspect Rooms 1 through 4 are of a different time period than Rooms 6 through 11. Southwest Building.

Plate 23. West end of Room 7 showing the double spring added with secondary plaster. Southwest Building, upper sector.

though, is clearly an additional spring, though not with an arrangement over a door was in various Chenes rooms of the Main Palace. One would need to check every drawing and photograph of Pollock to see where it occurs elsewhere, as it is evidently a feature that is not noticed easily. This special band of plaster has mostly fallen except for the west wall and a section on the north wall. Andrews does not provide a cross-section of these rooms; one would certainly help to show how different they are in proportion to the adjacent range to the west.

The entire vault plaster of Room 7 was once decorated with graffiti, showing serpentine like forms with cross-hachure representing scales and/or the color black. Unfortunately, no one noticed these when the plaster was in better condition.

Stamps concludes his observations on the Southwest Building by stating, "This building provides an interesting combination of unique traits and would be an ideal area for further excavation and study." (1970: 79).

End Wall of Room 7

The masonry of the end wall could almost pass in the Main Palace (thus pass as Chenes stonework). Other than the spring on this end wall and the (sloppy) custom fitting of the corner stones to receive the adjacent soffit angle, the stonework could be any-

where at Xtampak, including the Cuartel. The vault soffits themselves and long walls are a slightly higher quality masonry, especially the back wall, but nowhere in this room is the fit of the stones as tight as in Rooms 2 and 3. Furthermore the vault is totally asymmetrical. The front vault ascends more steeply; the back vault ascends at a seemingly uncertain angle. The result is that the capstones are left of the center line of the room.

Vaults of Rooms 7 and 9

Spall stones are often used in the vault stones, something not as noticeable in Rooms 3 and 4. Both sides of the vault of Room 9 are not symmetrical. Perhaps this results from two different crews. The soffit angle is nowhere near as neatly and perfectly achieved as in Room 4.

Capitals and Columns in Puuc Facade Design

I propose that doorways which have step-outs (corbels) on the jamb are related design-wise and timewise to doorways with columns. This proposal needs to be tested stratigraphically. The idea comes from the fact that both a (admittedly fallen) column and corbel-jambs occur together on the upper portion of the Southwest Building. The facade of an edifice such as Xcalumkin Initial Series Building, north facade (Pollock 1980: Fig. 718) has the corbel on the end jambs. This corbel in this instance is really a

half capital, as you can see from the adjacent doors which all have Puuc columns with full capitals. The end jamb (which is normally rectangular and not a column; certainly not freestanding) can only show half the capital. Thus, I propose that the correct word for this feature is "half-capital" even when no columns are around. It remains to be seen whether half-capitals by themselves, in facades that have no columns anywhere, whether these are earlier, later, or contemporaneous with colonnaded facades.

THE SOUTHEAST QUADRANGLE

Introduction

This whole area of the site was never found by Stephens or by Maler. The Carnegie found and mapped it four decades ago (Pollock 1970: Fig. 56.). Stamps took this over directly without a single change other than in the passageways at the southeast corner (1970: Fig. 2 and 24). Andrews revised the ground plan of the west, south, and east ranges (1988) though this entire quadrangle is not in his 1987 report on Santa Rosa. The 1988 report, though, is the first to picture the pyramidal-like stairways on both the front and back of the East Range and the South Range. Considering how overgrown this area was his map is a considerable achievement. When Leiter and I attempted to reach this sector of the

site in April 1989 we had to send workers out to hack a trail through the vegetation. The plaza itself was so thickly overgrown I never did see the entire quadrangle. There was no way to see across the courtyard, even though in reality this quadrangle is much smaller than that of the Cuartel; the SE quadrangle is only about 30 meters across.

But after an intensive 3-days work it was possible to see every building perfectly and even to re-map the entire West Range and South Range and add details to the East Range. The North Range is the simplest and has not required much change since the Carnegie map other than Andrews' correction of moving the door off center to the right (east). For an architectural historian the most impressive and totally unexpected discovery of the second session was made during remapping.

THE NORTH RANGE

The North Range has a definite stairway on its front and presumably one on the back, though I must admit I did not double check. Most every other "palace" at Xtampak which has such a pyramidal mound across its center has stairways both front and back other than the Serpent-Mask Building, which has a stair only on the back--since the front is occupied by the monumental monster mouth facade. As far as can be determined so far (that

is, with no aid from any excavation, as none has been initiated), none of "the other Xtampak buildings with these stairways front and back has any kind of a doorway under the stairways. These Xtampak variety of stairways appear to be integral with the flanking buildings, seem to cover solid rubble fill, not a refilled room, and evidently never had a room under them. The exception is the South Range where Andrews correctly demonstrated that the rooms pass under the stairway, and he was able to estimate why, because this is a Dzibilnocac-type structure. Little did he realize when he made this estimate that he was correct and that the Xtampak example even had towers. These towers escaped notice by all early explorers to the site. We did not notice them on our April visit--the forest was so thick on that visit I did not even see the entire South Range.

The North Range pyramidal mass is topped by the remains of a definite building. That can be ascertained by facing stones. Not one of the Xtampak temples topping such a pyramidal mass still remains intact, though extremely careful excavation might reward some future excavator with some information on the wall plans of these unusual structures. Nothing like this has been commented upon outside of Andrews' observations. This entire Maya building type does not exist yet in the Mayanist lexicon, something that Xtampak will certainly alter.

Bits of the west wing of the North Range have up to two courses of the vault still in place; the top three courses of the wall

Plate 24. North Range of the Southeast Quadrangle, southeast corner, looking east. This is the only section of the upper zone still preserved.

are visible in the same spot. The rest is buried by collapse--or itself fallen long ago. The ground plan of the Carnegie appears to be basically correct.

The south corner of the east wing is still standing up to the medial molding and has been well reproduced in the photograph of Andrews (1988).

Additional Buildings in the Northeast Corner

Separate and probably detached from the main range structures is a considerable amount of lower building remains in the NE corner. This is possibly a continuation of all the low buildings behind the East Range. There is also an additional complex behind the South Range. I did not explore the area behind the West Range. All these behind areas are totally overgrown and would require extensive bushing, something I had no intention of initiating.

Part of the remains in the NE corner include two sets each of three embedded plain columns. Such wall decoration is certainly widespread throughout Xtampak.

THE EAST RANGE (PUUC)

Additions Needed for the Map

The East Range is at first glance bilaterally symmetrical, a typical Xtampak palace with a stairway mass pyramid in the middle. Yet curiously the Carnegie Institution map shows three sets of rooms, that is, a central set of rooms rather than the pyramid--and the pyramid is not pictured at all. In fact, the pyramid stairway(s) on the South Range are not shown either. Furthermore, the proportions are too long. Andrews corrected all that by adding the pyramid-like mass and its front stairway (it is still not known whether there was a back stairway since the situation on the back is totally different than on the Cuartel.

This range should be remeasured and surveyed with a proper instrument but that will produce no major changes in Andrews attractive rendering--of the front at least. Without going into needless details all that he reports on Rooms 1 through 4 can be taken as they are. We were so busy photographing inside and out that no time was available to sit down and scrutinize minute details. Where the necessary changes were too obvious to leave alone were on the back.

The Common Roof Platform of the East Range and south Range

It is possible to walk unobstructed from the roof over the easternmost area of the South Range directly over the three passageways and continue strolling along Rooms 3, 4, etc. I suspect

this roof deck was deliberate and was utilized in some manner by the ancient Maya. Another aspect of this roof area is the added space provided by the secondary mass against almost the entire back of the East Range, not pictured on any map so far, and too much for us to even consider tackling in our all too brief second session in June-July.

The Secondary Mass Against the Back of the East Range

About 20 cm lower than the roof deck of Rooms 1 through 4 is another deck, equal at least to the width of another range of rooms. This secondary mass ended at the north about 2 meters before the end of the main range. It started at least an approximately comparable distance from the south end of the main range, though whether it is precisely symmetrical with the overall range was by.no means ascertained. Whether any rooms are actually underneath will probably never be known. This mass could be a platform served by a wide stairway. I did not thrash around this back area because there were additional rooms all along the back side of the East Range (in addition to this secondary mass). It would have required at least two days to sort out preliminarily and map imprecisely what was present back here, and my responsibility was to gather comparative data for the Main Palace, so I needed to stay with the standing architecture.

The top surface of this secondary mass is now a flat surface of small stones which must have been the ballast under a one time

floor. For some reason there are far fewer plants on top of this secondary mass as opposed to the plants on top of the roof of Rooms 1 through 4.

That this mass is secondary is quite clear, since it covers over standing remains of the cornice molding most of the way across. Thus, at one stage there must have been a normal back to this main range, probably a simple long wall (aside from the corner created by Room 5 and 6 (Passageway 3). Actually, this cornice molding back here allows a reconstruction to be made of the entire original facade profile of the main East Range. This potential is important since an end product of the F.L.A.A.R. share of the study program of Xtampak is to produce three-dimensional drawings: of the four main compounds as comparative illustrations for the 3-D drawings being prepared for the Main Palace itself. Thus, it is essential to gather as much detail as possible from the entire Southeast Quadrangle and the Cuartel, the immediate candidates for such isometric drawings. No complete facade profile resulted from any earlier research, since evidently no one analyzed the back of the buildings. That is evidenced by the overlooking of all the rooms precisely on the back of the adjacent South Range and not noticing the doorway jamb remains for the West Range--not to mention the entire row of fallen buildings parallel to the back of the East Range and the possible entire plaza grouping of lower structures behind the South Range. Considering how thick the thorny forest was in those days I can hardly blame earlier

explorers, especially since the cover for the back of these buildings includes poisonous plants, which inflicted surprised pain when Leiter brushed against the offending chaya plant on several occasions. I got a long needle-like spine up under my thumbnail against the quick of my skin when I attempted the first time to go over the back of the South Range. Thus, there was adequate incentive to bush this area, which does not require felling any mature tree whatsoever--just the leafy low growth. But that simple feature, essential for both photography and for mapping, is what revealed all the details that are herein reported. The INAH guardians are masters at this careful bushing and the site was approaching the appearance of a national park by the time we left.

The Moldings with Rounded Member

Andrews (1988) and Gendrop have recorded and commented upon the three-member medial molding with the handsomely rounded middle member. When I first saw this, I thought this decoration was a bound capital to the corner column. Only later did I realize that the same decoration continued straight around the entire building--and that essentially the identical molding was used as a cornice molding. Thus, this same decoration was repeated twice all around the building, and must have been quite effective, as well as a dramatic contrast from the adjacent North Range and the severe West Range across the large courtyard.

Plate 25. East Range of the Southeast Quadrangle; right next to the center stairway (front). This is the remains of the medial molding which runs around the entire building. The upper molding is the same and is preserved along the back of the palace. In the middle ground Eldon Leiter measures the remains of Room 3; in the background is the end wall of this room, complete with the custom cut stones prepared to receive the slant of the adjacent vault which has long ago collapsed. Custom cutting of end wall stones is a trait of Puuc rooms.

The medial molding is best visible precisely where everyone has photographed it, on an exterior corner of Room 3, next to the central stairway. But there is another overlooked section of this molding still in place behind Room 5.

The Outward Jutting of Room 4 or 5

At the southeast (back) corner of the East Range the north-south wall next to Passage 3 (Andrews' Room 6) is about a meter or so out (east) of the main back wall of the East Range. Not enough remains of the corresponding corner at the north end of the range to check to see the situation there, though bilateral symmetry is not absolutely required.

Other Details Visible on the Back at this South End

Between Passageway 3 and the beginning of the back mass about four meters of the upper zone is exposed, including both the medial molding and upper molding. In fact, here at the back is the only evidence of what the upper molding looked like (virtually identical to the medial molding). A set of three embedded columns is in this upper zone. This allies this feature to an otherwise Puuc building (the molding is certainly not typical of Puuc but the interior masonry is). That means that at Xtampak embedded columns cannot be used automatically to label a building as

Chenes--or Puuc. More careful attention needs to be given to defining Puuc masonry, Chenes masonry, Puuc influenced Chenes masonry, Chenes influenced Puuc masonry, and true Chenes-Puuc hybrids--not to mention combinations with Rio Bec features.

Room 5

It will be advisable to completely remeasure and triangulate the dimensions of all of the East Range in order to ascertain the relationship of the back of Room 5 with the medial molding that is visible at the back. This is important to establish since the medial molding visible should be on the back of Room 4, but should not necessarily be on Room 5, since that is considered a probable secondary addition--certainly its large south face north wall stones are totally different than all the walls of the East Range.

THE WEST RANGE (PUUC)

The West Range is the first monumental architecture which you see when entering the complex courtyard. This building facade is unique in three respects: first, it has the sharpest, longest angled medial molding of any building in Xtampak, indeed of any Maya building that I have yet personally photographed in 27 years of exploration. Second, this range has an unusually long front

facade with no doors--12.74 meters at the south end, and that is definite since it is entirely preserved. Another stretch of 19.81 meters may also have had no door. Perhaps the excessive medial molding was an attempt to create attention which in a normal building would be expressed around the doorways. This medial molding casts an impressive shadow as noon approaches. One would need to observe such shadows on the solstices or equinoxes, to ascertain whether any of this was planned. This is a feature of AutoCAD, it has the capability to create and cast shadows.

Changes needed in the Ground Plan

The several published versions picture this building as two separate bilaterally symmetrical buildings, each with a single door in an otherwise long blank facade. No doors whatsoever were shown for the back. In fact, this is all one single long building. In the "middle" is evidence for a standard simple doorway, not a portal arch as had been suggested earlier. And there was at least one door on the back. Experience predicts if there is one door, then archaeologists should be on the outlook for others. In effect this building needs to be redrawn. The sole hour we could spare to do a re-sketch should not be considered the final word at all. But at least this re-mapping revealed several more rooms in addition to the at least two extra doors.

The Non-Existent Portal Vault

Pollock gives a cryptic remark "West Range. Appears to have been portal vault at center of this range." (1970:59). It would be necessary to check his field notebooks (stored in the Peabody Museum, Harvard University) to see what led him to that decision. I believe it was the tall wall section which stands at that point. Andrews observed: "Pollock believed there was a portal vault at the center of this range and while my notes do not confirm the presence of this feature, the shape of the debris near the center suggests its former presence." (1988).

Actually, there is other evidence that would predict that indeed a portal vault is present at this specific spot, based on comparison of the layout of the overall Southeast Quadrangle with a plaza plan that is definitely related, at Dzehkabtun, where Andrews himself photographed a portal vault in the equivalent position (1987). The portal vault at Dzehkabtun is still standing. Curiously there has not previously been any reference to the similarity of the two plaza plans. Thus, on the basis of the definite portal arch at Dzehkabtun--which is not that far from Santa Rosa Xtampak--coupled with Pollock's suggestion of one for the equivalent position at Xtampak, combined with Andrews not ruling it out, led me to predict one based on the Carnegie/Andrews map of the Southeast Quadrangle (Hellmuth 1989b).

A Puuc portal arch in the middle of a "Chenes" site would have been just perfect to document a model of Puuc-Chenes interaction. But, the curse of all models, facts do not fit the convenient fantasy. In fact, I now doubt there is a portal vault in this place at Xtampak. Fortunately, I could admit that before this model was presented as reality. My earlier report had not yet been formally printed, and I can insert a footnote and alter the observations made on the basis of the literature and incorrect maps. Perhaps this should be a general lesson not to base models on typical Maya maps. outside of Tikal, Copan, Yaxha, Dos Pilas as remapped by Steve Houston, Calakmul, there are not that many Maya sites which have been totally mapped. Xtampak is certainly at the bottom of any list of sites which have been completely or accurately mapped, though Folan's crew is changing that for the peripheral area.

Excavation could still unearth a portal arch at this point, since one is still definitely predicted on the basis of the definite Dzehkabtun example, but from an eyeball analysis of the collapse patterns combined with a look at what is still standing leads me to conclude tentatively that the wall which Pollock thought could be the side wall of this imaginary vault is in fact the normal north end wall of a vaulted room. This end wall runs east west. The vault would then have to be north-south, for a room. To be a portal vault the vault soffit would need to run east-west.

Furthermore, I could not ascertain any opposing wall to form a portal vault corridor. And in fact, there is no entrance noticeable here on either side of the building.

Correcting a further Map Statement for the West Range

Andrews proposes that the entire south end of the quadrangle has closed corners. The southeast corner is definitely closed since it is 90 percent preserved, complete up to the roof in most cases. This is the corner with the three passageways that I will describe later.

The southwest corner does indeed form an integral corner of the West Range. The interior outside corner is perfectly preserved and correctly pictured on Andrews' map, but this room is unlikely to be physically connected to the South Range unless there was another series of passageways with secondary vaults. I say that because the west unit of the South Range has a definite end at least one meter before the west Range. This end is complete with finish masonry, indeed specifically a section of medial molding if I can trust my memory of those particular stones. But considering that there is also evidence of secondary construction against this earlier end of the South Range, it is perfectly possible that this secondary construction filled in the "corner," though I did not notice any evidence for such a closure. Open corner courtyards are certainly the norm in Maya urban design,

though Andrews has already pointed out in the Cuartel where I accept at least one corner as demonstrably closed (he proposes the other one is also). There is no further need to discuss this western corner, since it certainly could have been closed during the secondary construction, indeed it has been proposed that the passageways closing off the opposing corner were also secondary.

The Corner, Open-cornered or Closed?

Since the West Range turns the corner and starts south with a corner room it is natural to interpret this as a closed corner, "... the western interior corner of the South range is completely closed and the intersecting structures form a simple right angle, with no articulation." (Andrews 1988). But in fact, it is not possible to state that the South Range continues directly from this end of the West Range since the South Range is collapsed at this point. And, there are remains of the end of the South Range about one meter away that show it once had an end wall at this point. An end finish wall to the South Range means there was almost certainly a few centimeters walkway between it and the corner of the West Range

Yet a palace does not turn a corner without a reason and "it is reasonable of Andrews to interrupt this reason as being to close off the corner. The only other reason for the palace to turn a

corner would be to counterbalance a corner extension at the other far end, a bracket-shaped ground plan, which occurs often in Peten Maya palaces. Indeed, the South Range itself may have that ground plan with the flanking Rio Bee towers being corner extensions in a sense. But the far end of the West Range has no extra corner extension, at least none sticking out into the courtyard.

My interpretation of the remains, based on limited evidence since the data has collapsed, is that the original palaces at the southwest corner had a narrow open space. Later this open space was closed by secondary construction, since there is extra masonry in front of the end wall of the South Range. Thus, Andrews could well be correct for the final stage, as long as his comment is clarified by reference to the specific stratigraphic sequence of remains visible even without digging. Adjacent stratigraphy (which wall is in front or behind which other wall) can be seen quite easily in many instances at Xtampak. Most archaeologists consider only horizontal stratigraphy, which is less visible in the unexcavated status. Since one goal of F.L.A.A.R. is to work out levels of field observation that do not require excavation, Xtampak is a good model. Since there are so many hundreds of Maya sites that need attention, and as it is wholly impossible even to think of digging them all, it seems rather crucial to work out techniques of analysis for non-excavation situations. It is not necessary to dig holes in the ground to be an archaeologist and it is definitely not necessary to search for tombs and grave lot provenance to provide pertinent data on the Maya past.

The SW Corner Room

All that is visible of this room is the Puuc style door jamb on the west side of the room's sole doorway to the courtyard. The stone block is 76 cm high, 76 wide (which must be the width of the wall itself), and has a front face of 18 cm. There are at least five others of comparable size and shape, and equally Puuc related, door jambs elsewhere on the structure. Only the furthest north doorway on the long front facade has both jambs still in place and still with a stone lintel.

The back wall (here the south since it is around the corner) of the West Range has the most unpredicted molding alteration yet recorded at a Maya site--and that considering that the molding alone is by itself excessively ponderous. The feature is a change from the severe (unlively) projection to a more normal projection. This change takes place at precisely the point which marks the width of the main range of the building itself. The end room is wider than the main range since the end room is the full width of the main wing plus the extra distance it runs towards the end of the South Range. Approximately half way marks where the front facade of the West Range would have existed if it had continued straight instead of turning the corner. Andrews was well aware of this molding change and pictures it on his plan, but with no accompanying data. Thus, the line can be misinter-

preted as a change in the basal molding when in fact he intended it to present the change in the medial molding. But unless presented in a three-dimensional drawing we cannot expect the reader to recognize the actual size and shape of the detail.

Precisely before the change in size and shape of the molding there is a tenon stone sticking out diagonally, due south. Tenon stones in the upper zone are not common for Puuc buildings but are standard for Chenes facades. Puuc buildings tend to have mosaic decoration on their upper zones; tenons tend to be on the elaborate roof combs. Two other tenons are still preserved on the upper zone of the West Range, widely spaced along the twelve Meters of doorless façade.

Door(s) on the Back of the West Range

Puuc buildings can be studied surprisingly well from totally collapsed condition, since each part of the building has stones of a specialized size and shape. Thus, it is possible to find the doorways on the back of the mound from the presence of the specialized Puuc jamb stones. One such monolith is still in place; the remains of the once adjacent jamb are fallen about 2 m away.

If the entire back of the range were totally bushed in the manner we did at Yaxha it would be possible to ascertain without excavation whether still other doorways could be documented. This anal-

ysis necessitates only a thorough clearing of vines, grass, dead leaves, fallen dead branches, and fallen dead logs. It requires no tree cutting whatsoever--only low brush must be removed-totally. Actually, the cleared area resprouts within 3 months and is almost totally regrown the next year. And since the mature trees are not disturbed whatsoever, this cleaning process is a useful technique, but it requires considerable man power. And ideally the area should be swept (a native palm broom will do) or at least raked. Employing this simple technique entire sites can be thoroughly mapped, including fallen or including a few "hidden" architectural details. The F.L.A.A.R. map of Yaxha, which uncovered in some cases over 300% more structures than the Carnegie Institution of Washington map of the identical area, is the best example to date. But we are at Xtampak to photograph, standing architecture, not to interpret fallen buildings; the meagre founds available come nowhere near what would be required to adequately clear the downtown area (it took four seasons of 14 weeks each to handle Yaxha and cost many tens of thousands of dollars), and we therefore never even included such work in our Xtampak permission request. In fact, this had advantages, in our present situation we are forced to gather the maximum information with the minimum expenditure and with absolutely no alteration of the tree cover other than what the INAH guardians do anyway in normal cosmetic bushing. Nonetheless it has been possible to dramatically improve the map of the entire Southeast Quadrangle and to correct a number of misinterpretations for the map of the

Cuartel as well. The next generation of archaeologists will add still other additional features were overlooked.

The Harsh Medial Molding

The initial drawing (Pollock 1970: Fig.84) in no way conveys the monumentality of this medial molding which sticks out more, and at a sharper angle at the end, than any at Xtampak, or of any other Maya site that I know of. The two drawings of Andrews aptly reproduce the length (47 cm maximum). An average Xtampak molding on any other building is less than half that dimension. Although the diagonal dimension, 52 cm, is comparable to that of the south Range, East wing (Andrews 1988). The latter sticks out for only about 40% of the west Range.

Yet dimensions alone do not tell the whole story, even drawings, and barely photographs. You have to stand in front of this stern facade and see the impression it makes, especially as the sunlight angle changes the angle of shadow cast.

Andrews' useful drawings though, show only the medial molding itself, possibly because at that date there was no upper molding available for comparison from any of the other buildings. But now I have found the complete profile for the entire upper zone of the East Range (it is essentially identical to that of the medial molding and separated by about 97 cm). For the West Range it is

no problem to get a profile of the entire upper zone in any of several places--except for the fact that if you get too close your weight will cause the entire facade to crumble for several meters. I solved that by taking my measurements from afar with a special angled meter stick that was rigid yet flexible--not a tape measure that I had to be up against the object measured. I did not use a plumb bob and graph out the actual angles but eyeballed that and used actual measurements to work up the resultant drawing. It is necessary to have a ladder that supports itself away from the wall--that does not require being leaned against fragile walls. Such a ladder is in the budget and on the purchase list for August.

The top molding is a moderated repetition of the lower molding; sticking out only 36 cm compared to 47 cm of the medial molding. Although Andrews did not create a complete profile of the outer wall either (probably because no inner rooms were visible then so there was no call for a cross section) the data are readily available for a complete wall profile from basal molding up to top of upper molding and it should be possible to put together a profile that included at least the adjacent vault soffit that abuts this profile and even estimate within plus-or-minus 5 cm the actual width of the building, since at least one door jamb is still standing on the back. The goal in all these measurements is to have enough data to create three-dimensional isometric renderings of entire buildings (and then the entire quadrangle) for

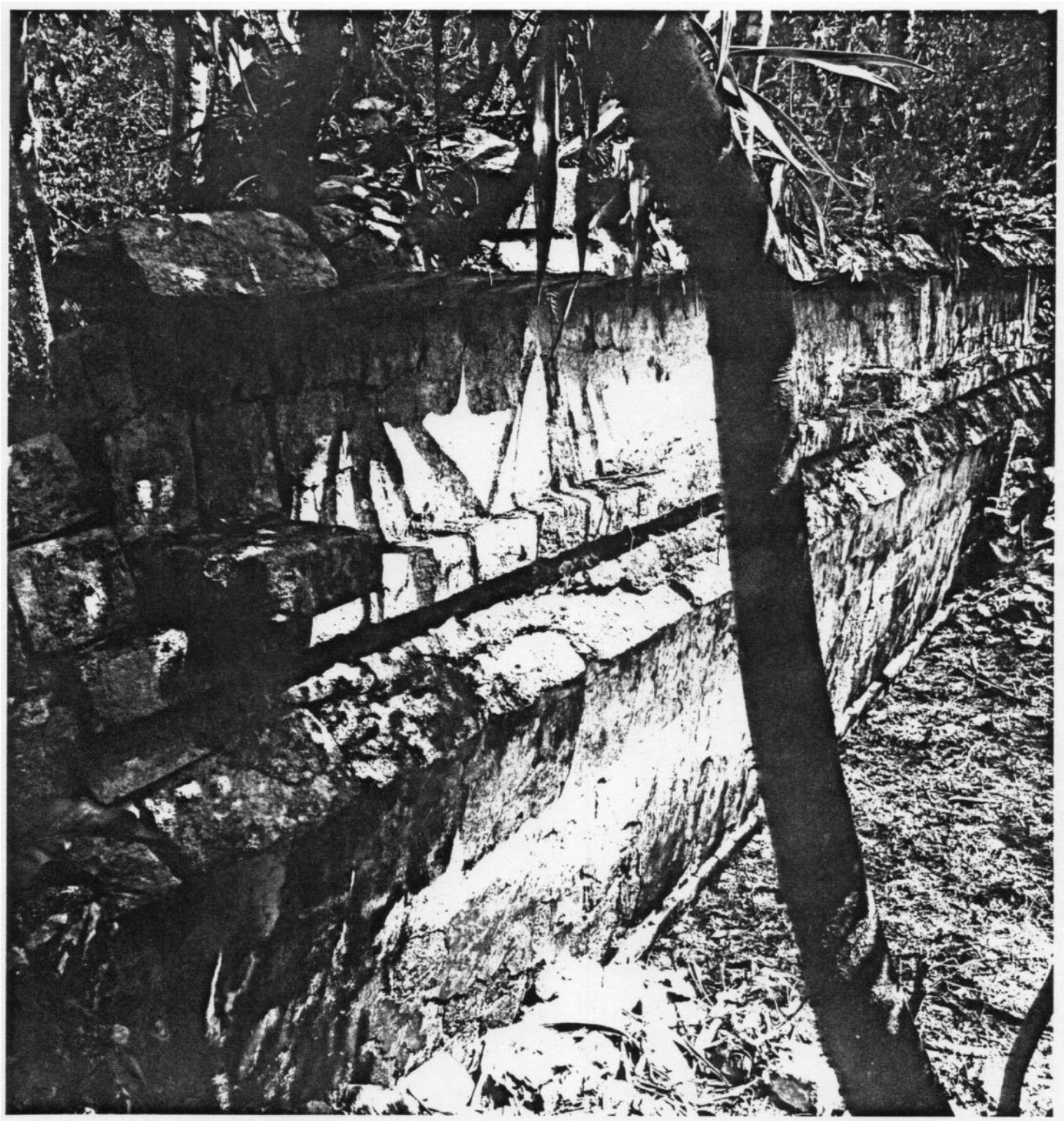
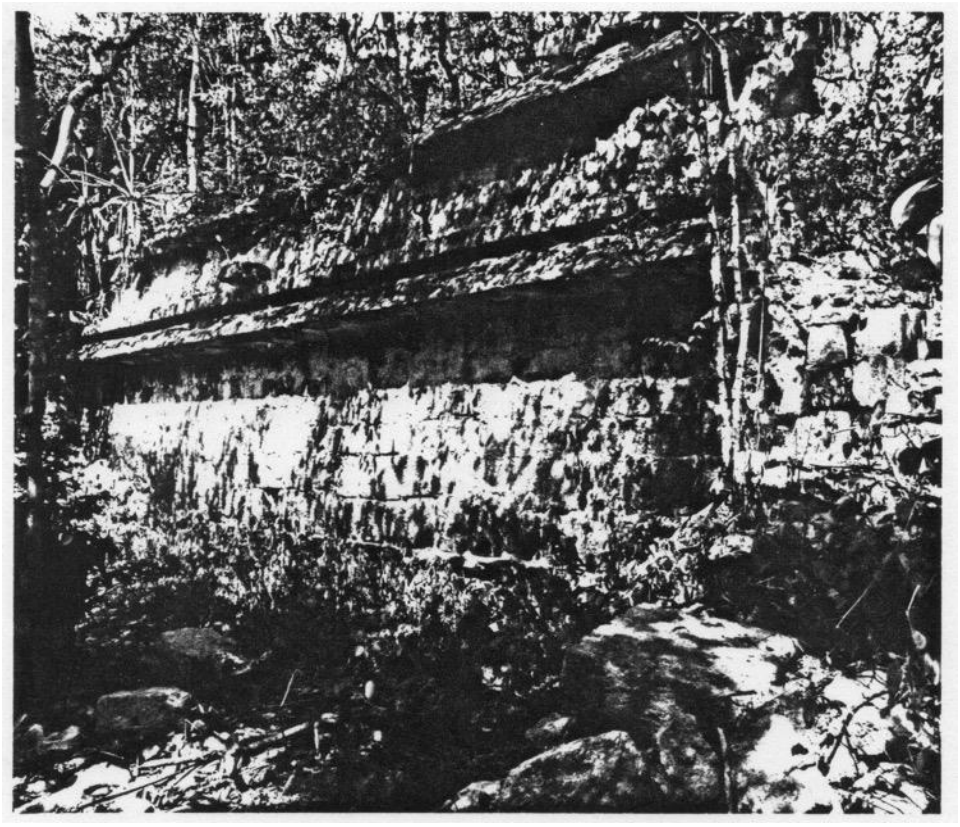


Plate 26. West Range of the Southeast Quadrangle. Although not a single doorway is visible in this long facade in fact this is the "front" which faces in to the courtyard. This view is from the corner with the South Range looking north. Barely visible in the upper zone are two widely spaced tenons. Andrews has already mentioned these are rare in this position for a Puuc building. The interior features of the room masonry are basically Puuc.



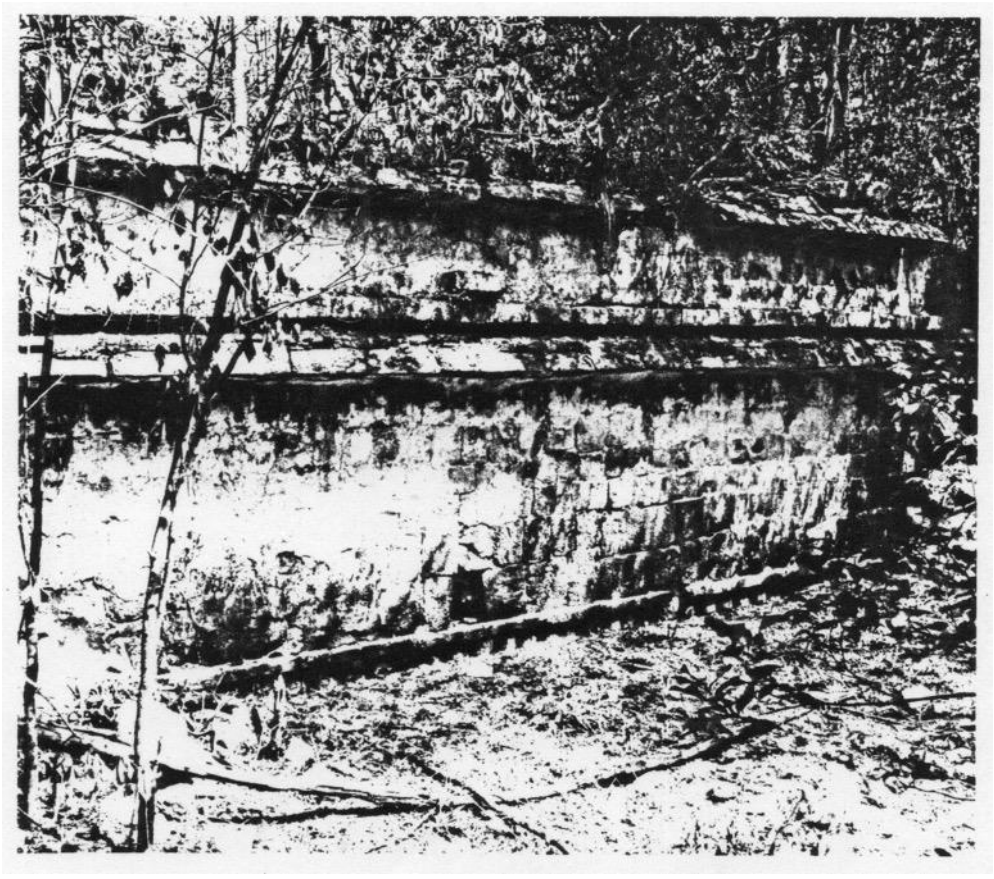


Plate 27. Two more views of the same long, door-less section of the West Range, Southeast Quadrangle.

Plate 28. In the background is the projection of the medial molding in the same dimensions as along the entire front (and presumably as along the entire back, now fallen except for here, the south facade near the back corner). Precisely in line with the east front of the building (which is on the other side of the room to the right) the extreme, severe medial molding cuts inward back to a more normal subdued projection, which is the several meter extent of the foreground. West Range, Southeast Quadrangle.

comparison with that of the Main Palace. That is the ideal goal of the architectural recording aspect of the Main Palace, a front and a back three-dimensional rendering with a view of the Cuartel and Serpent-Mouth Building (since both share Chenes features with the Main Palace) and then compared and contrasted with the Southeast Quadrangle which has at least two Puuc buildings (West Range and East Range) and then a combined Chenes-Rio Bec complex on the South Range. The Southeast Quadrangle is essential to measure since here is the only other towered palace for comparison with the towers of the Main Palace. This South Range is the most exciting building at the site after the Main Palace, albeit in an advanced state of collapse. But, rather than always being forced to compare the Main Palace at Xtampak with buildings at Dzibilnocac and Tabasqueno, now Xtampak can be compared with Xtampak.

Perhaps because the moldings take up so much space the empty (flat) space between them (the main space of the upper zone) is not very high, just three courses. Plaster is thick, over 2 cm where needed to make up for stones of uneven size.

Exterior Facing Masonry

The exterior wall stones of this range are the largest I have yet noticed at Xtampak. This feature makes this range all the more unusual. For what we know from remaining architecture at the site.

All stones are set vertically but are not really headers in the Late Classic Tikal masonry sense. Despite these large stones no supplementary course was needed to create a level for the placement of the medial molding.

THE SOUTH RANGE: RIO BEC-CHENES

Since the South Range is a towered Rio Bec style temple-pyramid/palace it was imperative to map it for comparison with the Main Palace. To set up bench marks and do a transit survey was out of the question since we had so much else to accomplish, but there is no need for a steel tape measured plan without a transit has to be regularized, idealized--and incorrect. It is possible to do pseudo-closing by going around a complete traverse, by cross-measuring back and forth, and by taking into account instances when rooms are not bilaterally symmetrical with another on the other side of a stairway or wall. I have yet to find that rooms whose positions are mirror images of one another are actually the precise same measurements. It is the presumption of identical measurements for comparable room situations which leads to the first order of error in all the mapping at Xtampak to date.

The presumption of bilateral symmetry has been the cause of much of the inaccuracy of building plans at Xtampak so far. After having measured just a few test cases it also appears that many of the published drawings are not in fact based on fully measured field data--they could not be because there are too many inaccuracies. What are reported as "measured" may mean that the entire front was indeed measured--but not the entire back. And it also appears that at times only one quarter of the building was measured, then, presuming bilateral symmetry, the plan was just sketched in on that basis. The West Range and South Range of the SE Quadrangle are the best examples of this situation, though the excessive number of rooms projected for one of the ranges of the Cuartel is the corollary of the dilemma.

The problem is that other scholars use published maps to create all kinds of models, thus Adams used courtyards to estimate site size and ranking. Unfortunately, most of the maps he selected were woefully inaccurate (Santa Rosa must have a host of courtyards that are not yet even on the map, accurate or inaccurate). And most of the sites that exist in the Maya area were not even on the maps he used--since these sites had not yet been mapped or not mapped anywhere near thoroughly (such as Calakmul which was never estimated to be the largest Maya site ever built until Folan's crew spent 8 years physically measuring the entire place and mapping every single structure). Thus Xtampak is an apt warning to model makers, to return to reality of the Maya world.

The Two Different Ranges of the Overall South Range

The 1988 map of the South Range is an idealized, bilaterally symmetrical creation that looks beautiful on paper but does not reflect the archaeological or architectural situation whatsoever. At first, we tried to change it by adding omissions but soon we realized that this was not possible, since the published map in no way reflected the actual situation other than the two rooms under the north central stairway. The basic problem is that the South Range is actually arranged as two different ranges; each range is in effect an entire building group unto itself. Only a fraction of the back range was noticed, none of the end towers, and four rooms were evidently simply not seen. pictured as a normal conservative Maya palace (other than the rare feature of rooms under a stairway) in fact the building turns out to have an estimated 15 rooms in an unprecedented arrangement.

The easiest way to clarify the unusual layout of the rooms is for the reader to visualize two totally distinct buildings, a front range with the two sub-stairway rooms; then an attached back range, facing out the back (south), with a completely separate stairway that is not centered in any respect to the central front stairway of the front range. The back range is a triple-towered Rio Bee-related structure. Combined with the temple estimated for the top of the front stairway its end appearance could have

approached that of a four-towered Rio Bec structure. It will be some time before it is possible to take elevation readings and generate a three-dimensional drawing, as only with elevations can it be possible to work out the towered appearance one thousand years ago. It remains to be seen whether these are two totally separate ranges or a single building that bizarrely has unaligned front stairways. There was nothing in the backbone of the overall mound that suggested two separate buildings were here and the masonry of both ranges features lots of spalls in the vault stones and no springs on the end walls--thus more Chenes than Puuc (both adjacent ranges are relatively pure local Puuc with springs on the end walls and Puuc door jamb stones).

The "Front" Range

Since each range fronts on its own plaza there is only a front and a back relative to the courtyard of the Southeast Quadrangle itself. We have no idea what kind of low buildings exist to the south since this area was not included on anyone's map, but the South Range certainly does not turn a blank back to the south of the site. Rather it is likely that all three of its towers faced south, rather than north into the courtyard. Keep in mind that all three (or four) of the towers have fallen to their basal platforms or at most remain up to the bottom course of wall stones. Now the bottom floor of the towers is falling, in fact virtually the entire east tower crumbled totally just a week or

so before we arrived when a tree blew over. The tree's roots yanked out half of the perfectly vaulted room. Now the collapse buries entry into the adjacent room, which may have still had portions of its thousand-year old zapote wooden planks over the doorway. If we had found this room in April perhaps, we would have photographed it, but as for all previous explorers, in April the South Range (indeed the entire complex) was so overgrown with thorns and vines that we could barely get into the passageways. Part of the thickness of vegetation could have resulted from some of this area being used for milpa. Second growth is always thicker than virgin forest.

The Rooms under the Stairway

Andrews deserves credit for having discovered that Rooms 4 and 5 are under the main front stairway. He also immediately recognized that Rio Bee towers of the Chenes variety (such as at Dzibilnocac and Tabasqueno) had palace rooms under pyramidal temple tower stairways (1988): "Of special interest are the two small rooms partly exposed on the lower level of the central section. These rooms both have doorways to adjacent rooms, rather than to the exterior, and the basic scheme is almost identical to that found in Structure 1 at Tabasqueno and in the central "tower" of Structure A-I at Dzibilnocac. In the latter cases, the pairs of lateral rooms are found directly below upper temple-type buildings which form the upper levels of superimposed pyramid-temple

structures. The high mass of the central section of the South range suggests a similar upper-level superstructure, reached by a projecting stairway associated with a pyramidal base. Admittedly, the evidence for such a configuration is minimal, but such a possibility cannot be ignored." As it turns out the evidence is present, just a few meters away, but obscured by 20 feet of heavy Campeche forest. Curiously, the Dzibilnocac-like sub-stairway rooms are on the north range, yet most of the Rio Bee-like towers are on the south range, and facing the opposite direction. So far there is no evidence of any rooms under the south stairway.

The two sub-stairway rooms are effectively mirror images of each other though Room 4 is 3.05 m long, Room 5 only 2.75 m long and practically square. Both rooms were inhabited with ferocious wasps that attacked our worker before he even stuck his head in the room to check if there were any nests. Once the nest was neutralized, I went in to initiate photography only to find that this damp cell was also inhabited by several hundred ants, a larger species of wasp in addition to the several hundred of the original species who were now very upset that their nest was vaporized, and honey bees--not of the stingless variety. Combined with bat droppings and 1000 years of mildew it was not a pleasant experience especially since the collapse was all at a steep angle, causing me to slide deeper into the pit-like room every second, nearer to the menagerie of irritated insects. On top of this the accursed connector cable on the otherwise outstanding

flash unit failed to couple with the camera, or when finally coupled, failed to create a flash. So, I have no photographs.

Room 4 is better preserved and had fewer species of insects as residents. The connecting wall was 75 cm give or take 3 cm, since we had to measure through a diagonal crack that curiosity seekers had punched through the dividing wall. The jambs of Room 4 are still visible and seem once to have supported normal Xtampak variety wooden planks to form a lintel. Andrews has a fine description of the stonework, "roughly dressed." These vaults, especially in Room 8, as well as the wall masonry, are the most rough of the monumental palaces in all Xtampak. It is as though they are reusing stones from an earlier dismembered building, especially trying to get away with using core wall stones for finish stones.

Rooms 2, 3, 6, and 7

These rooms are all predicted because something had to occupy the space between Room 1 and the other end of the building. It is theoretically possible that 2 and 3 are all one room, likewise 6 and 7, but that would be rather long for Xtampak, so I have created an estimated total of four rooms which is more in keeping with room dimensions elsewhere on the same building, indeed throughout the site. I suspect that the collapse of the second floor is what has filled in the fallen rooms po totally that not

even their wall stubs are visible. I am sure that if more time were spent that maybe the room end wall position could be detected, but we did not bush the front of the building with the thoroughness of the back since there was no standing wall remains immediately apparent. Although a surveyed ground plan may change this 2-hour sketch, Rooms 4 and 5 do appear approximately in the center of the north half of the overall edifice. What throws the symmetry off is Room 1.

Room 1

Room 1 forms one side of Passageway 1 and 2. Room 1 opens onto Passageway 2 and is in all respects in an unusual position relative to the rest of the palace. For example, there is no particular evidence that there was a mirror image room at the other end, though-the other end is not well enough preserved to ascertain that situation in its unexcavated state. Sometime in the future it should even be investigated as to whether Room 1 is original or secondary, but that question is bound together with the whole passageway system as well as "Room 5" of the adjacent East Range.

A Second Floor on the Front

I took no notes on whether there was a second story above Rooms 4 and 5, that is, a temple on top of the north central stairway. Such a temple would certainly be predicted; the other central

stairway (down the "back") definitely had a second story, that is, a temple at the top of the stairway, most certainly a Chenes-Rio Bec monster facade doorwayed temple to match the postulated temple-towers at both ends of the overall structure, all facing primarily south, though they could have had secondary faces looking over the front range to the north.

One displaced note says "second floor" on a rough field sketch of the top area of the north front stair. This same sketch shows that the mass of the back (south) stair was considerably higher, in the order of one to two meters. It seems that the south row dominated the entire structure even though it "backed" onto the otherwise important courtyard of the quadrangle.

Thus the South Range has a full set of doorways facing both front and back. The West Range has at least one doorway facing back (and potentially two more) and yet a rather severe blank wall facing inward despite three paltry doorways facing onto the courtyard. The north range evidently has all its doors facing into the courtyard. I did not check its back to see if any doors may have faced out. The East Range has all its doors facing to the courtyard, but it had an entire adjacent set of rooms lower to the back which most likely faced to further back. It is not known whether the "adjacent mass" was a stairway or whether it had rooms. The net effect of the East Range, though, would have been facing in two directions. Tn effect, all except the North

Range had visual if not actual orientation both front and back. The West Range actually attempted to shut off any orientation- its front wall is so severe it might as well be a solid back wall. The extreme wall areas of over 12 meters with no door at All e than a paltry normal little entrance of barely one meter hardly provides the monumental openness of the East Range. In order to really start any analysis of orientation, movement, and urban planning it will be necessary to map all the adjacent building complexes that were not deemed large and fancy enough by earlier visitors to make spending time on them worthwhile.

THE "BACK" ROW OF THE SOUTH RANGE

There is no back to this structure since it has two front faces. A front face in Maya architecture is any facade that faces a major courtyard or plaza and which has an equal number or importance of entranceways to whatever other facade is also a potential "front." Under any definition this edifice looks to the south just as much, if not more so, than looking to the north.

The south row of the South Range is bilaterally symmetrical onto itself, but not in relationship to the north row abutting its entire length. What makes the entire mound totally asymmetrical are the two monumental stairways--they are three, meters off axis with either other. That is why the end result of the whole mound is 4 towers rather than 3, because there are the standard two

flanking towers, but instead of a single rare central tower, there are two different central towers, one facing primarily south, the other facing primarily north.

Previous visitors must certainly have seen Rooms 10, 11, 12 and 13, since their vaults are still half standing and quite visible even through the undergrowth. Yet Rooms 8 and 15, with their attached Rooms 9 and 14, just one meter away, on both sides, were evidently somehow not seen. Eldon Leiter suggested that Room 15, when complete (before the tree fell over sometime in early June) might not have been visible at all, since its sole doorway was through Room 14, which is invisible except for about 10 centimeters of vault stub--and that only visible if you know where to look based on bilateral symmetry with Rooms 8 and 9, where the doorway to Room 9 is still partially visible, as is one of the thousand year old wooden planks of the ancient lintel. Although I accept the explanation for Rooms 14 and 15, I fail to see how Rooms 8 and 9 escaped notice by three expeditions, and that is not counting the various UNAM visits and miscellaneous other visiting archaeologists (such as myself, who did not even get this far in three earlier visits).

Room 15 may have been totally preserved, all four vaults complete, until brought down because no one kept leaning trees pruned (since this area was not bushed prior to our initial visit in April or in June either). Now the tons of collapse fill so

much of the room that only the north end of the vault is visible. It and Room 14 appear to be a mirror image of 8 and 9.

Rooms 8 and 9

Whereas it is entirely possible that an entire row of rooms stretches across between Room 9 and Room 14, I did not notice any evidence while scrambling over this area so I am estimating some form of courtyard in front of Rooms 10, 11, 12, and 13. The floor of this must have been several meters above the ground level of the back plaza.

Room 8, and its matching counterpart Room 15, are transverse rooms, at 90-degree angle to most of the other rooms in the palace. They are also thus at 90-degree angle to the main front stairway. Does that mean that their temple-tower tops likewise faced in to the center. That is certainly not impossible under what little we know about the rules of Rio Bec-Chenes architecture. Only when elevation notations are available for this entire building will it be possible to decide how best to restore--on paper--the suggested appearance of the flanking towers. Having them face inward would certainly solve some of the problems of having two somewhat independent ranges back-to-back.

What is somewhat unusual is that these sub-tower transverse rooms then connect into a smaller ante-chamber (Room 9 and Room 14).

Plate 29. Inside the Southeast Quadrangle, as it appeared to all expeditions which labored at Santa Rosa Xtampak until the INAH site guardians removed the branches and vines to reveal all the architecture that is hidden behind this constantly growing curtain.

Plate 30. Inside the recently discovered Room 8 of the back of the South Range, Southeast Quadrangle. Staff photographer Eldon Leiter waits outside with Nikon flash to enter and photograph this room in color. This particular photograph is taken with a Metz 60 CT 4 flash unit set on TTL using a Hasselblad ELX camera and 50mm Zeiss lens. The only reason the vault has fallen here is because either the door jamb or lintel to adjacent Room 9 failed. Actually, without the collapse of the vault this room would be completely hidden from view. The remains of one of the beams of the wooden lintel still stick out of the pile of rubble to the left (though not visible from this angle). The vault stones on the right are typical of the rough masonry of this entire South Range. The end wall has no spring, as would be expected for a Chenes-Rio Bec designed structure. The East Range and the West Range both have Puuc influenced springs on their end walls. No notes were taken on the end wall of the North Range.

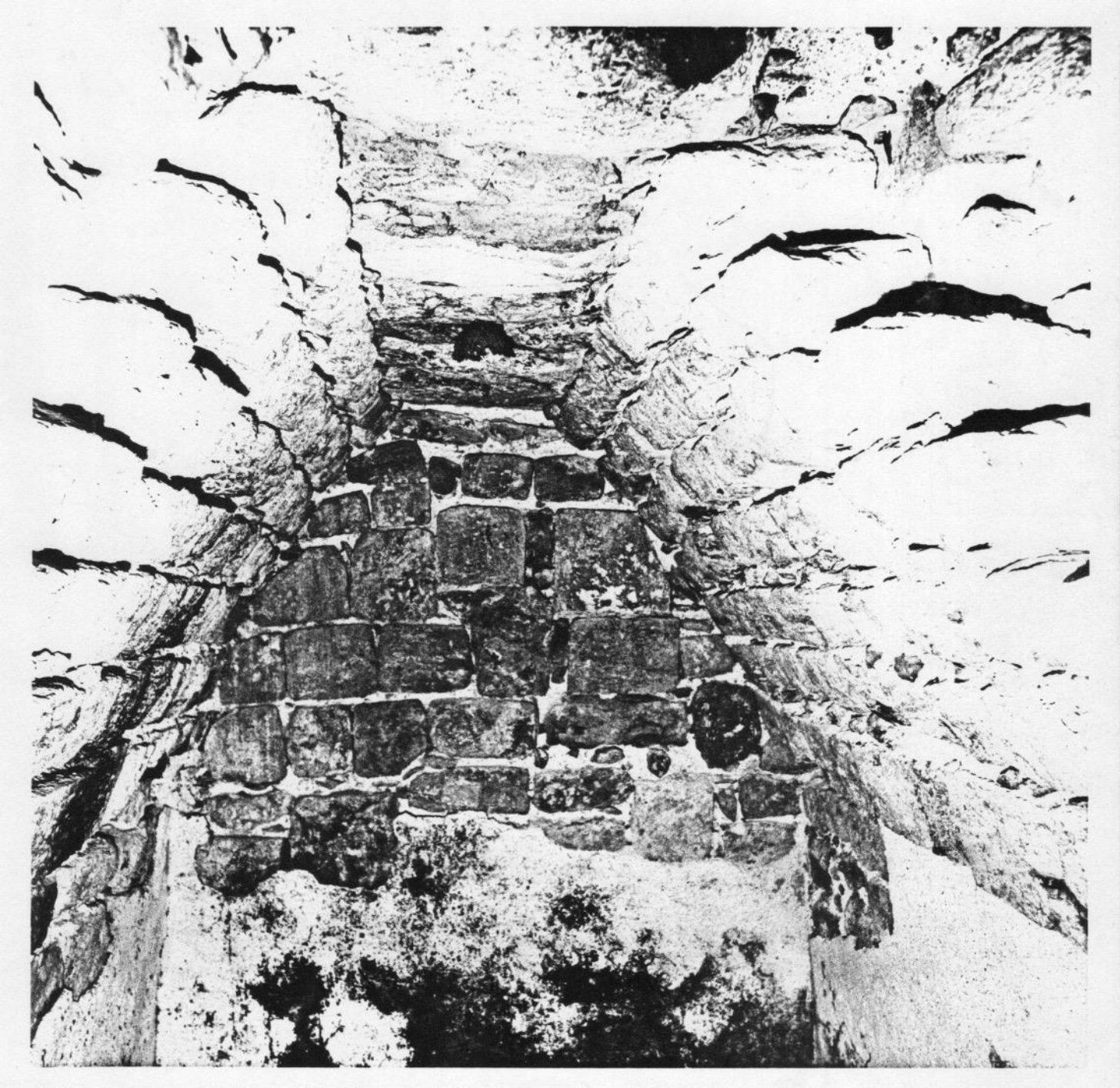


Plate 31. Plate 31. Looking north at the perfectly preserved end wall of Room 8, under the west "Rio Bec tower" on the South Range. The end wall shows how irregular the masonry is of these rooms. Stones of every which size are jumbled together.

without excavation we have no idea where the doorway for the antechamber was, though I will restore the design with doorways facing the presumed court area.

Most of the rough fill retaining wall of the west and south vaults of Room 8 are still in place and standing out of the rubble. That on the south is 1.20 m thick. Added to that would be the facing masonry and its mortar backing. On the north end of this transverse room a bit of upper zone finish masonry is still in place. A dozen or so centimeters out to the north the molding corner, in finish masonry, is still apparent, though whether this was the facing masonry to all the core walls of Room 8 was not checked in the field. In front of this finish molding masonry is additional rubble bound in mortar showing that there was secondary construction, either of estimated Room 7 or of whatever could potentially have filled the corner between this and the adjacent West Range.

Masonry

Room 8 is an excellent place to study the atypical masonry of this entire edifice, lots of chinking spalls in all the vault courses, and rough stones instead of the beautifully finished and pecked stones of Puuc architecture. It will be really worthwhile to bring in electric lighting to cast controlled shadows in order to document how rough the stones actually are. The next stage

will be to ascertain whether all the stones in this wall are rough, or whether it is a mixture, and what percentage of finish masonry stones appear. Then the stones should be studied to establish whether the roughness could result in their being knocked out of older buildings, and if so, which from rubble fill, which from core or fill retaining walls, and which from former facing masonry. It was not possible to do this type of photography this particular trip since we had no generator. To use flash would require using the 15mm extreme wide-angle Nikon, since the rooms were too small for the Hasselblad 50mm (equivalent to about 28mm on a regular camera). But the flash connector cord was broken and I had run out of black-and-white film for the Hasselblad, and we also ran out of time.

Rooms 10, 11, 12, and 13

Although none of the doorways of these rooms is either preserved or evident, there is really only one likelihood, facing outward as pictured on Andrews' plan. with these two rooms is definite evidence which addresses the manner in which the original measurements were taken, as there is no way these rooms could have been scrutinized and not notice that the back walls of Rooms 12 and 13 are 50 cm off, that is, Room 13 is 50 cm setback at the back wall. Room 13 is 2.63 m wide; Room 12 is 1.82, so the difference is even more than the 50 cm setback. Thus these rooms could not have been measured by steel tape or that discrepancy would have been immediately' apparent, actually you can see it by eye.

Rooms 10 and 11 are slightly different, only 13 centimeters difference in width, and with my eye I could not judge the relationship of their back walls. They appeared close to being on the same plane. It will take a transit to make the final determination. But the distances are different, Room 10 is 69 centimeters longer than the corresponding Room 13, yet about half a meter narrower. Thus. the reader should understand the frustration with traditional ground plans that picture each room identical to its neighbor, and all parallel.

The Second Floor. Central South stairway

Stamps is the only one to have noticed that there was a second story associated with the South Range, "and probably had a second story over most of the rooms as is suggested by the height of construction over the vaults and the amount of rubble." (1970:75). As with even our two sessions so far in Santa Rosa, Stamps probably could only spend a few hours in the Southeast Quadrangle. The allure of the Main Palace has been a curse to some extent, attracting all the attention from the rest of the site. I must admit that on my first two visits no one even told me about the rest of the site and I saw only the Main Palace.

The base of this superstructure is an estimated 2 meters over the roof of the adjacent first floor. The remains of what may have

been the building platform, and then a few stones of what may have been the base of the wall are all that remain of the central temple on the south.

THE PASSAGEWAYS

I have elected to discuss the passageways apart from either the East Range or the South Range, because we do not yet know to which range it actually pertains since it bridges them both. I have already talked about the basic passageways in the report on the first session of the first season (Hellmuth 1989a). The last full day we had at Xtampak in July Leiter and I measured the entire passageway system. There was not an opportunity to triangulate this with an instrument, but based on comparisons with measured drawings of 1989 with those measured in earlier years, it seems that what was measured was just one or two sides then everything else was drawn by eye estimate and given 90-degree angles. That is certainly an expedient manner of doing it but especially when not using a transit or Brunton compass it helps to measure every single wall and double check by measuring across again. Ideally one should triangulate across rooms as a safety check, but it was almost dark while we were still working here and we had to get back to camp while there was still a glow to allow us to see the trail. Nonetheless the Andrews and the Stamps

plan (which are essentially identical other than Andrews is more professionally stippled and his interprets the different stages by different directions of stipple) will remain unchanged as this is a straightforward situation and all the key walls are fully standing.

I would not interpret his Room 6 as a room, but have tentatively named it "Passageway 3" because I see it as a continuation of Passageway 1 and 2, to provide a means of getting through this corner onto the outside. Andrews suggests with broken line that Room 5 and Room 6 open onto each other and have no outer exit. Yet "Room 6" is too narrow under Xtampak conventions to be a room and they went to too much trouble with a vault going around a corner. For a basic palace room that was uncalled for. The turning-vault here implies the same as the turning. vault of Passage 1 into Passage 2. It will be necessary to survey this corner with a transit and relate it to the attached corner of the South Range.

The soffit of Passageway 3 is only three courses high, another indicator of a space other than a normal room, e.g., a Passageway. At least one of the stones approaches the shape of a boot-shaped Puuc vault stone, but with a longer tenon.

The inside face of the back wall of Passageway 3 is of large squared stones neatly arranged in courses. These stones are more

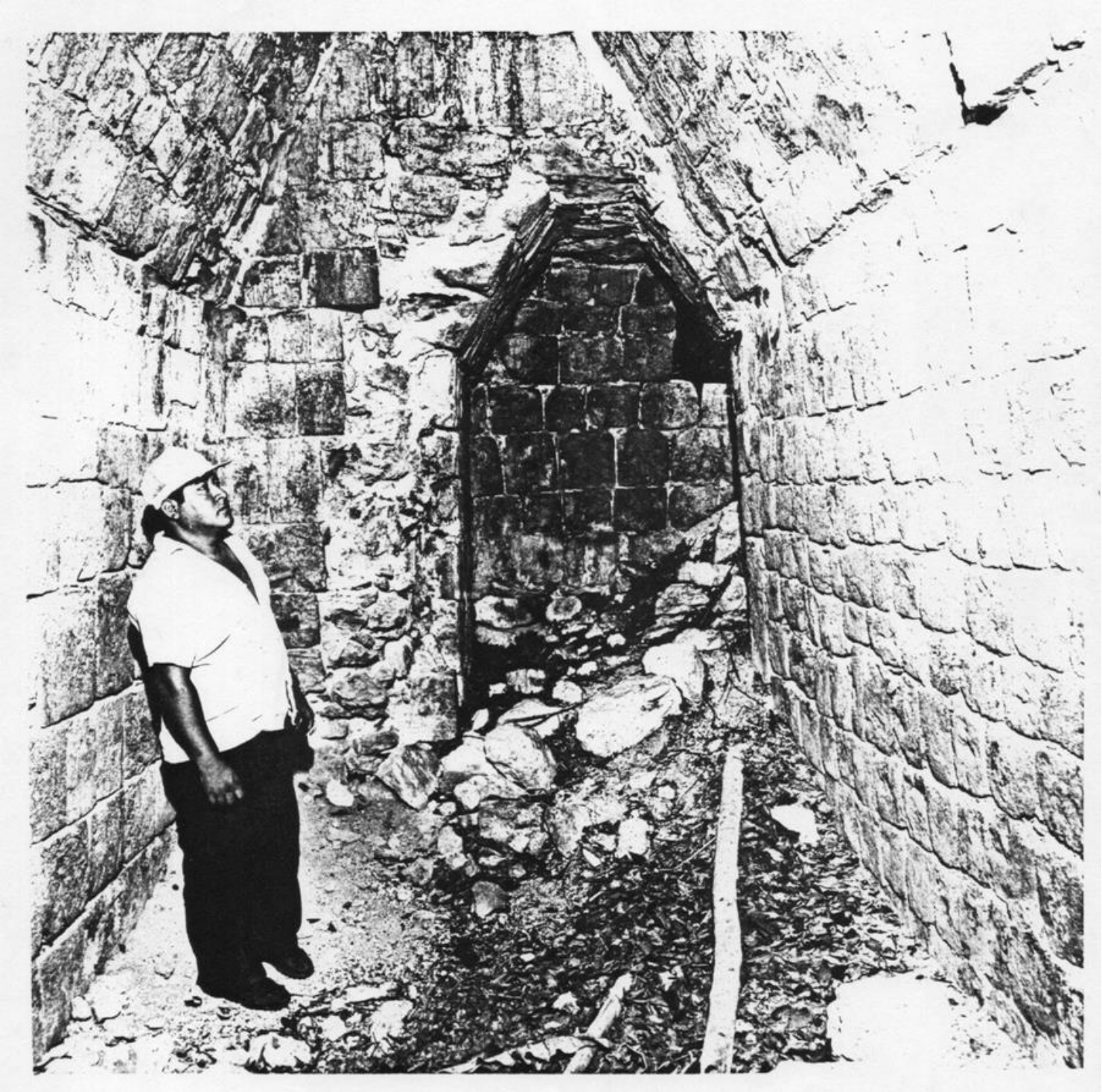


Plate 32. Fidel, one of the two helpful INAH guardians of Santa Rosa Xtampak, provides scale inside Room 5 of the corner passageway system. Passageway 3 exits to the right rear. This photograph does a better job (than the front cover of the first session report) of illustrating the two completely different masonry sizes of the walls of Room 5, large and neatly squared stones on the left, normal Chenes stones on the right.

Plate 33. Main wing of the Cuartel, looking east. This photograph was taken standing on the rise of the center stairway.

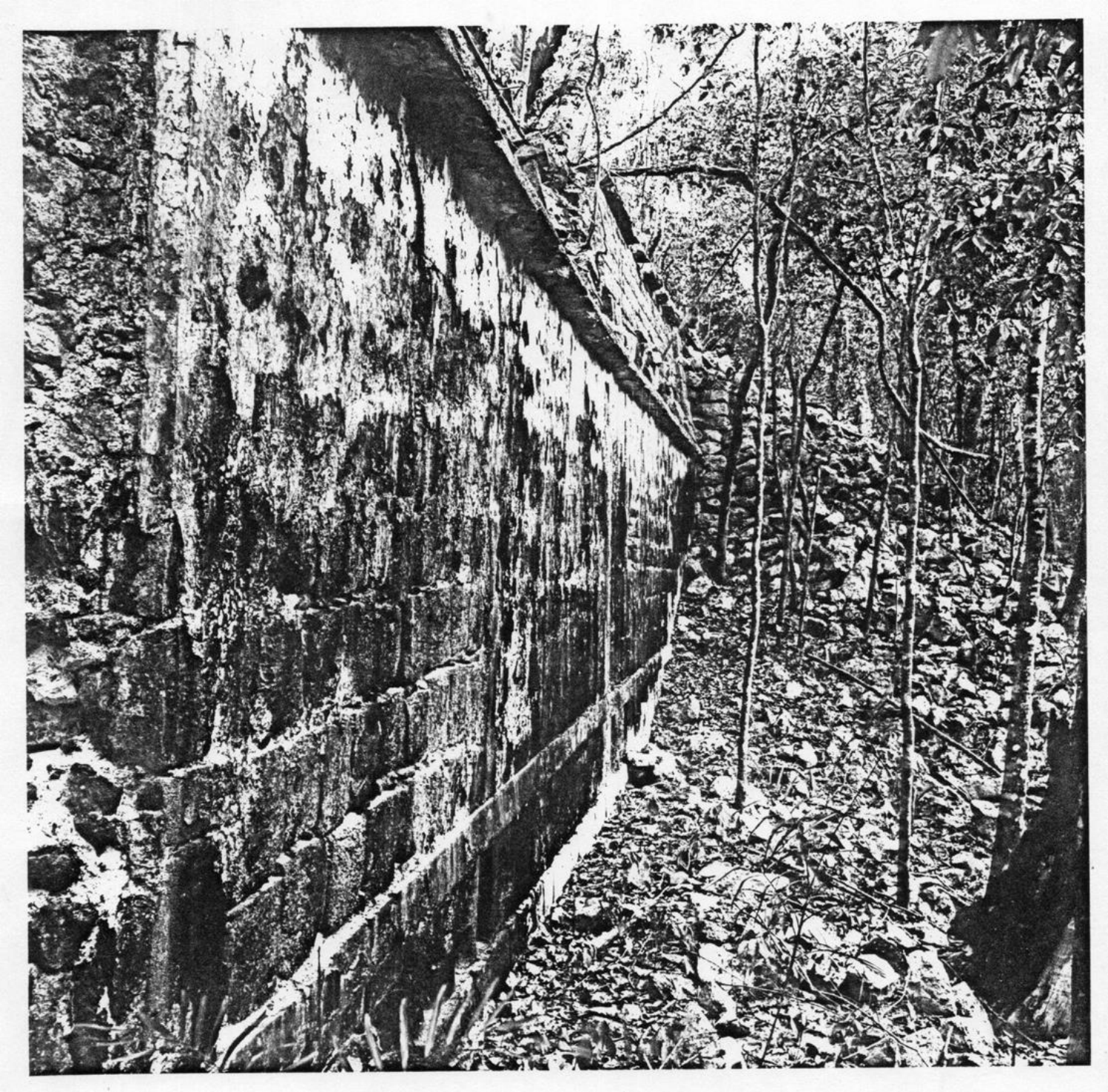


Plate 34. Back of the main wing of the Cuartel, east of the central stairway, showing the back stairway. Although the front of the Cuartel is neatly divided into three house-like units the back is one continuous plane broken only by subtle reminders of the divisions on the front (full height embedded columns but so flush with the plane of the wall that they are not here noticeable).

similar to the north wall of Room 5 than to typical masonry elsewhere at Xtampak. The vault stones also have large faces.

The INAH guardian Fidel said that local farmers used Passageway 2 to store maize cobs in and that the wooden poles on the floor were the floorboards of this corn crib.

THE CUARTEL

The Cuartel was evidently missed by Stephens and Catherwood (the latter was ill and their entire expedition had run out of food the day they reached Santa Rosa). Pollock provides three paragraphs (1970:58); DeBloois gives it three paragraphs as well (1970:29-30). Stamps is the first to devote serious attention to this fascinating complex. He provides a complete elevation, front facade, of the entire Cuartel itself, both sides of the central stairway (1970: Fig.21) ("Cuartel" is actually originally the name of just the North Range). His inclusion of the lines of the wooden lintels are good, as in fact they should have been visible. I also prefer his rendition of each of the courses in the moldings. Although in fact the courses would not have been visible when covered with plaster, the courses are quite visible today and it helps double check for inclusion or omission of details if such courses are included.

Andrews finishes off the upper molding and has redrawn the inset heads in the panels on the central unit. These restored drawings look so nice that masks the fact that much is restored. It would be more scientific to present two sets of drawings, one restored, one showing the building in its actual condition. The viewer who has never been to Xtampak is soon lulled into the feeling that all the buildings at the site look as nice and pretty as the line drawings of the field reports, and that is not so.

In actuality only the North Range is the actual Cuartel, but since this north wing is integrally attached to the West Range, it seems to make more sense (as well as to be more simple) to apply the name to the entire complex. DeBloois suggests calling the whole place the Cuartel Plaza, a name which has not taken effect. A plaza, though, is more open at the corners, usually has stelae, and offers access to other parts of the site. The Cuartel is a basic quadrangle, so it might best be termed the Cuartel Quadrangle. Although it would be possible to find an acropolis-like construction at Xtampak, such forms of building grouping are not so typical of northern Campeche as they are in the Peten area.

DeBloois correctly terms the Cuartel as "the best-preserved, single-story structure at the site." (1970:29).

Stamps points out that the elevation of the Cuartel is comparable to that of the main structure at Xpuhil (1970:69). This is the now well-known Chenes-Rio Bee feature of building facades divided into three sections, each looking like the front of a house.

Amendments to the Published Drawings

All that needs to be double checked is how the upper zones end against the central stairway, since the vertical corner molding may not be present, even though it is on every other corner still extant.

It would help if the recess between the three units were stippled. That would remind the viewer the recess is present and would make each unit stand out more as an independent part of the overall facade. In reality the same effect would have been expressed by light and shadow of the sun. The inset corner columns of the far unit on each facade should also be stippled to indicate both that they are round and inset. The embedded columns elsewhere on the facade also need stippling, even if that is slightly out of scale. The reader cannot appreciate the actual modulation of the surface if only straight lines are used in the elevation drawings.

On the raised molding over the central doorways, it might be best To eliminate the second diagonal line. Actually, the entire mold-

ing should somehow be cleverly stippled to reveal the actual angles as the molding goes around the various angles. The present system of diagonal lines is acceptable only for the bottom, since the Maya included a diagonal nip in the molding itself, but not one above. without stippling the molding effect is lost.

The vertical corner moldings need to be redrawn to show their actual angle, which is leaning, though not always in a predictable pattern.

The tenoned stones over the doorways of the flanking units should be restored. The west wing has such a tenon still in place over one of the flanking doorways. The upper molding is gone at that point but would be expected to have another tenon to receive the head of the presumed statue at that point. The Main Palace can be used as a model for the pattern restored on paper for the Cuartel.

THE BACK OF THE CUARTEL: NORTH RANGE AND WEST RANGE

I start with the back side because this is an aspect of the monumental architecture that has left the deepest, impression on me. In many ways the severe, even plain, back side is more photogenic than the more popular handsomely decorated front. But the back side of the cuartel, especially of the North Range, is equal to the massivity of any palace at Tikal and even reminds me of the palaces at Nakum.

Although we presume that the front of the West Range was similar if not identical to that of the North Range, all that front has fallen, so we will never know for sure. But more than enough of the backs of both ranges are preserved so that once they are totally drawn to scale it will be possible to see how close they are to each other, or not as the case may be. That knowledge will help redraw the front--on paper. However already the presumption that the two wings are identical has already led to including two entire rooms that do not even exist. It was simply presumed that if the North Range had three rooms per side than the West Range would also.

The back of the Cuartel reminds me somewhat of the severe backs of buildings in the Rio Bec area, continuous blank walls. In actuality the walls are decorated, but a uniform color (originally white, or red and now black mold) hides the subtle decorations. Andrews provides two profiles of the entire height. Otherwise, no good photographs or overall elevations have yet been presented to help the reader appreciate what is present.

Embedded columns, in sets of at least two, stand the full height of the back wall. They are situated approximately where the room division walls are on the structure inside. Otherwise, the rule which governed their placement is not yet understood.

The back wall and the back stairway are clearly made for each other, that is, contemporaneous.

The entire upper zone of the back wall, east from the central stairway, has no modulation to show the triple house facade division on the front. For all intents and purposes the upper zone is one long continuous blank wall. Only at the corners is there a vertical molding. One is still well preserved next to the central stairway.

On the back wall itself there are two sets of embedded columns of full wall height. Each set is two columns. I am predicting they are situated to show where the divider walls are on the inside. There is no such column set to show the end wall by the stairway. On the basal molding the sets of three-columns are not in line with the sets of two-columns on the wall.

Back Wall of the West Range

The back wall ends a few meters before the corner--all the corner area has long ago collapsed. Precisely at the point where the back wall ends, because the rest has collapsed, is the perfectly preserved plaster indent where a set of embedded columns began. That suggests the possibility of a room divider at that point, though this relationship is not a firm rule.

On the other half the back wall is less well preserved. Just about at the point of the dividing wall between Room 10 and 11 is a set of two embedded columns full wall height. This is just shortly before a major corner and an inset at least 47 cm. Whether the. far end had a similar inset is not known as the back wall is totally fallen away at the north corner.

The Stairway Mass, North Range, Back

The best example at Xtampak after that of the east side of the Serpent Mouth Building for a stairway side core wall is on the east side of the back central stairway of the North Range. The size, horizontal shape, and manner of meter-high terraces is also typical for most other stairways at the site.

Thirteen courses of the stairway core masonry (east face) stand at the level of the upper zone of the adjacent Cuartel. The facing masonry of the adjacent Cuartel upper zone ends immediately at the stairway, forming a perfect vertical line, just like the upper zone of the Main Palace ends when it reaches the various back stairways (though there the stairway core wall is flush, here on the Cuartel it is at 90 degrees).

At least two terraces (running east west) are still observable at the upper portion of the stairway mass formed by the core walls.

The stones in this retaining wall system are not as long and flat as those of the Serpent Mouth Building's stairway.

North Rane, Room 1

Top two interior courses actually begin a preliminary vault, total 44 cm high. The surface of many of the stones in these two special courses is rough, often quite irregular, with chips and depressions up to 3 cm deep and 8 cm long. This at least served to help keep plaster hold a grip over this surface. The rough surface was first evened up with a layer of mortar, and then plaster over 1 cm thick. This is not really "two layers of plaster," but one layer of mortar and one layer of plaster. Lots of spall stones were used as chinking to arrange these last wall courses in position.

I have never noticed such a pre-vault vault, and never noticed such unusually rough stones being used in an otherwise finely chiseled wall surface. But like all things Maya, nothing is really unique, it is just the first time it has been noticed. Now it is up to architectural historians to find out how many other places the same trait occurs.

55% of the wall separating Rooms 1 and 2 is fallen, probably in the last two or three years. This dividing wall is thin, only 63 cm. Most stones are on horizontal face, but some are vertical.

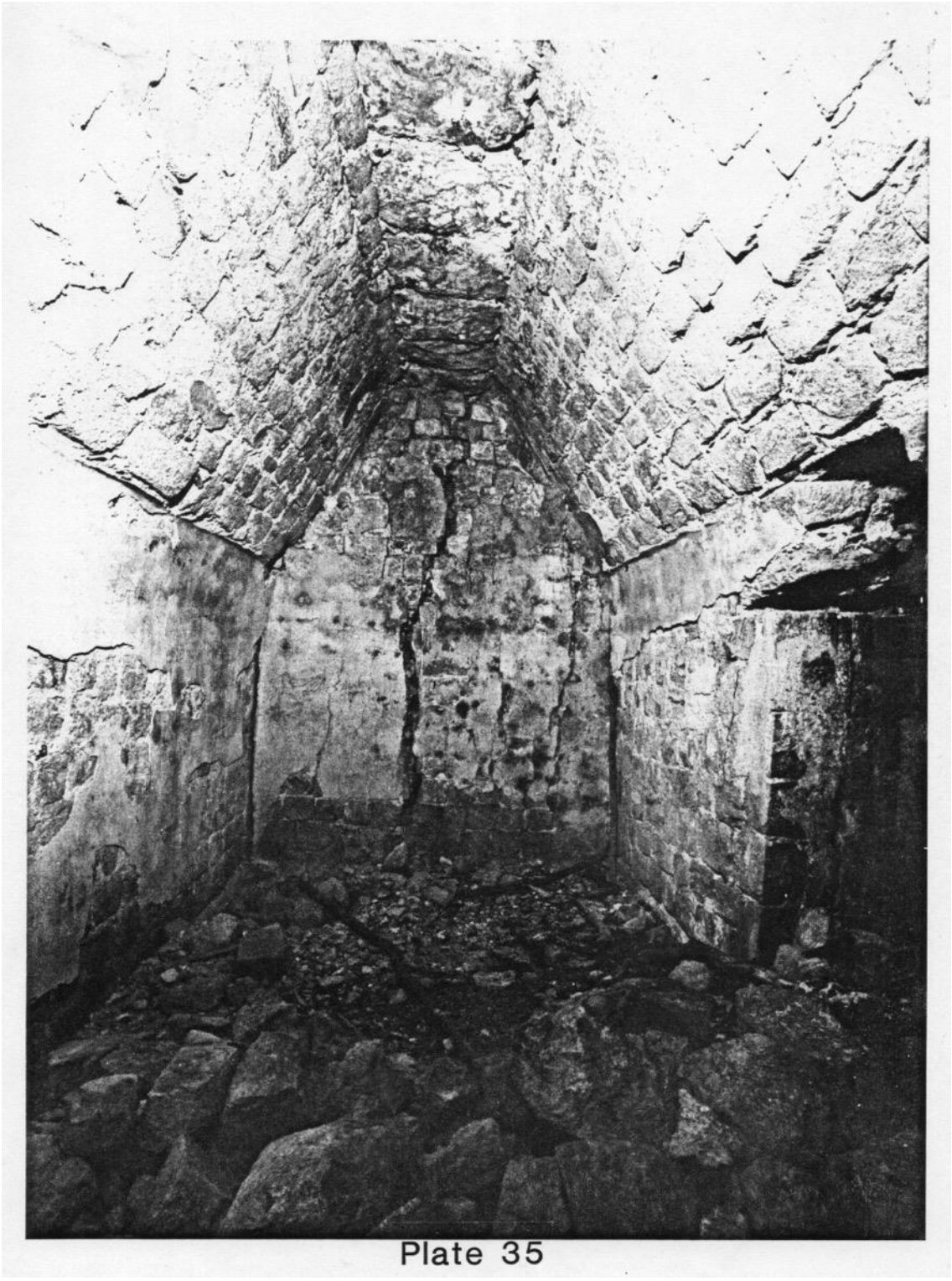


Plate 35

Plate 35. Inside the Cuartel, looking east. The unusual top two courses of the wall--which form a preliminary spring--are here hidden by the thick plaster which masks the imperfections of the stones used for the two courses immediately below the actual vault spring. The end wall is starting to separate, a warning that the entire building is spitting in two and ready to collapse totally.

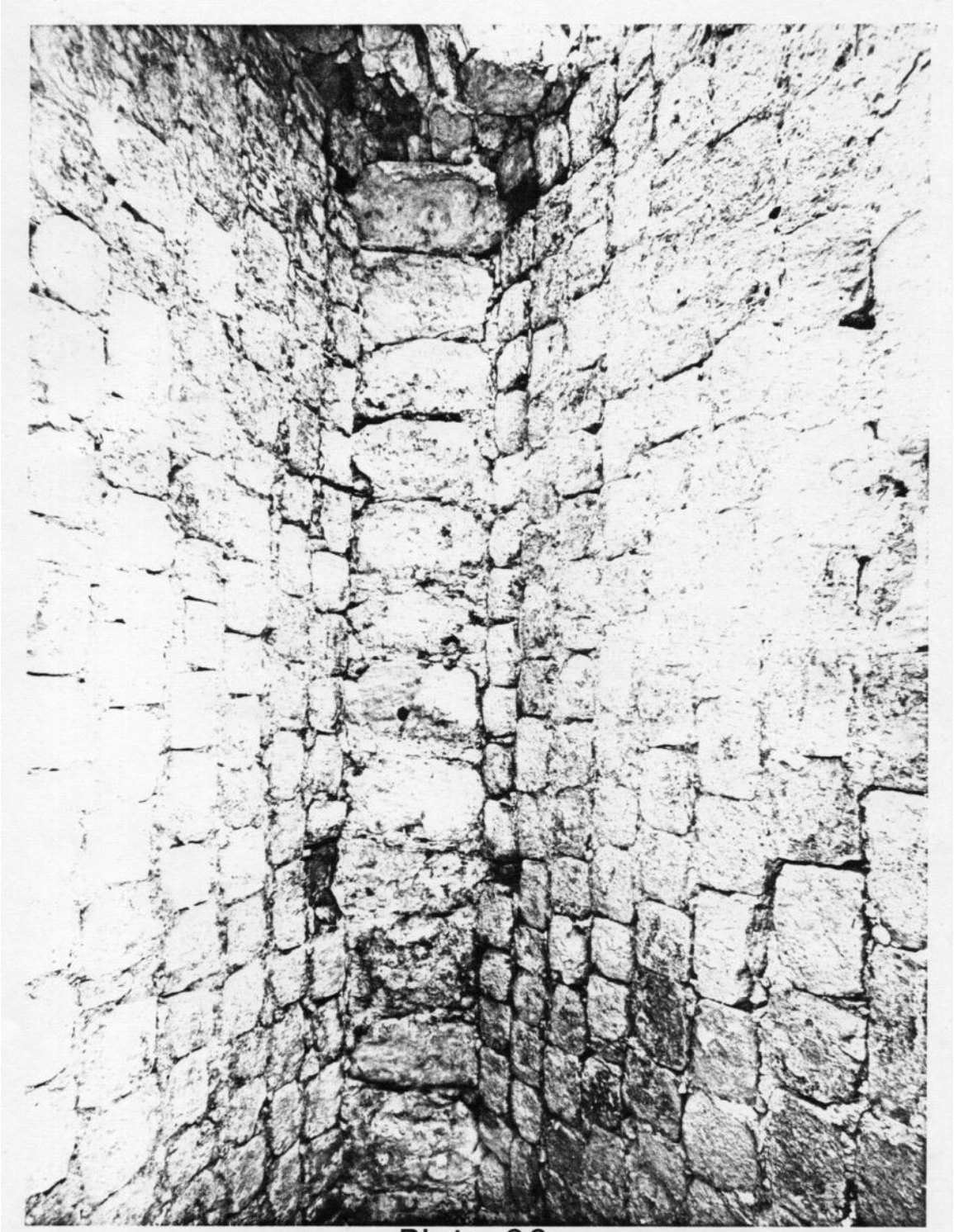


Plate 36

Plate 36. Inside the Cuartel with the Nikon 15mm lens which produces no noticeable distortion. Looking up at the vault and capstone row. with a single flashhead (as here) it is difficult to get good shadows to bring out the detail. Getting multiple flash to operate is possible with the Nikon (but not with the Leica or Hasselblad) but requires an additional assistant and more patience that is humanly possible under the actual conditions of sustained field work in such a remote area.

Although there is a more or less standard stone size in fact there are plenty of non-standard sizes as well.

North Range, Room 2

The bottom stones of the jamb on this particular doorway are almost as large as some in Puuc doorways. The masons would certainly have had plenty of Puuc models available nearby.

Vault

Above the capstones are at least two rows of large flat stones, somewhat familiar to that at the south end, second floor of the Main Palace. There is occasional chinking at the corners of the capstones here, and actually throughout Xtampak.

North Range, Room 3

The coursing in this room seems somewhat better than in others. Excellent quality white mortar was used throughout the wall. It is a stark contrast to the rubble fill of the stairway core, where little or no mortar was used, not even mud mortar.

A looters' hole into the core of the central stairway reveals again that this stairway is contemporaneous with both wings. The dry-laid rubble is of large irregular stones, the standard stair-

way fill for Late Classic Xtampak. The looter's hole reveals a pause line or pause floor precisely two courses down from the spring on the adjacent side walls (there being no spring here on the end wall). This pause line is equal to above the lintels which means below the medial molding stone.

On the main wall above the doorway the plaster indents about 3 cm to touch where the wooden lintel was, meaning that the wooden lintels were inset this dimension. Wood is long gone but the plaster remains in pristine condition at that point.

The interior wall facing stones are mostly square and coursed throughout. The east jamb is built of rather large stones, tending towards Puuc dimensions yet not the full width of the jamb. Stones in the east end wall are not perfectly square. All are standard sizes until the second course under the spring level on the adjacent wall--of course being a Chenes room there is no spring on the end wall itself. But the course is suddenly of larger stones, just as the wall course is suddenly larger stones, but on the end wall the course above returns to the normal size. This unusual course is not noticed in any other end wall, though some are still covered with plaster.

North Range, Room 4

Looters also poked almost 2 meters through the west (end) wall into the fill of the central stairway.

The door jamb is of regular Chenes jamb stones; NW corner is not of specialized jamb stones, but regular wall stones. Other stones in that jamb are the Chenes variety, not as large as Puuc jamb stones but still noticeably longer than a regular Chenes wall stone. Chenes jamb stones are a specialized size and shape, oblong, never full jamb width, and easy to distinguish from the standardized wall stones of the same room.

Corners are barely bonded and never other than incidental.

Here in Room 4, since 95% of the upper three courses have original plaster over them you can note that the two rough upper wall courses can hardly be noticed. Even their lean outwards is barely perceptible. The plaster is over 1 cm thick.

North Range, Room 5

Horizontally banded colonnette stones are inside the room in debris generated by looters in tearing out the bench. Thus, most likely the banded stone spools piled up outside the palace also came from the bench or its fill. Andrews had asked the rhetorical question of where could they have come from (1988).

The wall plaster is a beautiful white behind where the bench was torn out. The removal of the bench exposed a cord-holder in the

middle of the wall, but low on the wall and not associated with any opening. There is a similar stone in the debris tossed out by the looters, though I have no idea how it was fit into the bench.

Vault

The upper two rows of vault stones stick out especially on the back wall. Most are rough, only a few are smooth faced and squared off (taken from my notes, did I mean upper two rows of WALL stones).

Several of the capstones are actually laid somewhat diagonally and there is lots of chinking in the corners of the stones. Their hewn shape did not fill the space very adequately.

The front wall is standing to the door jamb. The other jamb is covered by collapse. The top two courses stick out but not as much as in other rooms, 1 and 2. The vault angle changes at the third course but overall soffit is still acceptably described as more or less only slightly angled. Both front and back walls have settled and slumped out leaving center (west end) wall free standing. It has a serious crack opening up zig-zagging down the south third. Much of this palace quadrangle will collapse in the coming years.

If the vault were drawn against a plumb bob then it would be possible to illustrate the top two wall courses as beginning a pseudo-vault, then the change after so many vault courses.

The end wall next to the vault uses small stones to create the necessary angle to receive the soffit. The normal squarish wall stones are seldom custom cut to fit nicely; at Santa Rosa such custom cutting tends to be found only in Puuc style masonry.

The On-Going Collapse of the Cuartel

The South Range is already destroyed; the East Range has several room segments worth preserving; but the Cuartel itself needs immediate attention. In fact, segments of the Cuartel are likely to fall before even some of the tottering Main Palace. Repair of the Cuartel, though, will be easier because it is only one story high (other than whatever was up on top of the two stairway masses).

All the wooden lintels have already broken and fallen, yet not that much fell with them. The jambs need to be restored, fresh lintels replaced, and further deterioration over the door halted.

Then the end walls need to be strengthened. It appears as though the entire Cuartel is buckling, possibly because the rear is so exposed. Most of the end walls are split right down the middle,

with each half pulling away. As both outside walls sag or tip outward the vault mass begins to lean inward.

Thus, it is important to fix the whole roof so that rain water does not continue to seep into the mortar and increase the weight causing the building to push outward at the back. Since tourists do not see the roof anyway, it would seem advisable to put some form of cap up there that would drain 100% of the water off the roof. But care must be taken in selection of binding material, and specialists should be constructed who have faced comparable problems elsewhere. Xtampak would seem an excellent case for UNESCO. If you just look at the pile of fallen stones littering the floor of the Cuartel rooms you can see what the entire palace will look like shortly--a pile of rubble.

WEST RANGE

Corrections to the Plan: Overall Room Number

The published plan gives four rooms to each half of the West Range (due to the problems with each corner room they get separate paragraph sections immediately following this section). That leaves each half of the main range with "three" (main) rooms. The three-room plan is evidently a result of presuming this wing was a continuation of the main Cuartel. Since the back walls and interior corners suggest a continuation, of the Cuartel, the assumption of three main rooms is understandable.

But a perusal of the actual remains requires eliminating one room from each side of the stairway from the map. There are only two main rooms for each half (plus the corner rooms, which are smaller). The Cuartel is a still further painful reminder of what happens when sites are mapped without inspecting every square centimeter. Are the plans of Labna, Sayil, and Kabah's palaces as much in error in room count as Santa Rosa Xtampak?

How the reduction to two main rooms affects the inset/outset pattern will have to be worked out carefully, based on comparison with better preserved examples elsewhere.

Corrections to the Plan: the North Corner

A room must certainly exist at this corner, the only question is whether its back wall was continuous with the rest of the adjacent ranges, or whether it was inset, or even outset. The only fully preserved corner, the back of Room 6, is plain, with no inset or outset, but judging from the collapse patterns my field notes state "inset at least 60 cm or one meter" for the north (back) wall of what I would label as Room 7. Whether it was comparably inset on its west side I do not know. My notes on the corner situation are contradictory. It was very depressing to take notes here, having to look at the horrible destruction being caused to both ranges by the inattention of governmental author-

ities. A huge tree had, within the last six months, taken off major portions of the vault and wall of the north half of the West Range.

Corrections to the Plan: Enclosed SW Corner or Not?

The first thing to do would be to add solid black line to Andrews' map where wall remains exist, mostly on the back. Then the non-existent room in the main range should be eliminated. That leaves the problem of whether there is a corner room, and whether the corner is closed or not. "Both the Brainerd-Roys-Ruppert map and the later Stamps-DeBloois map are in error since they both show the north and west ranges as an L-shaped structure with the south and east ranges as separate, detached structures, whereas in fact the north, west, and south ranges form a U-shaped structure with closed interior corners, and only the east range is an independent unit." (Andrews 1988). The north and west buildings are certainly joined as a single common L-shaped edifice, but I am not yet convinced that continues over to the South Range. Considerable evidence from standing architectural remains indicates that the West Range has a definite walled end before the South Range begins. The evidence that Andrews presents to prove the continuation around that corner is not visible at all. The question remains, was it visible in 1987 and subsequently obscured by leaf fall, or by collapse, or was it merely predicted in 1987 on the basis of bilateral symmetry with the

better preserved corner, at the north end of the building. Based on the comparable situations in the Southeast Quadrangle as well as the non-existent rooms on the Cuartel itself, the entire map is cast into a situation where, without specific standing architectural evidence, it is no longer possible accept doubtful detail on faith alone. But in this case, he presents the detail in solid black line, indicating it was standing--yet on at least one other instance, on the Adjacent Building, a corner was transposed by mistake. Either an inspection of the 1987 field notes and sketches, 1987 photographs of this detail, or eventual excavation, will resolve this situation. In defense of Andrews, he pictures even a detail of his evidence, in his Fig. 28 a, showing clearly a preserved front wall of a north face of the South Range. Such a wall could easily be buried under recent collapse. The round corner itself is still present.

What led me to question the presence of a corner room, indeed a connection to the next range, is first that the next range shares nothing in common with the Cuartel. Thus, I see no reason for the connection, though that may be ethnocentric.

The second objection to the connection is that in the Southeast Quadrangle the stated connection to the South Range definitely does not exist, or at least cannot be proven, in fact there is a definite end wall to the South Range, which would disallow a connection. The possibilities exist only for a subsequent, secondary

connection but the fact is that the SE Quadrangle corner is not necessarily properly rendered on the map. This precedence does not predispose me to accept the corner here on the Cuartel Quadrangle, especially when U-shaped units of this size are not a known norm.

And the final reason why I question the present stage of the map is that there is already an adequate end to the West Range. The back wall is still preserved up to and including the medial molding, all three courses. It forms a corner, which we photographed, about in line with the north end of Room 11 (estimated from memory, not a statement from my notes or direct observations). This indent is at least 47 cm deep and probably corresponds to the outset of Room 11 on the front. On the map I would increase the outset, as it is pictured as only about 15 cm. The inset on the back is omitted wholly.

Then there is a south end wall, at upper zone level, to Room 11. This is also overlooked on the map. This room ends at about the corner of the front outset, and I cannot imagine a door here. That alone would almost rule out the corner room as presented, though if it exists it could enter into the South Range just as well.

Furthermore, there is a SE corner to Room 7, actually the entire corner of the molding. It has already begun to fall but happened

to hit an already fallen stone, so is still a few centimeters from its original position in the wall. It is leaning rather than fallen. A meter or so to the west are facing stones. I interpret these as exterior upper zone facing stones. For Andrews' corner room to exist these stones would need to be inside end wall stones. That is, by the way, in no way impossible. Nonetheless, although the stamps and Carnegie maps are themselves in error or omission on any number of points, and whereas in most cases Andrews' map is a distinct improvement showing far more than earlier scholars recognized, I am at a loss as how to reconcile the situation here, especially since his Fig. 28, a, presents such a definite drawing. The question remains as to whether enough collapsed in 2 years to obscure what he drew, and if this does exist, how can it be reconciled with the two corners and probable end wall that suggests the West Range comes to a definite end before the South Range?

West Range, Center stairway and Mound Remains

The top of the mound has been dug through by looters, who did not have the perseverance to dig to the bottom. The Maya went to such effort to erect these two-sided stairway masses that it would seem that something rather important is indeed buried beneath them. Due to the disturbance and piles of backdirt left by the looters the original top surface cannot be determined with just a quick perusal. Its original height was not likely over 2.5 m.

above adjacent rooftops. There is no evidence that a structure ever existed on top, but such evidence could easily have been destroyed by the looter's rummaging through the stones. From elsewhere at the site the evidence is good that most of these stairways in fact did serve a temple of some sort or another.

East Range of the Cuartel Quadrangle

DeBloois estimates "The structure on the east side of the plaza probably contained two rows of rooms, judging from the width of the ruins." (1970:30). Yet almost two decades after DeBloois's visit it was possible to find the bottom of the medial molding on the back and several segments of vaults including one complete with capstones. Those who did estimate the number of rooms did so correctly, in fact the number of rooms is rather simple, two ranges-each of two rooms, repeated on each side of the stairway. Excavation could always produce surprises but here a bilateral symmetry does seem to reign.

since there is only one course of the medial molding, and that only a few stones long, not much can be further stated other than that the molding sticks out 13 cm and is 22 cm diagonally high.

This back (east) wall has its top four courses standing above collapse and humus. These exposed facing stones are mostly neatly square and well hewn.

2nd session

A totally unexpected architectural find was that of an interior set of three adjacent embedded columns. This immediately reminds one of that feature in Rooms 1 and 9 of the Main Palace and demonstrates the importance of finding, photographing, measuring, and writing up all exposed architectural details throughout the entire site as an aid to establish the relationships of various features of the Main Palace.

The embedded columns were made up of stones of approximately 27 cm diameter. Lots of mortar and spall stones separated each column from the next, though they could otherwise be considered immediately adjacent to one another.

This same East Range room has, on the north half, four courses of wall, rive courses of vault still standing. The bottom two vault courses are of wide stones, 35 wide by 21 high typical. Rest of vault stones (in the higher courses) are smaller, 21 horizontal x 16 cm high. The slant of the vault changes also with this third course.

The end wall is flat, that is, without immediately noticeable batter, and has no spring. This follows the findings in the Cuartel that it is essentially Chenes-Rio Bec (a building can be Rio Bec without having anything to do with towers). Chinks were employed in the edges of the end wall to meet the adjacent slope

Plate 37. A rare incidence of embedded columns inside a room, in the remains of the East Range of the Cuartel. The stones directly above are of the vault soffit. The end wall (to the left) has no spring. No end wall in the Cuartel area has a Puuc spring.

of the vault. In pure Puuc architecture the end wall stones are custom cut to angle to meet the adjacent vault slant.

The back (east) wall's top course is a "leveling" course, 9 cm high. Such top courses bring a wall to a predetermined height which would be too high if another course of the standard height stones was employed.

On the other side of the central stairway, in the back range, is another room in better preservation. This room is complete up to the roof for about a 1.5 m run out from the stairway mass. Looters have poked a hole through the end wall into the stair mass of rubble. They found nothing and made a considerable mess.

The vault is eight courses high, relatively straight, with no spring on the end wall. The bottom two vault courses are larger than the remaining courses. Capstone span is approximately 59 plus or minus 5 cm as both vaults are sagging (and will collapse in the next wind storm). Total diagonal height of the vault is 1.52, spring is 4 cm. A beam hole of normal diameter is in the first vault course, is 10-12 cm from end wall. Tiny pole holes were 10 cm under capstone and 85 cm from the end wall. Such tiny pole holes might well go unnoticed, except that with the floor filled with collapse the pole hole ends up at eye level.

The top course of the west wall is a low "evening out" course. Most of the wall stones are well cut, square to rectangular.

Central Stairway of the East Range

The stairway mass is loose rubble, that is, with little or no lime mortar. The mass is visible in the looter's tunnel through an adjacent side room.

The top of the stairway mass is over 2 m above the roof of the rooms. This may be the highest stairway mass still in situ, though that is a premature statement since none have been measured with a level instrument. Looters may have dug into the west side of the summit. This top did have mortar, smaller Stones; and the remains of facing stones in the tumble at the top suggest that there was indeed a temple of some sort once on the top. There is the remains of a rough core wall on the southwest corner above the roof level of the adjacent room. Climbing up and down these Xtampak type stairways is an invitation to spraining an ankle (not to mention a tiring exercise) so I did not do as much investigation as these intriguing features warrant. The question always remains of whether such stairways had Chenes monster facades on top, therefore it is necessary to compare the features with the main front stairway on the Main Palace.

Features out in the Courtyard

A pile of stones in the approximate center of the Cuartel courtyard suggests originally there may have been a monument platform.

A low altar is still present, maximum diameter 49 cm, height 36 cm. It is hard to tell whether this was noticed by earlier recorders or not. Something definitely not commented upon earlier is the line of tumbled stones which goes from about the center of the front stairway of the West Range half way across the plaza, and then peters out. This low pile of stone reminds me vaguely of the Post Classic defensive walls at the Peten site of Dos Pilas, but here the row of stones is not completed. Whatever its purpose I am presuming it is most likely Post Classic, and that several other comparable late alterations could be noted elsewhere at the site. Since our task was to record standing Classic period architecture it is difficult to find the time to track down crumbled Post Classic walls one stone high and scattered. The large collapsed chultun has already been recorded by DeBloois.

BUILDING WITH SERPENT-MOUTH FACADE

Not only is the Serpent Mask Building right across the plaza from the Main Palace, it also shares a number of architectural features with the Main Palace. Thus, for any thorough analysis of the Main Palace itself, it is essential to include and understand the Building with Serpent-Mouth Facade (the structure has received different names over time; Pollock points out it had also been

termed the "Building of the Room with the Half Vault") (1970:57)) as well as its attached platforms to the west, which I have named Mounds A, B, and C.

Pollock certainly did not miss this handsome building though the forest was so thick even across this single plaza that he did not know whether it was northeast (where his notes placed it) or north (where Maler placed it). Later, when he wrote his report months after the field work, he could not remember which blob on the map was the actual building, a feeling I know only too well from the Building with Preserved stone Lintel, and Pollock had worked at almost 200 sites--I only with Santa Rosa.

Pollock notes a curve to the vault soffit though does not mention in which room.

Problems with the Published Maps

The politest thing to say is that the entire downtown area needs to be redone from scratch, from the very beginning. Since that is a minimum six-month job costing between $15,000 and $25,000 in labor alone not counting equipment expenses and realistically needing a Total Station, $25,000 worth of surveying equipment, we hope the reader will understand why we are not jumping at the chance to remap the central area. Presently Folan is concentrating on the peripheral zones, as that has not even been

incompletely mapped before. At least the old map of downtown serves a purpose of providing a general view for settlement pattern analysis. Since we do not have the almost $50,000 to do the central core remapping, the best I can do is work one complex at a time, and I must admit that I also did not field a transit, for the same excuse as others--there simply was not enough time in the day to cover everything. As it was we photographed every day until the light was too dim for that, then measured until we could no longer read the tape due to darkness. Nonetheless I was able to take notes on the mounds in the proximity of the main masked building.

Since no nomenclature system is yet employed, I had to assign provisional tags for my notes. Mound A is the one closest to the Main Palace, so on that basis alone deserves at least a note. Mound A is so totally fallen that it is 'understandable why it has never previously been described, especially since it was covered with brush so thick no detail could be seen until the INAH guardians cleaned this area in May.

The angle of Structure A on the C.I.W. and all subsequent map copies is wrong in all respects, incorrect in relation to the nearby Serpent Mask Building and wrong in relation to the Main Palace. It is not 90 degrees to the former or parallel to the latter.

2nd Session

The large shaped stones laying around are probably former medial molding stones. They are beveled and finely cut on the front. Someday it should be possible from the size, shape, and proportions of such fallen stones to reconstruct the molding profile by computer. A typical measurement was about 75 long, 50 wide, 20 cm high at the molding face.

This building's facade must have been extensively adorned with embedded columns. One set of two columns is in situ on the east; nearby are "lots more sections" of comparable column stones, long diameter 29 cm, short diameter 26 (they are oval in cross-section), 49 cm long overall. Three different sections are fallen on the west. A typical stone was maximum 49 cm high.

The building, now collapsed down to the wall stumps and those mostly covered by the fallen rubble, may have been of a single back range with a front extension at each end, but that is highly conjectural.

Mound B

This I devoted less time to.

Red Paint

Beautiful red paint is still preserved in many patches under the overhang of the medial molding on the back of Room 1. The nearby building was already named by Maler the Red Building on account of its preserved paint.

THE SERPENT-MOUTH FACADE BUILDING ITSELF

Amendments to Published Drawings

There is no room to the east of Room 3, so the broken line can be whited out. Several meters away there is indeed a low platform but it is not actually a part of or connected with Room 3.

The latest map (Andrews 1988: Fig.12) presents the main building as having Room 3 on the east and Room 1 on the west with a broken line suggestion of additional rooms to the west. These additional rooms do indeed exist, and I have named them 4 and 5 so as not to change Andrew's nomenclature. Andrews was aware that there were more rooms here, but the area was too overgrown to allow seeing them. INAH guardians bushed everything so cleanly that we could see much more than anyone previously ever had a chance to see.

While it may be as well that he revised all of Stamps' room numbers for the Main Palace in order to have the sequence coincide with the "standard" in fact there is a rule in biological sciences that the first name given should remain unless it is

seriously misleading. The reason is that otherwise every time a new standard is issued, too much has to be changed around. As long as everyone knows what room you are speaking about, it is not relevant whether the sequence goes from left to right, or right to left. I have stayed with Andrew's Main Palace revision, but for simple buildings I see no reason why the rooms should not just be numbered as they are found. It would be hard to find more than four archaeologists in the entire Mesoamerican field who actually know the correct sequence of room naming--and I certainly do not include myself in the knowing four.

Room 1 (of the main Serpent Mask Bldg.)

The north wall is preserved all the way to the west corner. The south wall is only partially preserved to large Puuc-like jamb stone. The appearance of a Puuc sized stone in a building which is otherwise Chenes has not previously been described. This east jamb stone is at least 95 cm high (rest buried by collapse), 22 wide (across the front of the building), and 49 deep across the door jamb. Since the wall is almost certainly more than 49 cm wide, this means that the jamb did not occupy the entire width. Pure Puuc jambs tend to occupy the entire jamb width. Room 4 has fallen Puuc-like jamb stones which indicate a former doorway.

The vault is appreciably asymmetrical, with a higher spring and less run on the back. Both vault soffits are curved. The cap-

stones must have tested the physical limits; it is a wonder that they did not all fall long ago. Yet the room itself is not very wide despite the unusually wide capstone, only because the back vault is simply not that high. The capstone span is a remarkable 66 cm, same as Room 3. These capstones were often fat.

There is a tiny pole hole in the back wall, 62 cm from the end wall, 20 cm diagonally down from the capstone. A pole hole with a diameter of 5 cm has its imprint in the plaster perfectly preserved. Comparable sub-vault poles (narrow poles as opposed to the heavy beams which are better known) are quite noticeable at Xtampak, in the remaining vault of the East Plaza, for example. They are easy to overlook when the vault stones are slumped or disarranged due to collapse or tree roots, as such a small hole may masquerade as a crack or failure. The back wall vault has quite wide stones of varying height on its lower course. The end wall has a plaster molding under the capstone, but no spring, continuing the Chenes effect. The corresponding place in Room 3 has no plaster preserved. Andrews correctly notes this stucco molding below capstones on the end wall. This created a rectangular frame around the capstones. Such a frame is especially conspicuous on the Puuc rooms of the Southwest Building.

Change Needed for Published Drawings

A notation transfer error resulted in the capstone span being given as 40 cm; it is actually 66 cm for Room 1. The profile of

the vault of Room 3 might have the soffits slightly more rounded in a somewhat more Puuc profile. Thus, the style designation as "Classic Chenes style" (Andrews 1988) might be amended to "Classic Rio Bec-Chenes facade decoration; flanking rooms have slight Puuc influence to door jamb stones and vault profile."

Secondary Nature of Both Rooms 1 and 3

Although all visitors have commented on the secondary construction within the main Room 2, somehow the equally secondary nature of the walls of both Rooms 1 and 3 in the same building has not been recognized. In Room 1 the evidence is that the front wall goes 47 cm behind the current end wall; the front wall is plastered that distance. If the original end wall was that far back, it must have been daringly thin, in fact too thin for the engineers, as they evidently immediately added the secondary supports.

The reconstructed scenario is as follows. The original design was simply too daring and violated gravity. It is actually a wonder that even with all the buttressing that the entire edifice has not simply crumbled--actually the entire edifice has already crumbled--it just caught on the buttress. The front walls are splayed out so far that you can see way behind the end walls, which have remained in their original place.

The architects or engineers must have recognized fairly quickly that the central room was too high, the end walls too thin, but parts of Rooms 1 and 3 were already finished. If you scrutinize the precise ground plan, the location of the original walls and the present added buttresses, you can yourself estimate the sequence of events. This will have to wait until it is possible to take measurements or survey this structure. After seeing the discrepancy with the two other buildings we test-measured with what is on the maps, it is not possible to trust the published proportions of any building over one room (which is an appropriate warning for the impreciseness of the palace drawings to date, where we found an entire meter in error on two adjacent walls where the meter error was physically impossible to have missed since the walls were still standing next to each other. But since all elevations in the published drawings were made 180 degrees, and all corners 90 degrees the errors could not be ironed out. most of these errors on the latest 1988 edition of the palace drawings appear to result from those particular portions being based on Stamps 1970 drawing. Even though the Main Palace has been remeasured (in part) and redrawn since Stamps from fresh field observations of 1986-87, a few errors, as well as the specific features which were overlooked, are always the same ones that Stamps also omitted or idealized.

Room 3

The vault end walls have no spring yet the vault soffit profile is rather tending towards Puuc. Coupled with the practically Puuc jamb stones of Room 1 and 4 this suggests a hybrid Puuc-Chenes building. The question remains, was this built by Puuc masons attempting to render a Chenes structure, or by Chenes masons who wanted to add some Puuc style elements?

The wall dividing Room 3 from the central room, 2, is secondary just as is that dividing the other side of the central room from Room 1. The secondary nature of the wall is easy to ascertain since the front wall has begun to tilt far out, so you can see that the plastered finish masonry goes a fair distance behind the end wall surface. What needs to be measured is what the wall plan of the original building looked like; that is, the position of the inside dividing walls relative to the exterior corners of Room 2:

Room 2. the Main Room of the Building with Serpent-Mouth Facade

The overall structure is indeed bilaterally symmetrical to the degree that Rooms 1 and 3 are approximately mirror images of each other, and all the additions to the back of the building were more or less similar on the west and east sides of the back (north) stairway. Thus Room 2 is the central room to a degree, and certainly the main room. Room 2 is different in all respects from every other room still standing at the entire site.

First is the sheer height. Only the palace rooms under the flanking Rio Bec towers approach this height. The next highest rooms are in the Cuartel. Room height can be a function of wall height or vault height, or naturally both. In this room the height is both real and illusionary, illusionary in the sense that the room is so narrow that it appears higher than it actually is.

All investigators have recognized that the back wall is a secondary addition to shore up the room to keep it from collapsing. It worked, since the room is still more or less standing, though both front and back walls have sunk and are sagging outward. It is just a matter of time before they tip over.

The back wall is almost completely covered with thick plaster though-it is buckling away from the wall above the spring. The east end wall is likewise still covered with original pilaster.

Vaults

This "half" vault shows that each half of a vault can indeed be built independently, though in actuality this is not a half vault but simply a regular wall with a vault spring to provide the illusion of it being a vault. This wall itself inclines slightly outwards as does the vault, but it is all essentially flat, albeit leaning, that is, not 90 degrees to the floor. Andrews' profile appears good.

His profile of the other soffit looks okay, though it might use a bit more curve. Actually, the vault is almost Puuc-like in its curve. His drawing is actually slightly curved and should be considered acceptable until the entire thing can be measured against a plumb bob, plotted out on a graph as is required of proper international architectural standards, but we were not any more equipped with ladder, time, and endless funds to engage in this level of recording any more than Andrews.

The original back wall and vault are totally covered over and should really be rendered in broken line; I imagine he has transposed the profile from one of the adjacent rooms, which is understandable, but still, conventions would call for a broken line, since we cannot in fact verify that profile. The thickness of the secondary wall can be verified simply by sticking a measuring rod down the hole left by the rotted wall beam. But that reveals only one point on the wall, not the more important angle of the vault.

Room Arrangement

Room 5, and 4 I am adding to the plan at the west end of the main mask building; it is traditionally pictured with one flanking room to the center one. Andrew's drawing can be updated also in that there appear to be no more rooms east of his Room 3.

Room 4 has beautifully faced and squared stones.

Of Room 5, there are parts of front facing masonry still in place. This room was much less long than adjacent 4 or 1.

Medial Molding Remaining on the Back: Behind Room 1

Many sections of the medial molding and other portions of the upper zone are still in place on the back. Thus, it should be possible, with a level, to get enough points to reconstruct what the building looked like before some of the secondary additions made on the rear.

One several meter stretch of preserved upper zone is behind Room 1, correctly pictured in solid black on his-plan. The entire medial molding, then upper zone, and what appears to be the upper molding. The details or at least the measurements do not coincide perfectly with Andrews' profile of Room 3 on the other side of the Serpent-Mouth room, so it would be best to redraw both of them with plumb bob and actual measurements.

Medial Molding Remaining on the Back: Behind Room 3

Collapse, presumably from the facing stones of the final stair side wall, as well as possibly from whatever secondary construc-

tion may have been here, covers the wall itself up to the medial molding. The medial molding is complete for about a meter out from the stair core wall. The rest of the upper zone is only three or four courses before the overhang of the upper molding, of which three courses are preserved. without checking this upper detail looks somewhat related to that of the Cuartel, with sets of little colonnettes. Set into the upper zone space between the upper and medial moldings is a set of three embedded columns, another relation to the Cuartel, though by no means identical.

The Rear Stairway to the Roof

In the 1930's the Chenes pattern of stairways on backs of buildings had not yet been recognized as a standard trait (actually it was still not recognized up to Andrews' recognition of this crucial trait in 1988). Nonetheless Pollock estimated the masonry on the back to be the remains of a stairway (1970:58). Indeed, this is a stairway, and its core masonry is among the best preserved at Xtampak, and should be compared with that on the east side of the North Range of the Cuartel's back stairway. Such stairway facing stones, which turn and cross the stair run as terraces, are characterized by horizontal stones, nicely laid but not perfectly squared. They may have been without mortar, or perhaps the mortar has eroded away with centuries of rain. It would be well worthwhile to do an analysis of Xtampak stairway core wall masonry before what remains crumbles.

A major feature of the back has not previously been noticed, namely the finely cut finish masonry of secondary walls, on the east side and on the west side (where they are definitely secondary).

Outer facing masonry still stands on both sides of the rear stairway in a position that suggests it could have been the facing masonry for the stairwall, yet other facing remains nearby suggest there was additional construction which was secondary to the back wall of Room 1 and Room 3 (and hence secondary to Room 2 as well). Whether these were rooms or terraces for the stairway mass are unknown, but they are clearly built over the back of Room 1. Whether this means that the entire stairway is secondary can better be answered on the east, at the juncture of the back of Room 3 and the stairway core wall.

Juncture of Back of Room 3 and the Back stairway Core Wall

The stairway core wall at this point is the best preserved (and most attractively laid) at the entire site. It can thus be used as the "type example" for back-stairway core facing wall masonry. core than 17 courses are present and those for several meters run.

The side wall is without any break, with no moldings or step-ups, but on the front it is organized into terraces. This area badly

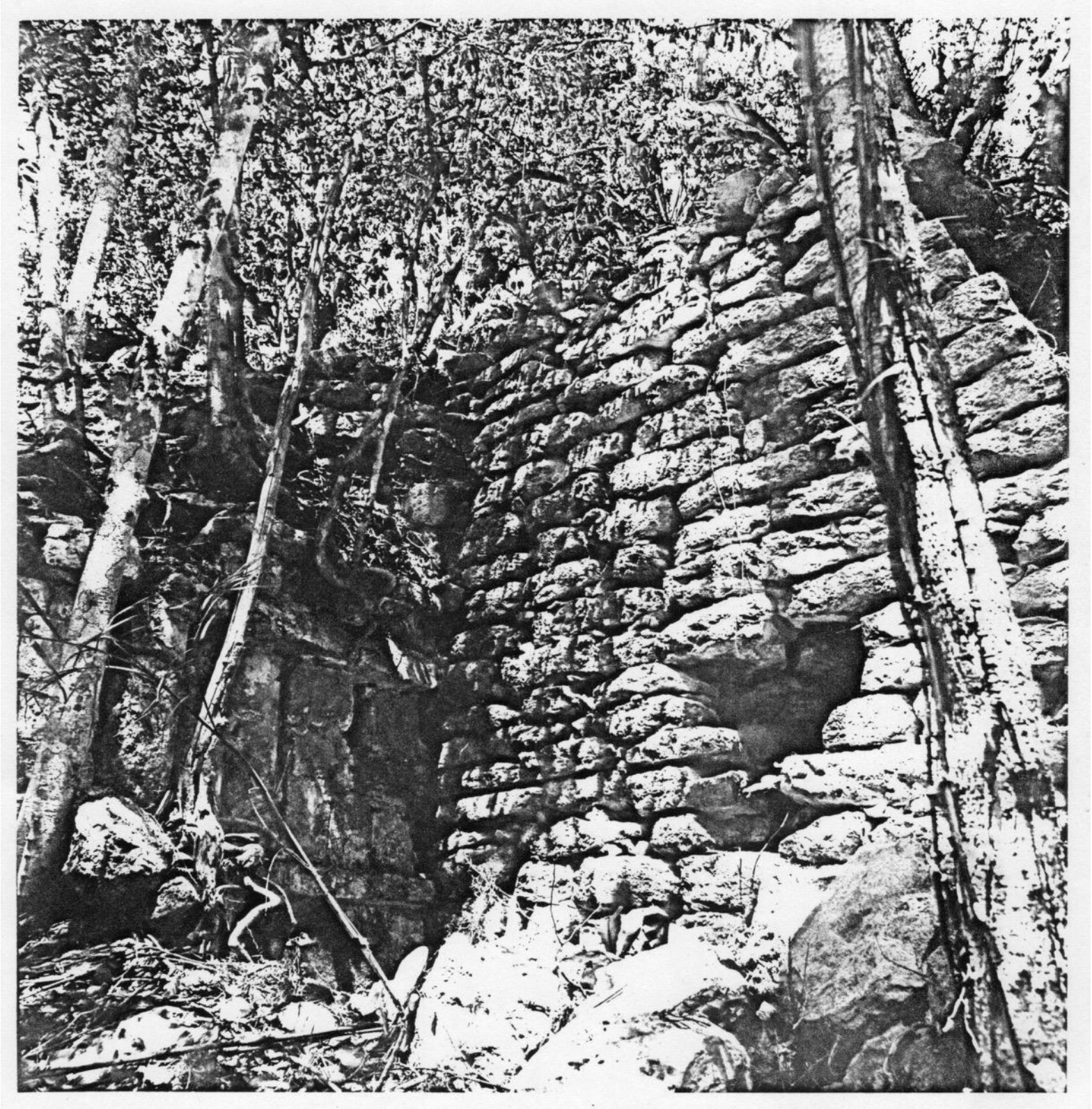


Plate 38. The large facing on the right is the side of the rear stair mass on the back of the Building with Serpent Mask. The masonry to the left is the remains of the upper zone of the back of this building.

needs a three-dimensional drawing to present the reader a better picture but that will require a whole team of architects.

The stones are horizontal, all horizontal, with no square stones at all, no high stones even. All the stones are approximately within the same height limit, 12-18 cm I would estimate by eye, looking at a slide as I write this paragraph (as opposed to a field measurement with a tape). These horizontal stones are different than anything visible today on the stairways of the Main Palace, only about 100 meters away across the plaza.

The finish masonry of the upper zone stops right at the stairway core wall and does not go behind. The core wall masonry does not continue past the juncture either. This is typical of Xtampak finish wall/core wall junctures and demonstrates that they are contemporary--the rear stairway in at least this form and size was an original part of the overall building.

Remains of Secondary Facing Walls Alongside the Rear Stairway

On both sides of the rear stairway are standing remains of facing walls. Whether these are additional terraces to the stairway or remains of rear rooms remains to be investigated by future scholars. The fill behind these walls had to be secondary to the back of Room 3, indeed the presence of this fill may explain why the rear of the room is still standing.

The Remains of a Monster Mask behind the Building

Approximately in the center of the back stairway, and only about 30 centimeters above ground level, is the remains of an in-situ decoration that I interpret as the nose and teeth or gums and teeth of some form of giant monster mask. Perhaps this is a premature interpretation from only five stones. What is unexpected is that this construction is so far away from any other portion of the stairway. At most it could have been a landing at the base of the stairway, somewhat like that of Tonina on the main temple up in the acropolis at that Chiapas site. It is not so much that we could make much sense out of the remains but more the fact that after Xtampak has been combed by so many earlier expeditions to find something right in the center of the site showed how much promise there is for further exploration. Unfortunately, this "monster mask" is not photogenic--in a close-up it looks just like a few stones on top of each other; in a wide angle view the stones are lost. without seeing the rest of the mask (which only future excavation will reveal) and without knowing what the associated structural features look like, it is hard to judge exactly that the Maya intended, but it is certainly a surprise to find something like this on the back of a building.

Remains of a Superstructure served by the back Stair

There are more than enough rows of facing stones and other indications that some form of construction topped the overall building. Since the stairway itself is contemporary with the first story of the building I presume the second floor is of the same original period, though that remains to be proven; evidence for or against was not sought during limited field time available. A skilled architect--if a week were available to devote to this building--could easily do a drawing which would salvage considerable details of the relationship of these walls to the main building, but this was far beyond our means. It was all we could do to handle fully standing architecture without facing the months of trying to measure and sort out fallen remains. Nonetheless, to understand Xtampak fully, someone ought to devote more time to the second story constructions served by the enigmatic back stairways throughout Xtampak.

THE RED HOUSE

The best description is by Andrews; actually Stamps does not mention this rather well-preserved structure, nor Pollock.

Wall

The stone size is somewhat different in each room but over 90 percent is in neat courses. In Room 1 at least two courses are of

vertical stones; another course is of distinctly flat stones. Overall masonry is neat and well hewn.

Vault

The lower vault course is of wider stones than elsewhere in the vault. In general 90 percent of the vault stones in Rooms 1 and 2 are horizontal rather than square. The vault profile increases with the third course, especially in Room 2. In Room 3 the vault angle increases four courses from the top. This fact needs to be added to the idealized profile in Andrews. Nonetheless the vault could correctly be termed flat, as it is certainly not curved, but flat in two planes. The ninth course of vault stones sticks out about 3 cm in Room 2; this area is not preserved in Room 1. There is no plaster on the end walls so we do not know if a molding was carried around in plaster.

Rooms 2 and 3

The vault profile of Room 3 appears to the eye more curved than that of Room 2.

2nd Session

THE ADJACENT BUILDING

The Building Adjacent to the Red House (Andrews' fuller proper name) is pictured on the Carnegie map (Pollock 1970: Fig.56) but receives no description or drawing, which is hard to understand since the back is perfectly preserved and its unusual position right next to the back of the Red House would certainly be noticeable, especially to the mapper, who must have seen this. Maler certainly noticed these buildings.

DeBloois describes the two as the "Back-to-Back Buildings," (1970: 29), certainly appropriate. There is, though, plenty of space to walk between the two easily. Curiously I could find not even a mention of either building in Stamps 1970; he goes from the serpent Mask Building directly to a description of the Cuartel (1970: 65). Thus, it is not until Andrews 1988 that a good description, section, and fine photograph is produced.

Problems with the Published Drawings

The attractive detail plan of the Red House and Adjacent Building (Andrews 1988: Fig. 12) may have two corners transposed, a result of creating text months later from field notes--without the building in front any more. I suffer the same human error though try to avoid it with three safety features: first, by taking slide snapshots of each detail. I then project these snapshots against the wall so when I am looking at my computer screen I

also have an enlarged color image of the entire area directly in front of me when I write the final text. These projected slides, with the sharpness provided by a Leitz lens on the original camera, are about as close to writing in the field as possible. Secondly, by using hindsight in having available the drawings already available from earlier research. It is a lot easier to correct someone else's drawing than do a fresh one from scratch. Third, I write up a preliminary report within a month after returning from the field. This paragraph is being written less than 5 days after returning from Xtampak. There is actually a fourth safety rule--work only on one site at a time. Returning with notes from a dozen different Maya ruins is an invitation to transposing corners.

Here what may have happened is that the data from the northeast corner was mistakenly inked onto the southeast (front) corner. On the corner where the drawing shows solid black to indicate standing masonry there is nothing left, but on the corner of Room 3 the embedded columns at the corner are in fact preserved as stubs, barely.

On Room 1 I failed to see a doorway though one would certainly expect one where Andrews indicated it, and his symbol does in fact imply solely an educated guess not an observed feature. The alternative would be on the south wall, which is the "back" of this building, so unlikely, though I did find doors on the back wall of the West Range of the Southeast Quadrangle.

Wall: Exterior Facade Details

On the pinched corner formed by the outside junction of Room 1 and Room 2 there is one inset (embedded) column on the north face, a set of two adjacent on the east face. I did not note whether the single column was all that was left, or was actually solely a one-column decoration (as is found elsewhere, one against two).

Medial Molding

Andrews' drawing shows only the back medial molding, that adjacent to the Red House a meter away. In fact, the remains of a medial molding are on the front, not reproduced in any previous report. This front profile is different in having an extra member I over that of the rather plane back which has a simple overhand. Since we are still in the middle of field recording it is not possible to produce inked line drawings to illustrate this version of the report; it is a wonder that we squeezed enough hours out of the day to start typing this within 48 hours after returning to Florida from the second session. Hopefully in the third (August) session we will have a computer in the field. That way there is not much excuse for delaying at least text reports about discoveries and data.

The inner corner on the front of the Adjacent House has embedded columns, just one on one wall, two on the adjacent.

Vault

The top three courses of the vault stones are much smaller than the bottom three or four. Actually, some of the top course stones appear irregular and haphazard. The "front" vault may be longer than that of the back. Both vaults are rather short, that is, not very high, thus overall, the rooms were not very high. The cap-stone span is about 50 cm plus or minus 5 cm; since the soffit (vault face) has sagged so much it is hard to calculate the original capstone span more precisely.

REMAINING ROOM OF THE EAST PLAZA

Andrews 1988 monograph covers every standing structure at the entire site--except the building with the single standing stone lintel (near the Southwest Building) and the present room on the East Plaza. So far after five months field work the mapping crew has not found another vaulted structure still standing. Our only hope is the rumor of vaulted buildings near the ejido hut about 3 km away from the main site center.

Although the standing architecture of the East Plaza is only five meters from what is now the main trail to the Southeast Quadrangle in fact, we did not notice it at all in April, nor on my initial visit to the quadrangle in June. Only by coincidence I saw it as I walked along the trail in the direction back to the Main Palace. Since this room was just one courtyard away from the Cuartel I tackled recording it when I was finished with the Cuartel.

The trail that I designed for reaching the Southeast Quadrangle goes through the Central Plaza where no standing remains have yet been recognized. Although this is the physical center of the site everything appears to have crumbled and no one has even looked at the remains. Curiously this central area appears to be totally overshadowed by the adjacent South Plaza, which has the largest construction at the whole city. The north end of the South Plaza, the Solstice-Equinox Observatory Complex, is the largest construction at the entire site encompassing an open area that may be larger than even the Palace Plaza. The north pyramids here appear to cover a ground area three times that of the entire Main Palace, and the mounds along the east are the longest contiguous construction of that size, anywhere at the ruins. Actually, the main end of this South Plaza is larger than the entire Southeast Quadrangle. Whether some of this monumentality will shrink when the area is physically measured with instruments we do not know, but suffice it to say it is immense under any standards.

Yet the Central Plaza and the smaller East Plaza do not feature any truly monumental buildings. Yet at least one range along the south of the East Plaza had vaulted buildings, and one such vault is still standing.

The map omits to show a stairway up the south face of the mound, just east of the ballcourt. This is a typical Xtampak stairway though nowhere near as large as that in the Cuartel. I did not note whether the stairway also continues on the other side.

According to my notes this room is evidently just inside the corner room, the SE corner of the range elevated above that area of the East Plaza. This room is fully standing its entire southwest and east run. Its door side is totally fallen taking many of the capstones. Although the rest of the East Plaza is largely fallen an astute mapper could show most of the room outlay since stubs of vault masonry still stick up in places.

Of what I interpret as the actual corner room, only part of the interior wall remains.

Walls

Walls stones are of varying sizes, mostly square though, and mostly coursed. Beam sockets are in the top wall course, one

stone from the corner, occupying almost the full height of that course. In the bottom of the top vault course there appear to have been pole sockets two stones from the end wall. This cross pole must have been just 4 cm in diameter. Such tiny pole holes have also been found elsewhere at Xtampak, Room 1 of the Serpent Mask Building. Certainly, others could be found if they were sought. Being small they are easy to overlook, and it is not always possible to get your head up this high. Only when the room itself is filled with collapsed debris up the start of the vault do you have your head at the level of the capstones.

Only about one meter's length of external facing stones are standing, and only the top three courses are visible above the humus line. At the level of the top exterior wall course, is a layer of finish plaster, which is flatter and more polished than a mere pause level. The medial molding stone was laid on top of this level. So far, no sequence of construction has been worked out for Chenes buildings. And so far, there is no single set of pause layers which is automatically found in each building at site.

Vault

At first glance the vault masonry reminds me of that on the East Range of the Cuartel Quadrangle, with though here only the bottom course being of wide stones. The vault here in the East Plaza is

higher, a total of 9 courses. The vault is fully coursed the full soffit. Over 90 percent of the stones are horizontal; very few square ones.

Since most of the exterior upper zone has fallen away it is possible to see how stones are used to counterbalance vault stones, especially the first course. Further up, visible because the facing masonry has fallen away, you can see a quantity of large flattish stones which counterbalance the vault at this higher level. These are about halfway up the vault, as opposed to being at the top as on the south end of the Main Palace, second floor.

There is no vault mass as on Peten buildings nor as seen on many Puuc buildings. The lack of a defined vault mass is here due to lack of space. The upper zone masonry appears continuous, at least qn this small building.

The east cross beam had a diameter of 15 cm and went at least 48 cm into the south wall where it rested directly upon the top medial molding stone. In a normal wall that would not be noticed, in part because the wall would be thicker and usually our eye level is not at this elevation. And only the coincidence of collapse has opened up the vault mass to reveal this detail.

There is a level of finish plaster on top of the top exterior wall course. This horizontal layer of plaster is continuous with

the wall plaster itself, and is also finish plaster--not just a pause level. This means that the wall was erected to its full top, and plastered, before the medial molding stone was put in place. Such details have not been found in many other rooms at Xtampak, as opposed to Tikal where the sequence of construction was more conservative and thus predictable.

There is no spring on the end walls.

The central capstone is missing, which at first suggests it was stolen because it had been painted. If so, it was never recorded. However, the collapse of the vault looks recent, within the last two years, and it could be that the central capstone was coincidently on~ which fell out. The collapse revealed a construction pause level 5 cm above the thickest capstone.

The capstones vary in thickness; they were too precariously perched, ready to fall, to measure.

Upper Zone Masonry

Architectural historians can extract considerable information from the upper zone, especially the moldings, so it is helpful to find at least the bottom three courses of the medial molding still preserved three to five stones wide, on the side facing the trail.

The medial molding sticks out 20 cm with the first course. The next course of specialized size stones is recessed up to 8 cm. Then a course 9 cm high sticks out. After this three-member molding begins the main of the upper zone, but it is long ago a fallen away. Only one possible stone remains, it is set back a few centimeters from the third course of the medial molding set.

PYRAMIDS AT SANTA ROSA XTAMPAK

Outside of Oxkintok, pyramids are rare at Puuc sites. Each ruin has a few, but nothing like the obsession with temple-pyramids as at Tikal. The same is true at most Chenes and Rio Bec sites, pyramids are found, but are not ubiquitous. In addition to the pyramids associated with the Solstice-Equinox Observatory Group, several pyramids occur on the Carnegie Institution of Washington map of Xtampak. Since our goal is the Main Palace we have not begun mapping the pyramids, though it is important to learn whether they are Rio Bec, Chenes, or Puuc in architectural style. Since there are no standing vaults remaining on any of the Xtampak pyramids the pyramids have received virtually no atten-

tion other than· a visit by DeBloois, and I would imagine stamps. The best description (about a paragraph apiece) is by the former (1970:37-39).

The only pyramid that I climbed at Xtampak is the East Pyramid, situated immediately behind the East Range of the Cuartel. Eldon Leiter reported the remains of wall stumps. DeBloois estimates the structure's height as 5 or 6 meters in height; I would double if not treble this estimate of height, since it is a steep climb up and the view from the top is unexpectedly remarkable. It is possible to see to all horizons, a view equal to that from Temple IV at Tikal or the views from the more immense pyramids of El Mirador. When all Xtampak was in its heyday the view must have been spectacular.

DeBloois found looter's pits already at the summit. These have uncovered wall stumps of nicely cut masonry, so these were temple-pyramids. We have no idea whether these are burial structures but our interests are entirely other.

PHOTOGRAPHY NOTES

Since this project is dedicated to maximization of photography as a means to record data, it is worth saying a few words about our experiences, since this may help others.

First, over the years 35mm contact sheets have proven themselves too small to be useful for analysis. This lesson has been emphasized again at Xtampak since we need to use 35mm size film when we are using the 15mm Nikon lens. That is, we have no choice but to use a 35mm camera and are thus stuck with 35mm contact sheets--unless we want to go to the expense of enlarging the contacts. The lens involved takes in more area than even the Hasselblad Superwide C (which we also have) and offers TTL flash metering (which the latter does not). And, the 15mm Nikkor lens (and I would guess the Leica equivalent) produces far less distortion than any other wide-angle lens that I have used. There must be something equivalent in medium format or in large format, but I am not familiar with such. Nonetheless, the resultant contact sheets are frustrating to refer to. It is unlikely that an expedition will have the funds to enlarge everything, but without a magnifying lens I can't even tell when a given frame was sharply focused. Obviously, tens of millions of people are content with 35mm for black and white, but for scientific research in archaeology, 35mm is not equal to that of 120 size film.

For color transparencies, though, 35mm is the way to go. Ease of storing, ease of transport, and the fact that every institution in the world has a 35mm slide projector make 35mm the international standard for projection. I also take 120 transparencies, and there is indeed a Hasselblad projector, but for basic projection Leica quality is fine. The 120 film size transparencies are saved for publication. This 6x6 centimeter format gives far better reproduction in a publication than 35mm size. considering the cost of including any color at all in a book, might as well have the color sharp.

For over a decade I used Ektachrome in the Hasselblads, usually Ektachrome 200, since tripods are not allowed at so many INAH sites (you would think Mexico would encourage the professional photography of their ruins in order to develop tourism interest, but they are convinced that anyone using a tripod is there to make a profit. I have yet in 27 years of photography in Mexico to make a profit, so when publications ask for photographs of ruins, I prefer to send them of Guatemala or Honduras where the governments do not put obstacles in the way of people with a serious interest in their country's past). When Kodachrome 64 became available in 120 size I was surprised to notice that it was not all that much better than the Ektachrome 200, indeed often I cannot tell the difference unless I look at the film code on the transparency strip. The reader who dislikes the blue cast of Ektachrome in 35mm size should know that Ektachrome in 120

format is totally different. Indeed Ektachrome Professional in 35mm size is also better than standard "tourist" Ektachrome, which is an awful film to use at Maya ruins.

You can normally ignore all the fierce warnings to keep these professional films refrigerated and then developed within 24 hours. That is patently impossible in the archaeological situation. For this reason I never bother to use the professional versions of 35mm Kodachrome slide film. Nonetheless I have used 120 format film that has been in 100 degree temperatures for weeks, even film that was several months over the expiration date, and it all came out perfect. Often there are several weeks between time the photographs were taken and time of development. No noticeable difference.

My conclusion is that 120 film, in the 2¼ by 2¼ inch size (6x6 centimeter) is great. Hasselblad is clearly my camera of choice, but Rolli makes a good camera as well. The Bronica never impressed me, though I would imagine that nowadays it is a good camera. You do not need to be made of money to use 120 size film--there are tens of thousands of twin-lens Rolliflex cameras filling the used camera departments of every camera store in the world. Get one with a wide-angle lens--and you will get great photographs right away.

In 35mm format I often use Kodachrome 200 film when the speed has to be there, but am not satisfied with the color. It tends to be

brownish and lackluster all over. I have not compared the same images with Ektachrome Professional 200, though that might actually be a more lively color. I must admit I have no experience with the Agfa and Fuji high speed color transparency films.

Never have your Kodachrome developed by off-brand quickie labs. In two decades photography I have never had good results from any non-Kodak lab. How development will fare under Kodalux I do not know. Kodak is not above ruining your film, but they may ruin one or two rolls totally--but the cheap labs consistently lesson the quality of all your film, in my opinion based on all the results to date. This is not the place to save money in photography.

Lenses

Although telephoto lenses are usually made for sports or wildlife photography in fact the telephotos make ideal architectural lenses. I use the Leitz 280 mm lens all the time to take details of Maya architecture, especially of facade decoration high up on temples. with such a lens that can go to f.2.8, you can even hand hold them.

Why pay $4,600 for a single lens (the price for such a fast 280 lens from Leitz) when you can get the "same lens" for less? Because the quality of the "same lens" will be non-existent. Nikkor lens quality is outstanding--Leica is no longer alone--but

it is the generic lens brands that offer cheap price--and cheap results. If you have a Minolta, Pentax, Nikon, Olympus, Canon or other quality camera, do not compromise that quality with a cheap lens. The lenses of each of these firms are good. Stick with the same brand name lens as your camera--unless your camera is also for the weekend family album. But if you are happy with your camera as is, stay with it. If you are not enlarging your photographs for exhibits or sending them for publication, your present results may be just fine for your personal use. It takes more than an expensive fancy camera to take good photographs.

Avoid buying the standard lens (usually 50mm for a 35mm format camera) since that is not enough for Maya architecture. If you go 50 mm, then it is better to go for the Nikon 55mm macro lens, then at least you can do artifact photography as well. But you cannot-fit an entire pyramid in with a 50mm lens. You need at least 35mm lens, and for the last decade I have even given up on that and use a 28mm as my standard lens. And if you go for these wide-angle lenses, go the extra bit and get the perspective correction models, though be forewarned they are not automatic aperture. Both Leica and Nikon have these lenses. They are essential for architectural photography, but make picture taking much slower, since you have to dial the lens aperture for each shot.

The ultimate Maya architectural lens is the I5mm, whose capabilities I have already described in my first season report.

It is hard to do full-time architectural photography without one. Both Leica and Nikon make this special lens. Be careful of the front of the lens, it gets scratched immediately since it sticks out so far, too far to protect it with any filter. Even the camera strap or cable release rubs it when you carry your camera on the tripod, with the tripod over your shoulder. Always have the lens cap on the camera when moving it.

Filters

I read somewhere that a green filter had advantages over a yellow filter, so I used one all April at Xtampak. The whites were indeed white, and the blacks sure did provide great contrast--but everything in the shade was solid black also. No detail was left in poorly lit areas. Gray all turned black. So, don't use green filters in archaeology unless everything is in the sun. But if you do want high contrast, say to shoot elevation views of masonry in full sun, then a green filter is perfect. But to be sure, do the same shot with a yellow filter, then one with no filter.

Normally I keep a yellow filter on the camera at all times while doing black-and-white photography. I have never tested whether that is really a good idea. Most professional books remind you that ideally you should use no filter, since every piece of glass in front of the lens degrades the image.

A polarizing filter should be used mainly in color photography, or in B+W if water is in the picture, or glass. Normally I. find no need for polarizing in B+W unless I am photographing shiny bowls or plates.

Film

In color I had been using Kodachrome 64 to get the extra speed where INAH has its stupid anti-tripod laws in effect. I do not mind registering the tripod, or even paying a tripod fee--but most sites do not sell the permits--they tell you to go to Mexico City.

But Michael Coe said he was getting far better results with Kodachrome 25, so I switched back to that, and wasted a day or so waiting for the tripod permit. Of course, at Xtampak everything is done on a tripod, automatically, no hand-held at all except when shooting from a ladder. Gitzo does make a ladder pod, but we do not yet have the funding for such exotic items.

Tripod

For years I used the Tiltall tripod, before, during, and after it being acquired by Leica. This was an ideal tripod and still is. But when you do photography all day, week after week, especially

at unusual angles, you need a Gitzo. Possibly if I had realized it was made in France I would have wondered whether it would work; but they are built like a German tank. My Gitzo has taken photographers at every angle except upside down, and it can be rigged to do that too. The supreme advantage of a Gitzo (and also most other professional tripods) are that the legs can be lifted up, up over horizontal, up to catch onto some stone above you, because on the slope of a pyramid there is never horizontal space for all three tripod supports. After three years with a Gitzo I would never get or use anything else. Eldon Leiter got one after watching the F.L.A.A.R. Gitzo in action and is certainly content with it. But be aware, if you buy a Gitzo, someone has to carry it. It is solid steel, weighing accordingly.

Do not, though, go for a lightweight tripod. The Tiltall is the lightest weight that is useful for the serious photographer. Portable tripods are an invitation to a shaky shot. Portable tripods wobble as much as hand held, and won't hold a Hasselblad in a sideways position without toppling over.

When you move up to the more serious tripods, you get a choice of heads. I held off getting an Arca Swiss head because it was $350 for the head alone, not to mention another $400 for the plates (one for each camera or telephoto lens, $40 each). with this (and with comparable systems that may cost $100 less) you semi-permanently attach a metal plate to every camera and every lens

that screws directly to a tripod, such as all telephoto lenses. These plates then slide into a quick release. For fluid-like motion in all directions, the Arca Swiss is great. Lesser priced systems are available, but for Swiss precision, the Arca is great.

When actually in the field, I find it more practical to have every lens attached to separate body rather than constantly to change lenses. Thus, I have several Hasselblad bodies, three Leicas, etc. Another reason for having more than one body is mechanical breakdown. Even the best camera can become jammed. For any trip over one week you really need two bodies. I must say, though, that in two decades photography with a Hasselblad only once has one jammed, and twice the lens spring broke--wore out from tens of thousands of times being used. The Hasselblad is the best made camera in the world bar none. I just wish they made a format to take full advantage of the 120 size film, a format such as the Mamiya.

Flash

In the era of electronic flash I never had success because I lacked the patience of setting all the dials and calculating f-stops etc. When you have wasps, bees, scorpions, snakes, falling trees, guerrilleros, and complaining camera bearers on your back it is difficult, to concentrate on what flash exposure to use. But

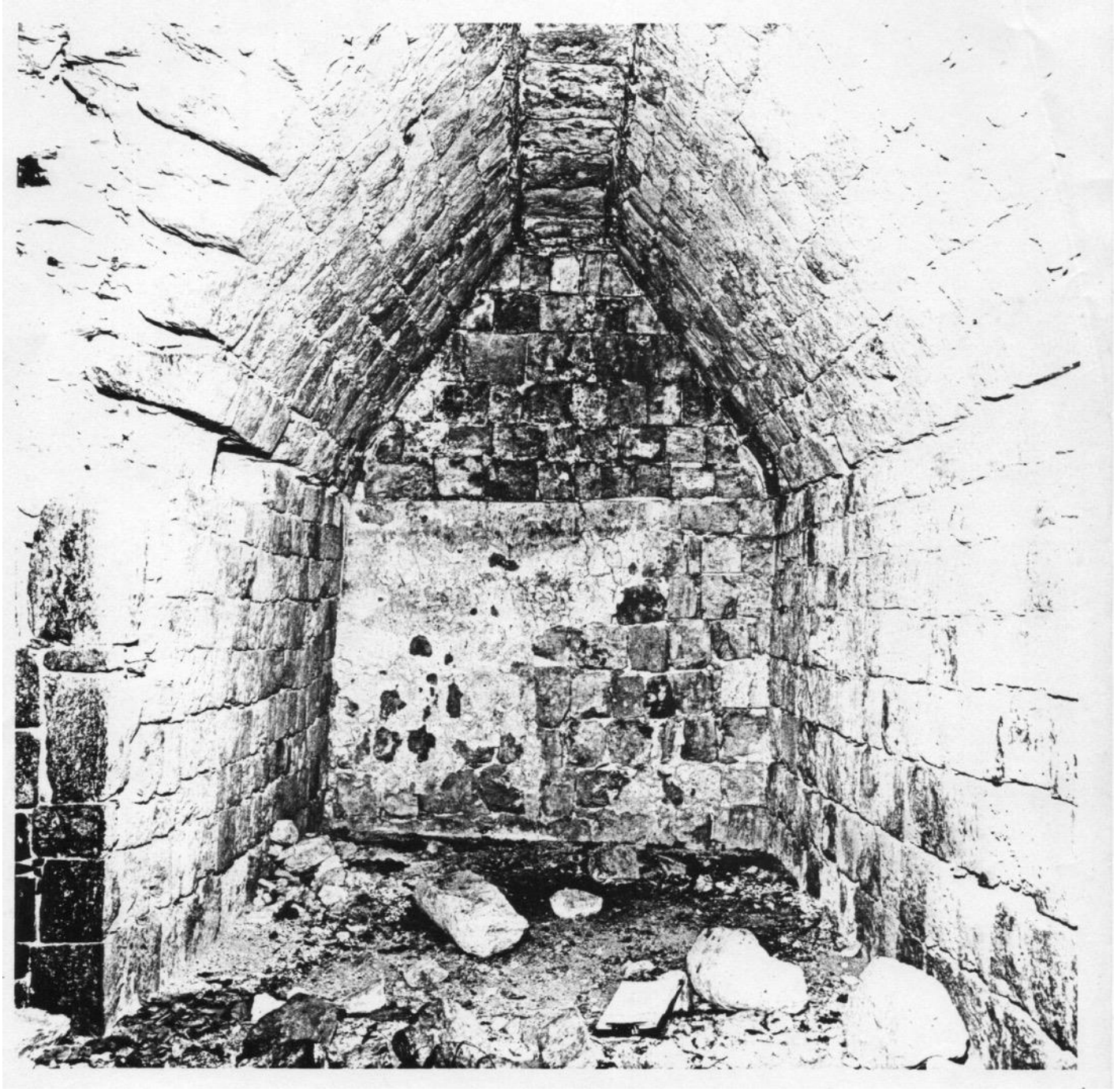


Plate 39. Architectural recording in the Maya area has been limited to outside facades or insides only when the room is partially collapsed allowing enough sunlight in for a photograph. Practically no flash illuminated interior room photographs have been used in scientific reports and virtually no expedition seems to have been equipped with an adequate flash, or if so, they were seldom if ever utilized. with the advent of automatic through the lens metering (TTL) taking a flash picture is just as easy as using a point-and-shoot camera on weekends to record the family picnic. TTL cameras are nowadays virtually idiot proof. But, the flash head must be detachable from the camera body to get even a semblance of proper lighting--and this requires an assistant to hold the flash head, since the photographer will have both his hands busy with the camera. Southeast Quadrangle, East Range.

when TTL came out, no more calculation. Just point and shoot. Professionals will cringe, but we are not speaking about the studios and we don't have assistants to take care of everything. Archaeological photography is somewhat akin to combat zone photography.

My first experience with TTL was the Hasselblad ELX, which replaced their ELM. My first picture with this new equipment was perfectly exposed, as have 99% of all flash photos since then. My only problem is getting a flash head that will cover extreme wide angle.

With the success of seeing the Hasselblad shots, I then bit the bullet and bought a Leica R5, since none of the other Leicas did TTL. I have not yet done enough flash with 35mm to know how well this works. I also got a Nikon F3, as it has had TTL for years, but this body is mainly to take advantage of the 15mm lens.

I started out with the Metz 45 CT5 but the batteries would not hold up for extended periods in the jungle, and NiCad battery "memories" meant that the batteries lost their zap after a few years, so I tried out the larger model Metz 60 CT 4. Actually, I initially got that when I was outfitting to do telephoto flash of quetzal birds, since this is the most powerful portable flash made for TTL. It turned out that the non-NiCad batteries for the 60 CT 4 last seemingly forever, in fact a single charge lasted

the entire second session at Xtampak. I have learned from experience though to have a backup, and considerate benefactors have made it possible for F.L.A.A.R. to have two complete Metz 60 CT 4 systems.

Carrying your Cameras

When I was younger, I immediately bought a Haliburton case to look professional. Now that I am a professional I am embarrassed to be seen with this bright aluminum case. Besides, it is an instant signal to every thief in sight that you have something worth stealing. In addition, Haliburton cases are not waterproof, not dust proof, and not damage proof. They are simply expensive. I must admit to having two, but I use them only for storage and solely because I am stuck with them. Avoid Haliburton cases.

The heavy-duty case for heavy duty photography is the Aerospace by Andiamo, if you are not shocked by paying over $200 for what looks like a simple black suitcase. But they are far from simple and they appear to be indestructible. I just wish they were some other color than black, since that soaks up the sun and roasts whatever film is inside. Andiamo cases are dust proof, I would imagine as water proof as a Pelican case, and look as though they would survive most any collision you could arrange for them.

I have used Pelican cases, they must be waterproof because so many divers use them, but I put my brand-new Leica R4 in one,

opened it four days later, and out poured about a gallon of water--with the Leica floating in its still new camera box. I had never even used the camera it was so new. Fortunately, Leica has a Passport Guarantee program whereby in the first year or so, if anything, and I mean anything goes wrong with your camera, they repair it or give you another. You cannot repair an electronic camera that has been in Usumacinta River water for almost a week--so Leitz sent me a brand new R4, which I am still using. Obviously, the a-ring was nipped, or not sitting properly, but it has kept me from being overly enthusiastic about Pelican cases. If you can keep sand, grass and leaves out of the a-rings you might have better luck.

For general running around I tend to carry my cameras in an Igloo or Coleman cooler, the simple weekend coolers that you can buy at Walmart for less than $30. These keep the film somewhat cooler than the 100 degrees in the shade. You can't put ice in them as the water would ruin your cameras and film but even without ice they do fine.

Ultimate Photography

If it were possible always to have the same trained assistant constantly along on each trip, as well as porters to help carry the equipment, long ago I would have moved up to a Linhof or Sinar, at least 4x5 or possibly even 8x10. This is because we

must realize that since Teobert Maler's photographs of the 1890's, an entire century ago, no one has taken as good photographs as he has. But he had his crew of Tenosique rascals, who may have been a constant pain to Maler's Germanic type workaholic drive, but in fact it was probably these "good for nothing" Tenosique porters who lugged Maler's heavy equipment around for years. Private donations to F.L.A.A.R. have in fact allowed us to purchase a used 4x5 inch Linhof, their "portable" (relatively speaking) model, but even after I dragged it down to Xtampak, I never had the strength to unbox it and try it out, though I know that George Andrews has outstanding results with a large format camera in past years, though he says that recently he gave up because it was too heavy to carry around any longer.

When to Photograph

To get full coverage of any major Maya ruin with standing architecture you need to photograph in two seasons. For color photography it is essential to do photography at the height of the rainy season, when everything green is in full strength, and not yet beginning to wilt. This way the ruins are in an exotic background; Dry season photography in color is awful. The grass is dead brown, the trees look dead, the place looks burned with the heat.

But you need dry season photography for black-and-white. Because when the trees lose their leaves then buildings which are in the

shade in the rainy season are suddenly bathed in light in April and May. And, you get bluer skies and of course don't get rained out as often in the dry season. Just keep in mind that "dry season" does not mean it never rains--it just rains less than the rainy season. And, in the rainy season you can have day after day of no rain, though the afternoons are usually clouded over. It is true that you cannot photograph as many hours a day in the monsoon season, but those minutes when the sun is shining are outstanding for color views of Maya ruins.

To get thorough coverage it is necessary to be at a site both for morning sun, for midday sun, and for afternoon sun. Every building will have only one hour of perfect illumination each day. And some buildings will be lit only in July, or others best only in certain months. To get such good shots for the F.L.A.A.R. photo archive we cheat in a way, we simply return year after year--27 years now altogether--until we have the perfect day with out-standing lighting. Often I will be at a site and not even unpack the cameras. Unless the sunlight is perfect there is no sense wasting the film. A picture is either perfect, or it is no good. That does not mean that I only take perfect shots. There are many instances when returning is unlikely, such as when a building is being excavated and the original condition will never again be photographable. And there are some buildings which face the wrong direction and will never get good light, or have an obstruction and will never compose nicely.

Actually, someone in Mexico is responsible for ruining all photography of Uxmal and Chichen Itza--the installation of Sound and Light. That is the ugliest thing that INAH could possibly have allowed to desecrate their national patrimony. The Maya did not include metal grills across their plazas. Can you imagine INAH's response to a foreign archaeologist asking for a permit to criss-cross a famous Mexican site with electrical wires, paving plazas with metal and concrete, and setting up banks of Lights...? Yet someone was induced to issue the permits to destroy the natural ambiance of several sites in Yucatan.

It also helps to visit a site many times, since every new visit you will end up at a different spot with different shadow-and-sun positions. And hopefully each visit your photographic vision will be better. Photography is indeed an art and you need to compose your shot.

Since there are not many anthropology departments, museums, or archaeology expeditions equipped with 4 Hasselblads, 3 Leicas, a Nikon, Linhof, not to mention the best available heads, Gitzo tripods, two of the best Metz flash systems, how does F.L.A.A.R. arrange this? All of this equipment is donated. F.L.A.A.R. itself has no endowment. In appreciation of these donations I have written this description of archaeological photography in these final pages hoping to be able to repay the many people who realize that

professional archaeological work can be achieved when the archaeologist is adequately equipped. To the normal archaeologist it would seem that F.L.A.A.R. "has everything" at least photographically, but that is far from true, and some of our lenses are simply worn out from over a decade of use.

What Is still Needed Photographically for Xtampak

Our highest priority is a super-wide angle yet non-distorting system that can use 120 roll film. It is essential to be able to record with this higher quality format the Main Palace and other palaces that are just about to fall, so that from the photographs we can at least rebuild them thereafter. A 40mm Zeiss lens for our Hasselblad system would be an initial solution to this wide-angle lack, since then we could use the TTL capability of the Hasselblad ELX, something we cannot do with the 38mm lens on the Superwide C.

But for full time photography of Maya architecture we also need a medium format lens which has capabilities approaching that of the Leica or Nikon 15mm lens. Perhaps the Linhof Technorama 617 can handle this. Although most Linhof cameras are large format (4x5 inches or larger) this special Linhof is a fixed lens (that is, non-interchangeable) and uses 120 size roll film, fortunately in the extended format. The older, discontinued model uses 220 film also. But the $6,300 price tag has kept us from this dream so far.

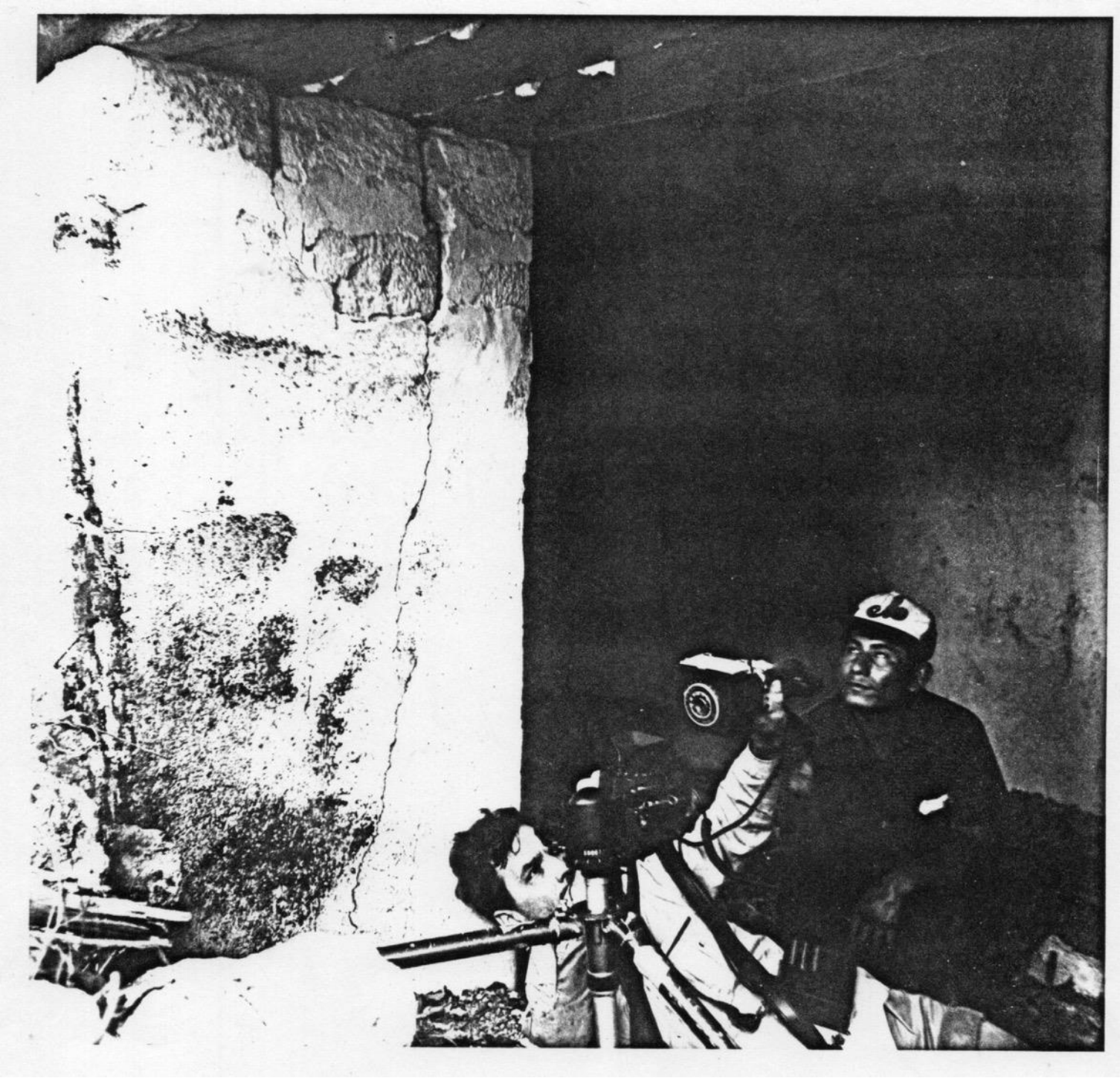


Plate 40. This situation is perfect for a Gitzo tripod, since its legs can be splayed far apart so that the camera is close to the ground (limited only to the height of the center post). with a normal viewer it is necessary, as here, to get all the way down onto the ground (which is usually bat droppings) and get under the camera to look up. The way to avoid this is to purchase a waist level viewer--but they cost about $250 for the Nikon, $350 for the Leica, and it would take about $500 to compose the Hasselblad photograph from a more bearable position. This is typical of the accessories which are needed for full scale professional recording of monumental standing architecture.

For projecting our thousands of 6x6 cm slides it would help to have a Hasselblad projector. Even for this large size the new projector handles a full 80 slides, conveniently even in a carousel arrangement. $3,200 keeps us from being about to project the hundreds of these format slides which we already have.

Our second priority for improving archaeologists' technical ability to obtain the best record of rapidly disappearing temple-pyramids and palaces would be a complete set of lenses for the F.L.A.A.R. Linhof, and also a 120 back, so we can use the faster roll film in the extended format (the format that we wish Hasselblad would develop a camera for).

Then we need a new 100mm macro lens for our Leica system, as our other 12ns is wearing out after tens of thousands of photographs.

To photograph the quetzal--part of the F.L.A.A.R. program to photograph all flora and fauna that were important to the ancient Maya--we need an f.4 600 mm lens. I heard a rumor that Leica was developing one, at an estimated price of $12,000 for the lens. Nikon has one on the market for several years now, $4,500 at 47th St Photo as of last year. Eldon Leiter and I went to Nikon House in New York (Rockefeller Center) and tried one out. The lens is ideal--but we don't have even $4,500, not to mention lacking the $12,000 for the Leica equivalent.

And most of all F.L.A.A.R. needs a rollout camera, though recently we have been so busy with Maya architecture we have stopped photographing Maya vases for over a year.

A donation in 1987-88 allowed F.L.A.A.R. to purchase a used GMC Suburban, because this is the only 4-wheel drive vehicle large enough to cart all this equipment around.

We apologize that the photographs in this report are xeroxed (unless at the last minute I could find a place to offset them) but they should ideally be printed on a better paper, but the costs of starting the Xtampak Project have sapped our budget totally and it is all we can do to keep the field crews fed and housed at Xtampak. We felt it was more important to get out a xeroxed report than no report at all. We hope that those reading these pages have found the information helpful and informative. It is your donations that have made this report possible, and all of us working at Santa Rosa Xtampak thank you for making this research possible.

WORKS CITED

A bibliography on Santa Rosa Xtampak and list of works cited can be found in the previous three Hellmuth reports on Xtampak, the reports on the first session of the first session, whose titles are listed after the recent monograph by Andrews. The Andrews monograph is not published.

ANDREWS, George F.

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This thesis is not available on-line and we would appreciate if the author or BYU could send us a scan or a PDF.

Captions to Illustrations of the Second Session Report

Front Cover. Main Palace, standing in Room 13 looking north into Room 15. The wooden lintel is still preserved yet the end wall masonry overhead has already begun to crumble and fall, typifying the situation throughout Santa Rosa Xtampak--remarkable preservation yet imminent collapse.

Plate 1 North Interior Stairway between first and second floor, looking down. Several of the L-shaped steps are visible. Santa Rosa Xtampak, Main Palace

Plate 2. One of the landings in the interior stairways of the Main Palace, Santa Rosa Xtampak. All these stairway photographs were taken with the 15mm special Nikon lens and are the first such views published.

Plate 3. Long landing at second story level, roofed by the entry/exit "house" or hall. Main Palace. All the remaining photographs in this report are also of Santa Rosa Xtampak, so that will not be further cited.

Plate 4. The only place on either stairway where the steps go under each other is on the second story level.

Plate 5. Looking south at the central portal, third floor. In the right foreground is the end wall of one of the second floor rooms. Behind the stump is the crisp outline of the early stage fill retaining or core wall. Main Palace.

Plate 6. Looking north at the right of the two front flanking Rio Bec towers. The remains of the inside temple facing masonry are visible on the back of the mound which represents the remains of the temple. Main Palace.

Plate 7. Looking east at the west facade of the palace showing the change from facing masonry (left) to the core wall which is behind the fallen stairway (center). If this type of core wall represents the back of a stairway elsewhere on the Main Palace then there were stairways on three sides of the two flanking Rio Bec towers of the front.

Plate 8. Looking east from the second floor down onto the stump of the north flanking Rio Bec tower. This stump should be compared and contrasted with that recently discovered on the South Range of the Southeast Quadrangle at Xtampak. But this photograph is shown here to document the core wall (fill retaining wall) that may have backed a stairway also on this south side of the tower.

Plate 9. Looking south at the north end of the Main Palace. The west pilaster of Room 9 is still beautifully preserved as well as the east pilaster of the second story Room 33 above it. But only the first-floor pilaster has the capital with diagonal border; all the second story pilaster "capitals" have horizontal banding. All have vertical fluting--but only on the front. This section of the palace is illuminated by sunlight only for about half an hour each day.

Plate 10. Northeast corner pilaster, second floor, Main Palace, Room 33. Notice that the masonry of the pilaster is not bonded anywhere with the adjacent stonework except above the capital and in the upper zone. This suggests the pilaster itself was built either separately (by a special crew) or before or after the main wall--yet is not secondary since the time difference could have been just minutes or at most hours.

Plate 11. Second floor, Main Palace, Room 37, looking north, remains of entry/exit hall projection of South Interior stairway ~ticks out to the left. Here you can see that the pilaster has no vertical flute on the inside but the capital does go around this jamb side (but not around the inside, back).

Plate 12. First story, south end of the Main Palace, outside Room 1 actually looking at the projection of Room 26. The upper zone of

Room 26 is typical of the entire Main Palace as well as the Cuartel. The immediately adjacent upper zone of Room 1 (and also of mirror image Room 9 at the extreme north end of the palace) is completely different begging the question of whether both were originally designed next to each other. So far, though, no one has noticed any evidence suggesting that any of the end rooms is earlier than the back ranges.

Plate 13. This is the equivalent view of the north end, first story of the Main Palace, outside room 9, with the outside of Room 14 in the shade. Thus there are two opportunities to ascertain--without excavation--whether there is any possibility that Rooms 1 and 9 represent an earlier stage, or an addition to Rooms 2/3 and 10/11. The particular angle of sunlight shows off the raised frame of the diagonal bound motif, actually a miniature bound thatch roof, not a mat symbol.

Plate 14. Looking northeast along the third floor. The entry/exit house of the South Interior Stairway is in the foreground. The roof of this exit hall is the same motif as the capital on the pilasters of Rooms 1 and 9--minus the raised frame.

Plate 15. Looking south along the back of the third floor, from the opposite direction as that of Plate 14. The opening is the collapsed entry/exit house of the North Interi9r Stairway. Tenon stones are visible projecting out above the medial molding.

Plate 16. Inside Room 8 looking out; first floor, east side, Main Palace. This room has more preserved wood than any other in the entire Chenes area.

Plate 17. The first doorway column found at Santa Rosa Xtampak, in front of the upper area of the Southwest Building. In the back-ground is the facade of the lower area.

Plate 18. On the extreme left is the plain medial molding of the lower section of the Southwest Building. Across the background are the fallen remains of the upper section. The column must be from the front rooms of the upper section.

Plate 19. The front entrances of the lower rooms have half capitals on rectangular jambs; the inner doorways have no capitals at all. In the upper section the inner doorways have the half capitals—the front doorways are collapsed but may have been the location of the fallen column out in front. Inside Room 3 looking out. Southwest Building.

Plate 20 The west wall of Room 3 has crumbled about as far as possible without falling to ruin. The entire outside facade is gone, even the mortar between the stones of the inner facing. You can see right through the wall—(collapse in slow motion). Southwest

Building. Unless this structure is repaired immediately these will be the last photographs--actually the only photographs since other expeditions were not equipped for interior photography.

Plate 21. Inside upper room 7 or 9 looking out. The debris is from the collapse of Room 6 or 8. Southwest Building.

Plate 22. Inside upper room 7 or 9 looking out. The jamb stones are not the monolithic type, another reason why I suspect Rooms 1 through 4 are of a different time period than Rooms 6 through 11. Southwest Building.

Plate 23. West end of Room 7 showing the double spring added with secondary plaster. Southwest Building, upper sector.

Plate 24. North Range of the Southeast Quadrangle, southeast corner, looking east. This is the only section of the upper zone still preserved.

Plate 25. East Range of the Southeast Quadrangle; right next to the center stairway (front). This is the remains of the medial molding which runs around the entire building. The upper molding is the same and is preserved along the back of the palace. In the middle ground Eldon Leiter measures the remains of Room 3; in the background is the end wall of this room, complete with the custom

cut stones prepared to receive the slant of the adjacent vault-which has long ago collapsed. Custom cutting of end wall stones is a trait of Puuc rooms.

Plate 26. West Range of the Southeast Quadrangle. Although not a single doorway is visible in this long facade in fact this is the "front" which faces in to the courtyard. This view is from the corner with the South Range looking north. Barely visible in the upper zone are two widely spaced tenons. Andrews has already mentioned these are rare in this position for a Puuc building. The interior features of the room masonry are basically Puuc.

Plate 27. Two more views of the same long, door-less section of the West Range, Southeast Quadrangle.

Plate 28. In the background is the projection of the medial molding in the same dimensions as along the entire front (and presumably as along the entire back, now fallen except for here, the south facade near the back corner). Precisely in line with the east front of the building (which is on the other side of the room to the right) the extreme, severe medial molding cuts inward back to a more normal subdued projection, which is the several meter extent of the foreground. West Range, Southeast Quadrangle.

Plate 29. Inside the Southeast Quadrangle, as it appeared to all expeditions which labored at Santa Rosa Xtampak until the INAH

site guardians removed the branches and vines to reveal all the architecture that is hidden behind this constantly growing curtain.

Plate 30. Inside the recently discovered Room 8 of the back of the South Range, Southeast Quadrangle. Staff photographer Eldon Leiter waits with Nikon flash to enter and photograph this room in color. This particular photograph is taken with a Metz 60 CT 4 flash unit set on TTL using a Hasselblad ELX camera and 50mm Zeiss lens. The only reason the vault has fallen here is because either the door jamb or lintel to adjacent Room 9 failed. Actually, without the collapse of the vault this room would be completely hidden from view. The remains of one of the beams of the wooden lintel still stick out of the pile of rubble to the left (though not visible from this angle). The vault stones on the right are typical of the rough masonry of this entire South Range. The end wall has no spring, as would be expected for a Chenes-Rio Bec designed structure. The East Range and the West Range both have Puuc influenced springs on their end walls. No notes were taken on the end wall of the North Range.

Plate 31. Looking north at the perfectly preserved end wall of Room 8, under the west "Rio Bec tower" on the South Range. The end wall shows how irregular the masonry is of these rooms. Stones of every which size are jumbled together.

Plate 32. Fidel, one of the two INAH guardians of Santa Rosa Xtampak, provides scale inside Room 5 of the corner passageway system. Passageway 3 exits to the right rear. This photograph does a better job (than the front cover of the first session report) of illustrating the two completely different masonry sizes of the walls of Room 5, large and neatly squared stones on the left, normal Chenes stones on the right.

Plate 33. Main wing of the Cuartel, looking east. This photograph was taken standing on the rise of the center stairway.

Plate 34. Back of the main wing of the Cuartel, east of the central stairway, showing the back stairway. Although the front of the Cuartel is neatly divided into three house-like units the back is one continuous plane broken only by subtle reminders of the divisions on the front (full height embedded columns but so flush with the plane of the wall that they are not here noticeable).

Plate 35. Inside the Cuartel, looking east. The unusual top two courses of the wall--which form a preliminary spring--are here hidden by the thick plaster which masks the imperfections of the stones used for the two courses immediately below the actual vault spring. The end wall is starting to separate, a warning that the entire building is spitting in two and ready to collapse totally.

Plate 36. Inside the Cuartel with the Nikon 15mm lens which produces no noticeable distortion. Looking up at the vault and capstone row. with a single flashhead (as here) it is difficult to get good shadows to bring out the detail. Getting multiple flash to operate is possible with the Nikon (but not with the Leica or Hasselblad) but requires an additional assistant and more patience that is humanly possible under the actual conditions of sustained field work in such a remote area.

Plate 37. A rare incidence of embedded columns inside a room, in the remains of the East Range of the Cuartel. The stones directly above are of the vault soffit. The end wall (to the left) has no spring. No end wall in the Cuartel area has a Puuc spring.

Plate 38. The large facing on the right is the side of the rear stair mass on the back of the Building with Serpent Mask. The masonry to the left is the remains of the upper zone of the back of this building.

Plate 39. Architectural recording in the Maya area has been limited to outside facades or insides only when the room is partially collapsed allowing enough sunlight in for a photograph. Practically no flash illuminated interior room photographs have been used in scientific reports and virtually no expedition seems to

have been equipped with an adequate flash, or if so, they were seldom if ever utilized. with the advent of automatic through the lens metering (TTL) taking a flash picture is just as easy as using a point-and-shoot camera on weekends to record the family picnic. TTL cameras are nowadays virtually idiot proof. But, the flash head must be detachable from the camera body to get even a semblance of proper lighting--and this requires an assistant to hold the flash head, since the photographer will have both his hands busy with the camera. Southeast Quadrangle, East Range.

Plate 40. This situation is perfect for a Gitzo tripod, since its legs can be splayed far apart so that the camera is close to the ground (limited only to the height of the center post). with a normal viewer it is necessary, as here, to get all the way down onto the ground (which is usually bat droppings) and get under the camera to look up. The way to avoid this is to purchase a waist level viewer--but they cost about $250 for the Nikon, $350 for the Leica, and it would take about $500 to compose the Hasselblad photograph from a more bearable position. This is typical of the accessories which are needed for full scale professional recording of monumental standing architecture.