

Table 1A	Non-vaulted palace buildings (Ref. 1-5)	5
1B	Vaulted "palace" buildings (Ref. 6-20)	15 (11)
<p>Table 2A Groupings of indices of Table 1A</p>		
Table 3A	non vaulted pyramid Temple buildings (30-34)	
Table 3B.1	Vaulted pyramid Temple buildings (Ref. 21-26)	6
" 3B.2	Vaulted unclassified small buildings (Ref. 27-28)	2
5. Table 5.3	Semi-vaulted sweet house enclosing building (Ref. 29)	1
Table 3A	non-vaulted pyramid Temple buildings (Ref. 30-34)	5
		34

Acrop Ponds.

Wall-room index.

A = non vaulted.

B = vaulted.

Wall/Room Index Paper.  
- copies.

2 Xerox copies please:

18 pb. Typescript

4 pb Ms. tables

Folded Drawing (3 overlapping Xerox pb) ←

Maps, 1 pb.

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RELATIVE DATING BY "WALL-ROOM" INDEXES  
OF CEREMONIAL BUILDINGS AT PIEDRAS NEGRAS

- 1a Indexes for palaces with non-vaulted and vaulted roofs
  - 1 (tabulation of ~~indexes~~ for three groups of known-to-be sequent vaulted palaces; limits on assignments to Acropolis Periods I-VI).
  - 2 (tabulation: comparison of "spreads" of non-vaulted and vaulted palace indexes.)
  - 4 (tabulation: comparison of "spreads" of indexes for two selected groups of vaulted palaces).
  - 5 (tabulation: preliminary rule-of-thumb dating of vaulted roof period, considering vaulted palaces only.)
  - 6 Index "spreads" for ~~all~~ <sup>three</sup> classes of vaulted buildings pyramid
    - 6 (tabulation: comparison of "spreads" for/temple, palaces and unclassified masonry buildings.)
    - 7 (tabulation: ~~final~~ <sup>second</sup> rule-of-thumb dating of vaulted period).
    - 8 Note on indexes at Loci J-29, J-2 and Sub-Acropolis at Locus J-29 (vault replacing beam-and-burled roof)
    - 8 Final rule-of-thumb dating of vault-using period.
    - 9 Note on the three vaulted units at Locus J-6: Acropolis Periods.
    - 10 Note on roof types of four sequent pyramid temple buildings at Locus K-5
      - 11 (tabulation: selected features)
      - 12-14 (discussions of the roof types) ~~same~~
      - 15a Sequence of roof-types: LC control (Stelae 38 and 39 Associated hoten-marking stelae
      - 15a (tabulation: proposed sequence of roof types)
      - 15b end part. See b. ii.

16 Key to Tables 1-3

16 Table 1 Palace Indexes

16 (1A) Five non-vaulted palaces listed in descending order of wall/room indexes.

17 (1B) Fifteen vault units of eleven vaulted palaces listed in descending order of wall/room indexes

18 Table 2 "Step" groupings of indexes of Table 1

18 (2A) Five non-vaulted palaces

18 (2B) Fifteen vaulted palace units

19 Table 3 Indexes for buildings other than palaces

19 (3B.1) ~~Six~~ vaulted pyramid temple buildings

19 (3B.2) Two unclassified small vaulted buildings

19 (3B.3) One "semi-vaulted" sweatouse building

19 (3A ) Five non-vaulted pyramid temple buildings, indexes not reliable

20 Fig.1 Simplified composite cross-section showing six stratigraphic periods of major change in the area of Courts 1 and 2 (Acropolis Periods I-VI, Roman-numbered in chronological order).

21 Fig.2 Plan of the acropolis, final period (from published site map, third edition, 1943)

*Review on 5/4/43*

PIEDRAS NEGRAS: RELATIVE DATING OF MASONRY-WALLED BUILDINGS BY ROOF-TYPES AND "WALL-ROOM INDEXES" 1a

and final

The third edition site map shows the plans of various masonry-walled buildings as of the time of abandonment. For present purposes some 34 of these are selected and numbered for reference. Cross-section dimensions and other data are provided in the boxes of Tables 1 - 5. The reference numbers exceed the total of number of locus-indicating structure designations by four because a replacement and additions at Loci J-2, J-6 and J-22 are treated as separate buildings. (Table 1B). if applying to

The key on p. 46 applies to Tables 1,3,4,5, Table 2 being an explanatory arrangement of the "Wall-room indexes" of Table 1. Passing over the latter, the other tables provide separate boxes for each supposedly functional class of building known to have used the "Maya vault", other than the specialized sweat-room vaulting of Str. P7. Because palaces and pyramid temples without the vault occur, as well as with it, in those categories boxes are provided to aid in comparisons. In brief the structure of our tables is as below. DIVISIONS

Table 1A	Non-vaulted palace buildings	. . . . .	(Ref. 1-5)
Table 1B	vaulted palace buildings	. . . . .	(Ref. 6-20)
Table 3A	non-vaulted pyramid temples	. . . . .	(Ref. 30-34)
Table 3B	vaulted pyramid temples	. . . . .	(Ref. 21-26)
Table 4	vaulted small unclassified buildings	. . . . .	(Ref. 27-28)
Table 5	semi-vaulted enclosing building, sweat-house	. . . . .	(Ref. 29)

The "semi-vault" of the sweat-house (Ref. no 29) consists of normal vaulting supporting beam-and-mortar constructions in lieu of capstones, evidently in order to span relatively very deep front and rear rooms. It therefore seems likely that the non-vaulted but masonry-walled palaces and temples of Tables 1A and 3A carried beam-and-mortar roofs, rather than thatch. 05

A

The room-depths of the non-vaulted palaces are similar to those of the vaulted palaces and this ~~probably was true for the non-vaulted and~~ <sup>probably was true for the non-vaulted and</sup> ~~may have been true for the vaulted pyramid temples~~ (Col.R of ~~of~~ the tables). A reasonable hypothesis suggests itself - that after a pre-vault period using beam-and-mortar roofs for major buildings there was a shift to <sup>more sophisticated new buildings, including</sup> vaulted roofs for replacements.

All ~~fifteen~~ <sup>vaulted palace</sup> vault units of Table LB are concentrated on the

Acropolis of Square J, for which six Roman-numbered Acropolis Periods have been recognized by stratigraphy (Fig. I). These afford some <sup>specific</sup> control on the relative datings of seven <sup>of these</sup> vaulted palace units as indicated in Col.F of Table LB. Three of these seem to definitely belong in Period VI, the

1B

latest, and two others in Period V or VI. So far as incomplete sampling excavations show, all vaulted palaces may belong in the latest <sup>stratigraphic</sup> Period VI.

One of these (Str. J-6-1st, Rooms 1-2) is dated in the LC <sup>by</sup> Throne 1 and its niche (Ref. No.13). The relatively late LC date, 9.17.15.0.0, allows room, so to speak, for assigning <sup>construction of the</sup> the non-vaulted palaces and temples <sup>of Tables 1A and 3A</sup> to our hypothetical

pre-vault period. It may not be chance that all five non-vaulted pyramid temples of Table 3A <sup>of the "South Group"</sup> are in Square R, associated in general with hotun markers no later than 9.12.0.0.0 (of Stela 37). On the other hand the vaulted pyramid <sup>six</sup> temples are widely scattered, only one (Str. R-5, Ref. 25) being grouped with the non-vaulted examples in Square R, where, so far as we know, it may have replaced an earlier non-vaulted temple building. As a working hypothesis I propose to date the nonvaulted groups of palaces and pyramid temples to an ill-defined pre-vault period after which vaulted roofs for these classes of buildings were introduced under outside influence.

Within the supposed beam-and-mortar and vaulted boxes of our tables the "wall-room Indexes" of Column C give rough measures of "heavy" or "light" buildings so far as outer walls and adjacent rooms are as compared to a "heavy" one is concerned. A "light" building has thinner walls, or a greater room depth, or both, The ranges or "spreads" of these indexes/are considerable, suggesting the hypothesis that, other things being equal, a relatively low index may reflect technological progress, and therefore the passage of time. With this in mind, within the boxes of our table the buildings are listed in descending order of index values, so far as reliable indexes are available. The reference numbering is discontinuous so that, for <sup>(an extreme</sup> example, vaulted palace we can easily note that ~~the~~ the "index interval" between/Ref. Nos. 6 and No. 18 is 45%. (74-29=45). By hypothesis, to be checked by other evidence if possible, No. 18 (Str. J-11) <sup>-1st</sup> was built later <sup>(in the vaulted period</sup> than was No. 6 (Str. J-9) <sup>1st</sup>

An index is obtained by dividing the thickness of an outer wall or pier by the depth of the adjacent room

Indexes for palaces with non-vaulted and vaulted roofs

(12)

RELATIVE DATING BY "WALL/ROOM" INDEXES  
OF CEREMONIAL BUILDINGS AT PIEDRAS NEGRAS

Indexes for palaces with non-vaulted and vaulted roofs

On the final "third edition" of the Piedras Negras map there are five masonry non-vaulted and eleven vaulted buildings which/been classified as "palaces". <sup>Two of the non-vaulted and all of the vaulted palaces are on the Acropolis.</sup> Reference is made to Fig. 1 establishing a crude stratigraphical sequence of Acropolis Periods, I-VI <sup>(lists)</sup> and to Table 1 <sup>listing</sup> the non-vaulted and vaulted palaces separately, in each case with a "Wall/Room" index, <sup>percentage</sup> obtained by dividing <sup>an outer</sup> wall or pier thickness by the adjacent room depth. In the vaulted roof section of the table <sup>(1B)</sup> the total <sup>number</sup> of indexes is raised from 11 to 15 by a replacement <sup>structure</sup> and by three "built-on-end" additions. Using the reference numbers at the left <sup>three groups of</sup> of the table we have the following/horizontally stratified vaults <sup>units.</sup>

VR	Ref. No. 7	J-2-1st (Rm.1)	60%	II/VI Replaces J-2-2nd, <sup>(with)</sup> wider platform?
"	No.20	J-2-1st (Rm.6)	29%	II/VI In part "built-on-end" of No.7.
" "	No.10	J-6-2nd (Rms.1-2)	47%	V/VI "Built on" Period V or VI masonry <sup>was - surface</sup>
"	No.12	J-6-2nd (Rm.3)	43%	VI Roof/base of Period VI terrace (Fig.1).
"	No.13	J-6-1st (Rms.1-2)	39%	VI Same roof relationship (restored); dated as 9.17.15.0.0 by niche of Throne 1.
"	No.14	J-22 (Rms.1-2)	35%	
" "	No.17	J-22 (Rm.3)	30%	"Built-on-end" addition to No.14

<sup>each of</sup> Within these three selected groups at as many structure loci <sup>order</sup> the times-sequences <sup>is</sup> known, and the Wall/Room Index drops in chronological <sup>have</sup> by 31%; by 4% and 4%, and by 5%. Referring to the key of Tables 1, 2, 3 <sup>and 3</sup> these palaces <sup>are</sup> are all <sup>vaulted</sup> Type 1Rx or 1Rxy - one range buildings "built-on" as special adaptations to an Acropolis situation. <sup>These</sup> surely did not <sup>have</sup> include the roof-combs of the <sup>probable</sup> temples, which might add to the load on the vaults and so affect the Indexes.

(probably or surely)  
All of these seven vaults rested in part on piers of less width than that of adjacent doorways, and if this weakening factor tended to restrict the lowering of the index, it <sup>(probably)</sup> did so more or less equally in these cases.

(Type 2A)  
In the case of 2-range vaulted palaces, piers are also the usual rule, and if there were now-fallen roof-combs these were presumably supported on double half-vaults, balanced over the medial walls and so not contributing to the load and outward thrusts <sup>(the yielding)</sup> on walls of our indexes.

We are led to the hypothesis that, as between two vaulted palaces with substantially different wall/room indexes the lower index applies to a later building, reflecting an advance in the art of vault-building. This was by a thinning of the outer walls <sup>and piers by</sup> or an increase in the depth of room <sup>of the adjacent</sup>, or a combination of these <sup>two</sup> factors. With this in mind, data on the 15 <sup>by</sup> palace vaults <sup>in Table 1B</sup> are arbitrarily listed in descending order of the index, and this is <sup>also</sup> done <sup>separately</sup> with the five non-vaulted palaces <sup>of Table 1A</sup>, for comparison. Other classes of masonry buildings are dealt with separately (Table 3). The "non-vaulted" roofs here considered are thought to have been "beam-and-mortar", not thatch. These would be

It is probable that the roofs of the latter were "beam-and-mortar" without outward thrusts on the <sup>outer</sup> walls, and <sup>with</sup> only moderately heavy loads on them,

<sup>(as)</sup> compared with roofs sustained by vaults. In both sections of our Table 1 there are approximately equal indexes but, also in both sections, there are substantially different indexes. If we infer advances in roof-support technology in one case, logic <sup>at</sup> suggests doing so in the other case. The total "spreads" of the two sets of indexes are as below.

- Nos. 1 and 5 (non-vaulted) 50% to 24%
- Nos. 6 and 20 (vaulted) 74% to 29%

To account for both of these spreads ~~an admittedly somewhat~~  
 a provisional dubious hypothesis may be formulated. It is assumed that there was a long  
 initial pre-vault period during which there was a desire for <sup>palaces with</sup> thinner  
 walls and/or deeper rooms <sup>as</sup> reflected in our indexes, roofs being beam-and-  
 mortar. During this period the Acropolis <sup>city plan</sup> ~~is~~ <sup>only</sup> had more or less reached  
 its final form, with non-vaulted <sup>supposed</sup> palaces. Two survivors of this period  
 are Nos. 2 and 3 (J-12 and J-20), high on the Acropolis, intimately  
 associated with vaulted palaces <sup>of similar plans on</sup> of Courts 2 and 3 respectively.  
~~Most of the <sup>at least</sup>~~  
 The latter <sup>buildings</sup> are taken to be replacements of non-vaulted palaces  
 at the same loci, built during a final period of Acropolis renovation,  
 using the imported vault idea, vaulted palaces <sup>roofs</sup> are known only on the Acropolis.  
<sup>all-masonry</sup>

As to the wall/room indexes, the radically new <sup>previously existing</sup> roof-supporting  
 technique <sup>is supposed to have</sup> at first <sup>to have</sup> required "heavier" designs than any of <sup>those</sup> those without  
 the vault. <sup>(with Index 74% (No. 6), which is later revised to 72%)</sup> But from the new start, <sup>(we suppose)</sup> the same factors produced  
 the partly overlapping "vaulted" index spread which we observe. The  
 lowest six indexes <sup>(Nos. 15-20)</sup> vary only one percentage point from 30%, which thus seems  
 to be a <sup>abbreviate</sup> lower limit for the vaulted <sup>palace</sup> series. <sup>(These</sup> It applies to both basic <sup>palace</sup> palace  
 plan types. <sup>highest</sup> On the other hand, <sup>highest</sup> arranged as we have them, the <sup>highest</sup> highest  
 three <sup>vaulted</sup> indexes involve sequent drops of 14%, then 10% (Nos. 6-8), as if  
 experiment leading to lower indexes was in progress. Here, with No. 8 <sup>(in Table 1B)</sup> we reach  
 the 50% of the "heaviest" non-vaulted <sup>palace (No. 12 Table 1B)</sup> index. From this the next three differences  
<sup>(include zero and</sup> account again for only three percentage points, the drops being 2% then 1%  
 the latter <sup>(Nos. 9-11)</sup> repeated. <sup>may</sup> Again substantially equal indexes apply to either  
<sup>palace</sup> basic plan type, i.e. Type 1R or 2R.

We may guess that

Where, as here, the spread of a group of indexes is so small, by hypothesis they suggest closeness in time, <sup>but</sup> without indication of the sequence <sup>among</sup> of the units involved. But we <sup>can</sup> infer that one such group, as a whole, is later than another <sup>group</sup> if there is a substantial drop from the lowest index of one group to the highest index of the other, as in the examples below.

Nos. 8 - 11: 50% to 47%  
Nos. 15 - 20: <sup>-16%</sup> 31% to 29%

We may safely consider a 16% difference "substantial" and probably significant, as indicating technical progress in time. But this 16% is probably the sum of lesser yet significant index differences, since where we know the <sup>(chronological order)</sup> sequences we may have drops of the index by only 4% or 5%, as noted above.

On the basis of this hint the patterns of Table 2 are obtained, assuming that all intervals <sup>of four or more points</sup> between contiguous indexes in descending order are <sup>possibly</sup> significant, while lesser differences are ~~are~~ probably not intentional. In both sections of the table the ringed numbers are the percentage values of the indexes, <sup>from Table 1.</sup> We move downward from one to the next if the "index interval" is <sup>(points)</sup> 4 or more, but to the right if it is less, including zero. To save space only the "vertical" intervals are stated but they ~~are~~ <sup>can</sup> easily be recovered. For any line the reference numbers of <sup>of</sup> Table 1 are noted in order, <sup>toward</sup> at the right of Table 2.

In the upper box three "vertical" index intervals are lettered X, Y and Z and called "steps" on the theory that they may reflect technical progress in beam-and-mortar construction during a pre-vault period of palace construction.

It is believed that no vaulted palaces <sup>units at the surface</sup> are missing, and the vertically tabulated index intervals <sup>for these</sup> are labeled as six numbered "steps", <sup>by hypothesis</sup> each/reflecting a technical advance in vault-building and hence an advance in time. Since <sup>the</sup> steps are supposedly in sequence and Step 1 is from <sup>unit</sup> No. 6 in Acropolis Period VI, logically we must assign all <sup>palace</sup> "index steps", <sup>(stratigraphically late</sup> 15 vaulted units, and all six steps, to that period.

"Index steps"

If, however inaccurately, our ~~data~~ register technological advances in designing vaults and their supporting walls and piers, <sup>group reached by</sup> it is in the final/ Step 6 that one might expect sophisticated/innovations not measurable by the index. This we have in No. 18 (Str. J-11-1st) <sup>where</sup> the piers are uniquely and the vaults are also lightened by <sup>very side-by-side</sup> large niches. Nos. 15 and 16 (Strs. <sup>17 and 19.</sup> J-10 and J-21) also show the vault niches, which may be lost from Nos.

<sup>Index</sup> No. 20 (J-2-1st, Rm.6) is another special case within the final group. Where space was evidently limited, Index 29% was obtained by a wall which was uniquely only 0.50 thick, combined with a room depth about the same as that of Room 1 of J-2-1st, to which <sup>Room 6</sup> it is an addition.

Provisional (duration of a

We can attempt a crude estimate of the total "vaulted palace period" by an ~~arbitrary~~ assumption that the palace vaulted units, whether replacements or not, were built on the average at the rate of one hotun per unit. Using that factor we work backward and also forward from No. 13 with its LC date supplied by Throne 1, as below.

7 hotuns	9.16. 0.0.0	First palace vault, Str. J-9-1st (no. 6) ?
7 hotuns	<u>1.15.0.0</u>	
	9.17.15.0.0	Dated palace vault, Str. J-6-1st Rms. 1-2 (No. 13)
77 hotuns	<u>1.15.0.0</u>	
	9.19.10.0.0	Last palace vault, Str. J-2-1st. Rm. 6 (No. 20)?

Index "spreads" for all classes of vaulted buildings

One ~~hotun~~ as the average interval between constructions  
 vault unit  
 of palace vaults was chosen because it places the latest at a believable  
 for  
 LC position of the local end of the Late Classic period. It happens to  
 place the earliest vaulted unit at 9.16.0.0.0, Proskouriakoff's beginning  
 for here dynamic phase for the Maya area as a whole. But this result  
 needs modification to account for <sup>Sculpture of</sup> the  
 the  
 nine vaulted units of Table 3,  
 small  
 covering pyramid temples, a sweathouse, and unclassified but still vaulted  
 buildings.

being a combination of  
 vault and beam-and-mortar  
 construction. The index

The spreads of the indexes for all vaulted building classes  
 overlap as tabulated below. The index for the sweathouse "semi-vault"  
 is omitted as non-comparable; ~~that~~ for Str. O-13 is omitted as not reliable.

Temples:	Nos. 21-25	79% . . . . .	44%
Palaces:	Nos. 6-20	74% . . . . .	29%
Unclassified:	Nos. 27-28	31% . . . . .	24%

If some of the temple indexes reflect roof-comb loads on the walls,  
 an allowance for this would lower the indexes, not raise them. As noted  
 below this uncertainty does not extend to the "heaviest" index of all,  
 (No. 21),  
 79% for the temple Str. J-29-A, described with isometric drawings  
 in Museum Bulletin, 6/5, Pl. V, 1936. There was probably a roof-comb,  
 but it did not add to the load on front wall and piers. As to the "lightest"  
 (No. 28),  
 index, 24% for the Unclassified Str. F-4, there is no reason for  
 suspecting a fallen roof-comb.

For convenience, the simple term "temple" <sup>here</sup> connotes a pyramid temple  
 unless otherwise indicated. No vaulted temples not on pyramids  
 have been found.

space

The overlapping indexes for the three classes of vaulted buildings are consistent with our hypothesis that ~~that~~ their spreads reflect technological progress irrespective of the building class. Thus, vaulting may have been first used for <sup>the pyramid temple</sup> Str. J-29-A (79%) and next for the palace Str. J-9-1st (74%). The last vault to be built may have been that of Str. F-4, an unclassified building (24%).

We have a total of 23 vaulted buildings and vault units <sup>of all classes</sup> hence 22 <sup>+</sup> potential intervals between them. By the rule-of-thumb used with palace vaults only, i.e. 1 hotun or 5 tuns per average interval, and with the same late LC limit as before, one gets <sup>LC</sup> 9.14.0.0.0 as the early limit for the general vault-using period, instead of 9.16.0.0.0 based on 15 palace units only.

	9.14. 0.0.0	First vault, Str. J-29-A (No.21) ?
15 hotuns	<u>3.15.0.0</u>	
	9.17.15.0.0	Dated vault, Str. J-6-1st, Rms.1-2 (No.13)13)
7 hotuns	<u>1.15.0.0</u>	
	9.19.10.0.0	Last vault Str. F-4 (No.28)?

If, as is possible, more than one vault unit <sup>to have been</sup> was known built at the same time, one would move the rule-of-thumb first-vault dating forward rather than backward in time.

at mangin

Note on indexes at Loci J-29, J-2 and Sub-Acropolis

Str. J-29 is of special interest, being known in four phases, in all of which the single temple room had the same "rear wall", which or "rear mass" was really a deep platform/presumably carrying a now fallen roof comb. This <sup>building</sup> can be reasonably restored only with a beam-and-mortar or vaulted roof, from the rear of which the comb appeared to rise. At the front, in the earliest Phases D and C this roof rested on <sup>two</sup> a front wall and ~~three~~ piers which, in the final Phase A, were torn out and replaced. The Index of 79% for the replacement, for surviving remnants of the original building which was vaulted, compares with 66% (1.16 pier thickness, 1.75 room depth). The lesser index for the original Phases fits our theory that that here was the beginning of replacements of beam-and-mortar roofs by <sup>"heavier"</sup> vaulted ones. ~~So does the existence of no less than five well-established at the surface,~~

Final rule-of-thumb LC dating of vault-using period le  
3).

Our dead-reckoning method could reach a precisely correct date for local introduction of vaulting only by chance, but I propose <sup>#1 Katun</sup> 9.15.0.0.0 as an "educated guess", if this rule-of-thumb is not too far off it affords some control <sup>LC</sup> over the/dating of temples and palaces, the roof-type being known; <sup>control</sup> or over the roof-type if the LC date is known or inferred within limits on the basis of other sorts of evidence, such as association of the building with LC dated stelae.

At the palace Locus J-2 a reasonable reconstruction based on remnants of J-2-2nd shows the same pattern, the index being 42% compared to 60% for the Type 2R palace which replaced it. Note also Index 45% for Sub-Acropolis Str. 3C reconstructed as a Type 2R palace with secondary end room (PNA:A, VI, No.6, 1954). Stratigraphically that building belongs in Acropolis Period I, the earliest, and surely in the pre-vault period if such existed. (See Fig.1).

Note on the three vaulted units at Locus J-6:  
Acropolis Periods

The Locus anchor for our rule-of-thumb vault-using period has been the latest of three horizontally stratified "built-on" vaulted units, at Locus J-6, i.e. Str. J-6-1st, Rms. 1-2, /planned to receive Throne 1 with DD 9.17.15.0.0. By the rule the other two vaulted units, Nos. 10 and 12, belong not earlier than 9.14.0.0.0.

The earliest <sup>(of these)</sup> unit is Str. J-6-2nd, Rms. 1-2 (No. 10). Much of this building is known only by remnants of its rear wall at floor level, but at the S.W. end this wall and the front wall <sup>partially</sup> survived within later fill to heights sufficient to prove that it was vaulted. Elsewhere No. 10 was replaced by No. 13 at the same level, its <sup>new</sup> rear wall being placed about .85 forward of that of the No. 10, probably to accommodate the deep niche which was to receive the rear of Throne 1. As we reconstruct, a reduction in wall and pier thickness partly compensated for the loss in room depth without extending the building platform frontward. There is no doubt that one vaulted unit, No. 13, replaced another vaulted unit (No. 10)

Before this occurred Str. J-6-2nd, Rm. 3.1-2 (No. 12) was "built on" to terracing to the rear <sup>as well as</sup> to the N.E. end of Str. J-6-2nd, Rms. 1-2.10 (No. 10), <sup>it (no. 12)</sup> and remained in use till time of abandonment. For its assignment to Acropolis Period VI see Fig. 1. Its roof evidently was the base surface of a Period VI terrace wall which, in cross-section, rose to meet the base surface of the building platform of Str. J-9-1st at the raised level of Court 2.

If the No. 12 <sup>"Room 3"</sup> vaulted unit belongs in Period VI so does the later unit, No. 13, So far as <sup>available</sup> hard evidence is concerned the earliest J-6 unit, No. 10, can be reconstructed <sup>reasonably</sup> as in either Period V or VI, being "contemporaneous" with either J-9-2nd or J-9-1st on Court 2. Note, however that the buildings here numbered 10 and 13 were served by a broad-tread stairway which <sup>may</sup> ~~seems to have survived from~~ <sup>an earlier</sup> Acropolis Period, ~~since it was built on bedrock, and~~ the building platform also may be earlier than either of the two buildings which it successively supported.

Note on roof-types of four sequent pyramid temples at Locus K-5

Among the pyramid temples at the surface, only at Locus <sup>(R-3 and Locus</sup> K-5 was there more or less complete <sup>(sampling)</sup> exploration of buried constructions at all levels. <sup>At Locus K-5</sup> Five periods and "phases" <sup>were</sup> distinguished on the basis of substructure units, four of them correlating with as many <sup>stratified one-room</sup> temple buildings as in the <sup>"features"</sup> tabulation below. For present reference the buildings are numbered in chronological order. For a full description see Museum Bulletin, Vol.7, No.4 and Vol.8, Nos.1-2, with isometric reconstructions of each period and phase by Godfrey.

The K-5 complex as a whole grew by accretion in the horizontal as well as vertical directions, and a substructure unit of one period or phase might <sup>be</sup> ~~serve~~ wholly or partly in the next one, a situation not indicated in our period-phase designation system. When Building 1, or 3, or 4 was in use it appeared to rest on four <sup>b</sup> substructure components; basal platform, pyramid, supplementary platform, building platform. This is the pattern described at Locus <sup>(in the South Group)</sup> R-9, where the building, known only at the surface, was a non-vaunted one <sup>(The substructure pattern)</sup> (PNA:A, No.1, Fig.7). <sup>also,</sup> ~~It~~ applies to our K-5-2nd Building No.2 <sup>also,</sup> except that there was then no supplementary platform. Perhaps this is related to the fact that in this period the pyramid height was ~~already doubled~~ by adding Terraces 3-4.

Axially placed pairs of column altars in and before temple buildings is a related feature linking the K-5 temples with the non-vaunted Str. R-9. At Locus K-5 there are three pairs of altars for <sup>(three of the)</sup> four temples, i.e. for Nos.1, 2 and 4. It seems possible if not probable that the latest pair of column altars first served Temple No.3, and <sup>(that this pair)</sup> was later ripped out for

(a vaulted building of a higher level.  
 re-use with No. 4. The exterior member of this pair was disturbed by  
 at three levels  
 natural causes but the other five altars/were found in situ. Thus the  
 use, if not also the fabrication of column altars is firmly associated with  
 a vaulted as well as a non-vaulted <sup>with</sup> pyramid temple building, ~~at three levels~~

→ Center

K-5 temple buildings: selected associated features

K-5-3d	Basal platform, Pyramid terraces 1,2	<u>Building No.1</u> Partly survives, buried in K-5-2nd fill; Column Altar "pair".
K-5-2nd	Pyramid terraces 3,4 added	<u>Building No.2</u> Removed but inferred from existence of low platform on pyramid, and column altar "pair"
K-5-1st-C	Major frontward extensions of basal platform and pyramid terraces	<u>Building No.3</u> Small surviving remnant on new building and supplementary platform (latter modified rectangular plan)..
	Stelae 39,38, here or later	
K-5-1st-B	Masks, Glyph panels, "Lintel" "Lintel" 7, etc.	<u>Building No.4</u> Column Altar "pair"; vaulted; roof-comb ?
K-5-1st-A	Stelae here ?	
K-5-1st-A	Horizontal extensions of building and supplementary platforms	<u>Exterior addition to Building No.4</u>

(above

The "selected features" tabulation focuses attention on the  
 the existence of the sequence of temple buildings, the roof-type of the latest  
 only being definitely known. Roof-types in all periods and phases are  
 discussed in the following notes, together with the LC dating control of the  
 two associated stelae.

K-5-3d: Building No.1

The room-depth, <sup>about</sup> 5.00, far exceeds any of those of our tables ~~1.10 5.00 22%~~ (enclosing building of the) for buildings at the surface; 3.75 for the/latest of a long series of sweatouses at Locus P-7, <sup>is</sup> the nearest approach to it. Comparison of the index-yielding dimensions of these two buildings is of interest.

	<u>W</u>	<u>R</u>	<u>C</u>
Temple, K-5-3d, Bldg. No.1:	1.10	5.00	22%
Sweathouse, P-7-1st-B and -A:	0.90	3.75	24% (semi-vault) of enclosing building)

Sweathouses P-7-4th to P-7-1st were distinguished (PNA:A, V., No.4, p.79).

Here as elsewhere it is evident that large "enclosing buildings" were a feature in this category. By a simple count of ~~temple~~ periods and phases the sweatouse <sup>probably</sup> P-7-1st is later than the temple of K-5-3d, and by our rule-of-thumb P-7-1st is no earlier than 9.14.0.0.0. It seems unlikely that the sophisticated combination of vaulted and beam-and-mortar roof techniques was available for the earlier building with a substantially greater room depth. <sup>(of the "semi-vault"</sup> Absence) in the earlier periods at Locus P-7, and in sweatouses at the surface at seven other loci argues to the same effect.

We can be sure, I think, that the roof of the temple K-5-3d was neither vaulted or semi-vaulted. The unique 5-meter depth of the room rather than plain justifies a suspicion that it was thatch / beam-and-mortar. Proskouriakoff (1946, 1953) restores it as thatch, taking the room-depth as "about eighteen feet", this being "perhaps too great" for beam-and-mortar. The K-5-3d building, building platform and supplementary platform are simple rectangular in plan, not the "modified rectangular" style expected for Piedras Negras temples, and Proskouriakoff notes that these components of K-5-3d may stem from an earlier tradition.

K-5-2nd: Building No.2

As we reconstruct, the walls of Building No.2 were eventually entirely removed, leaving a pair of column altars before and on a low platform taken to be a building platform resting directly on the new pyramid top. The rear of this platform was <sup>partially</sup> intact for many <sup>e</sup> meters, suggesting a simple rectangular plan as in K-5-3d. The depth of this platform was even greater than that of the corresponding building platform of K-5-3d, so there <sup>more than sufficient</sup> was <sup>space</sup> for a similar ~~over-size~~ one-room building. Though the addition of pyramid terraces 3 and 4 reduced the depth of the pyramid top somewhat, this was more than compensated by the omission of a supplementary platform.

As matters stand the supposedly interior column altar was found in situ <sup>well forward</sup> ~~far forward~~ of the center of the platform, suggesting <sup>(of the latter</sup> the possibility that the known rear wall <sup>was</sup> a secondary construction, perhaps repairing a collapsed original rear wall set further to the front. Such a collapse and repair of pyramid terracing at the rear was in fact noted. Allowing for it on the K-5-2nd level the original depth of the supposed building platform may have been close to that of the corresponding platform of K-5-3d, implying a building of similar great depth. If the depth implies a thatch roof in one case it implies it in the other case. The alternative would seem to be a platform with altars but <sup>a</sup> without <sup>a</sup> building, which seems highly unlikely in this context.

K-5-1st-C: Building No.3

In this phase a supplementary and also a building platform of modified <sup>or</sup> ~~rectangular~~ Peten style plan made their first appearances. As we postulated for Building No.2, the walls of <sup>this</sup> the building had been razed, with the important <sup>tion</sup> ~~except~~ of a small remnant which located the inner side of the rear wall on the cross-section.

Not knowing the front wall thickness or its precise position a wall-room index cannot be obtained. However it is evident <sup>that</sup> the sum of the room depth and front wall thickness was much less than the sum of those dimensions for Building No. 1 or for No.2 as interpreted. The rear wall <sup>of No.3</sup> may have been significantly thicker than the front wall, as if for partial or complete support of a roof-comb. The basic <sup>building</sup> plan was presumably modified rectangular like its supporting platforms. Therefore one postulates either a beam-and-mortar or vaulted roof, both of which are known at the surface with Peten style buildings. It is difficult to imagine a thatch roof functioning with a building of that complicated style.

K-5-1st-B: Building No.4

This replaced Building No.3 on the same building platform. Being at the surface and apparently ruined only by natural causes, we know that it was modified rectangular in plan; the rear wall <sup>that</sup> <sup>(w)</sup> as somewhat thicker than the front wall and piers; and that the roof was a vaulted one. Fallen stucco fragments in the debris included a human head of heroic size, justifying Proskouriakoff's reconstruction of a roof comb, placed to the rear in the Peten (Tikal) style.

K-5-1st-A: Building No.4 continued

~~K-5-1st-A~~ In the final phase incomplete excavation indicated a new supplementary and a new building platform enclosing the old ones at the same levels. Presumably contemporary <sup>exterior</sup> lateral additions to Building No.4 were noted. They might have been secondary reinforcements of walls threatening to collapse. This explanation is not available for <sup>the</sup> new platform faces, which carried no loads. Recalling the history of the building platform of J-29, they may have simplified the originally modified-rectangular platforms. Note that ~~the~~ interior of the room, <sup>including</sup> and the vault unit, was ~~is~~ the same as in Phase B. In respect to roof-type we may speak of Str. K-5-1st-B&A.

x5  
15a

Sequence of roof-types: LC control

The existence of four stratified temple buildings seems reasonably certain and our conclusions as to roof-types may be summarized.

K-5-3d	Bldg. No.1	Thatch ?
K-5-2nd	Bldg. No.2	Thatch ??
K-5-1st-C	Bldg. No.3	Beam and mortar <u>or</u> vault
K-5-1st-B &-A	Bldg. No.4	Vault

Two hotun-marking stelae give some control on LC dating - Stelae 39 and 38 at 9.12.5.0.0 and 9.12.10.0.0 respectively. The K-5-1st-C phase of the complex, with Building No.3, is that of the frontward extensions of the pyramid terraces and of the basal platform, each of these <sup>components</sup> with its axially-placed stairway. A special stela platform for the 9.12.5.0.0 stela was eventually built on and before a central portion of the basal platform stairway. Thus by stratification <sup>and epigraphy</sup> the Phase C complex is dated at or before 9.12.5.0.0, though we do not know how much earlier <sup>the</sup> Phase C construction may have been. But since the limiting LC date is substantially earlier than our rule-of-thumb early limit for the general vault period, to sustain that hypothesis we must <sup>here</sup> choose the beam-and-mortar alternative roof type for Building No.3.

This is not required, apart from that hypothesis. The extended basal platform served in Phases B & -A also, and the stela <sup>No.4</sup> could have been set during the period of use of Building / rather than of Building No.3, as was assumed in the published reconstructions by Godfrey. We <sup>most</sup> then assume <sup>that</sup> "pre-vault" <sup>is a misnomer for first</sup> stela dates associated with the vaulted building. That situation exists in the case of the hotun markers before the vaulted pyramid temple Str. R-5 in the South Group, where Proskourikoff's dynastic "Series 2" of hotun markers begins with Stela 33 at 9.10.10.0.0, to end here at the K-5 locus with Stela 38 at 9.12.10.0.0. (1960, p.458).

X6

HOWEVER

Until disproved by deep digging we can suspect that the vaulted temple R-5 at the surface replaced an earlier non-vaulted <sup>R-5-2nd, already</sup> in use when the <sup>of LOCUS R-5</sup> stela<sup>e</sup> were carved and erected. Tending to validate that idea is the fact that the buildings of five other pyramid temples at the surface in Square R were non-vaulted, as if surviving from pre-vault times (Table <sup>3A,</sup> Nos. 30-34) and see Table 6).

Str. R-4 is probably a sixth non-vaulted pyramid temple in Square R, omitted from our table<sup>s</sup> because extreme damage by trees made it impossible to say more of the top than that the pyramid supported a platform. Str. J-3 also in the West Group is/omitted from the tables for a similar reason, leaving eleven pyramids supposedly <sup>surely masonry</sup> with buildings. Table 6 shows the complete concentration/vaulted palaces on the Acropolis in Square J, and the ~~the~~ nearly complete concentration of non-vaulted <sup>t</sup> pyramid temples in Square R. Loci of non-vaulted palaces and of vaulted temples are <sup>as of the final period,</sup> <sup>are more widely distributed.</sup>

In Table 6 ten of the loci are marked to indicate that there is <sup>have</sup> evidence that the building at the surface may/replaced an earlier construction, perhaps an earlier building. This includes Str. R-3 with its final non-vaulted pyramid temple building. Here two other/replacements <sup>pyramid temple replacements</sup> may have preceded the latest one, within the supposed pre-vault period. (R-3-2nd and R-3-3d). This is consistent with the idea that a vaulted temple might have replaced a non-vaulted one had it been later, as suggested for Str. R-5

Tables, Figs.

- A Reference number of palace building or part of one
- B Designation of same (Structure period numbers and phase letters in reverse of chronological order).
- W Front wall thickness
- R Front room depth
- M Medial wall thickness (dash means absence)
- R' Rear room depth (dash means absence).
- W' Rear wall thickness (dash means "built-on" rear wall without rear face).
- C Wall-room index (wall or pier thickness as percentage of adjacent room depth).
- D Simple typology of palace plans:
  - Type 1R One room or range of rooms, free-standing walls.
  - Type 1Rx One room or range of rooms, rear wall "built-on".
  - Type 1Rxy One room or range of rooms, rear and end wall "built on". tandem
  - Type 2R Two rooms or ranges of rooms, free-standing walls.
  - Type 2Ry Two tandem rooms or ranges, end wall "built on".
- E P for pier thickness used for index (piers being sections of outer walls substantially less wide than adjacent doorways).
- F Possible spread of Acropolis periods (Roman-numbered in chronological order)
- G Miscellaneous notes.

Key to Tables 1 and 3  
←

Tables 1A-1B - Indices for Palaces

1A Five non-vaulted palaces listed in descending order of wall/room indexes

A	B	W	R	M	R'	W'	C	D	E	F	G
1	R-7	0.95	1.90	1.00	1.90	0.95	50%	2R	P	-	South Group Court; Bench.
2	J-12-1st-C	1.00	2.30	1.15	2.25	1.05	43%	2R	P	I/VI	Acropolis; benches; replacement.
3	J-20	0.85	2.45	0.95	2.45	0.85	35%	2R	-	?	Acropolis
4	S-18	0.85	2.49	-	-	0.88	34%	1R	P	-	South East Section
5	S-17	0.65	2.66	-	-	0.75	24%	1R	P	-	South East section

Table 1 (p. 1) a

16

1B Fifteen vault units of eleven vaulted palaces, listed in descending order of wall-room indexes (all on the Acropolis)

A	B	W	R	M	R'	W'	C	D	E	F	G
6	J-9-1st (AC)	1.20	1.63	1.20	1.73	1.20	74%	2R	P	VI	Replacement of (non-vaulted?) J-9-1st; benches
7	J-2-1st (Rm. 1)	1.05	1.75	0.92	1.65	1.05	60%	2R	P	II/VI	Replacement of (non-vaulted?) J-2-2nd;
8	J-23-1st	0.70	1.35	1.02	1.90	0.70	50%	2R	P	?	Replacement of J-23-2nd (platform partly destroyed)
9	J-13 (Rm. 1)	0.80	1.65	0.80	1.65	0.80	48%	2R(y?)	P	V/VI	1
10	J-6-2nd (Rms. 1-2)	1.15	2.44	-	-	-	47%	1Rxy	P?	V/VI	with broad-tread stw. from Court 1
11	J-8	0.76	1.60	-	-	-	47%	1Rx	P	V/VI	
12	J-6-2nd (Rm. 3)	0.93	2.15	-	-	-	43%	1Rxy	P	VI	
13	J-6-1st (Rms. 1-2)	0.78	2.00	-	-	-	39%	1Rxy	P	VI	With Throne 1 (9.17.15.0.0); bench; replacement of J-6-2nd (Rms. 1-2)
14	J-22-A (Rm. 1-2)	0.70	2.00	-	-	-	35%	1Rx	P	?	
15	J-10 (-A?)	0.60	1.95	-	-	-	31%	1Rxy	P	V/VI	vault niches
16	J-21	0.75	2.41	0.75	2.41	0.75	31%	2R	P	P	vault niches; bench.
17	J-22-B (Rm. 3)	0.70	2.30	-	-	-	30%	1Rxy	P	?	
18	J-11-1st	0.75	2.60	0.92	2.60	0.75	29%	2R	P	V/VI	vault niches; "notched" piers; benches; replacement of J-6-11-2nd building (and platform?)
19	J-18	0.75	2.55	0.75	2.55	0.75	29%	1R	P	?	Bench; replacement?
20	J-2-1st (Rm. 6)	0.50	1.73	-	-	-	29%	1Rxy	-	II/VI	Limited space

Table 1 (p. 2) 17

Table 1 p. 2

Table 2 "Step" Groupings of Indexes of Table 1

2A Five Non-vaulted Palaces of Table 1A

(50)		No. 1	No. 1		
-7				Step x?	
(43)		No. 2	No. 2		V/VI
-8				Step y?	
(35) (34)		Nos. 3-4	No. 3, 4		
-10				Step z?	
(24)		No. 5	No. 5		

2B Fifteen Vaulted Palace Units of Table 1

(74)		No. 6	No. 6		VI
-14				Step 1	(VI) I
(60)		No. 7	No. 7		
-10				Step 2	
(50) (48) (47) (47)		Nos. 8, 9, 10, 11	No. 8, 9, 10, 11		
-4x				Step 3	
(43)		No. 12	No. 12		VI
-4x				Step 4	
(9.17.15.0.0) (39)		No. 13	No. 13		
-4				Step 5	
(35) (31) (31) (31) (31) (31)		No. 14	No. 14		
-4				Step 6	
(31) (31) (30) (29) (29) (29)		Nos. 15, 16, 17, 18, 19, 20	No. 15, 16, 17, 18, 19, 20		

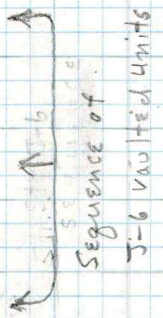


Table 3A-3B, H, S Indexes for buildings other than palaces

12-5?

3B Six Vaulted Pyramid Temple Buildings

A	B	W	R	M	R'	W'	C	D	E	F
21	J-29-A1	1.25	1.65	--	--	2	79%	IR	P	Roof comb?; replacement.
22	O-12	1.05	1.65	--	--	?	64%	IR	P	Roof comb?
23	K-5-197-B	1.30	2.07	--	--	?	63%	IR	P	Roof comb; replacement.
24	J-4-151-B	1.08	2.05	--	--	?	53%	IR	P	Roof comb?; replacement?
25	R-5-14	1.05	2.40	--	--	?	44%	IR	P	Roof comb?; replacement?; ?
26	O-13-157	?	?	?	?	?	?	BR	P	Index unreliable; replacement.

36 Two non-classified small vaulted buildings

27	F-3	0.65	1.65	--	--	--	31%	IR	P?	
28	F-4	0.60	2.55	--	--	--	34%	IR	P	

35 One "Semi-vaulted Sweathouse"

29	P-7-157-B, A	0.90	3.75	0.88	3.60	0.90	24%	2R	P	Enclosing building, vault + beam-and-mortar; replacement; see P.M.A:Arch
----	--------------	------	------	------	------	------	-----	----	---	--

3A Five non-vaulted pyramid temple buildings (Indexes not reliable)

30	R-1	0.97	?	--	--	?	?	IR	P	
31	R-3	1.30	?	--	--	?	?	IR	--	Glyphic stone lintel; replacement.
32	R-9	1.25	1.70?	--	--	?	74%?	IR	P	
33	R-10	?	?	--	--	?	?	IR	--	
34	R-16	1.20?	?	--	--	?	?	IR	P	

Table 6: Distribution of Palace and Pyramid Temple loci in the squares of the site map.

		Square J	Square K	Square O	Square R	Square S
Palaces	3A 5 non-vaulted Temples				R-1 R-3 (Rb) R-9 R-10 R-16	
	3B 6 vaulted Temples Palaces & buildings	J-1 (Rp)	K	O-10 (Rp)	R-5 R	S
Palaces	IIA 5 non-vaulted	J-12 (Rp) J-20	--	--	R-7 R-7	S-18 S-19
	IIB 11 vaulted	J-2 (Rb) J-6 (Rb) J-8 J-9 (Rb) J-10 J-11 (Rp) J-13 J-18 J-21 J-22 J-23 (Rb)	--	--	--	--
Pyramid Temples	3A 5 non-vaulted	--	--	--	R-1 R-3 Rp R-9 R-10 R-16	--
	3B 6 vaulted	J-4 Rb J-29 Rp	K-5 Rp	O-12 O-13 RP	R-5	--

Key Rb means known or probable replacement of earlier building at give locus.

Acropolis Periods I-VI Section. Pencil on tracing paper.

Removed to:

Piedras Negras—

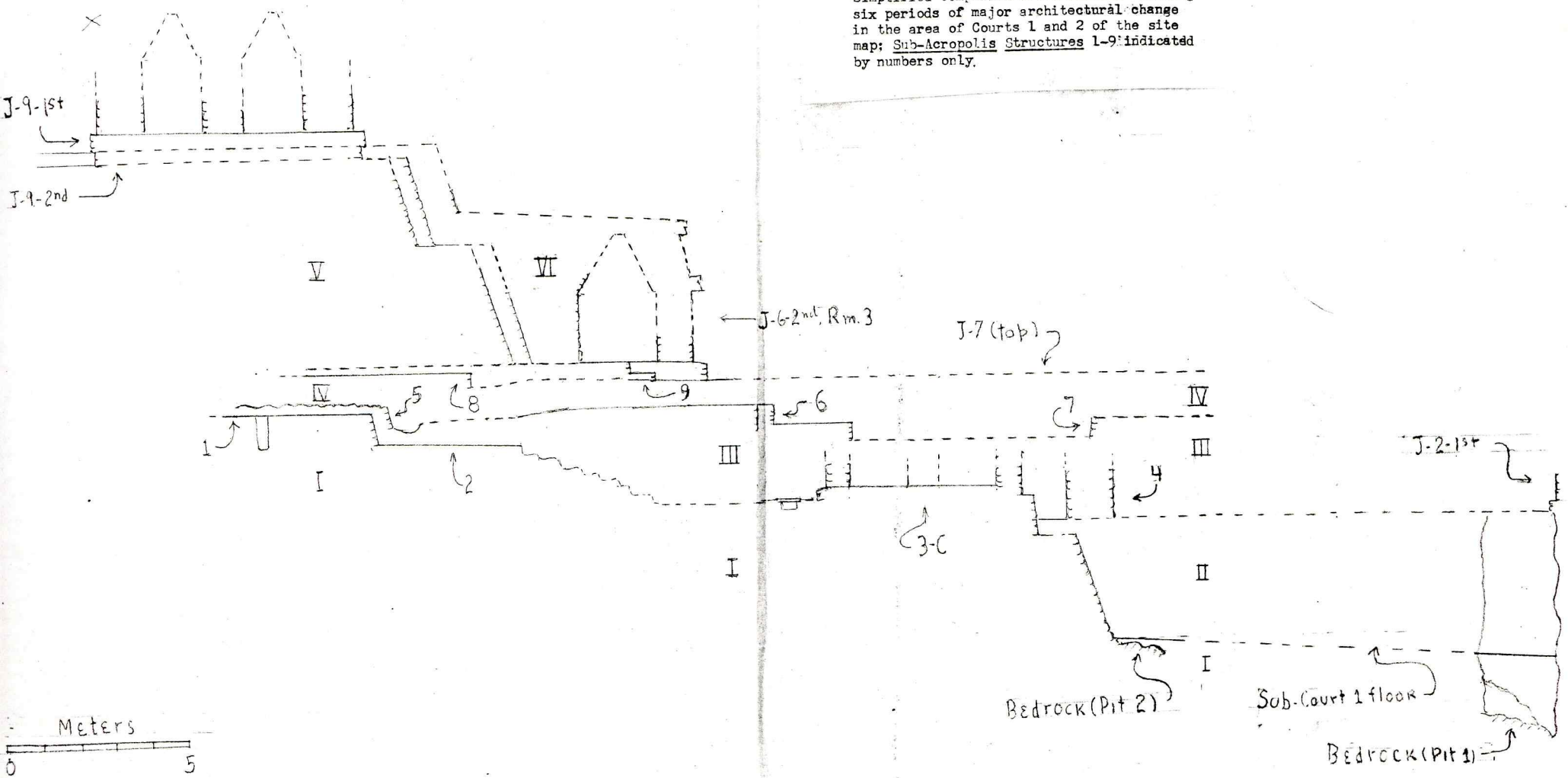
Oversize Plans and Drawings—

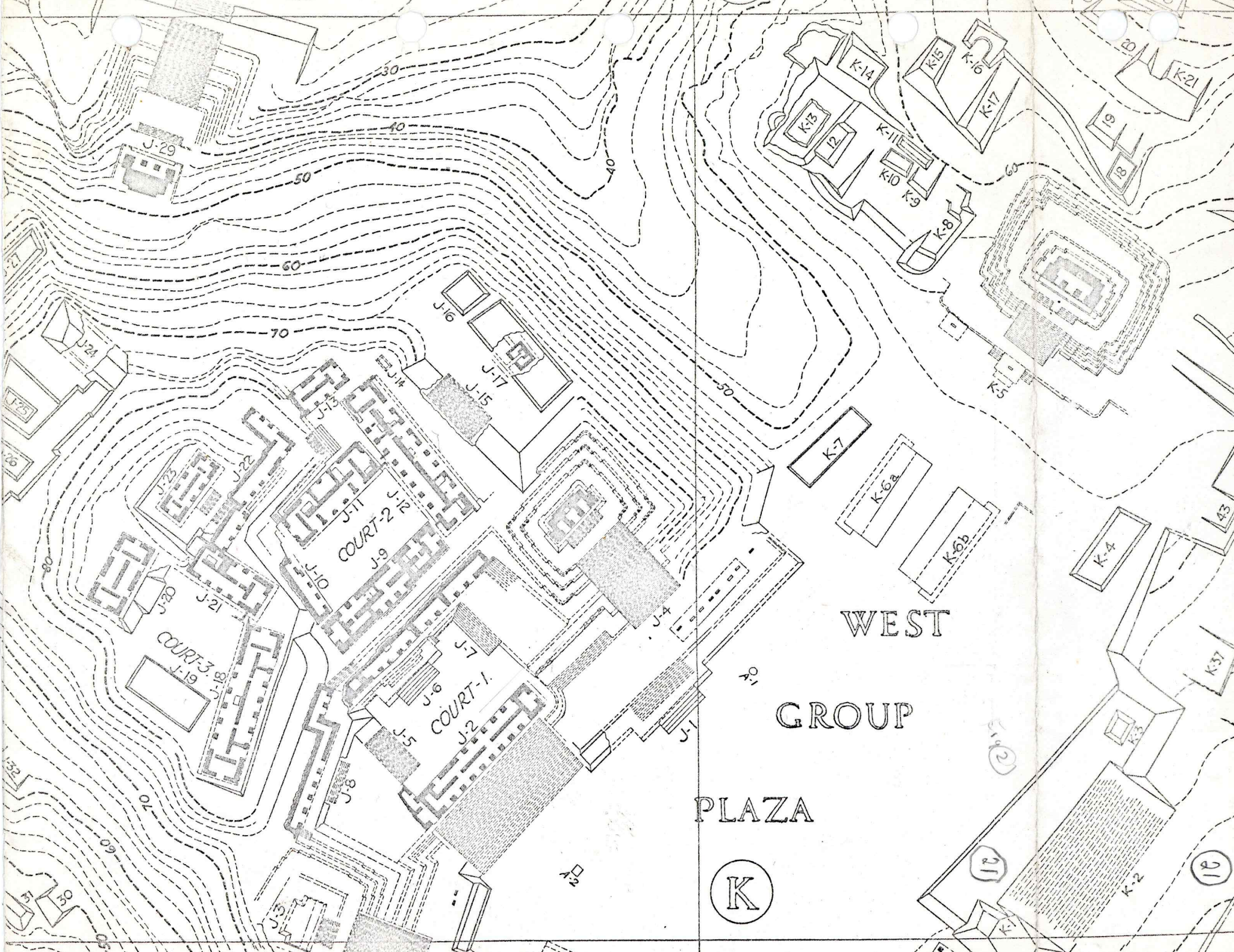
Accropolis Court 1 Sections—

P-45-1

Acropolis Periods I - VI

Simplified composite cross-section showing six periods of major architectural change in the area of Courts 1 and 2 of the site map; Sub-Acropolis Structures 1-9 indicated by numbers only.





WEST

GROUP

PLAZA

(K)

COURT-2

COURT-1

COURT-3

J-29

K-15  
K-16  
K-17

K-14  
K-13  
K-12  
K-11  
K-10  
K-9  
K-8

K-21  
K-19  
K-18

K-5

K-7  
K-6a  
K-6b

K-4  
K-3

43

K-37

K-2  
K-1

(18)

(21)

30

20

60

70

50

30

40

40

J-16

J-17

J-15

J-13

J-11

J-12

J-10

J-22

J-23

J-20

J-21

J-19

J-18

J-8

J-5

J-6

J-7

J-4

J-1

32

31

30

70

60

60

60

(2)

N

Temple Indexes

NO	W	R	C (Index)
21 (T) J-29	1.25	1.65	79%
22 2(T) O-12	1.05 ①	1.65	64%
23 3(T) K-5-1st-B	1.30	2.07	63%
24 4(T) J-4	1.08 ②	2.05	53%
25 5(T) R5	1.05 ①	2.10	56%
(26) 6(T) O-13	2. not compatible.		?

From Bk GI ← \*  
1960 (yellow page)  
check-ups

Checked  
dimensions with  
circular  
sheet

See  
Table 3

and over

D7 see P.N. Arch. Arch: PTX no 4 p 79

(79)	(79)			NO. (T)	
-15	-15				
(64)	(63)	(63)		NOS. 2(T), 3T	O-12, K-5-1st-B
	-10	-10			
	(53)	(50)	(50)	NOS 4(T), 5T	J4, R5

K-5-34 from Table 1, Bk GI.

width = 1.10 th. from 5.00 depth; near all same

found it also used in oval  
Paper

Ba P1

St. 2  
Bas. Pl. of Pyramid, Bldg. Platform Building Stairs.

3d 1 terrace 2 terraces 1 terrace large, thatched? 3

2nd Same 4 terraces

St. 3

K-5-1st-C Add front-rear extension, pyramid and Basal terrace;  
new stairs for basilica, pyramid  
rebuild building (remnant)

K-5-2nd Add pyramid terraces, new stairs to plaza  
rebuild Building platform (and building?)

K-5-3d large thatched building

✓ Scheme not used Non-vaulted

But see over

Not used

A	50% - 46%	50%						A	No. 1	But see checks to be made
B	45% - 41%	43%					B	No. 2		
C	40% - 36%	--						No. 3		
D	35% - 31%	35%	34%				D	Nos. 3, 4		
E	30% - 26%	--								
F	25% - 21%	24%					F	No. 5		

vaulted.

AA	75% - 71%	74%						AA	no. 6
BB	70% - 66%	<del>66%</del>							
CC	65% - 61%	--							
DD	60% - 56%	60%						DD	No. 7
EE	55% - 51%	<del>40</del>							
J-23 / I-6 <sup>nd</sup> / I-2 <sup>nd</sup> FF	50% - 46%	50%	48%	47%	47%	43%	3	FF	Nos. 8, 9, 10, 11, 12
I-2 <sup>nd</sup> / I-6 <sup>th</sup> GG	45% - 41%	43%							No. 12
I-6-1 <sup>st</sup> HH	40% - 36%	39%	35%					HH	No. 13
II	35% - 31%	31%	31%	30%	29%	29%	29%	II	No. 14, 15, 16, 17
IJ	30% - 26%	30%	29%	29%	29%	29%	29%	IJ	Nos. 17, 18, 19, 20

Table 2

To be checked

- ✓ J-22-A 35% Rm 1-2 Cut A and B
- ✓ -B 36% Rm 3 (or 2-3?) & use Rm No.
- J-12 - prints ?
- ✓ J-2-nd "prints" = 2R .75 walls (med) Plus 1.80R
- ✓ J-6-1<sup>st</sup> 0.85 forward of J-6 2nd rear wall

180) .750 (42) = 49.5%  
 720  
 300  
 180  
 120



Vaulted Temples (chacung mofa)

Si Houns

Pyramids

- I-29
- J-4
- K-5
- O-13
- O-12
- R-5

P-7

- Non-ruined
- J-3 no Blyr
  - R-9
  - R-10
  - R-1
  - R-3
  - R-4 (ruined) no B
  - R-16

Key.

Act. Section Drawing.

- 1: Sub-Act. str. 1 (I) Platform with posts
- 2: " " str. 2 (I) Base-surface with broad-tread stairway.
- 3-C " " str. 3-C (I) Probable palace, early phase reconstructed without end room. (See Part II, no 6, pp 63-75).
- 4: " " str. 4 (II) Remnant of heavy free-standing wall (same reference)
- 5: " " str. 5 (III) Platform
- 6: " " str. 6 (III) Platform
- 7: " " str. 7 (III) Platform
- 8: " " str. 8 (IV) Platform
- 9: " " str. 9 (IV) Platform

Note: The broad-tread stairway, and building with <sup>tho</sup> hole medial wall suggests ceremonial architecture begins in Period I, but earlier "house mound" use is not ruled out.

Relevant Evidence

No. 1 59 Yes  
 2-2 "

3-23 Remnant of ~~existing~~ floor below medial wall.  
 2. course remnant of heavy B. Platform edge,  
 base 63. below 3-13 floor.



Wall-span indexes, 15 vault units of 11 vaulted Palaces

No.	Vault Unit	Wall-span Index					W-S Index %	Acc. Period	Plan Type	2nd Draft 1973 with m.v.'s added
		W	R	M	R'	W'				
1	J-9-1st (Rm. 1)	1.20	1.63	1.20	1.73	1.20	74%	VI	2R	
2	J-2-1st (Rm. 1)	1.05	1.75	0.92	1.65	1.05	60%	II-VI	2R ("B.O.")	
3	J-23	0.70	1.35	1.02	1.40	0.70	50%	I-V	2R	
4	J-13 (-B?)	0.80	1.65	0.80	1.65	0.80	48%	V-VI	2R	
5	J-6-2nd (B?) (Rms. 1-2)	1.15 (?)	2.44 (?)	-	-	-	47% (?)	I-VI	1R ("B.O.")	
6	J-8	0.76	1.60	-	-	-	47%	I-V	1R ("B.O.")	
7	J-6-2nd (A?) (Rm. 3)	0.93	2.15	-	-	-	43%	VI	1R ("B.O.")	
8	J-6-1st (B?) (Rms. 1-2)	0.78	2.00	-	-	-	39%	I-VI	1R ("B.O.")	
9	J-22-A (Rm. 1)	0.70	2.00	-	-	-	35%	I-VI	1R ("B.O.")	
10	J-10 (A-B?)	0.60	1.95	-	-	-	31%	I-VI	1R ("B.O.")	
11	J-21	0.75	2.41	0.75	2.41	0.75	31%		2R	
12	J-22-B (Rm. 2)	0.70	2.30	-	-	-	30%		1R (B.O.)	
13	J-11-1st	0.75	2.60	0.92	2.60	0.75	29%	V-VI	2R	
14	J-18	0.75	2.55	0.75	2.55	0.75	29%		2R	
15	J-2-1st (Rm. 6)	0.50	1.73	-	-	-	29%			

Wall-span indexes of 5 non-vaulted places

	R-7	0.95	1.90	1.00	1.90	0.95	20%		2R
Arch	J-12-1st-C	1.00	2.30	1.15	2.25	1.05	23%		2R
Arch	J-20	0.85	2.45	0.95	2.45	0.85	35%		2R
S-13	S-18	0.85	2.50	-	-	-	36%		1R
S-17	S-17	0.65	2.66	-	-	-	41%		1R

Wall-span index of SW-Arch. Sh. 3-C (4 2R)

0.70	1.55	.85	1.55	0.70	45%
------	------	-----	------	------	-----

45  
31/17

LS P.M.: Fifteen vaulted palaces in decreasing order of wall-span Index.

1st draft, 1973

1973  
Final list by LS from 1960 check by scaling plan  
See Bk Cl, Yellow pages 2a-b, and 4a-b

	(C)	(F)	(D)	(G)	(E)		Pros. Plans
	W	R	M	R'	W'		
P J-9-1st-A							J-9-1st-A no end rooms
┌-B							
└-D	1.20*	1.63*	1.20	1.73	1.20	74%	J-9-1st-B inserted end Rm
P J-2-1st-A							
┌-B							
└-C	1.05*	1.75*	0.92	1.65	1.05	60%	
							(J-2-2nd) no Rm's 5 and 6 Platform narrower by .50 "T" wall at NE end removed in 1st round
P J-2-3	0.70*	1.35*	1.02	1.40	.70	50%	
└-B	0.95*	1.65*	1.02	1.65	0.95	49%	Label missing
P J-13-A (10)	1.15*	2.00*	0.80	1.65	0.80	48%	Label missing
└-B	0.80*	1.65*	0.80	1.65	0.80	48%	Label missing
P? J-6-2nd (B)	1.15*?	2.44*?	-	1.0	-	47%?	Dimensions reconstructed
(Rms. 1 & 2)							
P J-8	0.76*	1.60*	-	-	-	47%	
└-B (Rm's)						31%	See 2nd draft, then find me
P J-6-2nd-A	0.93*	2.15*	-	-	-	43%	
(Rm. 3)							
P J-6-1st-B1	0.78*	2.00*	-	-	-	39%	
(Rms. 1-2)							
P J-22(A)	0.70*	2.18*	-	-	-	32%	
P J-10-A	0.60	1.95	-	-	-	31%	Vault niches
P J-21-B	0.75*	2.41*	0.75	2.41	0.75	31%	Vault Niche
P J-22-B	0.70	2.30	-	-	-	30%	
P J-11-1st-B	0.75*	2.60*	0.92	2.60	0.75	29%	Vault Niche; "T" pier
P J-18-B	0.75	2.55	0.75	2.55	0.75	29%	
J-2-1st-A	0.50	1.73	-	-	-	29%	
(Rms. 5 & 6)							

Non-vented Acre Palaces

1973-25

Scaling TAP "Album" drawings

	W	R	M	R'	W'		
<u>AMI</u> I-12-1st-C	1.00	2.30	1.15	2.25	1.05	43%	$\begin{array}{r} 1.13 \cdot 2.30 \\ 1.0000 \cdot 1.43 \\ \hline 920 \\ 800 \\ \hline 110 \end{array}$
<u>AMI</u> J-20	0.85	2.45	0.95	2.45	0.85	35% recmated	$\begin{array}{r} 2.45 \cdot 8500 \\ 735 \\ \hline 1150 \\ 980 \\ \hline 1700 \\ 1715 \end{array} \quad \begin{array}{l} 34.7\% \\ \\ \\ 35\% \end{array}$

Other Palaces, non-vented

SMP R-7	0.95	1.90	1.00	1.90	0.95	50%	$\begin{array}{r} 1.90 \cdot 950 \\ 1.90 \\ \hline 950 \\ 00 \end{array} \quad \begin{array}{l} 90\% \\ \\ \\ 00 \end{array}$
SE Section S-17	0.65	2.66	-	-	-	24%	$\begin{array}{r} 2.66 \cdot 65 \\ 532 \\ \hline 1180 \\ 1064 \\ \hline 116 \end{array} \quad \begin{array}{l} 24\% \\ \\ \\ \end{array}$ <p>from album sheet in Notes, BK. 7 no TAP drawing in S-17 slot</p>
S-18	0.85	2.56	-	-	-	34%	$\begin{array}{r} 2.56 \cdot 85 \\ 750 \\ \hline 1000 \\ 1000 \\ \hline 5 \end{array} \quad \begin{array}{l} 34\% \\ \\ \\ \end{array}$

Uncl. Vented

2nd M 50%	ST-F 3	.65	1.65			30%
	ST-F 4	.60	2.55			24%

Non-vented Sub-Acrep. 3C.

	.70	1.55	.95	1.55	0.70	45%
--	-----	------	-----	------	------	-----

a2 IR	1.55					
	.85					
	1.55					
	3.95	70.0	118%	a2 IR		
		395				
		3050				
		3160				

2.55	.600	235
	510	24%
	900	
	765	
	1350	
	2175	
	175	
	350	
1.55	700	45%
	620	
	800	
	775	
	25	

check

J-9

r

J-2

✓

J-2.3 Removal of partition wall and of its plastered top found below J-23 platform, slightly less wide. notes. TP has same J-23, (J-23-1st and 2nd)

J-13

J-6

J-6 and ?

(12)

J-8

Rm 1

J-6-2nd

Rm 2

J-6-1st

J-22 A

Rm A

J-10

?

J-21

J-22 B

Cham 22

J-11-1st

See Note - Plan of Floor 4 (rod-banded top: walls removed + J-11-1st built over them. <sup>of 2nd</sup>

J-18

J-2 Rm 6

01042

with widening

60% No. 7 J-2-1st % I-VI Replaces J-2-nd, with building platform (Rm. 1)

29% No. 20 J-2-1st % I-VI In part built-in-end of No. 7 (Rm. 6)

47% No. 10 J-6-2nd % V-VI "Built on" over Period V terrace (see Fig. 1) (Rms 1-2)

43% No. 12 J-6-2nd % VI Same (as constructed); Roof base surface of Period V terrace (see Fig. 1)

39% No. 13 J-6-1st % VI Largely replaced No. 10 at 9.17.15.0.0 (thru 1). (Rms 1-2)

35% No. 14 J-22 % ? (Rm. 1)

30% No. 17 J-22 % ? "Built-on-end" of No. 14 (Rm. 2)

60	
29	47
47	43
43	39
39	35
35	30
30	14
318	

Acrop. Palaces:

PMP Palaces 64 - 12 called "palaces" →

AP: PP list

Plan-type 1 2 ranges, (trange and rooms.)

	J 9			J 9 ✓
+ Rm 6	J 2°	+ 1	10 - Rm 6	J 2 ✓
	J 23			J 23
	J 13			J 13 ✓
+ Rm 3 + 2nd, 1973	J 6	+ 2	J 6	
112 -	J 8°		J 8°	
	J 22			
	J 10		J 10	
	J 21		J 21 ✓	
	J 11		J 11 ✓	
	J 18		J 18 ✓	
+ taken 12 (1973 list)			(J-12)	
+ J-12 (m.v.)				

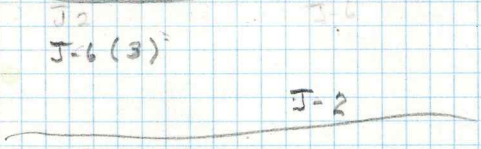
1 Range                      2 Range

See over.

- 1 Range 1R                      J-18 - J-19
- 1 Range 1R = B0                J-6
- 2 Range 2R
- 2 Range, End Room(s) 2R-E

1R	J-6	2nd 1-2; 2nd 3; 1st	+ 2
2R	J-2	1st Rm 1; Rm 6	+ 1
1R	J-8		
2R	J-9		
1R	J-10		
(12)	2R	J-11	
2R	J-13		
2R	J-20		
2R	J-21		
1R	J-22	-A, B.	+ 1
2R	J-23		+ 4
			11

? One-Range ("built-in")                      Two-Range



785 = 9.15.15.0.0

The sequence of the four buildings and their building platforms is assured by direct vertical stratigraphy, but judgment was involved in assigning special features to <sup>Phase</sup> K-5-1st-B, including masks flanking the pyramid stairway, a carved <sup>(<sup>2</sup>"intel 7") probably</sup> panel on the stairway of the supplementary sequent hotun-marking platform, and two stelae on stela platforms built against the frontally-extended basal platform. The earlier time marker is Stela 39<sup>a</sup> placed on the architectural axis so that its platform buried a central portion of the on-axis separate stairway of the basal platform in final form. Stela 38 (9.12.10.0.0) was <sup>far to</sup> observer's left, and ended Proskouriakoff's "dynastic" Series 2 of hotun markers. <sup>(1960, p. 458).</sup> Had the "ruler" of that series of markers lived another hotun one may guess that a third stela, marking 9.12.15.0.0, would have been placed symmetrically on observer's right.

Confining ourselves to the earliest of the two actual hotun-markers, Stela 39 and the stratigraphy date the forward extension of the basal platform as no later than 9.12.5.0.0, when it was used for stela placement, and this presumably holds for the extensions of the pyramid terraces of K-5-1st-C. This is substantially earlier than our hypothetical end of a general prevault period <sup>(at ca. 9.15.0.0.0 ± 1 Katun)</sup>. To sustain that we must <sup>(in Period)</sup> put the stela placements with K-5-1st-C, rather than with K-5-1st-B & -A, restoring Temple No. 3 as non-vaulted. There seems to be no evidence to the contrary, and we get an interesting sequence of roof types at one locus.

K-5-3d	Building No. 1	Thatch?
K-5-2nd	Building No. 2	Thatch??
K-5-1st-C	Building No. 3	Beam and mortar?
K-5-1st-B & -A	Building No. 4	Vaulted.

Roof-types of the four earliest pyramid temples at Locus K-5

The "selected features" tabulation focuses attention on the existence of <sup>the</sup> a sequence of temple buildings, the roof-type of the latest only being definitely known. Roof-types in all periods and phases are considered in the following notes, together with the LC dating control of two associated dated stelae.

K-5-3d: Building 1 Proskœuriakoff (1946, 1963) restores a thatch rather than beam-and-mortar roof because the depth of the relatively enormous single room seems too great for even the latter. Type.

The building, its platform and supplementary platforms are simple rectangular in plan, not the locally expected "modified rectangular" temple/plan. the walls of

K-5-2nd: Building No.2 On a higher level, this building had been entirely removed, in excavated areas at least, but surviving walls of its building platform, with two column altars in situ in expected positions, leave no doubt of the former existence of the building walls.

What is known of the platform suggests that this building was also simple-rectangular in plan, with <sup>great</sup> room-depth, comparable to that of Temple No.1.

The temple <sup>building</sup> was therefore <sup>probably</sup> also non-vaulted, probably with thatch roof.

K-5-1st-C: Building No.3 In this phase a supplementary and also a building platform of modified-rectangular Peten style first make their appearances. As in the case of Temple No.2, the walls of the building had been razed, with the important exception of a small remnant which located the inner side of the rear wall on the cross-section, with reference to the front edge of the building platform. Not knowing the front wall thickness <sup>and position</sup> a wall-room index cannot be obtained,

not used

(L)  
7  
A

Note on Replacements of ~~various~~ palace buildings.

The most satisfactory evidence of replacements of <sup>c</sup>palaces (or ~~other~~ <sup>and piers</sup> temples) is where a tearing down of the original walls leaves a "print" on the <sup>obsolete</sup> building-platform top, which is then <sup>s</sup>plastered over as base surface for a new set of walls <sup>and/or piers</sup> which do not register with the old ones. The print may be defined by plaster turn-ups, <sup>by</sup> more or less straight edges of old plastered areas <sup>without them,</sup> or even by surviving lowest-course slabs, <sup>below new floors.</sup>

This was observed at Str. <sup>J-2</sup> 2 (No. 7) and at Str. J-11 (No. 18).  
These are <sup>positioned</sup> respectively very early and very late in Tables <sup>1 and 2</sup> 1 and 2 and if one accepts the suggested <sup>(i)</sup> chronological implications of the "steps" of ~~Table 1~~ Table 2 <sup>(elsewhere would have similar results.)</sup> it is fair assumption that <sup>investing the same effort elsewhere</sup> Str. J-9-1st (No. 6) is a special case, where a combination of "prints" and masonry changes show the secondary <sup>introduction of</sup> transverse end rooms <sup>with</sup> end doorways, as shown on the site map. But evidently there had already been a replacement of an original <sup>low</sup> Acropolis V building platform, buried below the final one when the Court 2 floor was raised and defined Period VI. (See Fig. 1). At the locus of Str. J-23 (No. 8, at the peak of the Acropolis) a buried floor and a <sup>disconnected</sup> remnant of <sup>buried</sup> wall were presumably remains of an obsolete building platform incorporated within the final one. One presumes in <sup>such cases</sup> this context that an obsolete building <sup>once</sup> stood on the <sup>low</sup> obsolete platforms.

Not used

(No.2)

The very interesting non-vaulted Str. J-12-1st is in Court 2  
 and therefore no earlier than Acropolis Period V. <sup>The</sup> building platform  
 incorporates a much shorter one at the same level, and presumably a shorter  
 non-vaulted Type 2R <sup>building</sup> palace was replaced.

Sub.

Note on roof-types of pyramid temple buildings at Locus K-5.

redrawn (4)

Note on the roof-types of four sequent pyramid temple buildings at Locus K-5

If, say, after ca. 9,15.0.0 vaulted buildings replaced non-vaulted ones at the same loci, during <sup>pre-vault</sup> pre-vault period replacements (if many), as well as the obsolete buildings, would be non-vaulted. The palace pyramid J-12-1st is a probable example. Among the temples <sup>only</sup> the K-5 locus was excavated at all levels. Five periods and phases were distinguished, with three replacements among four temple buildings. For an account see Bulletin, 7, No.4 and 8, Nos.1-2, with five isometric drawings by Godfrey. The tabulation of selected components below is founded on his drawings, focusing attention on the <sup>(vertically stratified)</sup> buildings. With the exception of K-5-2nd, each building <sup>during its life span had to be elevated</sup> on a four-component substructure consisting of <sup>G</sup> basal platform, pyramid, supplementary platform, building platform. In the case of K-5-2nd there was no supplementary platform.

Substructure, stelae

Building

K-5-3d Pyramid terraces 1,2; basal platform

Building No.1, partly survives, buried in fill; non-vaulted (tooth?)

K-5-2nd Pyramid terraces 3,4 added

Building No.2 (inferred from known existence of low platform on pyramid)

K-5-1st-C Major front extensions of Terraces 1,2,3,4 and of original basal platform

Building No.3 (inferred from small buried remnant on building platform, latter on supplementary platform)

(Stelae 39,38 here or later)

K-5-1st-B Masks, glyph panels, etc.

Building No.4 (vaulted (with comb?); supplementary platform.

(Stelae 39,38, here?)

K-5-1st-A Extensions of building and supplementary platforms

Non-understood addition to outside of Building No.4.

(Stelae 39,38 here??)

Not used

Non-classified vaulted small buildings

We chose 5.0.0 as a reasonable average time interval between constructions of vaulted palace units because it places No. 20 at a 9.19.10.0.0, a ceremonial believable local ending point for all construction. The same factor gives 9.16.0.0.0 for the beginning of palace vaulting and this seems in line with placing that in Acropolis Period VI, the latest.

However, such dead-reckoning must be non-realistic <sup>to some degree</sup> as a measure of the <sup>duration of the</sup> postulated general vaulted period, for it ignores some <sup>nine</sup> ~~eight~~ vault units in other than palace categories of buildings, as listed in Table 3, with Ref. Nos. 21-29. There is no obvious reason why the indexes of Nos. 27 and 28 are not comparable with those of the palaces and reasoning respecting vault-building technology places them after <sup>(palace unit)</sup> No. 13 at 9.17.15.0.0. Adding <sup>unit by nine</sup> these in we advance from the dated vault <sup>by</sup> 9 instead of seven hotuns to 10.0.0.0.0 as the cut-off date for vault-building <sup>in general</sup>. The index for No. 28, <sup>by 5 percentage points</sup> (24% for the minor and peripheral Str. F-4) is lower than the 29% which is the lowest palace index, suggesting another technological "step". Index 31% of No. 27 for the nearby minor <sup>then</sup> Str. F-3 <sup>vaulted</sup> belongs with the lowest group of similar/palace indexes from the which the step is taken. Note that if either of these peripheral minor buildings carried now fallen roof-combs they would be expected to raise the index, not lower it. <sup>to</sup>

127

We still have <sup>six</sup> ~~five~~ vaulted pyramid temples and a semi-vaulted sweathouse to account for (Nos. 21-25 and 29). The sweathouse Index <sup>for semi-vaults</sup> 24% is not comparable with the 24% of Str. F-4 (No. 27). <sup>Four</sup> ~~Three~~ of the <sup>FIVE</sup> ~~four~~ available <sup>vaulted</sup> temple indexes may be higher than otherwise because of roof-comb loads on outer walls of one-room buildings with piers. Even without some adjustment <sup>for this</sup> the temple indexes <sup>as a group</sup> overlap the palace series. This suggests an unknown error in it using the 1-hotun per vault unit for all types of vaulted buildings, as is done <sup>arbitrarily</sup> below <sup>rule of thumb</sup> in order to obtain an extreme early LC limit for the first vault.

Not used

	9.14.10.0.0	First vault (too early); J-29-A (No.21)	
6 hotuns	<u>1.10.0.0</u>		
<del>7</del> hotuns	9.16. 0.0.0	First palace vault	J-9-1st (No.6)
7 hotuns	<u>1.15.0.0</u>		
	9.17.15.0.0	Throne 1 in J-6-1st	J-6-1st (No.13)
7 hotuns	<u>1.15.0.0</u>		
	9.19.10.0.0	Last palace vault	
2 hotuns	<u>10.0.0</u>		
⊙	10. 0. 0.0.0	Last vault	F-4 (No.27)
		<del>Last vault</del>	

There are 23 vault units and therefore 22 time intervals (Tables 1, 3). The improbability is in the fact <sup>of the above result</sup> it that giving <sup>all of the intervals</sup> ~~those~~ the constant value of one hotun <sup>of time makes</sup> places the sweathouse and all of the five vaulted temples <sup>earlier than</sup> ~~being~~ any of the palaces. It seems probable that of these six <sup>five</sup> units/belong somewhere within the palace vault period. The temple J-29-A (No.21) is an exception, described in Bulletin 6/5, Plate V, 1936. It is a replacement, probably with a roof comb, but one which did not load the front wall and piers. Thus its Index 79% is technologically with comparable with Index 74% of J-9-1st, the "heaviest" palace. <sup>These two</sup> They may be vaulted replacements built in that order, with a "step" of 5 percentage points, <sup>conscious</sup> from <sup>the temple to the palace vault unit.</sup> one to the other.

~~Our dead reckoning cannot be precisely correct, but neither need it be too far off. It suggests that at Piedras Negras vaulted roofs first appeared about 9.16.0.0.0 as replacements, if a replacement~~

no wood

Here, largely by using selected substructure as well as temple building components, five periods and phases can be distinguished with three replacements among four temple buildings, the earliest and latest buildings being sure<sup>ly</sup> non-vaulted<sup>†</sup> and vaulted, respectively. At this locus we have two<sup>special</sup> stela platforms for Stelae 39 and 38, their DDs<sup>(architectural)</sup> at 9.12.5.0.0 and 9.12.10.0.0 respectively. Stela 39 is on the axis. In the publication the<sup>"K-5"</sup> stela<sup>"</sup> were assigned to K-5-1st-B, when other glyphic and glyphoid elements made their appearance. <sup>HOWEVER</sup> but stratigraphically earlier an architectural we only know that the stela<sup>s</sup> were associated with no ~~early~~ phases than K-5-1st-C.

By elimination this is the proper association, with<sup>n</sup> a non-vaulted Building No.3, <sup>n</sup>grated our hypothesis that a contemporaneous date at 9.12.5.0.0 would be in a general pre-vault period ending ca. 9.16.0.0.0.

The two stela<sup>s</sup> were probably carved and provided with their stela platforms within the period of use of K-5-1st-C. <sup>We may consider whether the use period</sup> That may have begun <sup>precisely</sup> at 9.12.5.0.0, with the axial placement of Stela 39, or perhaps somewhat earlier.

not used

The pattern would be that, when planning to place a group of hotun-markers "before" a temple, the chronologically first stela would be assigned the axial position, This does not hold at other Piedras Negras temples, even if one of the grouped stelae is apparently on the axis. Among the eight stelae "before" the temple Str. J-4 (9.13.5.0.0) and thus specifically related to some phase of the temple. Stela 1 seems to be axially placed. Spacially it begins a line of eight hotun markers extending to observer's right, but, it was not the chronologically first of the "J-4 stelae", that being Stela 6 at 9.12.15.0.0, a katun earlier. While axial position <sup>of a stela</sup> before a temple may have had special significance it would be hazardous to consider that the <sup>precise</sup> DD of ~~an~~ axial stela applied as such to the associated <sup>temple</sup> structure, also.

Accordingly at the K-5 locus we may <sup>only</sup> say that the temple complex K-5-1st-C was constructed and began to be used not later than the 9.12.5.0.0 of the earliest of the two associated stelae. Together they end Proskouriakoff's dynastic Series 2, <sup>of hotun markers,</sup> which began before the temple Stv.R-5 and is followed by Series 3 "before" Str. J-4, beginning with (Proskouriakoff k260, p 458). Stela 6 at 9.12.15.0.0 / Had the ruler of Series 2 lived another katun, probably the marker of 9.12.15.0.0 would have been placed with Stelae 39 and 38 in a symmetrical arrangement before K-5-1st-C.

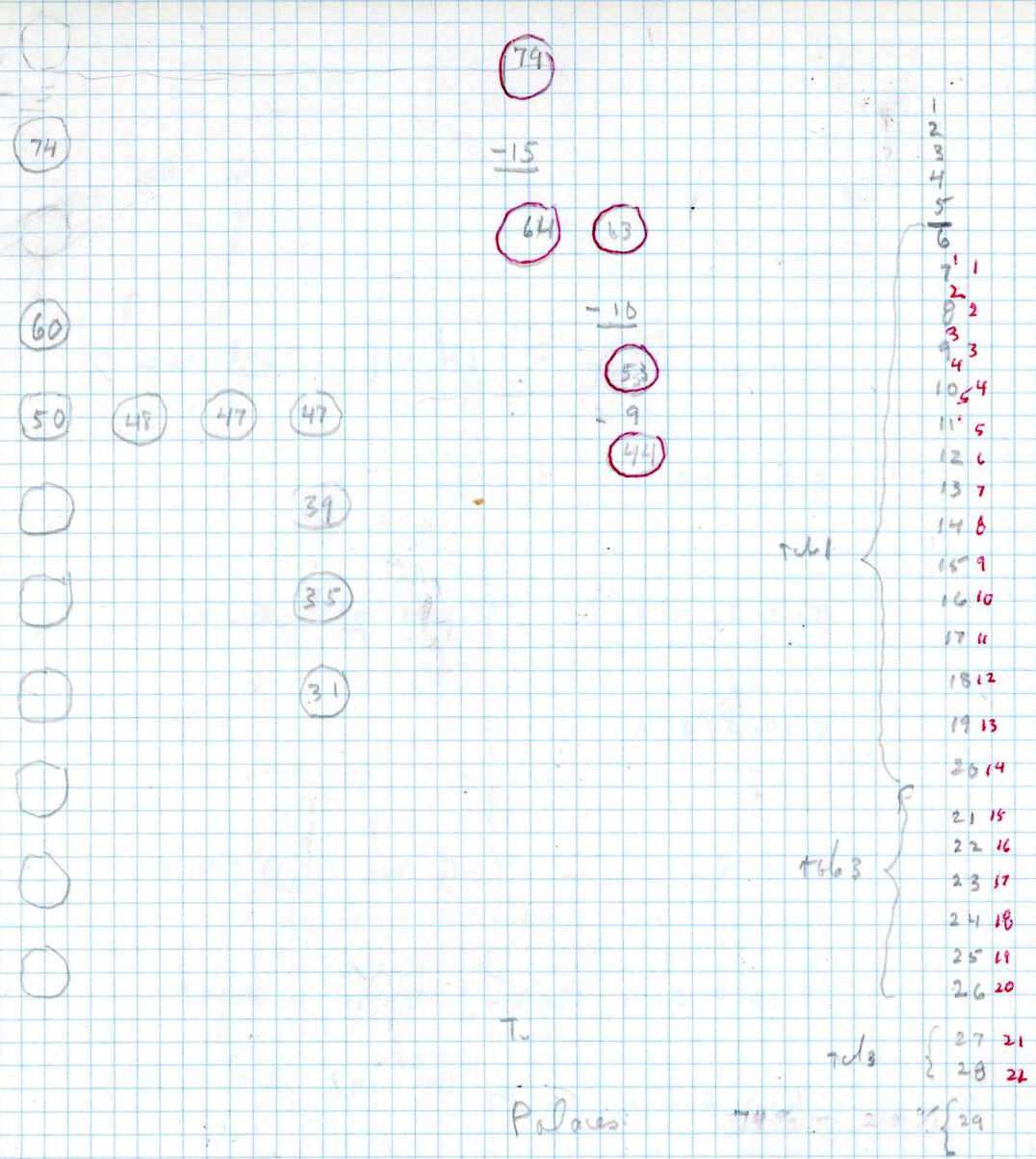
(B)

At the above four palace loci (J-9, J-2, J-23 and J-11) there  
(Nos. 6,7,8,18)  
is available physical evidence that four Type 2R vaulted palaces  
were replacements, but <sup>it</sup> is inference from the general context that  
the earlier buildings were non-vaulted. Tending to confirm, the "prints"  
suggest an original J-2-2nd which was less massive than <sup>the</sup> J-2-1st which  
replaced it. A reasonable reconstruction yields Index 42% (wall thickness  
0.75, room depth 1.80).

At the J-6 locus we deal with three <sup>"built-on"</sup> sequential Type 1Rxy units,  
(J-6-2nd Rms. 1-2)  
Nos. 10, 12 and 13. Much of the rear <sup>remnants</sup> wall of the earliest unit is known  
by ~~a "print"~~ at floor level, but at the southwest end this <sup>wall and the front wall</sup> survived  
within later fill to a height sufficient to show that the building was  
a vaulted one. Except at the extreme S.W. end this ~~the~~ building (No. 10) was  
demolished to make way for J-6-1st Rms. 1-2 <sup>(No. 13)</sup>, also vaulted. The new rear  
wall was about 0.85 forward of the old one, based at the same level.

Its forward position was probably to allow depth for the ~~the~~ niche  
<sup>(the rear of the room)</sup> which was to receive Throne 1. Thus in this special case we have a vaulted  
(No. 12)  
unit replacing another vaulted one. J-6-2nd Rm 3 <sup>to No. 10</sup> was ~~apparently~~ <sup>of J-6-2nd</sup> ~~was~~  
apparently "built-on" <sup>to No. 10</sup> before the replacement of the old Rooms 1-2, and <sup>this</sup>  
~~that~~ <sup>Room 3 (No. 12)</sup> remained in use till time of abandonment. For its assignment  
to the Acropolis Period VI see Fig. 1. Its roof evidently was the base  
surface of a Period VI terrace wall which once rose to meet the base-surface  
of the building platform of Str. J-9-1st at the raised level of Court 2.

Reduction in front wall and pier <sup>(thickness)</sup> partly compensated for the loss in  
room depth, without adding to the <sup>front of the</sup> supporting platform.



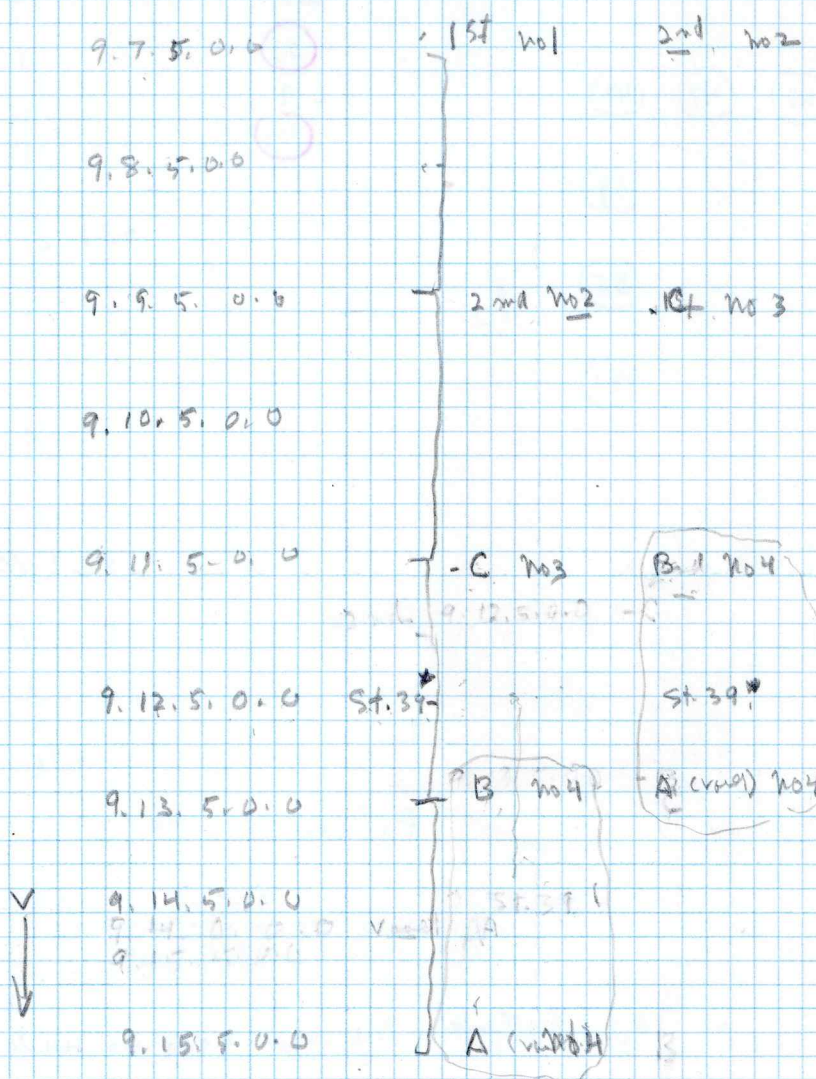
T. total { 27 21  
28 21  
29

Palaces: 74% - 29% = 45%

4 3<sub>2</sub> Dy. Temp. Nos 21-25 79% to 44%  
 14 20 Palaces Nos. 6-20 74% to 29%  
 1 2 Wm class. 10 Nos. 27-28 31% to 24%

79% . . . . . 44%  
 74% . . . . . 29%  
 31% . . . . . 24%

Fig. No 1



or, conversely, No. 3 has been constituted no later than 9.12.5.0.0