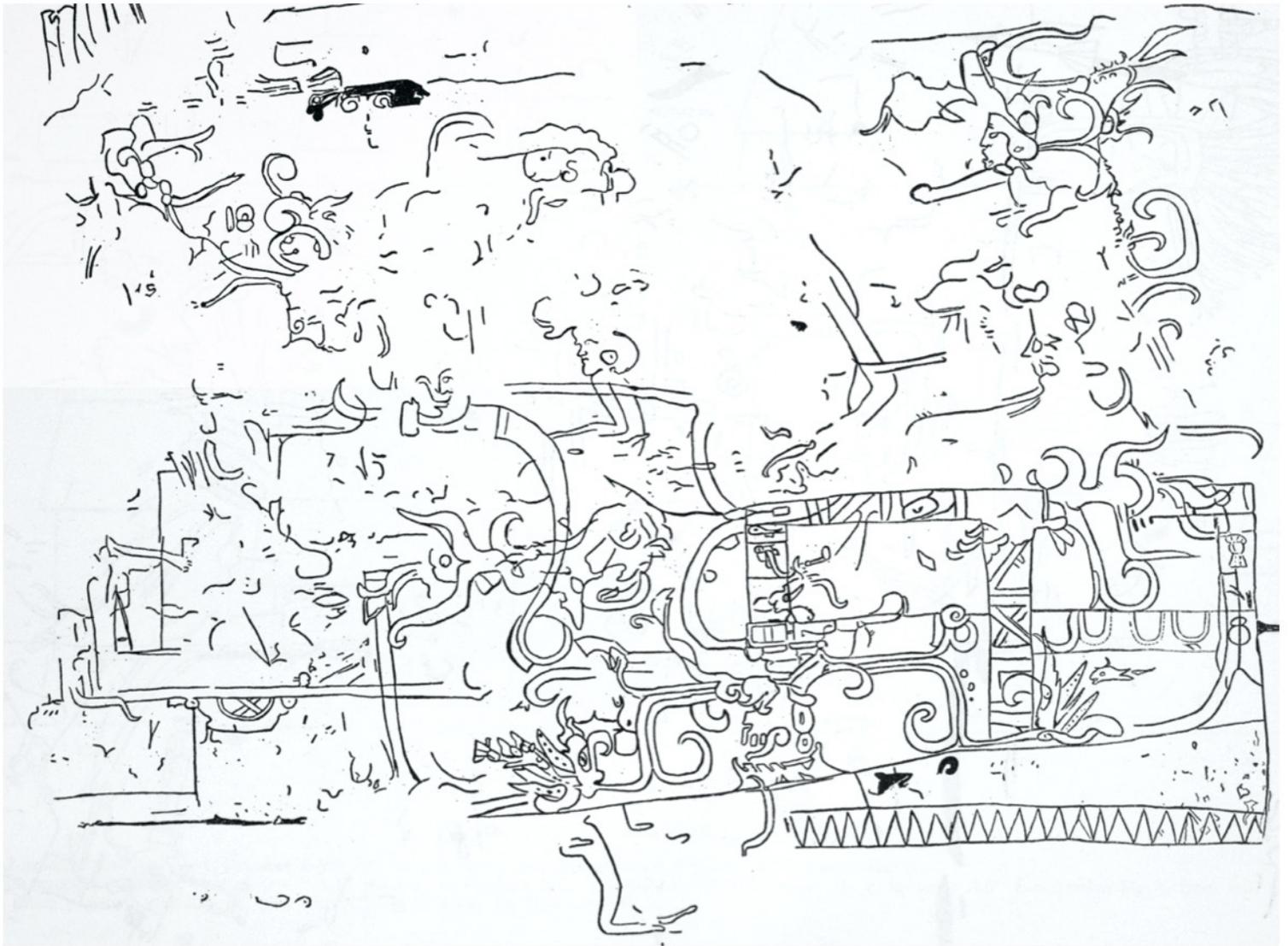


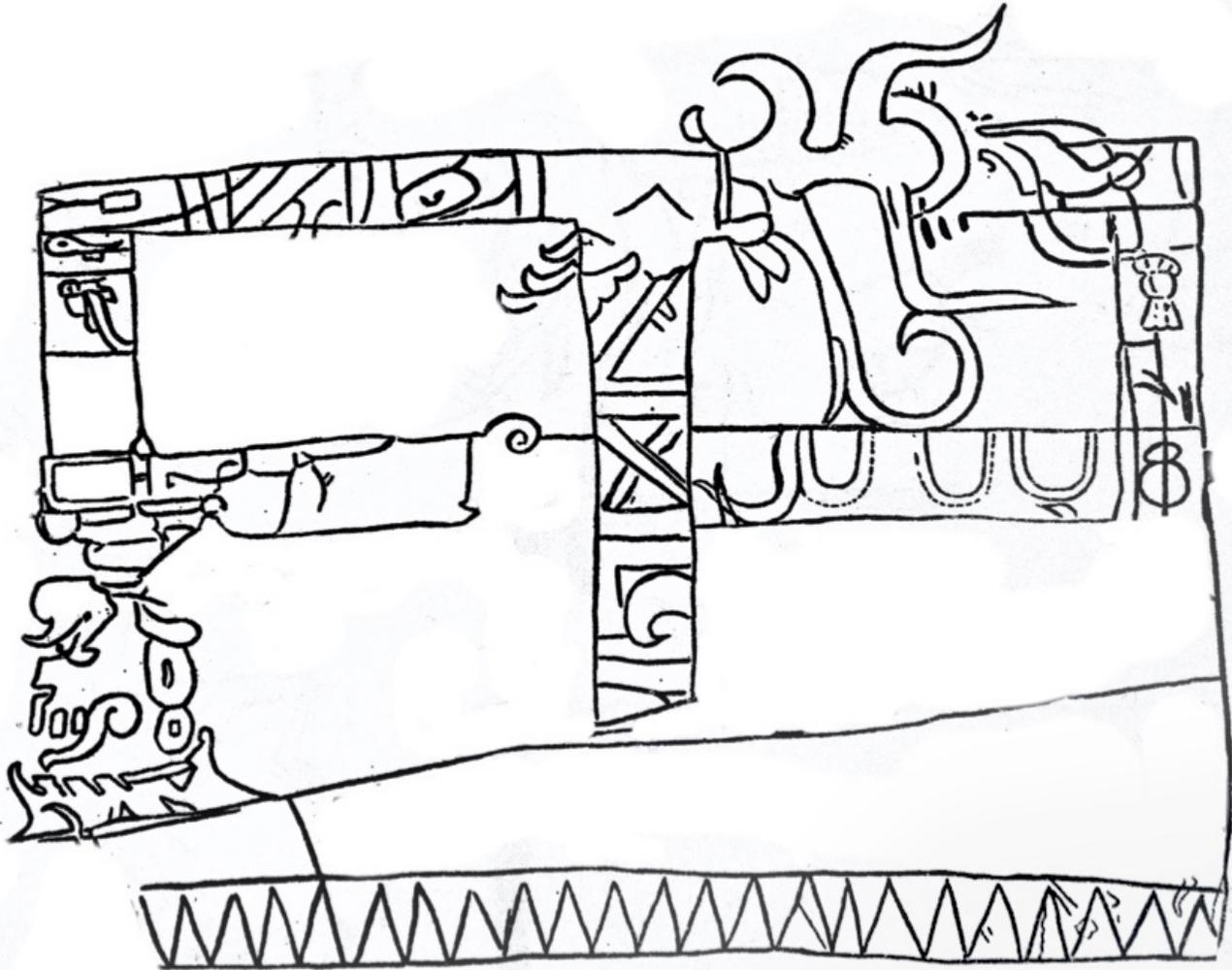
Is a Maya Patolli Game Board a series of Sky Band Celestial “Units”?



Was Patolli a Celestial Game Board?

Nicholas Hellmuth

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FLAAR and FLAAR Mesoamerica
November 2022

Nicholas Hellmuth

Acknowledgements:

I sincerely appreciate Professor Gordon Willey allowing me as an undergraduate student to be accepted into a graduate school anthropology seminar at Harvard in 1964. This encouraged me to do the research that led to my discovery of the graffiti aspect and planetary band aspect of the 9th-10th century Uaxactun wall scribbles in 1964 for my seminar paper in January 1965.

I thank the Dean of Incoming Students at Harvard, for his speech that welcomed all us recent high school graduates the first week at Harvard. He told us "find what you want to do in life and do it. Ignore what you are told to do by your parents; find what YOU want to do, and then use inspiration and initiative to reach your goals." My father was an architect so understandably nudged me to study architecture since my great-uncle, my grandfather and two brothers also were all architects. But once I had visited dozens of Puuc and Chenes sites, plus Palenque, Bonampak, Tikal and Uaxactun, I decided I wanted to be an archaeologist, albeit specializing in architectural history. So I switched from Architectural Sciences to Anthropology and took art history classes in that area of the campus as well.

Circa 1969 I became interested in iconography, especially Teotihuacan symbols in Classic Maya art. So I kept getting deeper into iconography until I did my PhD dissertation at the University of Graz (Austria) in iconography and cosmology of the Surface of the Underwaterworld.

And eventually I became interested in flora, fauna and ecosystems, so I jumped into the fields of biology and ecology. Now I am back into iconography, focusing on celestial symbols of the Sky Bands.

Credits:

- **Preparing illustrations:**
Norma Estefany Cho Cu
Antonieta Cajas
- **Layout of this PDF:**
David Arrivillaga
- **Title page picture:** To see the patolli game board and the Sky Band motifs it helps if you pull this part out of the mess splattered over the wall. It is common for graffiti to cover earlier graffiti.
- **Front cover picture:** Because many areas of graffiti are splitter-splatter with decades of scribbles on top of each other, it is not always easy to recognize what was actually being drawn. I recognized the planetary band already in my 1964-1965 university seminar paper. But today in 2022 the patolli game board and Sky Band motifs still need to be more readily available when you Google Sky Band or patolli; so a pdf format is ideal in today's world.

Uaxactun Structure A-V, Room 49, south wall. Most likely Late Classic or Terminal Classic. Smith 1950: Fig. 110.

FLAAR



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Maya Patolli Game Board at Uaxactun, Peten, Guatemala Includes Celestial Symbolism

Long term interest in Sky Band motifs

I learned about Sky Bands while visiting Palenque (at age 16, in 1961). I wrote my high school thesis on Palenque. Sky Bands are a major aspect in the art of Palenque so I learned a bit. Then circa 1963 the INAH team at Bonampak accepted my request to serve as an intern to set up camp for them. I offered to help carry equipment from the landing field far away from Bonampak and hike many kilometers to Bonampak. No landing field anywhere near Bonampak in 1960's: you had to land in a Lacandon community and hike from there. The INAH team flew me from Tenosique, Tabasco to the landing field in Chiapas. While doing research for my anthropology seminar under Dr Gordon Willey in 1964-1965, I was able to discern that there was a planetary band "hidden" in the wall painting of Structure A-V. That seminar paper I show in Appendix A.

In August 2022 I returned to studying celestial Sky Band motifs. I had a multi-hour surgery by two surgeons and 4 nurses and was told to stay en reposo for an entire month (later extended to 6 weeks recuperation). So I had my bedroom turned into an office, with desks, computer, and stacks of books so I could research Sky Band symbols for an entire month. I snuck out of bed and sat at my desk doing research whenever the caregiver was not in my room.

Research on Patolli Game Boards

My interest in patolli game boards began in 1965 when I excavated an incised patolli game design on a bench at the south end of the palace facing the East Plaza of Tikal. I was a student intern working for the University of Pennsylvania museum project at Tikal all of 1965 (and one month a subsequent year to finish my excavations of the palace on the northwest corner of the Central Acropolis). Earlier in 1965 I had been assigned to excavate, draw, and show in 3-dimensions all the structures on the east side of the North Acropolis which were facing the East Plaza. The back side of this particular palace was physically adjacent to the North Acropolis but the palace was part of the East Plaza. The palace's south end was less than 3 meters from the north side of Temple I, so I also excavated that side of Temple I (discovering a well-preserved inset stairway on the lower terrace of the pyramid supporting Temple I; this helped me identify the identical inset stairway that

I excavated on the east side of Str. 5D-73 several months later). Once I discovered the patolli game board on the bench while clearing the collapsed walls to map the palace, I of course was curious what was the graffiti that I had found. So I started to do research on patolli when I got back to Harvard (I took a year-off from Harvard to work at Tikal; then returned to finish at Harvard and to write my undergraduate thesis on the Tomb of the Jade Jaguar that I found at Tikal in autumn 1965).

Then about 7 or so years later I visited Nakum (while mapping nearby Yaxha) and became interested in helping to preserve the graffiti at Nakum (which showed patolli game boards). I did not discover new ones since our goal at Nakum in 1971 and 1973 was to document the looting in order to encourage that guards be placed at Nakum. I showed a lot of the known and already published patolli at Nakum in my 1992 report. This 1992 report we are putting on-line as a PDF for a download (no cost and you don't have to register: just click and download).

While studying patolli iconography in the 1980's and 1990's, I again noticed that one graffiti at Uaxactun was missing from 90% (or possibly 99%) of lists of Maya patolli game boards. I later released that every article, every monograph on patolli was based primarily on graffiti (and the codices and lianzos of the Post Classic Mixtec and Aztec). While studying graffiti of Mesoamerica I noticed that not one book on graffiti mentioned those of the south wall of Uaxactun Str. A-V. And the reason was because the respected archaeologist who wrote the caption to these designs called them WALL PAINTING. So, no author in the last three-quarter century has included these graffiti in any book or article on graffiti. So the purpose of the present FLAAR report is to show that every scribble on every wall of Structure A-V is a graffiti. It makes no difference whatsoever whether there was painting on top or not (and no photograph shows any such painting; and nothing in the text mentions any painting on the south wall of Room 49). It would help if some motivated student could check the CIW archives at the Peabody Museum, Harvard, to see what field notes say about this room and this wall. But even if there was paint on the wall, 100% of the designs are obviously graffiti (as I already noticed while an undergraduate in 1964-1965).

Rather obviously these “WALL PAINTINGS” are normal typical Maya Graffiti

The “wall paintings” of Uaxactun Str. A-V are shown in Figures 109, 110 (the Sky Band patolli area), 111, 112, 113, 114, and 115.

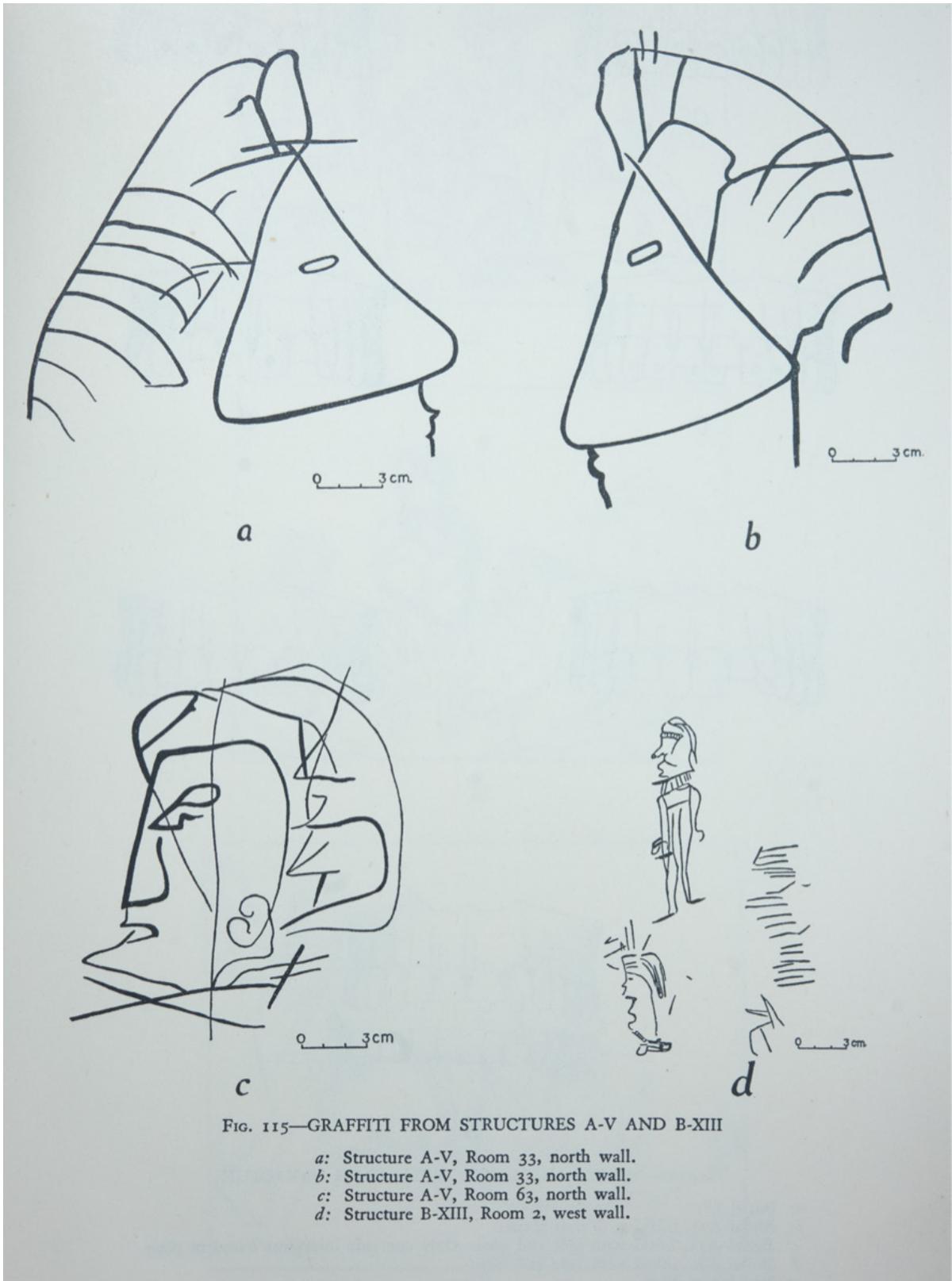


Fig. 115 shows what Smith calls graffiti but these are Room 33, North Wall). These are the same kind of scribbles as on Room 49 that for some as yet unknown reason he calls the Room 49 scribbles WALL PAINTING.



Fig. 114 is also named graffiti by Ledyard Smith, Room 31. Fig 113 are also called GRAFFITI (Str. A-V) from Rooms 19 and 29 (traditional graffiti; no need to show more here; Fig. 114 and 115 are plenty).



FIG. 112—WALL PAINTING FROM STRUCTURE A-V
 Scattered paintings from south wall of Room 49. One third actual size.

All of a sudden the graffiti are no longer named graffiti: they are all called WALL PAINTING... "Scattered paintings". Is Room 49 filled with WALL PAINTINGS? Why did no book on wall paintings of the Classic Maya not show these "wall paintings"?

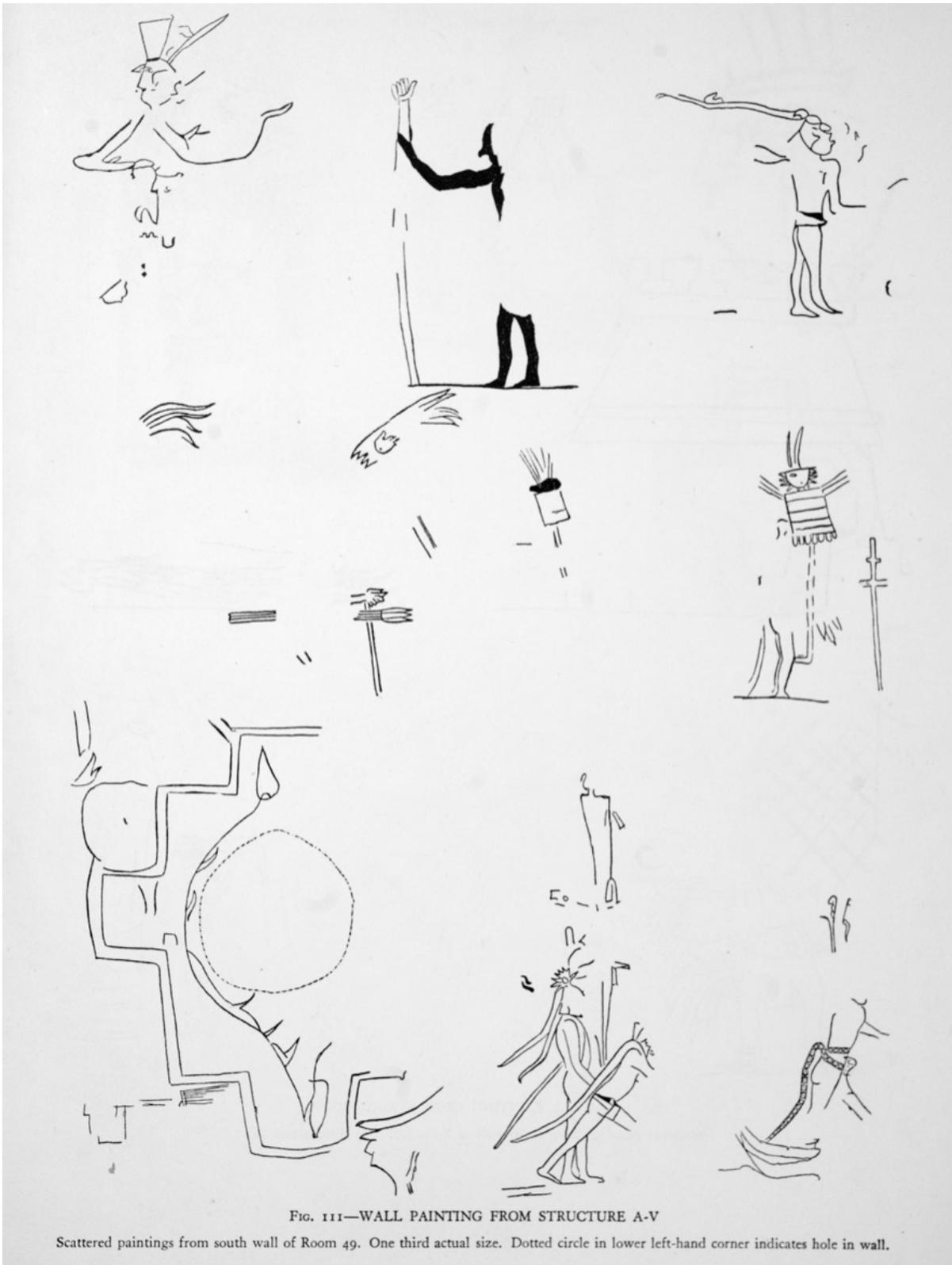


FIG. 111—WALL PAINTING FROM STRUCTURE A-V

Scattered paintings from south wall of Room 49. One third actual size. Dotted circle in lower left-hand corner indicates hole in wall.

Again, "WALL PAINTING"...Scattered paintings...Yet not one of these segments is by "a painter." These are all scribbles; these are all normal Late Classic Maya graffiti, just like on walls of temples and palaces of Tikal, Nakum and everywhere else. These are graffiti, not wall paintings (even if there is paint on them, call them painted graffiti, or, graffiti with paint brushes (if they were not incised into the plaster).

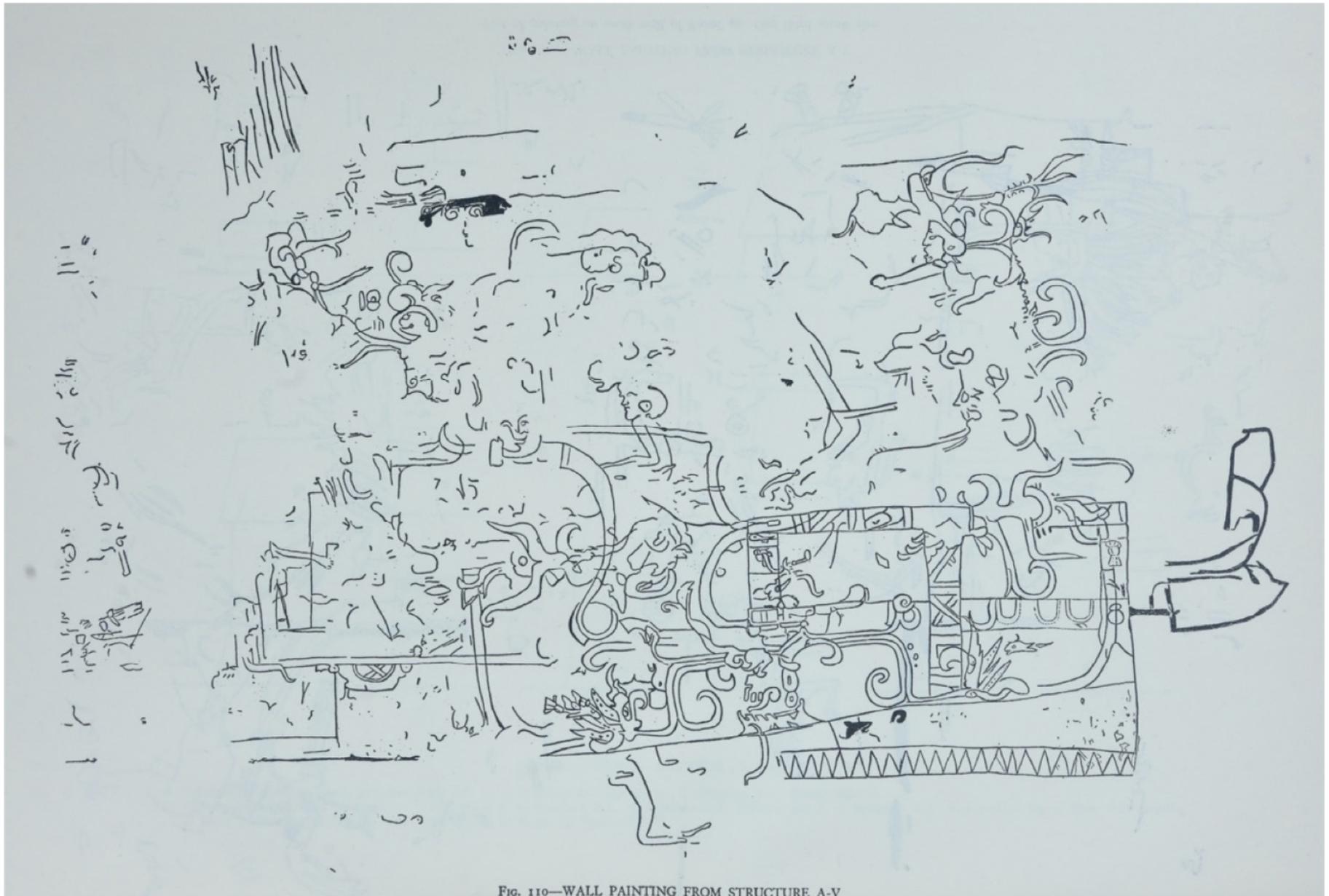
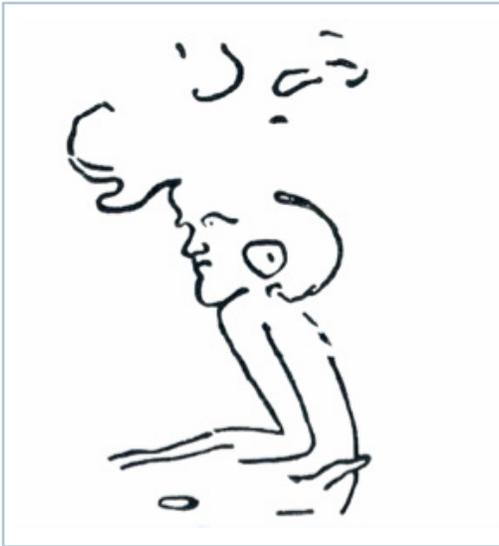


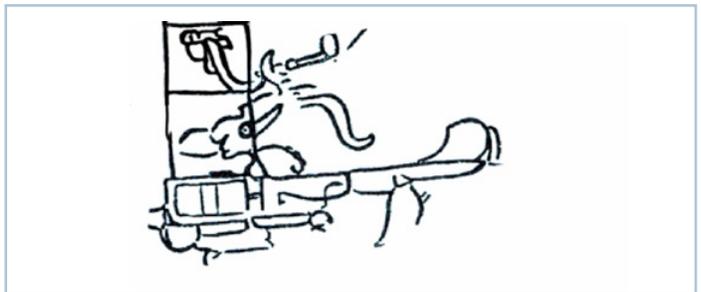
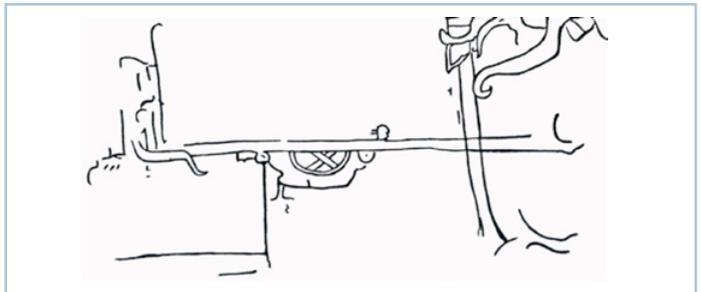
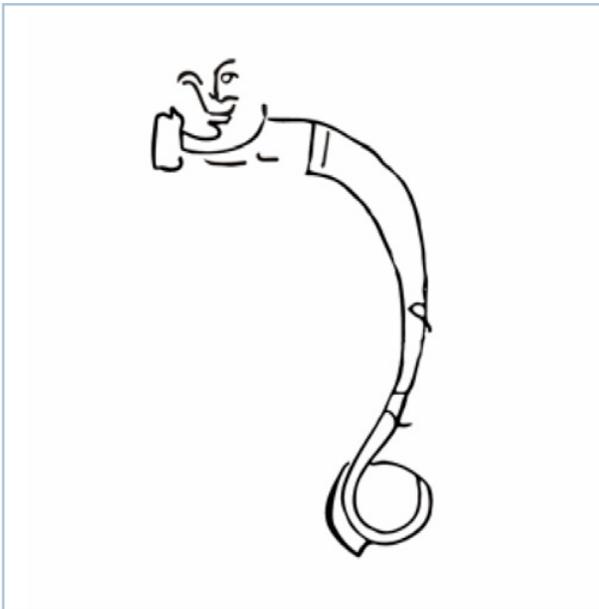
FIG. 110—WALL PAINTING FROM STRUCTURE A-V

This is the "WALL PAINTING" that has the obvious rectangular patolli game board.

This is the "WALL PAINTING" that has the obvious Sky Band motifs on the patolli game board. It is obviously a graffiti (whether or not it was painted is irrelevant; just call it a painted graffiti if there really was paint).



Antonieta Cajas pulled these out from the splitter-splatter of Structure A-V, Room 49, so you could see individual graffiti segments.



Antonieta Cajas pulled these out from the splitter-splatter so you could see individual graffiti segments.

Returning to the Patolli part of the Uaxactun Str. A-V Graffiti

Several decades later Antonieta Cajas expressed an interest in a thesis or dissertation topic, so I suggested patolli graffiti from Maya and Teotihuacan. I turned over to her all my notes and concepts of patolli. She then wrote up a helpful bibliography and put together lots of patolli from around Mesoamerica. FLAAR published this as a PDF in 2009.

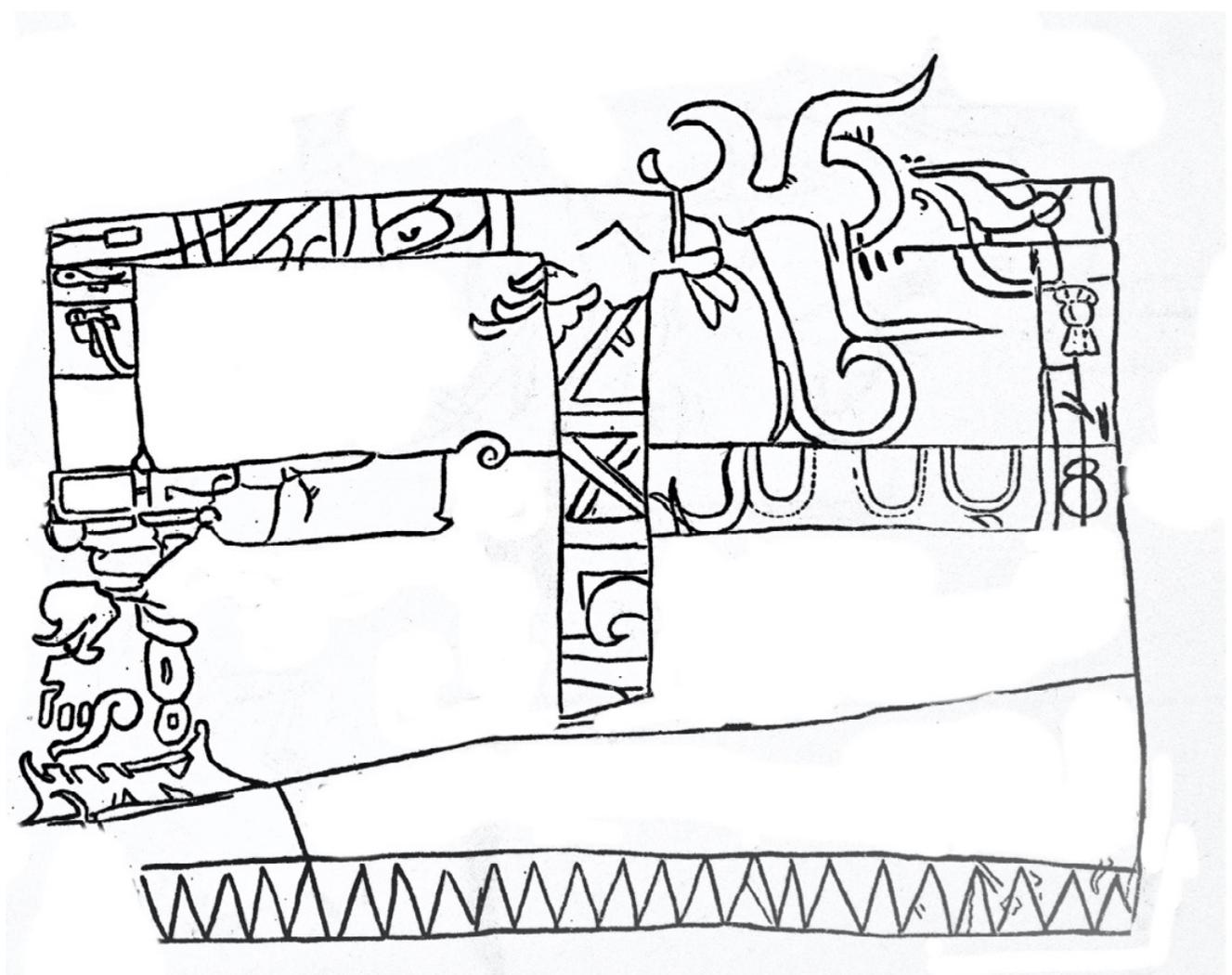
Since patolli boards are among the most common graffiti in the Mayan sites, and since so many thrones, benches, floors, and walls are being uncovered by archaeologists, I felt it could be helpful to provide everyone with an introductory bibliography on patolli game boards. So in 2019 I updated this bibliography.

My primary interest are patolli from Maya sites and Teotihuacan. But in this bibliography we also include basic coverage of Post Classic patolli from outside the Mayan-speaking areas (and from sites other than Teotihuacan). I am surprised at how few patolli designs are found at El Tajin.

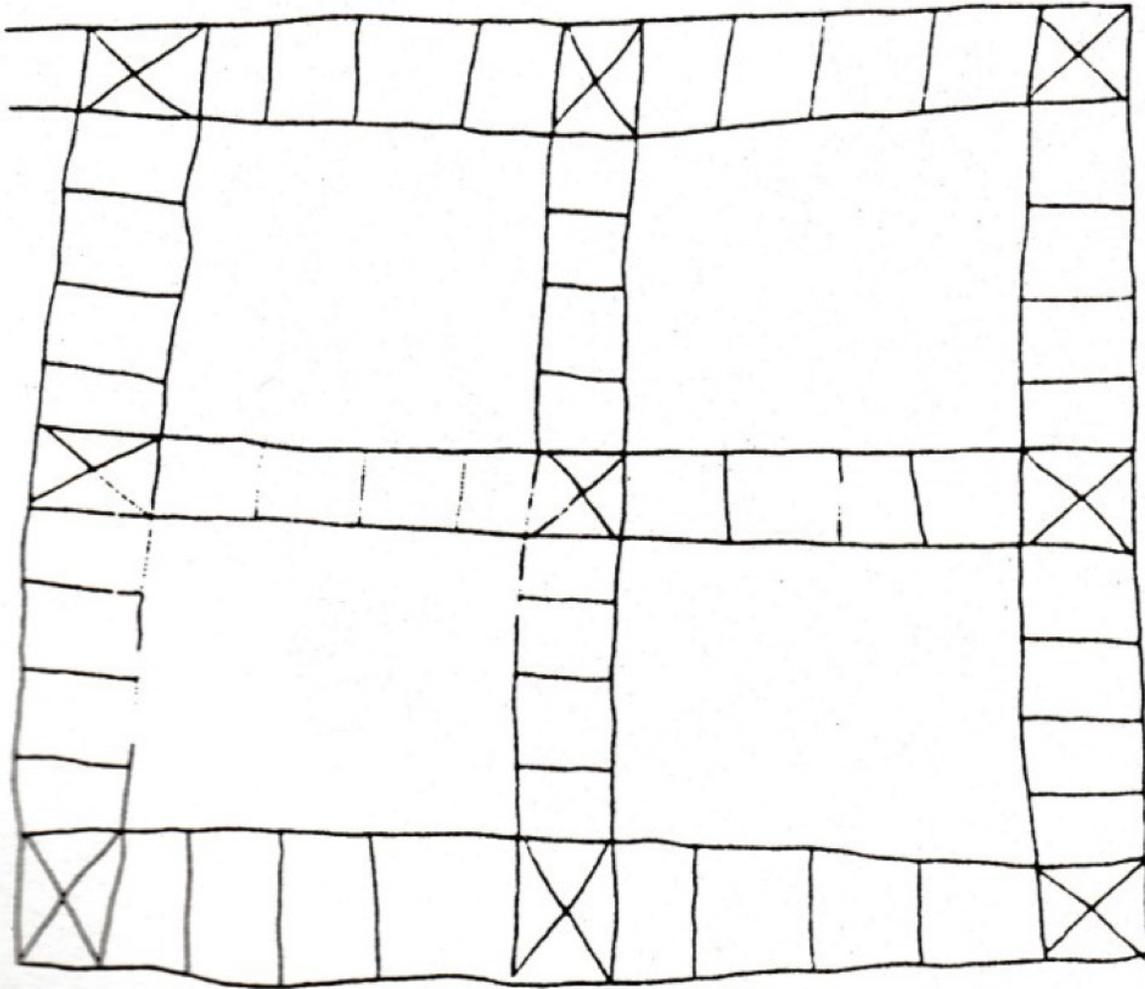
One of the more complex graffiti of Uaxactun, discovered and published by the Carnegie Institution of Washington, shows a patolli-like board (game layout) with features of the Sky Band. Since the Sky Band is often depicted as a celestial serpent looking down at our world, the combination of the game layout with sky-band symbols is fitting to our knowledge of both the patolli and Maya astrology.

Swezey has already long ago shown that there were 52 positions to a player's steps in a patolli game. And he has already suggested a cosmological relationship. Plus one of the patolli game boards he shows has the tail of a snake sticking off each side.

What is notable, however, is that his excellent research on the patolli game totally missed this Uaxactun example. I first noticed it in the 1965 for my student seminar paper and then again in the 1970's while doing background research on the patolli boards at Nakum (during field work at nearby Yaxha, FLAAR did a preliminary update on the earlier map of Nakum by Tozzer).



A challenge to tell whether the patolli game board inscriber gave up (and thus did the bottom row as VVVVVVVVVVVVVV. Or whether he or a friend decided to put the water lily monster in one side. Uaxactun Str. A-V, Room 49, south wall. The design was pulled out of the graffiti by Nicholas Hellmuth and digitally by Norma Cho.

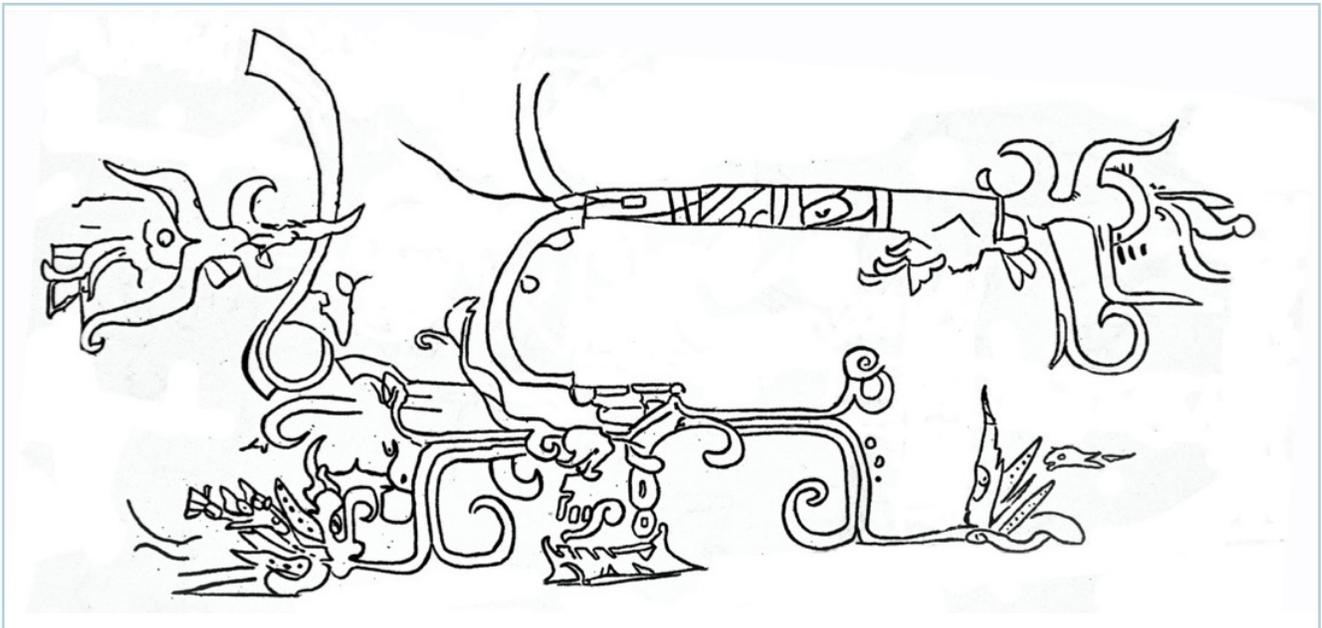


Dozens of Patolli game boards have an X at each intersection; but they are an X (so closer to Etz'nab but since not zig-zag lines; unlikely to be Etz'nab). In the patolli game board at Uaxactun, the cross in the middle is the crossed bands motif of 90% of Sky Bands (which are traditionally in a straight band, or circular around the inside of a ceramic plate). Sky Bands at Palenque are often rectangular on wall segments between doors of the palace or Temple of the Inscriptions. But at Palenque they are all the outside of the rectangle: no patolli cross band in the middle whatsoever. But surely someday an archaeologist will uncover another patolli game board with celestial symbols.

Since the Sky Band features are obvious in this graffito at Uaxactun, I hope that other iconographers have noticed it in recent decades (since we have published it several times and given public lectures featuring this Uaxactun sky band patolli board).

So far this patolli game board has never been mentioned in discussions of the game, yet it was found at Uaxactun and has been in print for decades. There is no identification of it as a potential patolli board in the caption (Smith 1950: fig. 110) nor any description in the brief mention of Room 49 (p. 35). I noticed it was a probable sky-band patolli board decades ago, and as long as I am describing the Sky Band motifs within the upper part of the patolli, now is a good time to get this identification into print.

The main reason why the Uaxactun patolli frame was not noticed and hence not cited in any of the inventories of the patolli is because the overall design is a spaghetti of confusing overlapping lines so typical of Maya walls. Therefore, I have taken the effort to pull out each element to make the design(s) meaningful, since there is also another major Maya iconographic cluster present, the common theme of water lilies sprouting from a death skull. It is also possible that this skull doubles as the trunk head of a possible tree, though that may be coincidental to being at the corner of a patolli board. We do not know if the left section of the patolli was intended to pun a tree trunk or not. The water lily deity skull, though, is not punned, it is shown explicitly.



In my PhD dissertation I show drawings of endless numbers of profile deity heads that serve as “trunk” and/or roots of meandering water lily stems. Although most *Nymphaea ampla* grow in shallow water at the edge of rivers, lakes, and lagoons, we found an area of Peten where the same species grows almost two meters below the surface. That’s because in this one stream (Arroyo Pucte) the water is crystal clear so the sun reaches all the way to the bottom. So when seeds sprout out in the middle of this stream the stems grow over a meter long. I have dedicated many week-long field trips to studying wild native water lilies of Izabal, Peten, and the swamps and marshes parallel to the Pacific Ocean inland from Monterrico. We have the largest photo archive in the world of digital photos of *Nymphaea ampla*: seed pods, buds, stems, flowers in every stage from bursting open, to mature, to fading (and letting the seed pods start). Based on all these years of field trips in biodiverse areas of Guatemala we know what features of *Nymphaea ampla* the Classic Maya artists were showing.

Norma Cho helped separate the water lily aspects of the spaghetti of graffiti of south wall of Room 49, Structure A-V (Smith 1950: Fig. 110).

Whereas the Swezey and Bittman report covers virtually all graffiti known one remarkable specimen at Teotihuacan was probably not widely known in time for them to see it (Sánchez 1982: 237). I classify it as a patolli board (or more accurately, as a serpent pun on a patolli board) due to its rectangular sections and especially the turn-out at each corner. Such turn-outs are precisely what are known from Type I board patterns, known especially from codices, from Teotihuacan, and a variant from Maya sites of the Rio Usumacinta area.

Concluding Discussion

Lots of patolli game boards are round, especially at Teotihuacan, but also elsewhere. Is this round shape an astrological concept?

Any patolli game board that has interwoven paths is obviously a play on the body of snakes. Although snake underside scales are narrow and not rectangular, the snake aspect is clear.

Since the Cosmic Monster may attempt to frighten you like a crocodile (or composite viper and crocodile), we need to look at the underbody scale pattern of a crocodile. But since lots of Cosmic Monsters have traditional sky bands as their body, if a Cosmic Monster is a monstrous snake, then the sky band may also have been kind of automatically, intrinsically been considered as synonymous to a snake.

Very clearly “all patolli game boards are not presented as snakes.” But one patolli game board at Teotihuacan is a pure Mesoamerican snake. And the other patolli-snake even has the rattles at the end.

The Uaxactun Str. V patolli game board is not a snake. But I see the monster deity head at the left corner (I estimate that all the curls that wander across the board are from the water lily design and tree design that I estimate were incised on top of the board).

But now that we see an obvious traditional patolli game board layout: rectangular and X-mark at intersection. This obvious patolli game board has obvious traditional Sky Band symbols. Having had my eyes scanning thousands of pages of books and reports on iconography, I can notice both this Sky Band (and a patolli board). We have a full-time student who finds all the reports I need to read. The student downloads PDFs 5 to 8 hours a day (six students in the recent six years, one helpfully comes in when the previous one graduates). I have about 13,000 downloads (though most are on flora, fauna and ecosystems, many thousand are on Maya archaeology. Plus in-house library, plus one to two thousand books that we loaned to the MPV-UFM over 30 years ago. Plus over 11,000 books at the Fundacion La Ruta Maya (since it's easier for students to go to those two locations as we don't have personnel to handle requests in-house). Lots of professors have even more, and their university libraries are 1000x larger than ours, but what we have keeps me busy reading up to 10 to 12 hour a day (when not out on field trips in the Reserva de la Biosfera Maya looking for savannas not previously studied or photographed).

Appendix A

Recognition in 1965 of the Patolli Game Board at Uaxactun, Str. A-V

In 1965 Professor Gordon Willey, Dept. of Anthropology, allowed me to attend a graduate level seminar even though in 1965 I was only an undergraduate. But he was aware that I had been at Palenque in 1961 (to write my high school thesis on Maya architecture) and that in 1963 I was a student intern at Bonampak and in 1965 was continuing to visit and photograph lots of Classic Maya sites. I had a photo exhibit of my several months of photography of Classic Maya architecture at Winthrop House (part of the Harvard campus) circa 1963 or 1964. This seminar paper is the first time that the "painted wall designs" of Uaxactun Str. V were recognized as being graffiti. All archaeologists thought they were "painted wall designs" because that is what Ledyard Smith called them in 1950 (based on his 1930's field work at Uaxactun).

Plus, 1965 is the first time a game board was recognized (by an 18-year old under-graduate student). This patolli game board was never "seen" by any of the authors of books and articles on patolli game boards. That is why today, in 2022, while I am studying Sky Band iconography, I wish to show the timeline for recognition of this game board.

Here are copy-and-paste from my 1965 seminar paper (we are publishing the entire 100+ page report the same week that we publish the Uaxactun Sky Band patolli game board).

Another common design on walls and floors is what might be a form of game board. Similar designs are found throughout the Maya area, and also in non-Maya parts of Mexico. Basically it consists in one large square divided into quadrants (figs. 10, 11). Each of the divisions itself is formed from squares. Various authors have commented on the possible significance of this game but none have equated it to an astronomic diagram. As of yet I do not have enough examples to conjecture whether the number of squares had any significance. Nine and thirteen are the only numbers which fit the two designs shown. This is the number of squares forming a cross-piece. It may be purely coincidental. The true significance of this graffiti type is illustrated in an example from Room 49 of Structure A-V at Uaxactun. Amid the various other designs a clear example of this form appears. Except here, instead of squares THERE IS A PLANETARY BAND. This is a familiar Mayan motif. A good example of it is found on two sides of the sarcophagus cover at Palenque. This design usually appears only in highly symbolic locations, such as the tomb of the priest-ruler of Palenque. This might pass unnoticed were it not for another possible example from Tikal (Maler: 1911: fig. 10). Here is the top part of this game, nine connected squares in a row. Sun and other astronomic signs fill some of these squares. Fitting in with the astronomical explanation of this game is its possible connection with the ball court. Tozzer mentions that an identical design, plain squares, appears on p. 19 of the "Tonalamatl Aubin" in connection with the god Xochiquetzal and a ball court. As will be seen in the section on Copan, the ball court was connected with the sky and the four cardinal directions.

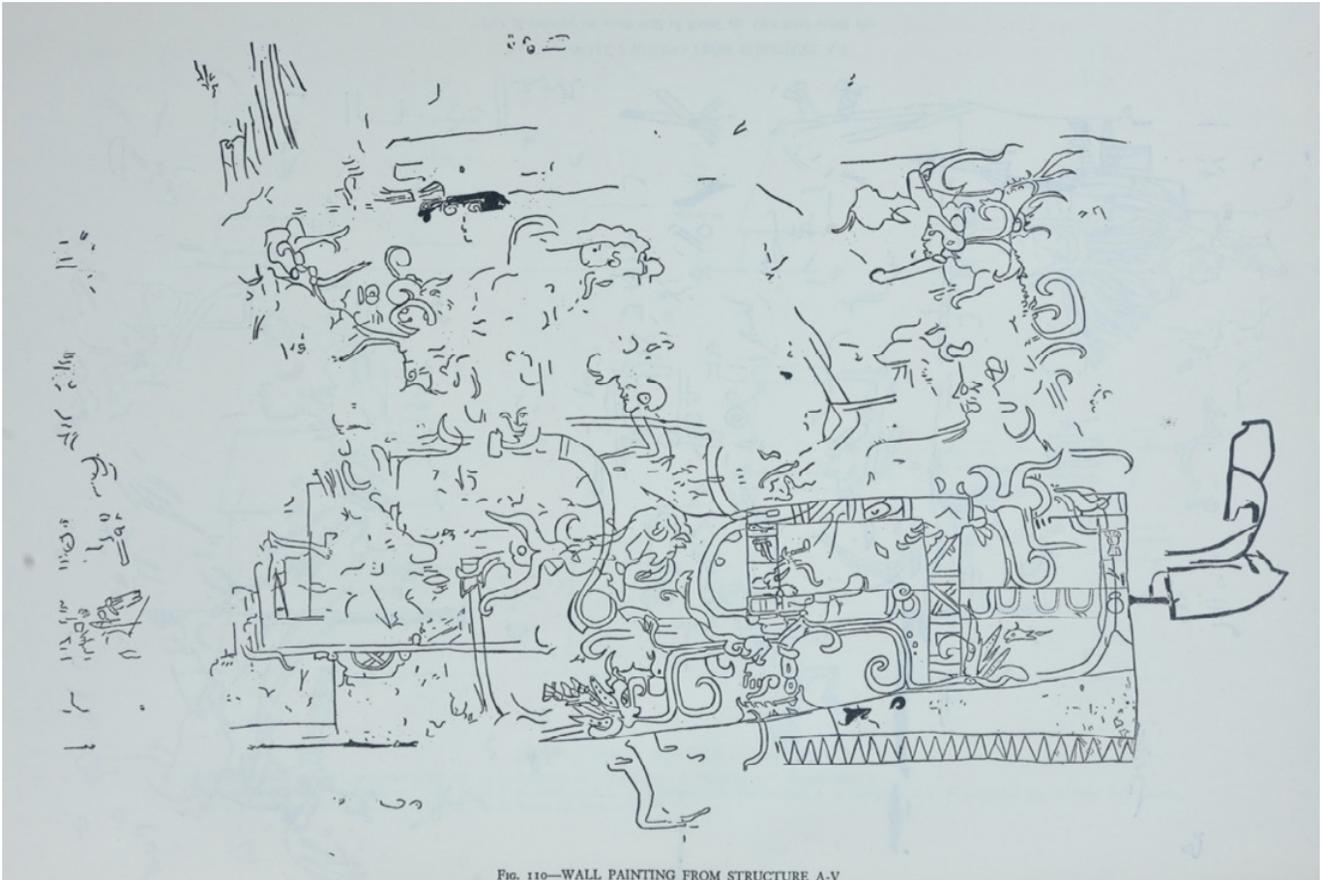


Fig. 11 in the 1965 seminar paper. So 1965 is the first time this was recognized as a graffiti (because Smith said it was a WALL PAINTING).

Comment by Nicholas today, 2022: Note that I was so happy to have found a Sky Band that I put it in ALL CAPS: "here, instead of squares THERE IS A PLANETARY BAND." I had been to Palenque in 1961 while a junior in high school and in those days you could walk down the entire interior stairway of the Temple of the Inscriptions and peer directly into the tomb chamber of Pakal (that stairway has been closed to visitors now for years). And as a student at Harvard I had access to the entire Tozzer Library in the Peabody Museum; so I could find lots of Sky Bands in the art of Palenque. Curiously, I did not return to study Sky Band iconography until August 2022.

Appendix B

My comments on the Uaxactun Patolli game board in 1992 report on Nakum

Here are my observations from studying graffiti at Nakum in 1973, which led me to notice that Patolli was hidden in a Uaxactun graffito in 1992 report on Nakum to IDAEH

One patolli game board has never been mentioned in discussions of the game, yet it was found at Uaxactun and has been in print for decades. There is no identification of it as a potential patolli board in the caption (Smith 1950: fig. 110) nor any description in the brief mention of Room 49 (p. 35). I noticed it was a probable sky-band patolli board decades ago, and as long as I am describing the patolli of Nakum, now is a good time to get this identification into print.

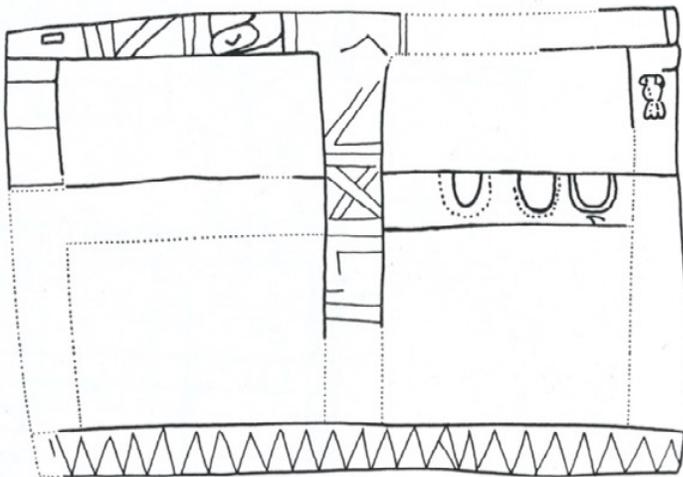
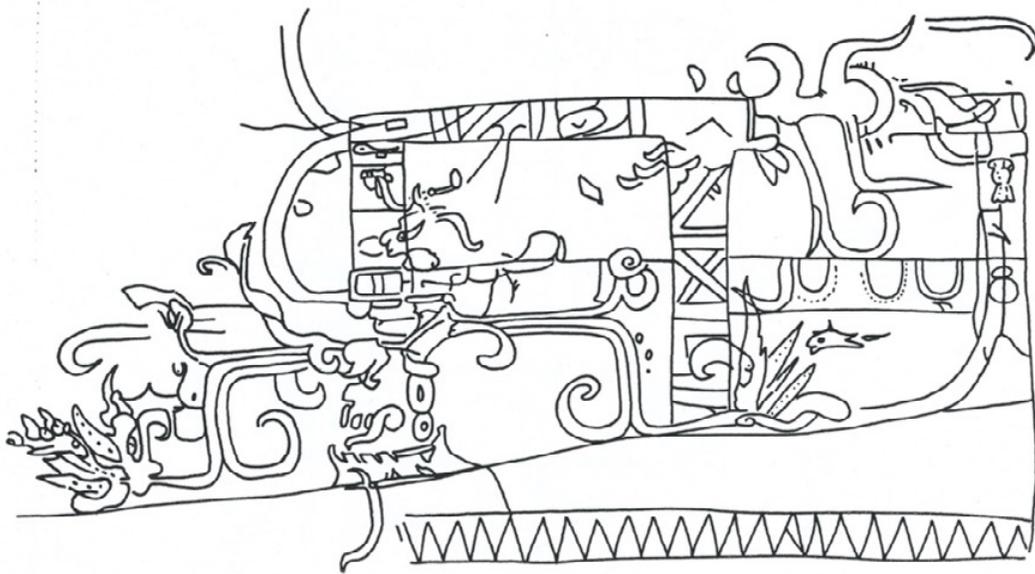
The main reason why the Uaxactun patolli frame was not noticed and hence not cited in any of the inventories of the patolli is because the overall design is a spaghetti of confusing overlapping lines so typical of Maya walls. Therefore, I have taken the effort to pull out each element to make the design(s) meaningful, since there is also another major Maya iconographic cluster present, the common theme of water lilies sprouting from a death skull. It is also possible that this skull doubles as the trunk head of a possible tree, though that may be coincidental to being at the corner of a patolli board. We do not know if the left section of the patolli was intended to pun a tree trunk or not. The water lily skull, though, is not punned, it is shown explicitly.

The units of a typical Maya sky band are comparable in size and shape to the unit of any patolli game board. The X-mark at the transect of paths may well be a pun on the crossed-bands sky symbol, indeed the Uaxactun sky band board has a crossed band in this position. Normally this mark is reduced or simplified to a mere X-mark, such as a Seibal, altar in front of Stela 10. The Nakum fig. 49,e board leads me to suspect that it is probable that X-marks were intended to be placed at all intersections. This prediction is borne out in the game board of Xunantunich, Belize (Swezey and Bittman 1983: fig. 10, b reproduced from Mackie). Indeed, two Tikal patolli boards have X's at all intersections; a third has X's would have been intended for all intersections. This seems to have been a rule, though there were evidently variants of game play, just as in size and shape of the boards.

With all the current scholarly attention towards cosmic iconography of the ancient Maya it would be interesting if in fact the patolli game board turned out to be an astronomical, astrological arrangement.

Overall this Uaxactun graffito is one of the most wonderful that has come down to us. It includes many themes known elsewhere only from funerary pottery. An astute iconographer of a future generation should be able to detect other themes hidden within the remains recorded by the Carnegie archaeologists.

Whereas the Swezey and Bittman report covers virtually all graffiti known, one remarkable specimen at Teotihuacan was probably not widely known in time for them to see it (Sánchez 1982: 237). I classify it as a patolli board (or more accurately, as a serpent pun on a patolli board) due to its rectangular sections and especially the turn-out at each corner. Such turn-outs are precisely what are known from Type I board patterns, known especially from codices, from Teotihuacan, and a variant from Maya sites of the Rio Usumacinta area.



From year 1992 FLAAR Report.

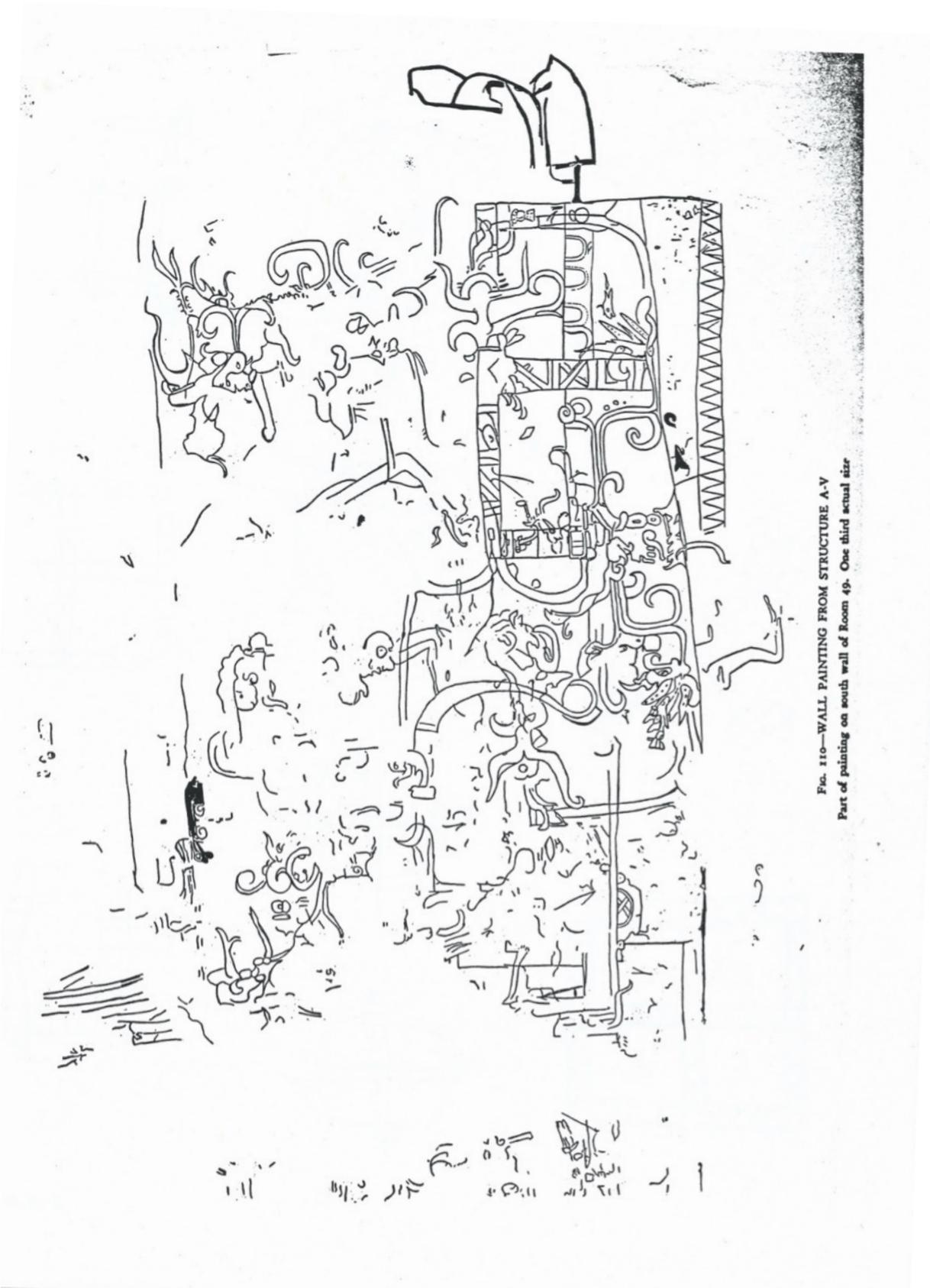


FIG. 110—WALL PAINTING FROM STRUCTURE A-V
Part of painting on south wall of Room 49. One third actual size

Uaxactun, Structure A-V, Cuarto 49 (Hellmuth 1992).

References Cited and Bibliography on Patolli Game Boards

There are probably lots of other reports and web pages on patolli, but the following bibliography can get you started. This bibliography was initiated circa 2009 by Cajas and Hellmuth and updated in 2018 by Marcella Sarti.

ACOSTA, Jorge

1960 La doceava temporada de exploraciones en Tula, Hidalgo. *Anales del Instituto Nacional de Antropología e Historia* 13.

AIMERS, James

2007 What Maya Collapse? Terminal Classic Variation in the Maya Lowlands. *Journal of Archaeological Research*, Vol. 15, No. 4, Pages 329-377.

Sold online: <https://link.springer.com/article/10.1007/s10814-007-9015-x>

ANDREWS, George

1980 Architectural Graffiti and the Maya Elite. University of Oregon. 86 pages.

Available online: <https://repositories.lib.utexas.edu/bitstream/handle/2152/15511/txu-aaa-gfa00359.pdf>

AVENI, Anthony F. and Horst HARTUNG

The Cross Petroglyph: An Ancient Mesoamerican Astronomical and Calendrical Symbol. Pp. 37-54.

www.iai.spk-berlin.de/fileadmin/dokumentenbibliothek/Indiana/Indiana_6/IND_o6_Aveni_Hartung.pdf

AVENI, Anthony F.

2005 Observations on the pecked designs and other figures carved on the South platform of the pyramid of the Sun at Teotihuacan. *Journal for the History of Astronomy* (ISSN 0021-8286), Vol. 36, Part 1, No. 122, p. 31 - 47

<http://adsbit.harvard.edu/full/seri/JHA../0036//0000047.000.html>

BEALS, Ralph L. and Pedro CARRASCO

1944 Games of the Mountain Tarascans. *American Anthropologist*. Vol. 46, No. 4. Pages 516-522.

Sold online: https://www.jstor.org/stable/663534?seq=1#page_scan_tab_contents

BERDAN, F. F. and P. R. ANAWALT

1997 *The essential Codex Mendoza*. University of California Press.

CASO, Alfonso

1924 Un Antiguo Juego Mexicano: El Patolli. *EL Mexico Antiguo*, Vol. 2. Pages 203-211.

CHAVERO, Alfredo

1888 Mexico a través de los Siglos. Historia Antigua y de la conquista. Ballescá y Compañía, Mexico.

Several reprints available on-line.

CHRISTENSON, Allen J.

2007 Popol Vuh: Sacred Book of the Quiché Maya People. Translation and Commentary by Allen J. Christenson.

This is one of the five best translations of the Popol Vuh. One of the best two English translations.

Electronic version of original 2003 publication.

Mesoweb: www.mesoweb.com/publications/Christenson/PopolVuh.pdf.

DEBOER, Warren

2001 Of Dice and Women: gambling and exchange in native North America. *Journal of Archaeological Method and Theory*. Vol. 8, No. 3. Pages 215-268.

Sold online: https://www.jstor.org/stable/20177442?seq=1#page_scan_tab_contents

DE LA GARZA, Mercedes and Ana IZQUIERDO

1980 El Ullamalitzli en el siglo XVI. *Estudios de cultura Náhuatl*. No. 14. Pages 315-333.

Available online:

www.historicas.unam.mx/publicaciones/revistas/nahuatl/pdf/ecn14/213.pdf

DEPAULIS, Thierry

2018 Ancient American Board Games, I: From Teotihuacan to the Great Plains. *Board Game Studies Journal* 12, pp. 29–55.

www.degruyter.com/downloadpdf/j/bgs.2018.12.issue-1/bgs-2018-0002/bgs-2018-0002.pdf

Also available:

https://www.academia.edu/38013315/Ancient_American_Board_Games_I_From_Teotihuacan_to_the_Great_Plains

DURAN, Diego

1560 Historia de las Indias de Nueva España e Islas de Tierra Firme.

DUVERGER, C.

1978 *L'esprit du jeu chez les Aztèques*. Mouton, Paris.

ERASMUS, Charles John

1950 Patolli, Pachisi, and the Limitation of Possibilities. *Southwestern Journal of Anthropology*. Vol. 6. Pages 369-387.

Sold online: https://www.jstor.org/stable/3628563?seq=1#page_scan_tab_contents

EUAN, Canul, MARTÍN, Ana and Pilar ASENSIO

2005 Graffiti en el Grupo de la Serie Inicial: La Estructura 5C35, Chichen Itzá, Yucatán, México. *En XVIII Simposio de Investigaciones Arqueológicas en Guatemala, 2004*. Museo Nacional de Arqueología y Etnología. Pages.856-866.

Available online: http://www.famsi.org/reports/03101es/82euan_canul/82euan_canul.pdf

GALLEGOS, Miriam

1994 Un patolli prehispánico en Calakmul Campeche. *Revista Española de Antropología Americana*. Vol. 24. Pages 9-24.

Available online: <http://revistas.ucm.es/index.php/REAA/article/view/REAA9494110009A/24268>

GRAZIOSO, Liwy

1995 Cruz punteada en el Grupo 5 de Teotihuacan. En VIII Simposio de Investigaciones Arqueológicas en Guatemala. Museo Nacional de Arqueología y Etnología, Guatemala. Pages 381-391.

Available online: [http://www.asociaciontikal.com/wp-content/uploads/2016/11/29.94 - Liwy.pdf](http://www.asociaciontikal.com/wp-content/uploads/2016/11/29.94_Liwy.pdf)

HELLMUTH, Nicholas M.

1965 Cosmology, especially Concepts of Space, Manifested in the Ceremonial Centers of the Classic Maya of the Peten. Seminar paper for Harvard University, *Anthropology* 260, 21 Jan. 1965. 76 pages plus 31 pages of illustrations.

HELLMUTH, Nicholas

1992 A Report to IDAEH on Four Days Research at Nakum which was dedicated to improving the site map and recording information on the looting which increased in the 1970's due to lack of guardians at Nakum in those years. FLAAR.

HELLMUTH, Nicholas and Antonieta CAJAS

2009 El Patolli: Juego prehispánico practicado en Mesoamerica. Breve resena bibliografica sobre las connotaciones del juego y sus evidencias en el area Maya.

Introduction: Hellmuth

Bibliography: Cajas and Hellmuth

As you can see from the date of 2009, Hellmuth and Cajas have been working on patolli game boards for over a decade.

HERMES, Bernad, OLKO, Justyna and Jaroslaw ZRALKA

2001 En los confines del arte. Los *graffiti* de Nakum (Petén, Guatemala) y su contexto arquitectónico, arqueológico e iconográfico. Anales del Instituto de Investigaciones Estéticas. Vol. XXVIII. No. 79.

Available online: <http://www.analesiie.unam.mx/index.php/analesiie/article/view/2094/2890>

HERMES, Bernard, OLKO, Justyna and Jaroslaw ZRALKA

2002 Entre el arte elitista y el arte popular: los graffiti de Nakum, Petén, Guatemala. Mexican. Vol. 24, No. 6. Pages 123-132.

Sold online: www.jstor.org/stable/23759789?seq=1#page_scan_tab_contents

It would help if scholars make their articles available at no cost and without requiring the reader to register and send personal information.

HERMES, Bernard and Jaroslaw ZRALKA

2012 Nakum and Yaxha during the terminal classic period external relations and strategies of survival at the time of the collapse. Contributions in New World Archaeology. Vol. 4. Pages 175-204.

Available online: https://www.researchgate.net/publication/272789939_Nakum_and_Yaxha_during_the_Terminal_Classic_period_External_relations_and_strategies_of_survival_at_the_time_of_the_collapse

HOEBEL, E. A.

1966 Anthropology: the study of man. 3rd edition. University of Minnesota.

Page 76 claims "... the diffusion of the ancient East Indian game of pachisi into prehistoric America, where it appeared among the Aztecs as patolli and in various other forms among other Indians." (www.revolvy.com/page/Patolli). But...where is the evidence by Hoebel for how the game got from India to the Aztecs (seems that all these authors are totally unaware that patolli was also played by the Maya and the Teotihuacans a thousand years before the Aztecs inherited this game from the Toltecs).

Sold online: <https://www.amazon.com/Antropology-Study-Third-Adamson-Hoebel/dp/B0012KHOoQ>

HOHMANN, Hasso

1987 A Patolli Design at Becan, Campeche. Mexican, Vol. IX, No.3 Page 56.

Sold online: https://www.jstor.org/stable/23758654?seq=1#page_scan_tab_contents

KAMPEN, Michael

1978 The Graffiti of Tikal, Guatemala. Estudios de Cultura Maya. No. 6. Pages 155- 180.

Available online: <https://revistas-filologicas.unam.mx/estudios-cultura-maya/index.php/ecm/article/view/511/506>

KENDALL, Timothy

1983 Patolli, a game of ancient Mexico. Kirk game. 49 pages.

KELLY, David and Eugene MILONE

2005 Exploring ancient skies, an encyclopedic survey of archaeoastronomy. Springer. 612 pages.

Sold online: <https://www.springer.com/us/book/9780387263564>

Excessive price by a publisher, commercializing the many years hard work of scholars. Because of the ridiculous price we do not have this book in our library, nor do we have a PDF. It would be worth checking to see whether they recognized the planetary band aspects of certain patolli game boards.

In 2011 this book was "corrected" and republished:

KELLY, David H. and Eugene F. MILONE

2011 Exploring Ancient Skies, A Survey of Ancient and Cultural Astronomy. Springer. 614 pages.

Again, would be curious to see to what degree patolli is mentioned here.

KOVÁČ, Milan

2010 Excavaciones en "La casa de las pinturas". En: excavaciones en el Petén Noreste – Tz'ibatnah I. SAHI. Pages 34-83.

KOVÁČ, Milan

2012 Grafitos de Tz'ibatnah: el arte maya extraoficial del Petén Noreste. En XXV Simposio de Investigaciones Arqueológicas en Guatemala. Pages 196-206.

Available online: http://www.asociaciontikal.com/wp-content/uploads/2017/03/017_Kovac_2.pdf

LÓPEZ de Gomara, Francisco

1552 Historia General de las Indias y la Conquista de México y de la Nueva España.

www.cervantesvirtual.com/servlet/SirveObras/02588400888014428632268/index.htm

LÓPEZ, Roberto

1992 Excavaciones en el Grupo Coral y algunas relaciones internas con otros grupos tardíos en Nakbe, Petén. En V Simposio de Investigaciones Arqueológicas en Guatemala.

LOWE, Robert H.

1951 Some problems of geographical distribution. Pages 11-26 in *Südseestudien: Gedenkschrift zur Erinnerung an Felix Speiser*. Basel: Museum für Völkerkunde, und Schweizerischen Museum für Volkskunde.

On page 13 mentions patolli and pachisi, cited by Sorenson and Johannessen (2004: 2).

MAFFIE, James

2014 *Aztec Philosophy: Understanding a World in Motion*. University Press of Colorado.

Patolli is discussed on several pages.

MAGNI, Caterina

2014 El sistema de pensamiento olmeca, México: originalidad y especificidades. El código glífico y el lenguaje corporal. Cuicuilco. No. 60. Pages 9-44.

Available online: <http://www.redalyc.org/pdf/351/35132801002.pdf>

MATEOS-Higuera, Salvador

1930 Breve monografía y reglas del "Patolli", juego precortesiano. A. Mijares y Hno. México. 46 pages.

MILBRATH, Susan

1999 *Star gods of the Maya: astronomy in art, folklore, and calendars*. University of Texas Press.

MOUNTJOY, Joseph

1985 An archaeological Patolli from Tomatlan, Jalisco, México. Contributions to the archaeology and ethnohistory of Greater Mesoamerica. William J. Folan, ed. Southern Illinois University Press. Pages 240-262.

MOUNTJOY, Joseph

1987 Antiquity, Interpretation, and Stylistic Evolution of Petroglyphs in West Mexico. *American Antiquity*, Vol. 52, No. Pages 161-174.

Sold online: www.jstor.org/stable/281067?seq=1#page_scan_tab_contents

MARTÍNEZ-Solórzano, Manuel

1903 Relación de las ceremonias y ritos y población y gobierno de los indios la Provincia de Michoacán. 412 pages.

Available online: <https://archive.org/details/relaciondelasceosolgoog>

PATROIS, Julie and Philippe NONDEDEO

2009 Los grafitos mayas prehispánicos en la micro-región de Río Bec (Campeche, México). Pages 7-37 in *Los grafitos mayas: cuadernos de arquitectura y arqueología maya*. Universitat politècnica de València.

SANCHEZ SANCHEZ, Jesús E.

1982 El conjunto NW del Rio San Juan. In Memoria del Proyecto Arqueológico Teotihuacan 80-82 (R. Cabrera Castro, I Rodríguez G., and N. Morelos G., eds.) Vol. I, pp. 227-246, INAH, México City.

SAHAGUN, Bernardino de

1540-1585 Historia general de las cosas de la Nueva España.

Available online: http://cdigital.dgb.uanl.mx/la/1080012524_C/1080012524_T1/1080012524_MA.PDF

SANCHEZ SANCHEZ, Jesús E.

1982 El conjunto NW del Rio San Juan. In Memoria del Proyecto Arqueológico Teotihuacan 80-82 (R. Cabrera Castro, I Rodríguez G., and N. Morelos G., eds.) Vol. I, pp. 227-246, INAH, México City.

SANDOVAL, Carlos

2004 Juegos y juguetes tradicionales en Jalisco. Secretaría de Cultura, Gobierno del Estado de Jalisco. 218 pages.

Available online: <https://sc.jalisco.gob.mx/sites/sc.jalisco.gob.mx/files/06juegosyj.pdf>

SCHELE, Elaine

2012 The untold story of Alberto Ruz Lhuillier and his archeological excavations at Palenque, México: a micro- and macrohistorical approach. University of Texas at Austin. 441 pages.

Available online: <https://repositories.lib.utexas.edu/handle/2152/22254>

p. 154 mentions one patolli design and Fig. 7.7 on page 305 shows this basic patolli design, with exaggeratedly Mayan head deformation in the center of each of the four interior quarters.

SEJOURNE, Laretta

1959 Un Palacio en la ciudad de los dioses. INAH. Mexico, D.F.

SMITH, Ledyard

1950 Uaxactún, Guatemala: excavations of 1931-1937. Carnegie Institution of Washington. No. 588. 108 pages.

SMITH, Ledyard

1977 Patolli at the ruins of Seibal. Social process in Maya prehistory. Academic Press. Pages 349-363.

STEWART, Culin

1975 Games of the North American Indians. Courier Dover Publications.

Sold online: www.amazon.com/Games-North-American-Indians-Native/dp/0486231259

SORENSEN, John and Carl JOHANNESSEN

2004 Scientific evidence for pre-Columbian transoceanic voyages. Sino-platonic papers. No. 133. 273 pages.

Available online: http://www.sino-platonic.org/complete/spp133_precolumbian_voyages.pdf

The authors claim that patolli of the Aztecs comes from the pachisi game of India: "Over a century ago, Tylor (1896) compared details of the Aztec board game, patolli (e.g., the board's layout, the sequence of moves, and cosmic associations of the pieces and moves), with the game called pachisi in India. Even Robert Lowie, an influential anthropologist who was usually critical of diffusionist (voyage-dependent) explanations for such similarities, accepted that in this case "the concatenation of details puts the parallels far outside any probability [of having been invented independently]" (1951, 13)." (Sorenson and Johannessen 2004: 2).

Half of the illustrations from India, which the authors purport are plants from Mesoamerica, are too generic for me to accept as "proof." There are over 150 fruits native to Guatemala and surely many hundred in India. It would be no surprise that some fruits in India would look like what is claimed to be in Fig. 9 and 10.

Fig. 11 is very much like chile chocolate (the fruit). I would need also to check the leaves. I raise chile chocolate in my FLAAR Maya Ethnobotanical Research Garden so I know what the peppers look like.

Fig. 15, I am familiar with *Monstera deliciosa* for many years. But there are so many vines with leaves of comparable size and shape that the "large dissected leaves of *Monstera deliciosa*.. in..India" is not convincing. For the fruit I would need to see the surface (which is not visible from this view).

Fig. 16, could be any number of birds: there is no proof that it is a chicken in 13th century Chimú culture of Peru.

In my half-century as an archaeologist in Mesoamerica I have not yet been convinced that pre-Hispanic sea travel made much impact on Mesoamerica. That said, it is worth noting that the most beards are on rulers in the Veracruz area of Mexico, which is not far from the coast; and on 3-dimensional heads of stone from the Bilbao region (however the latter look more Greek than from India or Asia). I leave the question open, but until physical artifacts from Asia, Africa, or Europe are found in scientific excavations in Mesoamerica, I am not yet convinced of significant influence on Mayan or other cultures of Mesoamerica.

SWEZEY, William and Bente BITTMAN

1983 El rectángulo de cintas y el patolli: nueva evidencia de la antigüedad, distribución, variedad y formas de practicar el juego precolombino. *Mesoamérica*. Vol. 6. Pages 373-417.

Available online: <https://dialnet.unirioja.es/descarga/articulo/4009293.pdf>

TOZZER, Alfred

1913 A preliminary study of prehistoric ruins of Nakum Guatemala: a report of the Peabody Museum 1909-1910. 1st Edition.

Sold online: <https://www.amazon.com/Preliminary-Study-Prehistoric-Ruins-Guatemala/dp/BooS379A6M>

TRIK, Helen, KAMPEN, Michael, COE, William and William HAVILAND

1983 The graffiti of Tikal: Tikal Report 31. University of Pennsylvania Press. 128 pages.

Sold online: <https://www.amazon.com/Graffiti-Tikal-Report-University-Monograph/dp/0934718563>

TYLOR, Edward B.

1879 On the Game of Patolli in Ancient Mexico, and Its Probably Asiatic Origin. Journal of the Royal Anthropological Institute of Great Britain and Ireland. Vol. 8. Pages 116-129.

Sold online: https://www.jstor.org/stable/pdf/2841019.pdf?seq=1#page_scan_tab_contents

TYLOR, Edward B.

1896 On American lot-games as evidence of Asiatic intercourse before the time of Columbus," *Internationales Archiv für Ethnographie* 9 (supplement):55-67.

Tylor tries to convince the reader that patolli of the Aztecs as from pachisi of India.

VERBEECK, Lieve

1998 Bul: A Patolli game in Maya Lowland". *Board game studies: International Journal for the Study of Board Games*. Leiden: Research School CNWS: 83–100.

WANYERKA, Phil

1999 Pecked Cross and Patolli Petroglyphs of the Lagarto Ruins, Stann Creek District, Belize, *Mexicon*, Vol. XXI. Pages 108-112

Available online: https://www.academia.edu/10032301/Pecked_Cross_and_Patolli_Petroglyphs_of_the_Lagarto_Ruins_Stann_Creek_District_Belize

WILLIAMSON, Richard

1989 Excavations, Interpretations, and Implications of the Earliest Structures Beneath Structure 10L-26 at Copan, Honduras. Tulane, University. 8 pages.

Available online: <http://www.mesoweb.com/pari/publications/RT10/Excavations.pdf>

YAEGER, Jason

2005 Revisando el Palacio Xunantunich: Las excavaciones del 2003. FAMSI. 36 pages.

Available online: <http://www.famsi.org/reports/02082es/02082esYaeger01.pdf>

Web Pages that feature Patolli

Most web sites are copy and paste (with little fresh information). Most web sites focus on the Aztec patolli and seem unaware of patolli being in many other earlier cultures.

So I list only a few web sites:

<http://abakmatematicamaya.blogspot.com/2011/12/bak-matematica-maya-el-patolli.html>

No author, no date (though may be 2013). Has several interesting illustrations.

<http://www.revistamilmesetas.com/aprende-a-jugar-patolli>

Instructions on how to play Patolli

<https://descubriolahistoria.es/2015/01/el-juego-azteca-de-los-frijoles/>

Information and illustrations.

<http://www.mexicolore.co.uk/aztecs/home/gambling-and-patolli-the-aztecs-favourite-game>

Information and illustrations.

<http://mcd.gob.gt/se-realiza-en-peten-presentacion-de-hallazgo-arqueologico-maya/>

Discovering of Patolli on Petén.

<http://www.noeparati.mx/patolli-resumen-estudio-algunas-implicaciones-teoricas-al-resecto/>

Mentions a patolli Tipo V, in the Temple of the Inscriptions at El Tajin. But does not show it or give reference. And I always associate "Temple of the Inscriptions" with Palenque. So the citation of El Tajin may be an error? We have not otherwise found patolli at El Tajin, rather unexpected since El Tajin shared a lot of cultural traits with Teotihuacan and shared the yokes, hachas, and other ballgame aspects with much of Mesoamerica.

<https://www.prensalibre.com/ciudades/peten/hallan-vestigios-mayas-de-posible-centro-de-atencion-para-mujeres-en-tikal>

Information.

Patolli in Códices and Crónicas

Códice Mendocino

Códice Magliabecchi

Códice Tonalámatl de Aubin

Códice Xólotl

Códice Florentino

Códice Vindobonensis

Códice Borbónico

Códice Mendocino