

The Voynich Manuscript: Aztec Herbal from New Spain

By John D. Comegys

Scholars have yet to decipher the mysterious Voynich Manuscript. The common assumptions are that it is written in an unknown script, an unknown language, by an unknown author on an unknown subject and is of European provenance. Some have even argued it is a hoax. This article breaks new ground by presenting evidence that much of the art work is Mesoamerican in style or heritage.

Examples of the Voynich script are similar or identical to Courtesan script used in codices from New Spain, Early Colonial Mexico.ⁱ Based on the internal evidence the provenance may be inferred to be Mexico and the language a combination of Nahuatl--the language of the Aztecs, and Spanish. The Voynich Manuscript is thus one of the largest and most detailed surviving indigenous Mesoamerican medical texts.

Introduction

It is time for a fresh approach to the Voynich Manuscript. Despite multiple attempts over the past century, the enigmatic document remains unread. This article will present ethnohistorical evidence that the provenance of the manuscript lies in early colonial Mexico and that many of the mysteries in the art work and script can be shown to be either traditionally Mesoamerican or part of the process of the acculturation of Mesoamerica to the Spanish presence following the Conquest of Mexico. From this perspective the Voynich MS (manuscript) ceases to be an odd European mystery, and becomes a rather typical documentary example of the acculturation of indigenous

America to European ways and may be easily and clearly identified as an herbal, a book on medicinal plants and their application, from the Early Colonial Period of New Spain.

Before we begin an examination of the illustrations and script in the Voynich manuscript, let us briefly summarize what is known and what is assumed. The Voynich MS is a small handwritten and illustrated book of 116 double sided folios, some of which fold out into multiple pages for a total of 235 pages. It is housed in the Beinecke Library at Yale University. It is written on vellum, a kind of parchment probably made of calfskin, and measures approximately six by nine inches (16 cm x 23.2 cm). Somewhat more than half consists of script and colored illustrations of plants or flowers, many of which have strange roots or other objects associated with them. This section is traditionally called the Herbal or Botanical section. The Herbal Section is one of six sections, all but one identified by its illustrations and all written in the distinctive Voynich script. The Pharmaceutical section has smaller drawings of all or parts of various plants in the Herbal section. The Astronomical section has astrological zodiacs and drawings of the sun, moon, and stars and what may be spiral galaxies. The Cosmological section is a large fold-out with nine circular drawings, some resembling islands with causeways connecting them, overseen by a volcano, among other things. The Biological section has illustrations of rotund naked women and recognizable human anatomical organs¹. The Recipe section is the last section and is text only with no illustrations other than stars.²

¹ For example, fallopian tubes and a penis on folio 77 verso, and placentas on folio 84 verso were identified by Gayle Sutcliffe, MD. Personal communication, 2012.

² The information above is generally agreed upon and may be found in the following sources: Kennedy, Gerry and Churchill, Rob. (2004) *The Voynich Manuscript*. Orion, London; Pelling, Nick. *Cipher Mysteries*. <http://www.ciphermysteries.com/> Last Accessed 6/25/2012; D'Imperio, Mary E. (1981) *The Voynich Manuscript: An Elegant*

According to a letter found with the Voynich MS³, it was owned by Holy Roman Emperor Rudolph II, who had earlier spent his youth from 1563 to 1571 at the Spanish Habsburg court of his uncle Phillip II.⁴ King Phillip's personal physician was the incomparable herbalist Doctor Francisco Hernandez who traveled to Mexico in 1571 and catalogued over 3,000 plants.⁵ The Voynich Manuscript was signed by Rudolf's botanical garden keeper, who was ennobled with the title '*de Tepenecz*'⁶ by Emperor Rudolf. The title *de Tepenecz* is suspiciously similar to *Tepanec*, the name of former rulers and later allies of the Aztecs at the time of Spain's conquest of Mexico in 1521.⁷ During his long stay at the Spanish court Rudolf would have had ample opportunity to become acquainted with Doctor Hernandez⁸ and the heirs of the last Aztec Emperor Moctezuma who were also members of the court⁹. Rudolf's biographer reports he retained a fascination with Spain his entire life¹⁰.

Enigma. Aegean Park Press: Laguna Hills, CA; Wikipedia. The Voynich Manuscript, Illustrations 1.1 http://en.wikipedia.org/wiki/Voynich_manuscript#Illustrations Last accessed 6/27/2012)

³ Newbold, W. R and Kent, R. G. (1928) The Roger Bacon Cipher. Philadelphia: University of Pennsylvania Press.

⁴ Evans, R.J.W. (1973:1997) Rudolf II and His World. Thames and London: Spain.

⁵ Varey, S., Chabrán, R., Weiner, & Dora B (Eds.) . (2000) Searching for the Secrets of Nature: The Life and Works of Dr. Francisco Hernández. Stanford University Press: Stanford, California.

⁶ Landini, Gabriel and Zandbergen, Rene (1998) A Well-kept Secret of Mediaeval Science: The Voynich Manuscript. *Aesculapius*, July, 1998. Downloaded on 6/27/2009 from <http://www.voynich.nu/extra/aes.html>

⁷ Meyer, Michael C. & Beezley, William H. (2000) The Oxford History of Mexico. Oxford University Press: Oxford, New York.

⁸ Somolinos D'Adois, German (1960) Vida y Obra de Francisco Hernandez, Obras Completas, Tomo I, Universidad Nacional de Mexico, México, D.F.

⁹ Chipman, Donald E. (2005) Moctezuma's Children: Aztec Royalty Under Spanish Rule, 520-1700. University of Texas Press, Austin.

¹⁰ Evans, R.J.W. (1973:1997) Rudolf II and his World. Thames and Hudson: London

The key to identifying an unknown ethnohistorical document, according to Barber and Berdan, is to understand the perspective of the author(s).¹¹ Using their reality mediation model, one should look at a document as a model of the author's reality and as a communication from one member of that society to another. If a document seems strange or mysterious, it is because we do not understand the time or culture from which it came. The symbols, artistic styles and pre-Columbian gods of ancient Mexico and the rest of Mesoamerica may seem odd or frightening to us, while we easily, even happily, accept the presence of pre-Christian gargoyles on our cathedrals because they are familiar and part of our culture. The more comfortable and familiar we are with Mesoamerican art and culture the more familiar and comfortable we will be with the Voynich manuscript, and the less mysterious it will become.

To identify the provenance, the origin and source, of a document, ethnohistorians rely on different types of evidence and techniques. These include visual interpretation, paleography, calendrics, linguistic analysis, name interpretation, map interpretations, source analysis, and quantitative analysis¹². This article will focus on visual interpretation, paleographical evidence, and surmised source analysis of the illustrations and script. Attempts to decipher or translate and 'read' the Voynich Manuscript (VMS) are beyond the scope of this article.

Because the manuscript is so large and so encyclopedic, this article must be a preliminary survey to present evidence that the provenance of the VMS lies in New Spain and that the document is thus both Spanish and part of the legacy of the indigenous high

¹¹ Barber, R. J. & Berdan, F. F. (1998) *The Emperor's Mirror: Understanding Cultures through Primary Sources*. University of Arizona Press: Tucson.

¹² Barber and Berdan, 1998.

civilization that predated the arrival of the Spanish in Mexico, namely the Aztecs, or as they called themselves—the Mexica.

By examining three sorts of evidence within the manuscript we may support the hypothesis that the Voynich MS is Mesoamerican without reading the text.¹³ First, the art work in general is closely related both to traditional Mesoamerican art in addition to Renaissance or earlier European art. Secondly, the VMS contains specific Mesoamerican content that can be identified by time and place or that appears to be the result of acculturation, a mixture and melding of Spanish and Mesoamerican techniques or subject matter. Finally, the script is from Spain and is written in a style that is specific to indigenous Mexican scribes in New Spain.

The Voynich MS is often claimed to be written about an unknown subject. There have been more than 10 claimed decipherments of the Voynich manuscripts with explanations of its content that range from a cipher by Roger Bacon¹⁴ to a Cathar Prayer Manual¹⁵. The Voynich manuscript is also claimed to be written in an unknown script, in an unknown language, and to be written in cipher.¹⁶ This assumption was made because

¹³ Apparently the assumption that the Voynich manuscript is a cipher was made as early as the 17th century, probably because the alphabet was previously unknown. (Newbold and Kent, 1928) I know of no serious attempt to ‘read’ or decipher the manuscript using Nahuatl to date.

¹⁴ Newbold, W. R. and Kent, R. G. (1928) *The Cipher of Roger Bacon*. University of Pennsylvania Press: Philadelphia

¹⁵ Levitov, L.L. (1987). *Solution of the Voynich manuscript: A Liturgical Manual for the Enduring Rite of the Cathari Heresy, The Cult of Isis*. Laguna Park, California: Aegean Park Press.

¹⁶ See for example: Rugg, Gordon. (2004) *The Mystery of the Voynich Manuscript*. Scientific American. June, 2004. Posted at <http://www.scientificamerican.com/article.cfm?id=the-mystery-of-the-voynic-2004-07> Last accessed 6-25-2012, Kennedy and Churchill (2004) and Schinner, Andreas. (2007) *The Voynich Manuscript: Evidence of the Hoax Hypothesis*. *Criptologia*, 31:95-107, 2007.

the script was “in entirely unknown characters”¹⁷ Despite this, all or part of the manuscript has long been identified as an herbal¹⁸ and “the script to be in the style of sixteenth century humanist script”¹⁹. This article will present evidence that the VMS is written in a form of humanist hand known as Courtesan script, the national script of Spain in the sixteenth century.²⁰ This article will show that the letters in the Voynich MS script are used in manuscripts from New Spain written in indigenous American languages, or Spanish, or both. Thus, two of the three mysteries of the provenance of the VMS appear now to have been resolved. The solution to the third mystery, the language, may be inferred.

Computer experts have often claimed that the VMS is a hoax, based on these same assumptions of an unknown script, and language.²¹ By demonstrating that the alphabet and script used are known and that the language can be inferred, the hoax argument falls of its own weight. Further, the use of a key or crib to the sound values of the Voynich manuscript letters prevents circular arguments that prove the assumptions of the author²². Research on the Voynich manuscript may now move beyond mystery into the context of the indigenous civilization of the New World.

¹⁷Newbold and Kent (1928, p. xiv.)

¹⁸ D’Imperio, 1981; Landini and Zandbergen, 1998

¹⁹ D’Imperio, 1981, p. 9

²⁰ Cortés Alonso, Vicenta. (1986) *La escritura y lo escrito: Paleografía y diplomática de España y América en los siglos XVI y XVII*. [Writing and What Was Written: Paleography and Diplomatics in Spain and America in the 16th and 17th centuries]. Madrid: Instituto de Cooperación Iberoamericana.

²¹ See for example Rugg, 2004

²² M.E. D’Imperio, for example, assumes that over half of the 26 EVA Voynich symbols analyzed are individual letters that evidence presented here shows are in fact digraphs, trigraphs or even 4-letter combinations. D’Imperio, M. E. (1979) An Application of PTAH to the Voynich Manuscript (U). NSA Technical Journal. Spring, 1979, Vol. XXXIV, No. 2. The EVA alphabet, by contrast has only 7 digraphs, and 6 or perhaps 7 duplicated letters out of 25. See discussion below.

A clearer explanation of why the manuscript has not been read is that it has not yet been adequately studied by scholars of Mesoamerica, perhaps because of repeated failures to decipher it.²³ Without the benefit of the actual cultural or linguistic context, scholarly efforts foundered. That is, the scholars were looking for a European solution to a Mesoamerican mystery. Since the Spanish script was discovered in the process of examining Mesoamerican illustrations, let us begin by considering the art work of the Voynich Manuscript.

Illustrations

The art and illustrations of the Voynich manuscript have been characterized as “an ugly duckling”²⁴, as almost unearthly and generally as workmanlike rather than artistic when compared to medieval illuminated manuscripts or Renaissance art²⁵. Because the illustrations in the Voynich MS are highly stylized, lack perspective and iconic, that is flat, simple, and highly symbolic; the illustrations of plants have been compared to medieval or Arabic herbals.²⁶ These features are odd in Europe, but normal in Mesoamerican art²⁷.

The illustrations of plants in the Voynich Manuscript have no ground line representing the horizon, a normal part of drawing perspective. This lack of a ground line

²³ See D’Imperio (1981) for the history and scandals of false “decipherments”.

²⁴ Wilfrid Voynich said he bought the manuscript “because it was such an ugly duckling” Brumbaugh, Robert S. Editor. (1978) *The Most Mysterious Manuscript: The Voynich "Roger Bacon" Cipher Manuscript*. Southern Illinois University Press, Carbondale and Edwardsville, Illinois. (p 110)

²⁵ D’Imperio, 1981, p 11.

²⁶ D’Imperio, 1981, and see Nasr, Seyyed H. (1976) *Islamic Science: An Illustrated Study*. World of Islam Festival Publishing Company, Ltd. for examples of Arabic herbals.

²⁷ Robertson, Donald. *Mexican Manuscript Painting of the Early Colonial Period: The Metropolitan Schools*. University of Oklahoma Press, Norman, Oklahoma. Reprint of 1959, Yale University, New Haven, Connecticut.)

and perspective may best be characterized as “the two dimensional world of the native artist”²⁸. The color of the VMS is applied as a simple wash in a rough and imprecise way, without shading or modeling. This is not the beautiful art of the European or Islamic illustrated manuscripts, or even the pre-Columbian art of Mesoamerica. This lack of skill in applying color is characteristic of the Early Colonial period in Mexico. The use of a simple wash is also characteristic of traditional Mesoamerican art.²⁹



²⁸ Robertson, Donald. Mexican Manuscript Painting of the Early Colonial Period: The Metropolitan Schools. University of Oklahoma Press, Norman, Oklahoma. Reprint of 1959, Yale University, New Haven, Connecticut, p. 2)

²⁹ Robertson, 1959.

Most of the illustrations in the VMS are of plants or parts of plants. Two of the plants, a chili pepper and a sunflower, were identified as New World plants by O’Neal³⁰. The sunflower (VMS f 93 r.) and chili peppers (VMS f 100 r)³¹ that are native to the New World led me to examine *herbals*, illustrated books about medicinal herbs, from New Spain. Two scholars of Aztec medicine, Alfredo López Austin and Bernard Ortiz de Montellano consider the same four sources fundamental to an understanding of pre-Columbian Aztec medicine³². These include the Florentine Codex by Fray Bernardino de Sahagún, the Codex de la Cruz-Badiano, and the Natural History of Dr. Francsico Hernandez, all of which concern the XVIth century. The fourth source by Hernando Ruiz de Alarcón primarily concerns magic, was written in the XVIIth century, and will not be considered here.

Perhaps the most beautiful Aztec herbal is the Codex Badiano, more formally known as the *Codex Barberini* or the *Codex de la Cruz – Badiano* and also as ‘*Libellus de Medicinalibus Indorum Herbis*’. It is an Aztec herbal produced in Mexico City and translated from Nahuatl to Latin in 1552.³³ It has several striking features in common with the Voynich manuscript. One is the iconic appearance of the illustrations, and the odd appearance of the roots when compared to European illustrations.

³⁰ O’Neal, Hugh. (1944) *Botanical Observations on the Voynich Manuscript*. Speculum Reprinted in Brumbaugh (1978).

³¹ See Figure 1, a detail of VMS f. 100 r. of chili peppers and Figure 2 VMS f. 33 v.

³² López Austin, Alfredo. (1993) *Textos de Medicina Náhuatl. (Nahuatl Medicine Texts)* Universidad Nacional Autónoma de México: Mexico (City) and Ortiz de Montellano, B. (1990) *Aztec Medicine, Health, and Nutrition*. Rutgers University Press, New Brunswick.

³³ De la Cruz, Martín (1991) *Libellus de Medicinalibus Indorum Herbis: Manuscrito Azteca de 1552: Según traducción latina de Juan Badiano*. [Small book of Indian medicinal herbs: Aztec manuscript of 1552: Following the Latin translation of Juan Badiano.] Fondo de Cultura Económica, Instituto Mexicano del Seguro Social: México (City); Gates, William (2000) *An Aztec Herbal: The Classic Codex of 1552*. Dover Publications: Mineola, New York.

Another characteristic of Aztec herbal illustrations is the presence of snakes and other Aztec glyphs in the roots of the plants. See for example snakes at VMS f 3 v, f 43 v, and 49 r. (See figure 3 for VMs 3 v.) The snake is a well-known Aztec day glyph, usually in the shape of an 'S'³⁴ as in VMS f 43 r. (See figures 4 and 5.) Another example of a snake in the roots of a plant illustration is found in the book eleven of the major 16th century Mesoamerican herbal, *Florentine Codex* by Sahagún.³⁵ (See Figure 6.)

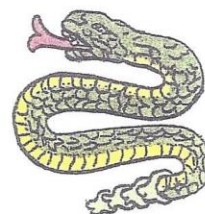
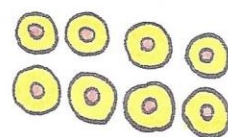


³⁴ Robertson, Donald (1959) p 91 and see Nuttall and Boone 1903/1983 *The Book of the Life of Ancient Mexicans: Codex Magliabechiano* ³⁴Codex Magliabechiano, folio 61 r. reprinted in Gruzinski, Serge. (1992) *Painting the Conquest: The Mexican Indians and the European Renaissance*. Translated by Deke Dusinberre. Flammarion: Paris. Plate 40, p 62.

³⁵ Dibble, Charles E. & Anderson, Arthur J. O. (1963) *Florentine Codex: General History of the Things of New Spain*, Fray Bernardino de Sahagún, Book 11 – Earthly Things, School of American Research and the University of Utah, Santa Fe, New Mexico. See, for example Illustration #506 *Coayielli*, Page 251. (Nahuatl for snake is *coatl*, so presumably the snake in the illustration is an aid to the identification or pronunciation of the name of the plant.)



Figure 4
Voynich Manuscript folio 43 recto



Chicuei coatl q
quiere &zir. ocho
culebrag

Figure 5
Codex Magliabechiano folio 11 verso
(Nuttall 1903/1983, p. 9)

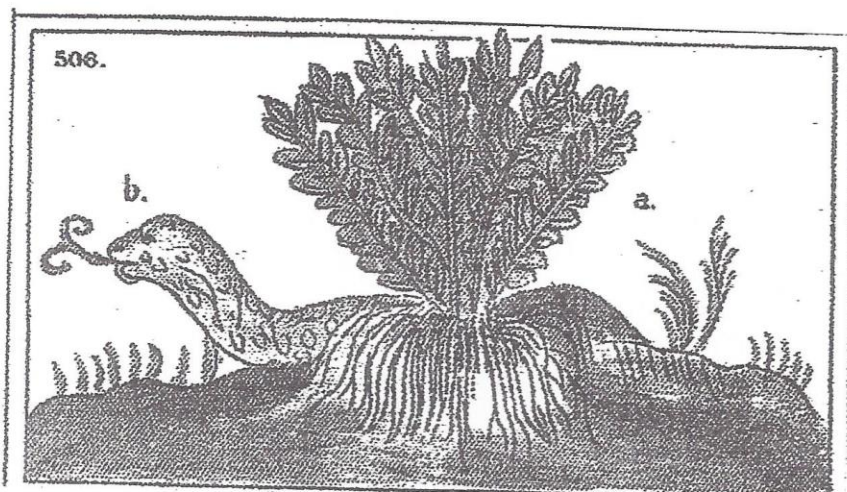
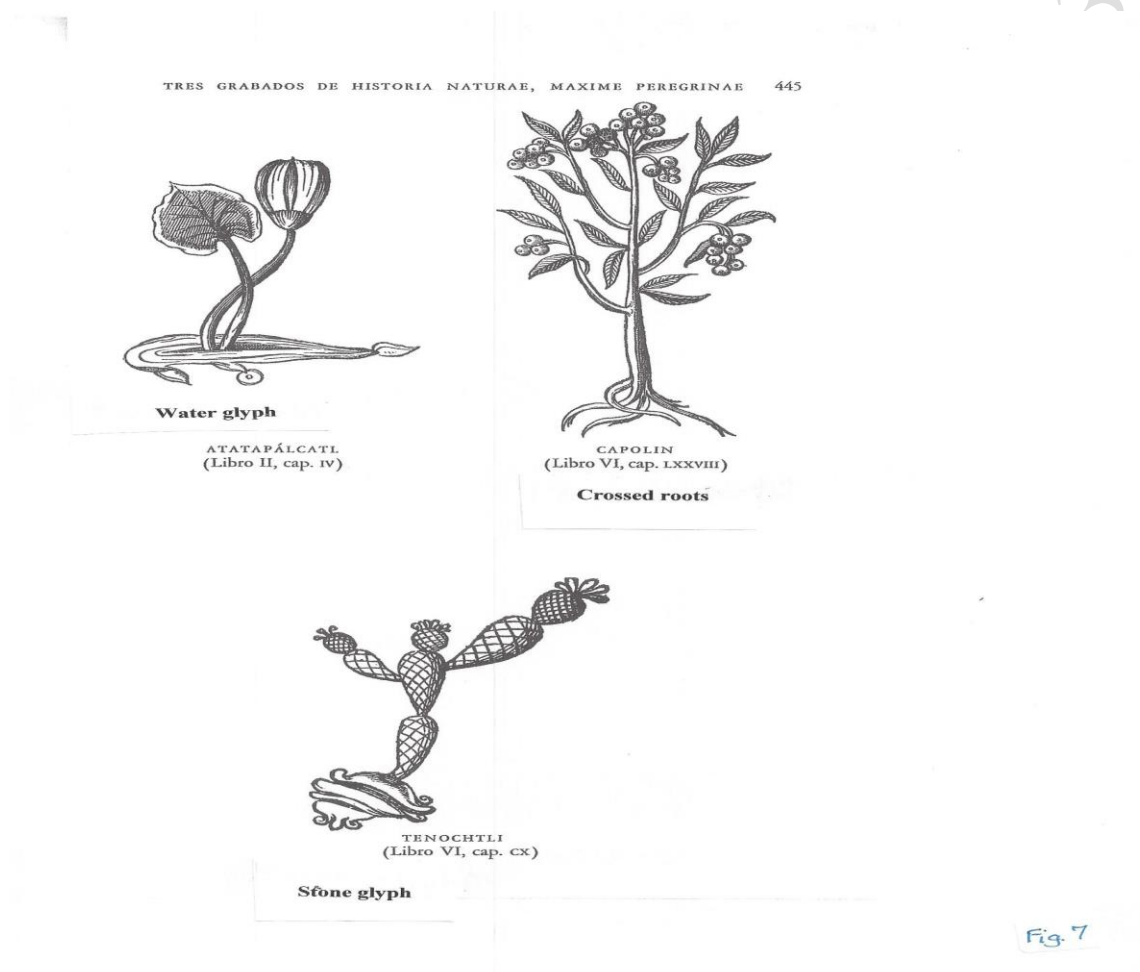


Figure 6
Florentine Codex, Book II, Illustration #506
Coayelli
(Dibble and Anderson, 1963, p. 251)

Fig. 6

The works of Doctor Francisco Hernández based on studies in Mexico included an extensive section on herbs that also included Aztec glyphs in the roots³⁶. (See figure 7.) Hernández' *Natural History* was based on his great expedition to Mexico in the 1570's. Its art was copied by the illustrator for Juan Eusebio Nieremberg's *Historia Naturae* published in 1635³⁷.



³⁶ In the roots of the water lily Atatapalcatl is a water glyph (libro II, cap. IV), beneath the cactus *Tenochtli* is the stone glyph (Libro VI, cap. cx) [same as in the modern Mexican national flag] and the roots of the *Capolin* are crossed (Libro VI, cap. LXXVIII). Tres Grabados de la Historia Naturae, Maxime Peregrinae de Juan Eusebio Nieremberg, S. J. (1635) published in Francisco Hernandez, (1959) Obras Completas II, Historia Natural de Nueva España I, UNAM: Mexico, DF

³⁷ Lopez Piñero, J.M. and Pardo Tomás, J. The Contribution of Hernandez to European Botany and Materia Medica. Published in Varey, S., Chabrán, R., Weiner, & Dora B

Aztec glyphs are also found in the Voynich Manuscript. What appears to be part of Tlaloc, the Mesoamerican rain god, may be seen in the roots of VMS folio 2 r. (See Figure 8.) The form of these roots is quite distinct and at first appears to be a stylized drawing of a mustache, but may actually be Tlaloc's serpent fangs and curled lips.³⁸ (See figures 9, 10, 11 and 12.) Alternatively this may be the Storm God insignia.³⁹ (See figures 13 and 14.) Berlo⁴⁰ notes that Tlaloc's insignia has been often confused with other Mesoamerican deities. While precise identification cannot be presented here, the sign in the roots of VMS folio 2 r. is clearly Mesoamerican.

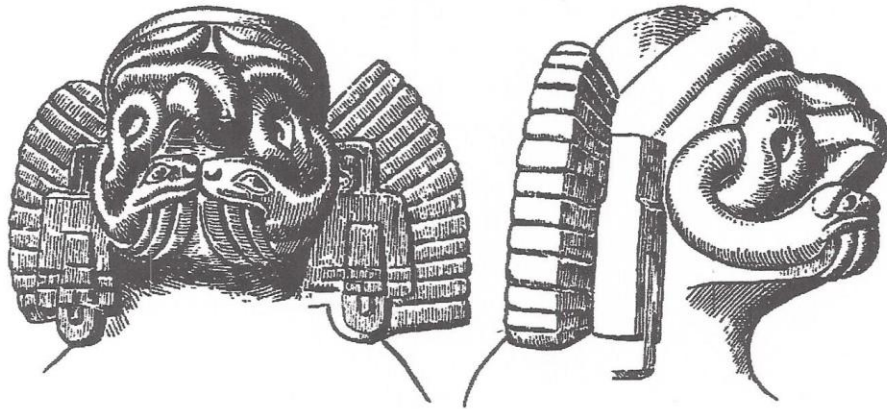


(Eds.) (2000) *Searching for the Secrets of Nature: The Life and Works of Dr. Francisco Hernández*. Stanford University Press: Stanford, California.

³⁸ See Miller and Taube 1993, 1997, Miller, Mary and Taube, Karl. (1993;1997) *An Illustrated Dictionary of the Gods and Symbols of Ancient Mexico and the Maya*. Thames and Hudson, London; Singapore. p 167 and Langley, James C. (1988) *Teotihuacan Sign Clusters: Emblem or Articulation?* Cited in Berlo, Janet C. (Ed.) (1992) *Art, Ideology, and the City of Teotihuacan*. Dumbarton Oaks Research Library and Collection: Washington, D.C. p 249 Figure 1, p. 250 Figure 2 Jacques Soustelle, (1955, 1995) *Daily Life of the Aztecs*, Plate 17. But compare these to Langley, 1988, p 249 Figure 1, p. 250 Figure 2.

³⁹ Langley, 1988, p 248-252 and see figure 3.

⁴⁰ Berlo 1988



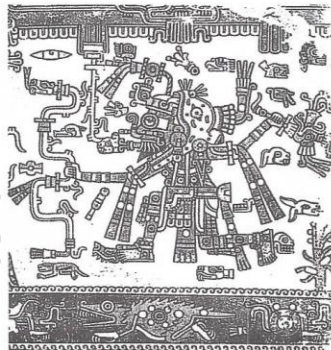
As revolting as the face of Humbaba are the features of Tlaloc, the so-called "rain-god" of Mexico. They are revealing, however: constructed out of two serpents, Tlaloc's head represents, as it were, the caduceus of Hermes/Mercury.

Fig. 9

Tlaloc—"god of rain, supreme god of the peasants" (Soustelle 1955, Plate 17)



Fig. 10.

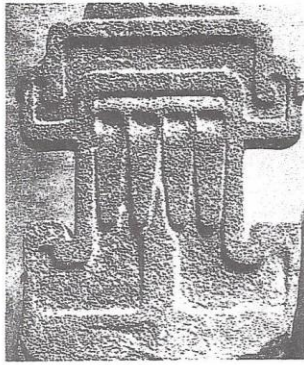


The Central Mexican god, Tlaloc, Codex Laud, p. 2, Late Postclassic period.

Fig. 11



Miller and Taube (1993, 1997, p 167)



"The Cross of Tlaloc" (After Seler 1915, pl. xiii-2, following p 585. Langley (1988, p 250) in Berlo 1992)

Fig. 12

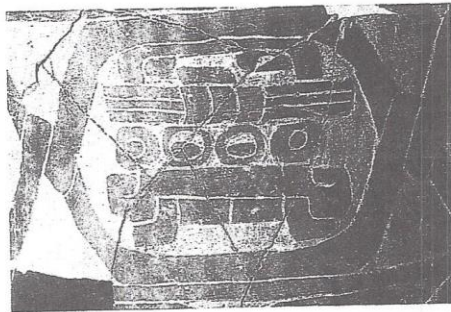
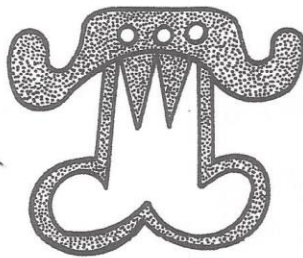


Fig. 1 Stylized head of the Storm God on a fragmentary champléve cylinder tripod vessel in the Ethnografiska Muscet, Stockholm.

"Stylized head of the Storm God"
Ethnografika Musset, Stockholm.
Langley (1988, p 249) In Berlo 1992)

Fig. 13



"Storm God insignia"
Diego Rivera Museum, Mexico.
Langley (1988, p 250 In Berlo, 1992)

Fig. 14

Easily recognizable as a glyph, but less easy to identify, is a figure in the roots of VMS f. 27 verso. (Figure 15) It has been greatly modified, simplified and even made to appear in perspective with three-dimensional depth, the only example of perspective in

the VMS. The figure may be identified as the *ehcacozcatl* ‘wind jewel’ the common glyph that looks like the cross section of a conch shell with five or more lobes and a spiral in the center⁴¹. An example in Figure 16 is on the face of the Earth Goddess Tlazolteotl-Teteo innan Toci from the Codex Borbonicus with the same five lobes but not the inner spiral⁴². Compare, the central insignia on the god Quetzalcoatl’s pectoral in the Codex Magliabechiano.⁴³ (Figure 17) It has the same five lobes; elsewhere these may be seven, as seen for example in the *Codex Borbonicus*.⁴⁴ (Figure 18) The curl of the tip of the stylized conch shell nearly makes a circle, as in VMS f 27 v, on both examples. Quetzalcoatl is the famous plumed serpent god. Tlazolteotl was a goddess of not just spinning and weaving, but also of purification, herbs and healing, sexuality, birth, midwives and of the bathhouses where babies were born⁴⁵.

⁴¹ Miller and Taube (1993/1997, p. 141-142) Wind jewel is also spelled *ehcacozcatl* in Nahuatl.

⁴² Codex Borbonicus 30 reprinted in Sullivan, Thelma D. Tlazolteotl-Ixcuina: The Great Spinner and Weaver. In Boone, Elizabeth H. (1982) The Art and Iconography of Late Post-Classic Central Mexico. Page 20.

⁴³ Codex Magliabechiano, folio 61 r. reprinted in Gruzinski, Serge. (1992) Painting the Conquest: The Mexican Indians and the European Renaissance. Translated by Deke Dusinberre. Flammarion: Paris. Plate 40.

⁴⁴ Codex Borbonicus p. 22 reprinted in Gruzinski (1992, p 75 Plate 54. Quetzalcoatl and Tezcatlipoca)

⁴⁵ Miller, Mary and Taube, Karl 1993/1997, p. 168. An Illustrated Dictionary of The Gods and Symbols of the Ancient Mexico and the Maya. Thames and Hudson: Singapore

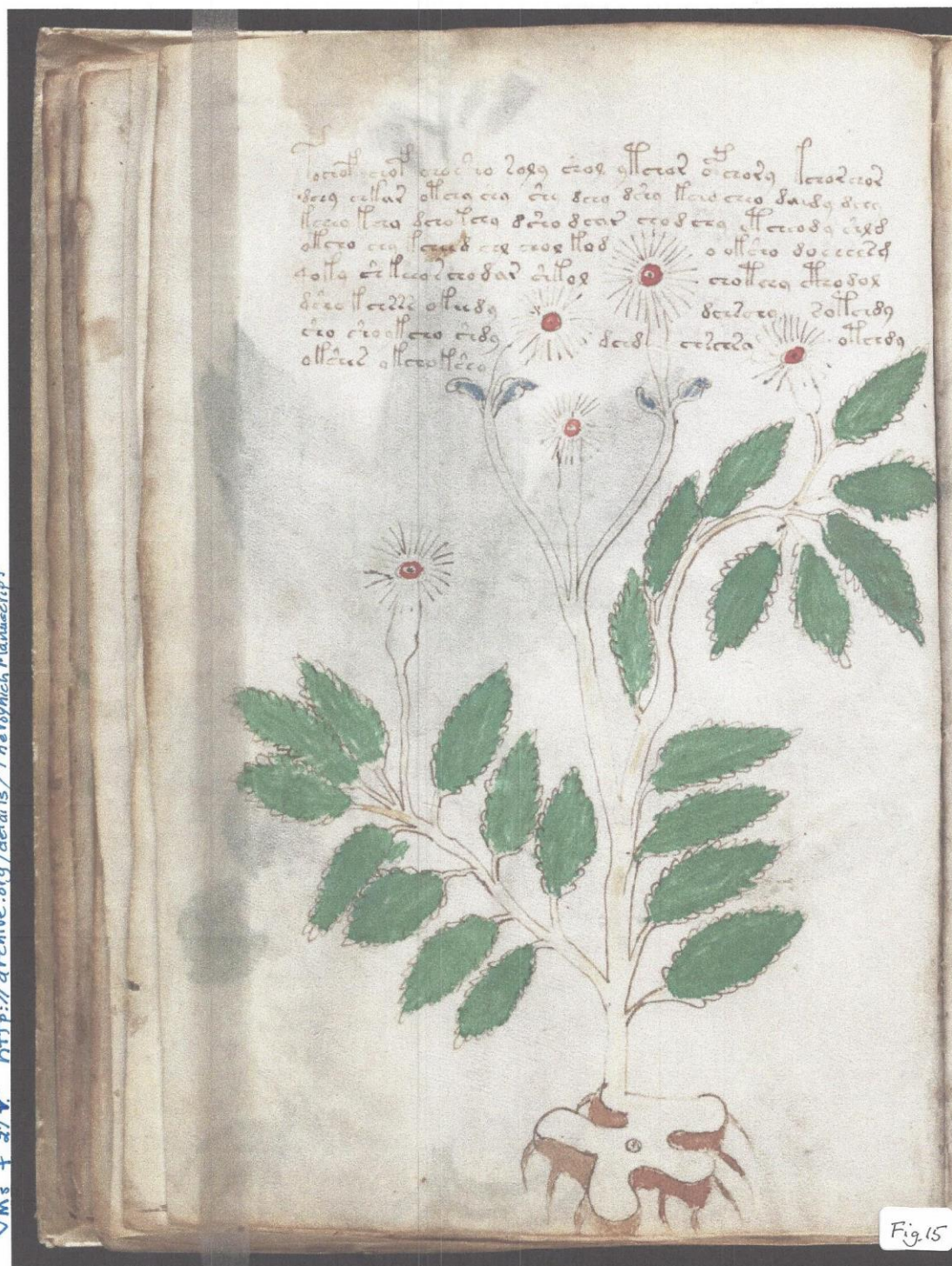


Fig. 15

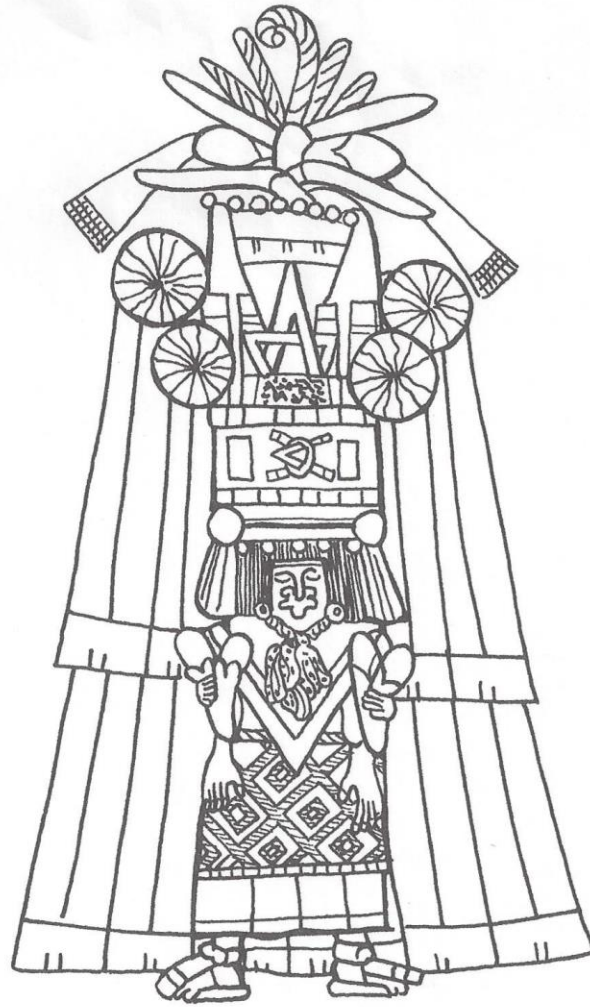


Fig. 10 Tlazolteotl-Tetco innan-Toci. Codex Borbonicus 30.

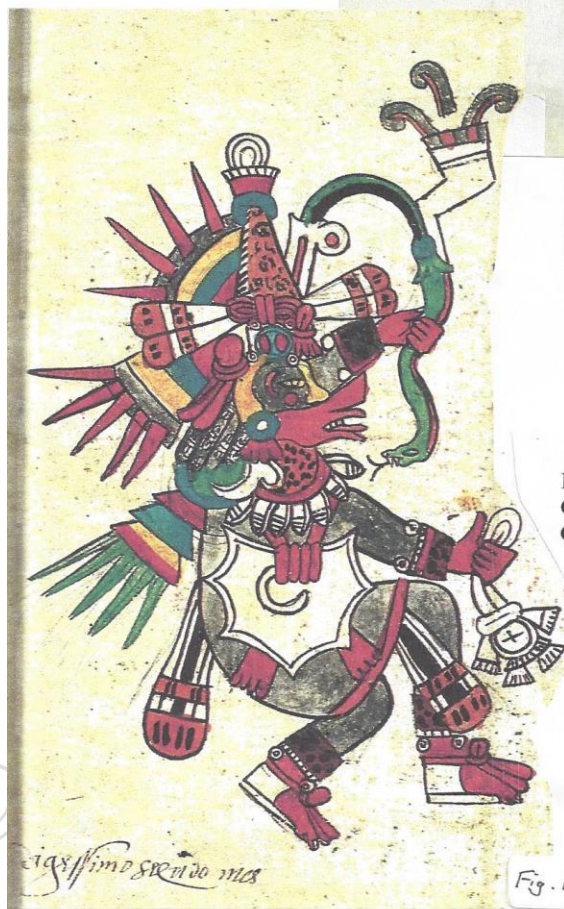
Sullivan, Selma D. Tlazolteotl-Ixcuina: The Great Spinner and Weaver. In Boone, E. H. (Ed.) (1982) *The Art and Iconography of Late Post Classic Central Mexico*. Dunbarton Oaks. Trustees for Harvard University, Washington, D.C. pp 7-36.

Fig 16



Fig. 17

The God Quetzalcoatl from the Codex
Magliabechiano, folio 61, recto.
In Gruzinski 1992, plate 40, p 62.



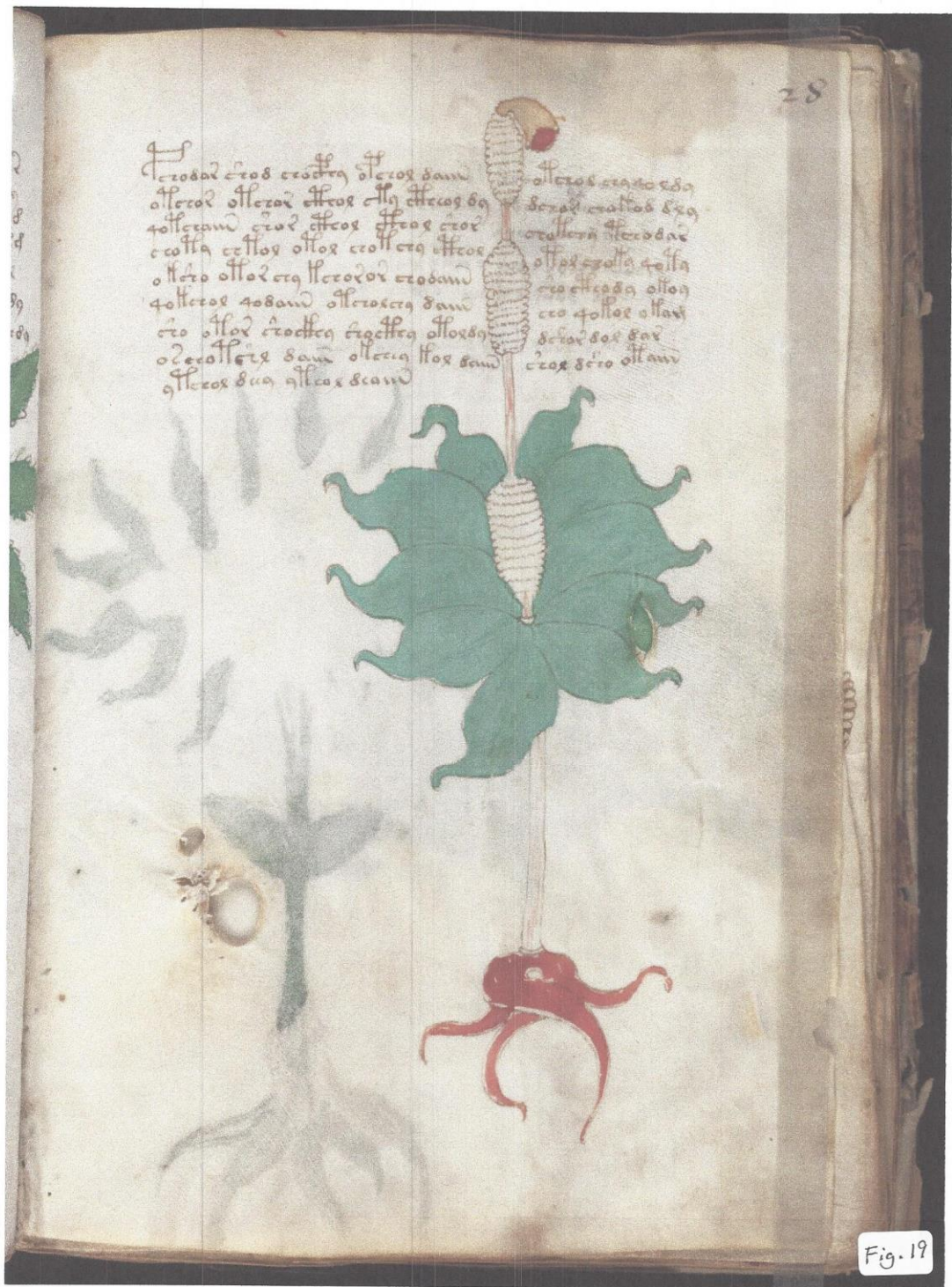
Detail of Quetzalcoatl from
Codex Borbonicus, p 22 in
Gruzinski 1992, plate 54, p 74.

Fig. 18

An artistic element common to the Badiano, the Florentine Codex, and murals from ancient Tenochtitlan⁴⁶ is what will be referred to here as the ‘crossed roots’ motif, although it may well be a glyph. What at first glance appear to be simply roots crossed one over another follow an iconic and regular form and easily recognizable. Some have quite apparent hips, such as VMS f 28 r. (Figure 19) Notice how graceful the ‘roots’ figure appears, like a dancing girl with her arms outstretched. That these crossed roots are associated with femininity may be inferred from VMS 51 recto and VMS 52 verso, which have female features just above the crossed ‘legs’. (Figures 20 and 21). (An example of an illustration of a woman with her legs in the same configuration may be found in the Voynich Manuscript on folio 70 recto at 3:30 on the inside ring. Figure 33.) This sign in the roots of herbs is very common in the VMS and occurs 16 times by my count, and 6 times as well in the *Codex Badiano*. See for example Badiano folio 34 recto of two medicinal plants with both crossed roots and stalks used for *Urine Difficultas*. (Figure 22.) Both the Codex Badiano and Voynich Manuscript are post-conquest. An ancient Meso-american example of what we are calling the *crossed roots glyph* is found as part of a “depiction of maize” from “the State of Mexico, Late Classic period”.⁴⁷ (Figure 23.)

⁴⁶ Berrin, Kathleen. Editor. (1988) Feathered Serpents and Flowering Trees: Reconstructing the Murals of Teotihuacan. The Fine Arts Museum of San Francisco, Hong Kong.

⁴⁷ Miller and Taube (1993/1997 p 109) (The Classic period ended in the year 1,000 C.E.)





Voynich Manuscript f. 51 r.

Fig. 20

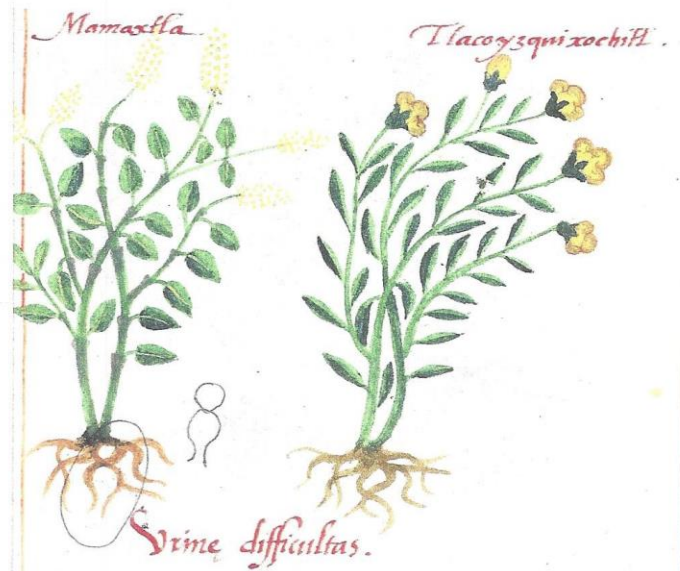


VMs f. 52 v.

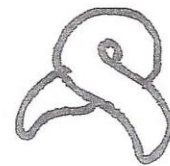
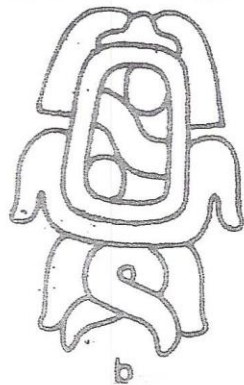
Fig. 21

Marin de la Cruz.
Libellus de Medicinalibus
Indorum Herbis
folio 34 verso
Note crossed roots in both herbs,
and the shape of a uterus on
the left.

Fig. 22



Contra Vine difficultatem, liquor concinnatus floribus
teb mioxochitl, Tlacozzquixochitl, Colloxochitl, Elloxochitl,
Ocozochitl, radice Momaxlla. terra rubicunda et est terra
alba potius in aqua ualeat. Stomacho autem extirpatus ad mol-
uebis lapidem in flumine muentum, in quo Vrones videtur
fuit esse.



"Crossed roots glyph"

Fig. 23

Figure 23. Miller and Taube (1993/1997, p 109) "Depiction of maize in ancient Mesoamerica. Figure B State of Mexico, late Classic". (Classic Period ended in Tenochtitlan circa 1,000 C.E.)

Another artistic detail is the strange ring around the roots of the herb on VMS f 22
v. (Figures 24 and 25) These rings are also found in the murals of Tenochtitlan dated to

around the year 1,000 C.E.⁴⁸ The rings are found in Mesoamerican illustrations around of the claws or talons of various animals. The rings are around the claws of a “Feathered Feline with flames and a sound scroll” “probably from Techinantitla, Tenochtitlan “⁴⁹ (Figures 26 and 29) It is found on small birds,⁵⁰ on the claws the claws of an owl from Tetla, Teotihuacan⁵¹, on a talon name glyph (Figure 27)and on a mural of the Great Goddess, both from Techinantla, Teotihuacan dating from C.E. 600-750, on the claws of a of coyote or puma⁵² (Figure 28) from a late classic mural from Techinantitla, Teotihuacan⁵³ and around the claws of the netted jaguar god.⁵⁴ This author has not, however, identified the significance of these rings. Miller and Taube refer to the “complex and poorly known iconography of Teotihuacan”.⁵⁵ The fact that these rings are unrecognized by the scholarly heirs of European civilization, but common in Teotihuacan supports the thesis that the VMS was illustrated by those familiar with this Mesoamerican tradition.

⁴⁸ Berrin, 1998.

⁴⁹ Berrin, 1988, page 187 Plate 32.

⁵⁰ Berrin, 1988, p 172-173.

⁵¹ Berrin, 1988, page 164.

⁵² Berrin, 1988, page 207 and 221.

⁵³ Miller and Taube, 1993: 1997, p 91.

⁵⁴ Miller and Taube, 1993: 1997, pages 162-163)

⁵⁵ Miller and Taube, 1993: 1997, p 162).



Fig. 24

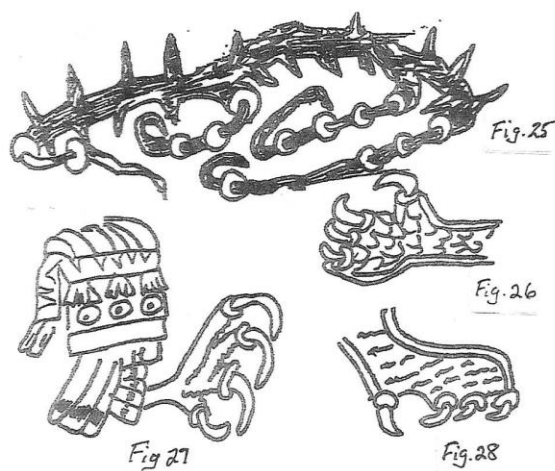


Figure 25. Detail of rings around roots from VMS folio 22 verso

Figure 26. Paw of Feathered Feline, probably from Techinantla, Teotihuacan. Tracing by Saburo Sugiyama from a photograph. Berrin et al. (1998, p. 191) Figure VI.17 Feathered Feline Mural.

Figure 27. Talon Name Glyph. Berrin et al. (1998, p.8) and Plate 40 processional figure wearing headdress with talon name-glyph. Techinantla, Teotihuacan C.E. 600-750. Talon name-glyph is to the right of the processional figure, not shown here.

Figure 28. Paw with uncial rings identified as a puma by Miller and Taube (1993, p. 91) Also identified as the paw of a coyote by Berrin et al. (1998, p. 122) from Figure VII Coyote and Deer Mural. Tracing by Saburo Sugiyama from the original mural.



Fig. 29

PLATE 33. Feathered feline with flames and sound scroll
(Line drawing, fig. VI.11)
Probably Techinantla, Teotihuacan, A.D. 600-750
65 x 105 cm (26 x 42 in.)

Berrin
(1988, p. 187)

Fig. 29

One of the more striking illustrations in the Herbal section is a pair of young faces in the roots of a plant that appears to be a hibiscus on page 33 recto.⁵⁶ (Figure 30) There is another in the Pharmaceutical section on the same page as the green capsicum, chili peppers.⁵⁷ This was identified as the “niño y niña” [boy and girl] plant by a Purépecha (Tarascan) lady from Michoacán, in central Mexico. She reported the herb is used by women who want to have a baby⁵⁸. This contemporary evidence of a continuing tradition of indigenous women using herbs to promote fertility lends support to the identification of the VMS as an herbal and to its subject matter including “the biology of reproduction”, an idea put forward by Brumbaugh⁵⁹.



Other illustration details seem to support the Mexican origin of the Voynich MS. One of the geographic features in the Cosmological section is an island causeway

⁵⁶ The leaves are oblate acute (egg shaped), the roots sometimes fleshy, and the flower and pod similar. There are green hibiscus flowers in Mexico.

⁵⁷ Gausewitz (2005) p 228, Takahashi black and white f 101 r2, color 101r.)

⁵⁸ Personal communication with Ms. Veronica Donovan, 2003.

⁵⁹ Brumbaugh, Robert S. (1975) The Solution to the Roger Bacon' Cipher. pp. 348-349. Yale University Library Gazette. Vol. 49, April 1975. Cited in D'Imperio, 1981.

overseen by a smoking volcano.⁶⁰ (Figure 31) No such juxtaposition exists in Europe, but they were a salient feature of ancient Teotihuacan and colonial (and present day) Mexico City. There are numerous other examples of illustrations in the VMS that, when placed in the context of Mexico suddenly make intuitive sense, such as the little figure in the wide brimmed hat at 3:00 o'clock on the inside ring of the calendar on VMS 71 r⁶¹. (Figure 32) It certainly looks like a modern Mexican sombrero.



⁶⁰ Yale, f. 86 v

⁶¹ Yale 71 r

Some illustrations can best be interpreted in a Mesoamerican context. For example, the woman crawling out of the bath tub in the inner circle at 2:00 o'clock on the calendar page marked “mars” with the two fish for Pisces.⁶² Mesoamerican women, and men, entered and exited temescalli, sweat baths, on their hands and knees because the temescal had a small, low entrance in order to keep in the heat.⁶³ (Figure 33)



⁶² Yale, 70 r Gawsewitch 2005, p. 172





⁶³ I am indebted to my brother, James C. Comegys, for this, and other observations, such as the very basic idea that the VMS has its origins in Mexico.

In summary, the illustrations in the Voynich Manuscript are presented in the format of a European herbal, similar to the Florentine Codex, or the Codex Badiano. All three herbals have features that are part of Mesoamerican, rather than European, tradition. These include Mesoamerican artistic features, such as the shapes of roots and Aztec glyphs. In addition the Voynich manuscript has juxtaposed urban and geographical features of Mexico City. Taken together this suggests the blending of two artistic traditions, as would be expected in a colonial setting.

In the course of examining the ‘mysterious’ illustrations from Early Colonial Mexico I identified most all of the Voynich Manuscript’s ‘mysterious’ script. Let us now examine the evidence for such a bold claim.

Script

The Voynich script is considered to be a great mystery and unique in the world. The script is small, tight, and very neat and has unusual letters that have attracted much attention, most notably for the so called “gallows family”⁶⁴. Mary D’Imperio describes the Voynich text as “a *tour de force* of artistry and ingenuity” due to its “flowing, rhythmic quality” and its “intricate but structurally logical system of ligaturing or compounding of simple forms”⁶⁵

⁶⁴ The *gallows family* are EVA f, k, p, and t—, , , . Pelling (2006), especially page 199 and following.

⁶⁵ D’Imperio, 1981, p. 23

Mary D’Imperio⁶⁶ reports a “diligent” study of known scripts has turned up “nothing remotely similar” beyond a few correspondences with Latin abbreviations in Capelli⁶⁷. The wife of deceased expert William Friedman stated, “So far as is known, there is no ... key or crib”⁶⁸. Most recently Rene Zandbergen, Voynich scholar and one of the developers of the European Voynich Alphabet font used below in this article to illustrate the script, has posted on his website: “Almost the entire Voynich MS is written in a script that is not found in any other surviving document”. Zandbergen’s claim is now obsolete and documents that can provide the key or crib sought by the Friedman’s and others will be presented below.

I consulted early colonial Mexican documents that were transcribed from Spanish or Nahuatl, or in the case of the Codex de Huichapan, the Otomi language.⁶⁹ The transcriptions are part of the original source cited listed in the bibliography and are the work of each author cited. The present author makes no claim to any special skill or ability as a paleographer, beyond the ability to recognize the form of the letters in question, or to any special knowledge of Nahuatl or any other indigenous American language. Although every attempt has been made to cite English language sources whenever possible, most of the germane resources available are written in Spanish, not

⁶⁶ D’Imperio 1981

⁶⁷ D’Imperio is referring to an earlier edition of Capelli, Adriano. (1990). *Dizionario de Abbreviature latine ed italiane*, sest edizione. [Dictionary of Latin and Italian Abbreviations, Sixth edition] (1998 reprint of 1990 edition). Editore Ulrico Hoepli: Milano.

⁶⁸ Friedman, Elizabeth. (1962) “The most mysterious MS.—Still an enigma.” *Washington D.C. Post*, 5 August, E1, E5 cited and quoted in D’Imperio (1981) p 13.

⁶⁹ Alvarado Guinchard, Manuel. (1976). *El Códice de Huichapan*. [The Huichapan Codex] Instituto Nacional de Antropología e Historia: México, D. F.; Carr, David Charles Wright (2002) *La comunicación gráfica en el Códice de Huichapan*. IV coloquio nacional sobre Otopames, edición digital, [Graphic communication in the Huichapan codex. IV national colloquium on the Otopames, digital edition.] Centro de Investigaciones en Ciencias Sociales, Universidad de Guanajuato.

English, and this may be part of the explanation for why the Voynich manuscript is still unread after so many years. The paleography of the documents consulted will be compared and matched to a computerized version of the letters in the Voynich Manuscript, the EVA alphabet, and printed later in the article.

The EVA alphabet is an updated and modernized version of a ‘transcription alphabet’ developed and used by code breakers from the OSS, and later the National Security Agency.⁷⁰ A transcription alphabet is a simplified version of the script of the original, with all of its multiplicity of small differences in handwriting and includes the majority of what I will call ‘letters’ of the alphabet⁷¹. The main inheritors of this early work developed the computerized font used here and refer to the letters as ‘glyphs’.⁷² I will refer to the letters as simply letters in order to distinguish between the Aztec hieroglyphs, in the illustrations, also usually called glyphs.

Surprisingly, the scripts used in two Mesoamerican herbals most similar in content to the Voynich manuscript revealed only a few of the specific Voynich letters in the script⁷³. These herbals are the *Badiano* written in Latin with a few Nahuatl plant names⁷⁴, and the *Florentine Codex*⁷⁵, written in Nahuatl with a few Spanish loan words.

⁷⁰ The best and most complete overview of the early history of attempts to decipher the Voynich Manuscript is in D’Imperio (1981), but see also Brumbaugh (1978).

⁷¹ There are twenty five letters in the EVA alphabet, as transcribed by Landini and Zandbergen. Ten of these are represented in a lower case and upper case form. The upper case has a horizontal line through it at the midpoint to indicate that the letter is used in a type of digraph of letters connected by this central horizontal ligature. These ten letters are otherwise indistinguishable from their lower case version.

⁷² Landini and Zandbergen, 1998

⁷³ See Appendix VI. For example, I found only 8 letters out of 25 in the EVA on a page from the Florentine Codex, the major source for Aztec medicine written in Nahuatl.

⁷⁴ Gates, W. (2000, 1939) *An Aztec Herbal: The Classic Codex of 1552*. Dover Publications, Mineola, N.Y.

However, a search of other early colonial Mexican documents reveals nearly all of the Voynich script used in ordinary legal documents, as we shall see.

Much searching of all availableⁱⁱ copies of Aztec and other Mesoamerican codices with artwork similar to the VMs revealed three texts with letters similar or identical to the Voynich script. All three are dated to about the same time period, from the same region and were used for the same purpose. They all date to 1539-1565 and are all from the Valley of Mexico from places that are now within Mexico City or are located within 100 km (60 miles) of there. They are legal documents written by indigenous scribes to bring suit against their Spanish overlords. These are the Codex Otlazpan,⁷⁶ Codex Osuna,⁷⁷ and the Codex Santa María Asunción.⁷⁸

These three documents in which the Voynich script is found are written in Spanish, or Nahuatl, the language of the Aztecs, or both. The Codex Otlazpan (Códice de Otlazpan) is written in Spanish and includes occasional Aztec place names, such as Otlazpan, the name of the town where it was written⁷⁹. The Codex Osuna is a bilingual document written in Nahuatl and includes Nahuatl glyphs of names and place names and

⁷⁵ Dibble, C.E. and Anderson, A.J.O. (Translators) (1963) Florentine Codex: General History of Things of New Spain. Book 11 – Earthly Things. The School of American Research and The University of Utah. Santa Fe, New Mexico.

⁷⁶ Leander, Birgitta. (1967). Códice de Otlazpan: Acompañado de un Facsímile del Códice. [Codex of Otlazpan: Accompanied by a Facsimile of the Codex] Instituto Nacional de Antropología e Historia: México, D. F.

⁷⁷ Chávez Orozco, Luis. (1947) Códice Osuna.[Codex Osuna] Ediciones del Instituto Indigenista Interamericano: México, D. F. p 193.

⁷⁸ Williams, B. J. and Harvey, H. R. (1997) The Códice de Santa María Asunción. University of Utah Press, Salt Lake City.

⁷⁹ Williams, B.J. and Harvey, H.R. (1997) The Códice de Santa María Asunción. University of Utah Press, Salt Lake City.

other illustrations and is translated into Spanish⁸⁰. That is, the historical original document contains both languages, the Nahuatl text is accompanied by a Spanish translation written out below the Nahuatl passage. Similarly, the Codex Santa María Asunción documents land records in Aztec glyphs with glosses written out in Nahuatl and occasionally in Spanish⁸¹.

The Codex Huichapan is also from north of Mexico City and dates from 1539 to 1632, which overlaps the dates of the first three codices considered, but is written in Otomi, the language of the Toltecs. The content studied here covers the workings of a Mesoamerican calendar and year by year entries from 1403 to 1456⁸². The Codex San Toribio Xicotzinco dates to a lawsuit from 1720 and includes an older version “probably from the early XVIIth century”. It was written in Nahua and is from Tlaxcala south of Mexico City⁸³.

The paleography of all five of the texts cited have been transcribed and translated in the sources cited⁸⁴. The following analysis refers to only those letters that are very clearly attested in manuscripts from Early Colonial Mexico. That is, the letters are complete and identical or nearly identical to those found in the Voynich Manuscript, unless otherwise noted. The sound values are taken from the transcriptions of the

⁸⁰ Chávez Orozco, Luis. (1947) *Códice Osuna*. [Codex Osuna] Ediciones del Instituto Indigenista Interamericano: Mexico, D. F. p 193.

⁸¹ Williams, B. J. and Harvey, H. R. (1997) *The Códice de Santa María Asunción*. University of Utah Press, Salt Lake City.















⁸² Alvarado Guinchard, Manuel. *El Codice de Huichapan*, 1976, Instituto Nacional de Antropología e Historia, México, D.F.







⁸³ Meade de Angulo, Mercedes. (1985). *Dos códices del pueblo de Santo Toribio de Xicotzingo, Tlaxcala*. [Two Codexes from the Pueblo of Santo Toribio de Xicotzingo, Tlaxcala.] Universidad Autónoma de Tlaxcala, Mexico. (This document was the first in which I discovered a clear example of one of the gallows figures, it was EVA T ꞥ)

⁸⁴ Most of the scholarly sources are written in Spanish. I have cited English translations or other English sources whenever possible.

manuscripts and are the work of the authors of the various sources cited. The reader is referred to the “Alphabet Table” in the endnotes ⁱⁱⁱ that graphically presents the information that follows, including the codex or text in which it was found, the letter used, how it is transcribed and the language in which it is written.


To summarize the evidence that follows, in four codices from New Spain the Voynich letters are found in documents written either in Spanish or Nahuatl or both . Some Voynich letters are found in another indigenous language and some date to a later period. Some letters seem to be universal in form and are found in other early colonial documents reviewed from New Spain. For example, a page from the Florentine Codex attests some eight of the EVA letters, EVA a, c, e, o, s, v, and y, but is not distinctively similar to the Voynich manuscript⁸⁵.








As might be expected, the distribution of letters varies among the documents. Some of the letters of the Voynich Manuscript are used by all five documents reviewed. These are EVA a-- that is transcribed by scholars as ‘a’, EVA e-- that is transcribed as ‘c’, EVA d— transcribed as ‘s’, EVA i-- that is usually transcribed as ‘i’⁸⁶ and EVA o— transcribed as o. Some VMs letters are used by most of the documents cited, these include EVA c --, EVA h-- , EVA k-- , EVA q-- , EVA r--, EVA v--,⁸⁷ EVA x--, EVA y-- , and EVA z—.












Some of the letters are used in both Spanish and Nahua and have the same sound value. These are: EVA a—, EVA e— c, EVA g— ch, EVA i—, EVA o— o. Conversely, some are used by both but are transcribed differently, these are EVA h-- 


⁸⁵ Dibble, et al (1963) p 222. This is somewhat surprising, given that the Florentine Codex is the only Aztec herbal studied that is written in Nahuatl.

⁸⁶ In two texts this short stroke appears as the right side of a ‘u’, and in the Codex Huichapan it is transcribed as the numeral 1 (one).


⁸⁷ EVA v[] is not actually a letter, it is a macron used as an apostrophe, or perhaps more aptly like a tilde ~, to indicate one or more missing letters.

which in Spanish words is transcribed as an ‘r’ with a ligature to the left, but as a c with a ligature to the left in the only example found in a Nahuatl word. Some Voynich letters are used in Spanish, but not in Nahua. These include EVA d— transcribed as ‘s’, although it signifies the numeral 8 in the Otomí codex studied. Others are the EVA n— and b—, both transcribed as the Spanish letter ‘d’.⁸⁸ Finally there is the EVA u— generally transcribed as a. Some letters are used in Nahua but not in Spanish. These are: EVA k— and EVA z—, both transcribed as ‘tl’ and EVA x—, transcribed as ‘x’.

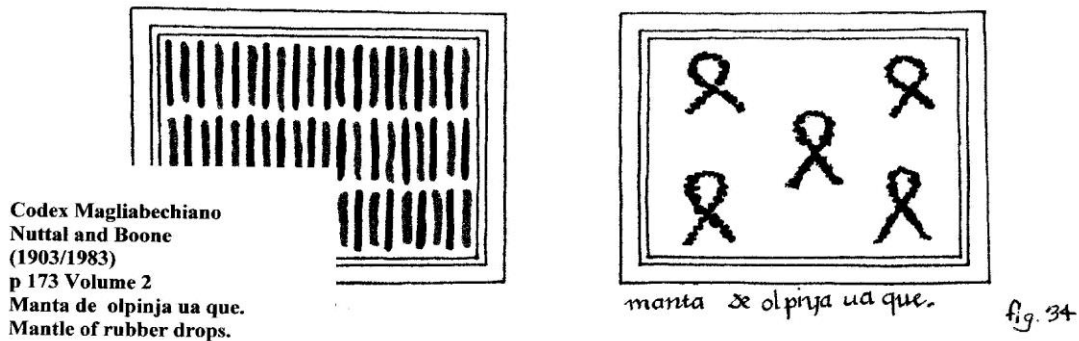
Some letters are not as precise or well attested as those discussed above. These include the EVA b , already mentioned and EVA f  and EVA g . Some have only one identified source, so far, these include EVA p  and EVA l , both found in the Codex Osuna. Most of the features of EVA p  are found in an abbreviation of ‘dicho’ (‘said’ or ‘he said’ in Spanish).⁸⁹ Some EVA letters, like the macron EVA v  or the paragraph marker EVA l ⁹⁰ are not letters at all. Another is the EVA ‘ (apostrophe)  which is found in abbreviated words in both Spanish in the Codex Osuna and in Nahuatl in the Codex San Toribio Xicotzinco. Similarly, the tail of EVA u— found in the Codex Santa María Asunción appears to be an exaggerated apostrophe, and not a letter, but an indicator that one or letters are missing. For example, the  follows a ‘p’ and is transcribed as the Spanish word “para” so the apostrophe abbreviates the missing “ra”⁹¹.

⁸⁸ Although the form of EVA b  is not a precise match to the Voynich letter, it is still quite recognizable, as may be observed in the Codex Osuna and Codex Santa Maria Asuncion. See the Appendix.

⁸⁹ But a clearer and simpler explanation may be found by combining the left stroke and loop transcribed as ‘t’ in the Codex San Toribio Xicotzinco and the right stroke and loop transcribed as ‘s’ in the Codex Osuna to make the digraph ‘ts’ (or ‘tz’) commonly found in Nahuatl.

⁹⁰ EVA l  is attested as a paragraph marker in the only attestation found in the documents considered. However, it clearly appears as a “rubber drop” (*olpriyauaque*) glyph on an Aztec ceremonial cloak in the Codex Magliabechiano. (Nuttall & Boone, 1983/1903, illustration Vol. 1, p. 5; commentary Vol. 2, p. 173.) (See figure 34)

⁹¹ Leander, Brigitta (1967) p 99 and folio 10 from the facsimile.



To summarize, some 22 out of the 25 EVA letters, are attested in multiple and clear examples in Mesoamerican documents-- most from the 16th century. Another three examples of Voynich letters have recognizable, but less precise or complete attestations. Please refer to the Appendix for photocopies of the letters *in situ*. The EVA alphabet successfully identified 19 forms of individual letters. Seven of the EVA alphabet letters are attested as digraphs⁹², and six out of 25 are duplicated letters.⁹³

The Codex Osuna is among the Early Colonial Mexican documents studied by Vicenta Cortés Alonso in her work *La Escritura y lo Escrito: Paleografía y Diplomática de España y América en los Siglos XVI y XVII*.⁹⁴ She notes that the script used by indigenous scribes in the Codex Osuna is Courtesan script, the national script of Spain and uses folios seven and twenty-six in the Codex Osuna as an illustration of that indigenous script. Photocopies of folio 7 (f 469-7) with Voynich script are found in the appendix where the reader may observe the Voynich manuscript letters used in context.

⁹² EVA f, g, k, m, p, t and z.

⁹³ In Spanish the letter a is denoted by EVA a, h and u; c by EVA e and c; d by EVA d and n; r by EVA h and r; and s by EVA d, j, and f. In Nahuatl the c is denoted by EVA e and c; t by EVA q and r; tl by EVA k, t, and z.

⁹⁴ Cortés Alonso, 1986, [Writing and what was written: Paleography and diplomatics in Spain and America in the 16th and 17th centuries].

The Courtesan script used in the Voynich manuscript is not unique, but rather was widely used in Spain and her colonies in the XVIth century script. It was developed in Italy in the XVth century in Italian chanceries, entered Spain through Aragon and was adopted in in the XVIth century,⁹⁵ and according to Bribiesca, ⁹⁶disappears by the XVIIth century. This script was taught to many of the indigenous Mesoamerican colonials who well understood the benefits of literacy

in the Spanish missionary schools⁹⁷. The indigenous Mesoamerican adopted and adapted the script to their own needs. Dr. Cortés notes that different languages led the scribes to use of new and distinct letters. However, there are some variations in the precise name for the Courtesan hand of Spain. This same script is known as ‘bastard hand’ by the great French scholar of Latin--Robert Marichal (Cortés, 1986; Marichal 1963). Whether one uses the more general terms Humanist, or Italic, or the more precise terms Courtesan, or even Bastard Hand, this script was taught by the Spanish religious schools and adopted by the indigenous people of Mexico. It is an elegant script, and as Doctor Cortés says, may be recognized on sight. (1986)

Discussion

The Voynich manuscript has been assumed to be European because the script, format, and most, but not all, of the style is European. Since it is not written in any identifiable European language, it must not be entirely European in style or content. See, for example, G. Jaskiewicz⁹⁸ for a recent computer comparison of about 300 languages



⁹⁵ Cortés Alonso, 1986

⁹⁶ Bribiesca Sumano, María Elena (1990) Introduccion a la Paleografía. [Introduction to Paleography] Serie de Informacion de Archivos (12). Archivo General de la Nación.

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⁹⁸ Jaskiewicz, G. (2011) Analysis of Letter Distribution in the Voynich Manuscript. Concurrency, Specification and Programming. Pultusk, Poland.

that concludes the frequency counts of Voynich letters is most closely related to non-European west Asian languages. That the art work has been generally recognized as odd, strange and outlandish also suggests that it is not familiar to Europeans and not entirely a product of European civilization.

The date of the Voynich Manuscript is a matter of some debate. The usual estimates are 15th century to mid-16th century. Recently the vellum on which it is written has been dated to the 15th century. But that does not date the writing on the vellum.⁹⁹ Greg Hodgins, the author of the study that dated it states, “It is important to realize that we date when the animal lived, not when the book was made”.¹⁰⁰ Further, other scholars have noted “...some materials, such as vellum, were so expensive in medieval Europe that they were sometimes scraped clean and reused.”¹⁰¹ Despite the dating of the vellum to the fifteenth century, the preponderance of evidence presented above suggests that the Voynich Manuscript itself, if not the vellum upon which it was written, dates from the mid-sixteenth century.

The mixture of European and Mesoamerican styles, motifs, glyphs, is the result of ‘aculturation’ that is the contact between the Spanish and Mesoamerican worldviews, signs, symbols, techniques and traditions of each of their systems for making illustrated manuscripts. The use of the letters with the sound values of ‘d’, that is the EVA b— and EVA n— are important clues to this process. Both occur, not in the Nahuatl sections of the Codex de Huichapan, but in the sections written in Spanish using the indigenous style identified as the Courtesan hand. Both are used in Spanish loan words,

⁹⁹ Lorenzi, Rossella. (2011) Mysterious Manuscript’s Age Determined. Discovery news. Posted February 11, 2011. Last accessed 12-30-2011.

¹⁰⁰ Quoted in Lorenzi, 2011.

¹⁰¹ Barber and Berdan, 1998, p 58.

but not in Nahuatl, because Nahuatl has no such sound¹⁰². The indigenous scribes who wrote the Codex Otlazpan and the Codex Santa Maria Asuncion clearly did confuse 'r' and 'l', hence the use of EVA s 2 for the sound value 'r' in both. Nahuatl has no 'r' sound. This confusion of letters and use of the letter 'd' for loan words are both indications that suggest the acculturation process is still in its early stages¹⁰³.

In summary, the Voynich manuscript has features that are mysterious to Europe, but commonplace in Early Colonial Mexico. The artwork that is so very difficult to date by European standards may be dated to the sixteenth century, the Golden Century of Spain in which Mexico was conquered. (See Figure 37 for an illustration of Spaniards and Nahuas from the Codex Osuna.) Sixteenth century Mexican art is characterized by the flat, perspectiveless, iconographic illustrations, and by the flat imprecise washes of color, as may be observed in the Badiano and Florentine Codex. (See Figure 38 for another example from the Codex Osuna.) Many of the mysteries of the Voynich are found to be fairly common in ancient Mesoamerican art. These include recurrent Mesoamerican artistic devices such as the crossed roots motif, uncial (fingernail) rings on the roots of one of the Voynich manuscript herbs, several more or less clear Aztec glyphs. Some features are common to Mexico, but not found together in Europe, specifically, a city on islands with causeways overseen by a volcano.

¹⁰² Anderson, A. J. O., Berdan, F. and Lockhart, J. (1976) *Beyond the Codices: The Nahua View of Colonial Mexico*. University of California Press: Berkeley.

¹⁰³ Lockhart, 1992. Lockhart's Stage One dates from 1519 to 1540-1550, or perhaps Lockhart's Stage 2. Clearly more research is needed to be certain.

Most of the EVA alphabet used, as transcribed by Landini and Zandbergen,¹⁰⁴ may be found in one manuscript dated to 16th century Mexico, the Codice Otlazpan. The rest of the VMS script has been attested in other codices from New Spain. The Voynich script is apparently a local variant of the Courtesan hand, the national script of Spain and her colonies in the XVIth century adopted by indigenous Mexican scribes¹⁰⁵. With the exception of the Codice de Huichapan, all of these letters and drawings used to deduce the provenance of the VMS are found in manuscripts written wholly or in part in Nahuatl, the indigenous lingua franca of New Spain. No serious investigation of the Voynich manuscript has been undertaken by a recognized scholar of that language. The arguments that the Voynich manuscript is a fraud or gibberish have been based on the long-held, but unsupported assumptions that it is written in an unknown script, in an unknown language and has either an unknown author or an unknown subject matter. These arguments fail in the face of the evidence presented here: that the alphabet is known; the subject matter is remarkably similar to the three largest and most recognized of the Early Colonial Mexican herbals, the illustrations and alphabet are similar, if not identical, to those written in Nahuatl. The language used, by inference, must be Nahuatl, the language of the Aztecs with Spanish loan words.

Further investigation based on a linguistic analysis using the Nahuatl language may be expected to reveal the Voynich manuscript to be an encyclopedically extensive medical document that survived from the Early Colonial period of New Spain, second in

¹⁰⁴ Landini and Zandbergen, 1998

¹⁰⁵ The eminent French paleographer of Latin, Robert Marichal (1986, p. said, “Changes of script are expressions of changes in ‘mentality’ or of character.”¹⁰⁵ Professor Vicenta Cortés Alonso, wrote: “...in America, ... the distinct languages seem to incline the scribes to use distinct script (letra), while a simple look (vista) will note the difference.”

length and importance only Sahagún's Florentine Codex¹⁰⁶ the only other major medical manuscript written in Nahuatl.

The Voynich Manuscript is worthy of respect and serious, careful investigation by scholars--not because it is a mystery, but because it is, in all probability, one the largest surviving documents of medicinal knowledge of the Aztecs, one of the highest and most advanced civilizations the world has produced. Of the four standard sources for Aztec medicine the largest and most important is the Florentine Codex in its various versions, both because of its size and because it is written in Nahuatl. The second largest is the Natural History of Francisco Hernández written in Latin, as is the Badiano. The Voynich manuscript, as this article has shown, appears to be both an Aztec medical text and to be written in Nahuatl. The Voynich Manuscript appears to be the third largest early colonial Aztec medical text, and the second largest in Nahuatl. Thus the Voynich Manuscript holds inestimable value to the history of medicine, to all indigenous Americans, and to the patrimony of Mexico.

¹⁰⁶ Ortiz de Montellano, B. (1990) Aztec Medicine, Health, and Nutrition. Rutgers University Press, New Brunswick. (The Natural History of Dr. Francisco Hernández is longer, but not written in Nahuatl.)

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










































ⁱ Codices, such as the Voynich manuscript, have pages called folios that are numbered only once. The front is indicated as ‘recto’ and the back as ‘verso’, so the back of page 29 would be folio 29 verso, and abbreviated f 29 v. Some pages of the Voynich are very wide and fold out, which makes numbering problematic. In those cases, I indicate the page in *Le Code Voynich* (Gawsewitch, 2005) a full color reproduction of the Voynich, and in the website of Beinecke Library at Yale University (Beinecke Library, Yale University n.d.), an internet resource of all the pages of the VMS. I indicate the Beinecke Library as “Yale”, then the page number and ‘r’ for recto the front page, and ‘v’ for verso, the back of the page. So, for example, to see a snake glyph, one would go to Yale 43 v at <http://beinecke.library.yale.edu/digitallibrary/voynich.html>, it is on page 5 of 11, and is plainly marked. The illustration of the same folio (43 v) may be found on page 126 of *Le Code Voynich*, (Gawsewitch, 2005). Another source good source that sometimes prints out in a larger size than the Yale site may be found online at The Open Library <http://www.archive.org/details/TheVoynichManuscript> .

ⁱⁱ My great thanks to the patient and knowledgeable staff at the California State University, Fresno Madden Library.

Alphabet Table: The Voynich Alphabet as Attested, by Codex and Sound Value

(Sp = Spanish, Na = Nahua, Ot = Otomi, * = imprecise or uncertain)

EVA	Codex	Value	Codex	Value	Codex	Value	Codex	Value	Codex	Value
	Otlaz-pan	Spanish, except	Osuna	Spanish Nahua	Santa María Asuncion	Nahua Spanish	San Toribio Xicotzinco	Nahua	Huichapan	Otomi/Spanish
a		a Sp		a Sp/Na		a Sp		a Na		a Sp/Ot
b			*	d Sp	*	d Sp				
c		c Sp		c Sp						c Sp
d		s Sp		s Sp	*	s Sp		s Sp		numeral 8
e		c Sp		c Na		c Na		c Na		c Sp/Ot
f			*	Right half long s Sp						
g	*	ch Sp			*	elongated ch Na				
h		r Sp	*	a Sp		r Sp		c Na		
i		i, u right side Sp		i, right side u Na		i Sp/Na		l Na		i, l Sp/Ot
j			*	final s Sp						
k		tl Na	*	tl, right half 'l' Na		tl Na	*	tl Na		
l		paragraph marker Sp								
m						th Sp				
n				d Sp		d Sp				
o		o Sp		o Sp/Na		o Sp/Na		o Sp/Na		o Sp/Ot

p 	* 	Part of dicha Sp								
q 			* 	t Sp		t Sp/Na				numeral 4
r 		rotated final r Sp		rotated final r Sp				t Na	* 	rotated numeral 2
s 	* 	left side of RR Sp						l Na		
t 	* 	part of dicho Sp	*EVA t 	dh, dl joined Sp				tl Na		
u 	* 	co, a in para Sp				a short tail Sp				
v 				~ N above y, e, o. M above o. Na	* 	above y Na				above a Ot
x 				x Na		x Na	* 	top not flat x Na	* 	top not flat x Ot
y 		y Sp			* 	q, g Na	* 	q, tail flourish Na		numeral 9
z 		tl Na	* 	tl Na		tl Na	* 	tl Na		
, 				above c = o Sp		above q below c Na				

Illustrations

- Fig. 1-Capsicum chili peppers identified by O'Neal (1944) VMs f 100 r
<http://www.archive.org/details/TheVoynichManuscript>
- Fig. 2- Sunflower identified by O'Neal (1944) VMS f. 33 v.
<http://www.archive.org/details/TheVoynichManuscript>
- Fig. 3-Snake in roots of herbal illustration from Voynich Manuscript f 3 v.
<http://www.archive.org/details/TheVoynichManuscript>
- Fig. 4-Snake in roots VMs f 43 r.
<http://www.archive.org/details/TheVoynichManuscript>
- Fig. 5-Snake day sign from Codex Magliabechiano Wikipedia article. f 11 v of Codex Magliabechiano, shown with more detail on reverse of the page labeled 9 at the top center of the page and 11 at bottom right of the page. Nuttall, Zelia. (1903/1983) *The Book of the Life of the Ancient Mexicans Containing an Account of Their Rites and Superstitions*.
- Figure 6-Snake in herbal illustration of medicinal herb *coayielli*. Florentine Codex, Book 11, Illustration #506. Dibble & Anderson, 1963, p 251.
- Figure 7-(Libro VI, cap. LXXVIII). Tres Grabados de la Historia Naturae, Maxime Peregrinae de Juan Eusebio Nieremberg, S. J. (1635) in Francisco Hernandez, (1959, p 445.) *Obras Completas II, Historia Natural de Nueva España I*, UNAM: Mexico, DF
- Fig. 8- Tlaloc's mustache? in the roots of VMs f. 2 r.
<http://www.archive.org/details/TheVoynichManuscript>
- Fig. 9-Tlaloc. "Tlaloc, the so-called "rain-god" of Mexico. "
Courtesy Akademische Druck- und Verlagsanstalt, Graz
http://www.bibliotecapleyades.net/hamlets_mill/hamletmill_images/tlaloc.gif
- Fig. 10-Tlaloc Plate 17 Jacques Soustelle (1955/1995) *Daily Life of the Aztecs*. English translation from the French by Patrick O'Brien. Phoenix: London.
- Fig. 11-Tlaloc. Figure 2 Miller and Taube (1993, 1997, p 167)
- Fig. 12-"The Cross of Tlaloc" Fig. 2. Langley (1988) in Berlo (1992, p 250)
- Fig. 13-"Stylized head of storm god". Fig. 1. Langley (1988) in Berlo (1992, p 249)
- Fig. 14-"Storm God insignia". Fig. 3. Langley (1988) in Berlo (1992, p 250)
- Fig. 15-Voynich manuscript folio 27 verso. Wind Jewel glyph in roots.
<http://archive.org/details/TheVoynichManuscript>
- Fig. 16-Tlazolteotl-Teteo innan-Toci. Codex Borbonicus folio 30. Note the wind jewel shape of the glyph covering her mouth. Sullivan (1977, Fig. 10) in Boone (1982).
- Fig. 17-Quetzalcoatl, from Codex Magliabechiano f. 61 r. in Gruzinski (1992, Plate 40, p 62. Note the "sectioned conch whorl *wind jewel*" glyph on Quetzalcoatl's serape.
- Fig. 18-Detail of Quetzalcoatl, from Codex Borbonicus, p 22. In Gruzinski 199, Plate 54, p 74. Note the "sectioned conch whorl *wind jewel*" glyph on Quetzalcoatl's shield.
- Fig. 19- 'Crossed legs' in roots of plant VMs 28 r
<http://archive.org/details/TheVoynichManuscript>
- Fig. 20-Voynich Manuscript f. 51 r. <http://archive.org/details/TheVoynichManuscript>
- Fig. 21 Voynich manuscript f 52 v. <http://archive.org/details/TheVoynichManuscript>
- Fig. 22-Crossed roots and stems. Badiano f. 34 r. De la Cruz (1991) Note heading *Urine difficultas*.
- Fig. 23-Crossed roots in depiction of maize. Miller and Taube (2003, p 109)
- Fig. 24- Roots with uncial rings Voynich Manuscript f. 22 v.
<http://archive.org/details/TheVoynichManuscript>

- Fig. 25-Uncial rings: Detail of roots with uncial rings drawing of fol. 22 v from VMs.
Fig. 26- Paw of a feathered feline, probably from Techinantitla, Teotihuacan. Berrin, et al. (1998)
Fig. 27-Owl with uncial rings around its talons. From Techinantla, Teotihuacan A.D. 600-750 Berrin, et al. (1998)
Fig. 28 Paw of animal with uncial rings around claw identified as a puma by Miller and Taube (1993) and as a coyote by Berrin, et al. (1998)
Fig. 29-Feathered Feline, Probably from Tenochinantitla, Teotihuacan A.D. 600-750 Berrin (1988, p. 187) Plate 32
Fig. 30-Voynich Manuscript f. 33.r. Niño y niña plant.
<http://archive.org/details/TheVoynichManuscript>
Fig. 31-Volcano and city with causeways. Medallion section of VMs f. 86 recto
Fig. 32-Figure in sombrero from VMs 71 recto, 3:00 o'clock, inside circle, others at 5:00 and 7:00 o'clock on outside circle. <http://archive.org/details/TheVoynichManuscript>
D'Imperio, (1981, p 115, Figure 37)
Fig. 33 Voynich Manuscript f. 70 r. Lady crawling out of bath tub at 2:00 o'clock, inside circle.
Fig. 34-Ceremonial robe with five European Voynich Alphabet 'l's. The label says *manta de olpinyaque*, 'mantle (with illustrations) of drops of rubber'. Codex Magliabechiano (Nuttall and Boone 1903/1983 p 5, Vol. 1 and p 173 vol. 2.
Fig. 35-Viceroy and Nahuas from Codex Osuna 471-7 verso Chávez Orozco, Luis. (1947) Códice Osuna.
Fig. 36-Mesoamericans (*yndios*) laboring under direction of Spaniard (*español*) outside frame of picture. Codex Osuna, fol. 500-38 v. Notice the iconic plants, faces drawn only in profile, and the lack of perspective. (Chávez Orozco, 1947)

Appendices

Attestations of the Voynich Alphabet using the EVA, *in situ* in Early Colonial Mexican manuscripts. Transcriptions of paleography by respective authors of works cited.

Appendix I Codice Otlazpan. (Leander, 1967) Spanish with Nahuatl loan words.

I-1 Folio 7 EVA a, c, d. (EVA b not found)

I-2 Folio 7 EVA e. (EVA f, and h not found; EVA g imprecisely attested as *ch* part of abbreviation for *dicho*.)

I-3 Folio 7 EVA i, k, l. (EVA j not found)

I-4 Folio 7 EVA o, r. (EVA m, n, q and s not found. EVA p imprecisely attested as *ch*, part of *dicha*.)

I-5 Folio 7 (EVA t, u, y, z not found)

I-6 Folio 10 EVA l. (EVA u, s, l not found. EVA u is approximated by EVA a with sweeping arc (tilde or apostrophe) part of abbreviated *para*, EVA u with shorter tail transcribed as *c o*. EVA s left half of RR in *RResureción*.)

I-7 Folio 11 EVA h.

I-8 Folio 13 EVA z.

Appendix II Codex Osuna. Both Spanish and Nahuatl. (Chávez Orozco 1947)

II-1 Folio 469-7 r. EVA a, and c. (EVA b not found.)

II-2 Folio 469-7 r. EVA d, e. (EVA f not found. Right half, long *s f*, but not left vertical stroke, found in Spanish sections.)

II-3 Folio 469-7 r. EVA h, i, j. (EVA g not found.)

II-4 Folio 469-7 r. EVA n, o. (EVA k, l, m not found.)

II-5 Folio 464-2 v. EVA n, r. Both in Spanish.

II-6 Folio 469-7 r. EVA q. (EVA r, s, t not found.)

II-7 Folio 469-7 r. EVA v, x. EVA u, y, and z not found.

Appendix III Codex Santa María Asunción. Nahuatl with Spanish loan words.

III-1 Folio 8 r. EVA a, e. EVA b, c, d, f, and g, h not found. Variant of EVA b in Spanish names.

III-2 Folio 8 r. EVA l, m, o. EVA j, k, l, n, p, q, r not found.

III-3 Folio 11 r. EVA b. EVA g, s, t, u, v, x, y, z. Variant of EVA y = q and also y = g, variant of EVA z = tl.

III-4 Folio 14 v. EVA g, m.

Appendix IV Códice de Santo Toribio Xicotzinco. Nahuatl. (Meade de Angulo, 1985).

IV-1 Document A. EVA a, c, h. (EVA b, c, d, f, g, not found.)

IV-2 Document A. EVA i, o. (EVA j, k, l, m, n not found.)

IV-3 Document A. EVA r, s, t. (EVA p, q not found.)

IV-4 Document A. (EVA u, v, x, y, z. Variant of EVA y with flourish on tail = q. Variant of EVA z = tl.)

IV-5 Document A. Ligatures similar to Voynich manuscript gallows figure ligatures

IV-6 document B. EVA t, d. Left half of EVA t = l.

V El Codice de Huichapan. Spanish and Otomí. Alvarado Guinchard (1976, p. 60)

V-1 Page 11. EVA a, d, e, i. (EVA b, c, f, g, h, j not found.)

V-2 Page 11. EVA o, q, r. (EVA k, l, m, n, p not found.)

V-3 Page EVA v, y. (EVA s, t, u, x, z not found. Many x's without flat tops found.)

VI Florentine Codex. Dibble et al. (1963, p 222. Book 11, Ch 5, paragraphs 6 & 7.)

VI-1 EVA a, c, e, j, o.

VI-2 EVA s, v, y. Ligatures ch, cti, th, tzi.



o tonyn
yef 6 tu

Thom

5) $t_{\text{газ}}$

✓/Seely
made quality

Sei a fat
mae gii

100


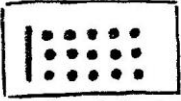
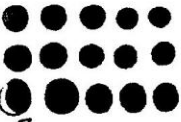
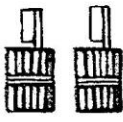

13

I-1

Codice Otazpan

folio 7

3 of 8

① n=12 lines 2, 6, 9, 10, 11, 14, 19, 20, 21
 n=0
 ② n=0
 ③ n=1 line 18 P marker

④ n=7
 ⑤ n=5

folio 2
 line 1

otlaspa = otlaspa(n)

So H. used in Nahuatl
word names of pueblo
litigant



1 y beynte en onç. a de tributor medio tomñ cada ochenta dias y quarenta va
 2 xas Selenia y cada año una gallina / yel q tuviere ochenta bracas de terra en
 3 Largo y beynte en onç. a de tributor cada ochenta dias. ochenta cacas y qu
 4 rentas y xas Selenia y cada año una gallina / y los q tuviere a segenta
 5 bracas de terra Largo y beynte en onç. a de tributor cada ochenta dias segem
 6 ta cacas y quarenta xas Selenia y cada año una gallina / yel q tuviere
 7 quarenta bracas segementera Largo beynte en onç. a de tributor quarenta
 8 cacas y quarenta xas Selenia cada ochenta dias y cada año una gallina
 9 dela terra / yel q tuviere beynte bracas segementera en quadra. a de tributor
 10 cada ochenta dias beynte cacas y quarenta xas Selenia y una gallina
 11 dela terra cada un año / yel q tuviere beynte bracas segementera Largo y
 12 quinze en onç. a de tributor cada ochenta dias quinze cacas y quarenta va
 13 xas Selenia y una gallina dela terra cada año / yel q tuviere beynte bracas
 14 segementera Largo y diez en onç. a de tributor cada ochenta dias diez cacas
 15 y quarenta xas Selenia y una gallina dela terra cada año y no m de
 16 dez otra usa m seles a depezar. Dize q las bracas an de ser voras que cada una
 17 tenga dos bracas con nines de hontes.


do
 de
 de

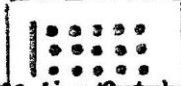
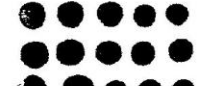
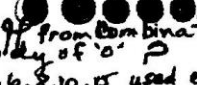
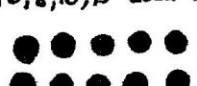



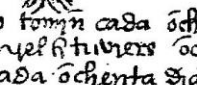
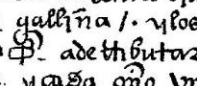
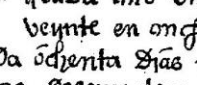
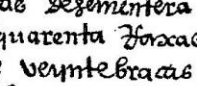
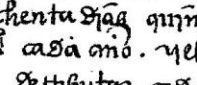
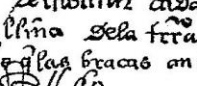
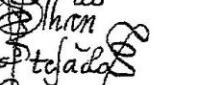
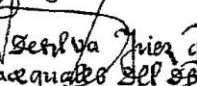
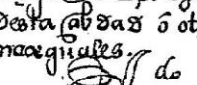
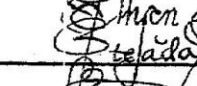






18 am su mismo. Dexo hordenado mñ de hontes q fue por mandado de sta
 19 Real abeynca al pñ q todos los marzales del pñ hontes un horno
 20 de cal de deposito pa las obras pñ de sta abeynca o otras y les o pa la yglesia
 21 del pñ por q no se huela este los marzales.

do
 de
 de

I-3

I-4


 n=0 but see fig 19 dicto
 up swing of ligature
 @ n=0 this page but see folio 70 n=7.
 ^ n=0 but multiplex - lines 2, 6, 8, 10, 15 used exclusively in word *Veracas*
 T n=0 but 9=9
 9 n=0 but 9=9
 if n=0 this page Spanish

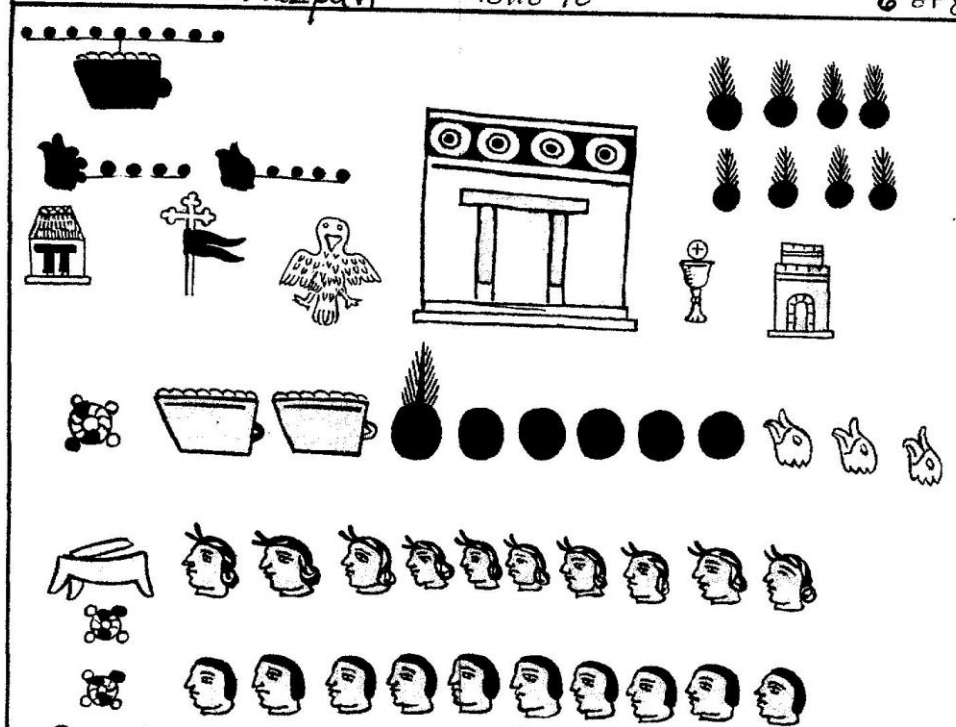
- 1 y beynite en oncf a de tributor medio tomn cada ochenta dias y quarenta de
- 2 xas Selenia y cada ano una gallina / yel q tubiere ochenta bracas de terra en
- 3 largo y beynite en oncf. a de tributor cada ochenta dias. ochenta cacos y una
- 4 renta y xas Selenia y cada ano una gallina / ylos q tubieren a sesenta
- 5 bracas de terra largo y beynite en oncf. a de tributor cada ochenta dias sesen
- 6 ta cacos y quarenta y xas Selenia y cada ano una gallina / yel q tubiere
- 7 quarenta bracas de sesentera largo y beynite en oncf. a de tributor quarenta
- 8 cacos y quarenta y xas Selenia cada ochenta dias y cada ano una gallina
- 9 de la terra / yel q tubiere beynite bracas de sesentera en quadra. a de tributor
- 10 cada ochenta dias beynite cacos y quarenta y xas Selenia y una gallina
- 11 de la terra cada un ano. yel q tubiere beynite bracas de sesentera largo y
- 12 quinze en oncf a de tributor cada ochenta dias quinze cacos y quarenta de
- 13 xas Selenia y una gallina de la terra cada ano. yel q tubiere beynite bracas
- 14 de sesentera largo y xas en oncf. a de tributor cada ochenta dias diez cacos
- 15 y quarenta y xas Selenia y una gallina de la terra cada ano y uno en de
- 16 dez otra cosa maseles a depezar. Dize q las bracas an de ser voras que cada una
- 17 tenga dos bracas con nines de chombr.

- 18 san su mismo. Dezo hordenado mñ de silva yier q fue por mandado de sta
- 19 real abdena al pñ q todos los masequales del pñ tubiesen un horno
- 20 de cal de deposito pa las obras pñ de sta abdena o otras ytes o pa la yglesia
- 21 del pñ. por q no de deusa ote los masequales.

Codice Otlezpan

Folio 10

6 of 8



1. q'a se aver el mun y casa publica pa q'astos sella q'se gasta ca da dia. tie
2. gallinas dela trã cada dia y quimis cacabos y una haneaga de mahiz y diez
3. yndias pa diez pon y diez yndios pa diez leña y agua y pa serbir de
4. dia casa y se an de mudar cada sabado estas yndios y yndias de serbi
5. do

Man
tefada

6. fmsy mmo Sexo el sp Juez horzonado q'se gastase de mas de lo q'ha
 7. sp 6 das fiestas el año queo lavna desant matheo y ota de pacia de
 8. Resurecion. Cada fiesta delas dias hes mill e diez cacabos. y an gallinas
 9. dela trã y an gallinas. y an haneagas de mahiz. y no atuyada y n g

⊙ n=0 but a n=3 lines 1,3 part of para pa note others lines
 ♂ n=4 line 8 q q "co" part of cinco and
 2 n=0 but left half of RR in Resurecion Resurecion
 △ n=1 line 6 with left side flourish

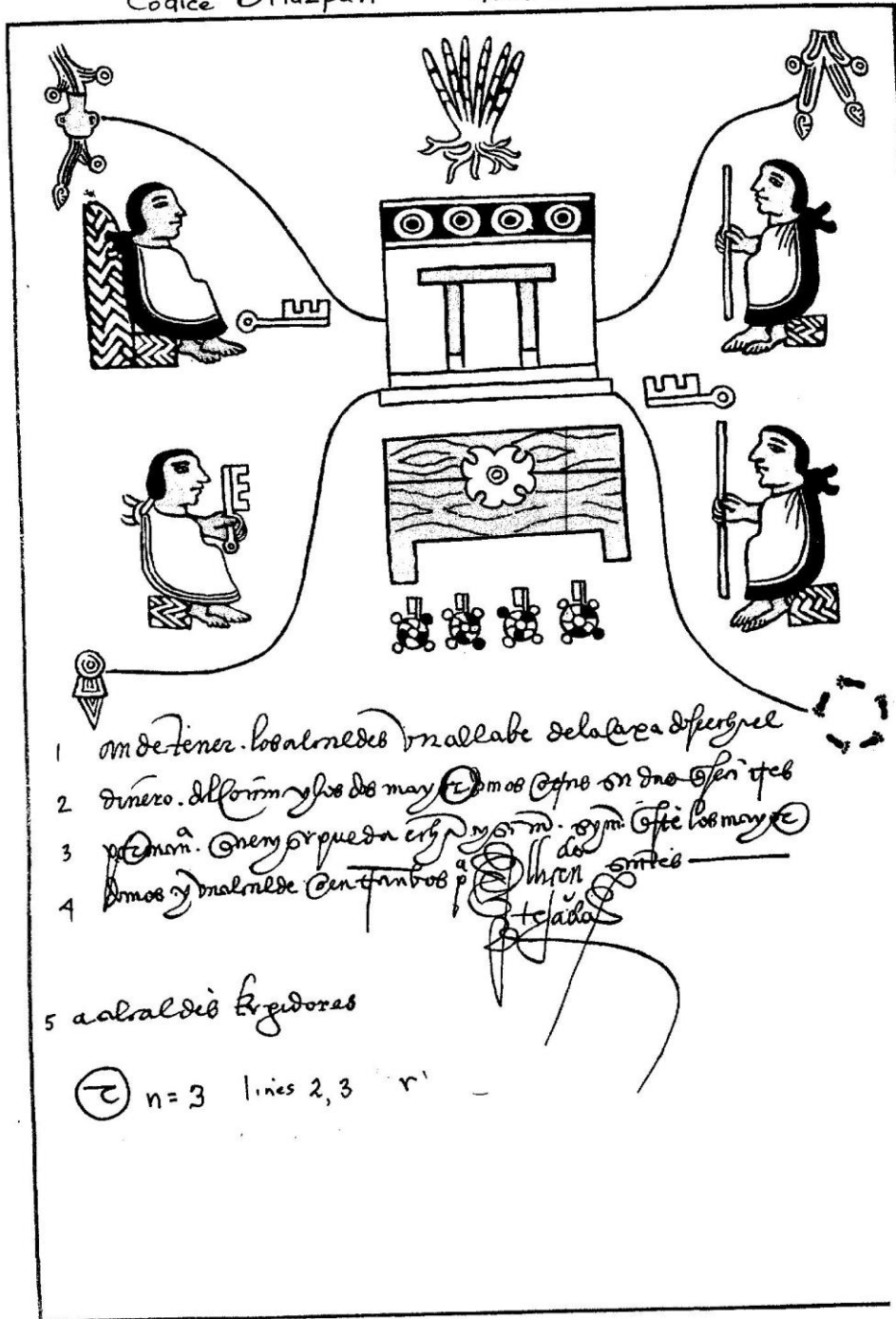
Man
tefada

I-6

Codice Otlatzpan

folio 11

7 of 8



I-7



Almanaque de la Corte de una

fol 7

$n=0$ [$n=2$] and see $n=2$ line 2 See in lines 17 and 18 but many $n=6$ in Nahua lines 2 and 17 all 11

$n=0$
 $n=0$
 $n=0$

$n=1$ line 6
 But 3 in p.
 464.2 verso
 $n=11$ in
 lines 5, 3, 4, 11. In both Nahua 11 & Spanish 46. E 6, 11

2 Cymicmoquez. tetenamit ay amotlaxihua y mtlapixcahua. ut totus
 3 caus. y. Ju mao. y de forero y condaoz. y fadoz.

4 Omoliguan al daniel pa car fenza de laguna 8ta in daniel
 5 mandad de d. berruy. yamq ce p. me ten n. les. far
 6 d. m. 2. no f. les. di. de roma in ota. a f. j. en la anal. d. h. 3
 7 rep. m. f. de d. cor. de met. a. y san d. ayo y ota m.
 8 prop. m. t. a. s. g. quant. d. d. ind. i. n. a. b. a. r. i. a. n. e. i. n. l. a. s. o. h. i. e.
 9 d. i. c. e. r. o. n. g. i. n. l. o. s. e. n. c. i. d. m. a. s. d. e. a. m. p. a. r. e. u. r. h. a. b. a. r. i. a. n. e. i.
 10 m. z. e. i. n. d. i. o. l. e. a. l. u. a. n. i. o. y. m. a. s. y. m. u. n. t. a. l. g. o. s. v. e. g. i. s.

11 Comozza d. i. c. e. a. n. s. p. o. c. a. m. a. s. m. u. n. t. i. z. i. o. n. i. n. a. g. g. n. i. a.
 12 enestapalapa pa. tra. n. l. a. p. i. d. a. d. o. l. a. o. b. a. u. l. a. s. p. t. a. m. a. y. d. e.
 13 enq. h. a. b. a. r. i. a. n. q. m. e. f. e. r. m. i. n. j. a. o. t. a. n. d. d. a. d. e. l. a. s. i. n. d. i. e. s.
 14 de m. e. p. i. o. y. s. a. n. d. a. p. a. s. y. a. m. q. f. e. l. e. d. e. s. p. a. r. i. a. n.
 15 d. i. c. e. n. t. i. b. a. d. i. n. a. e. n. q. s. o. l. a. n. s. o. l. e. a. n. o. f. e. c. i. t.
 16 e. p. a. r. a. d. p. o. r. e. l. l. o. a. f. a. a. l. g. o. s.

17 Cymicmotafacae. acc. d. i. c. h. y. n. o. p. a. y. n. i. t. a. p. a. l. l. a. p. a. y. a. m. o. y. m. i. n. i. a. t. i. n. a.
 18 y n macehualtin. y. ju. m. d. e. p. u. e. p. a. y. n. i. m. a. y. o. r. d. o. m. o. y. n. i. a. m. a. y. o. r. d. o. m. o.

Znam.
 Cuenca

II-4

5 of 7

Pintura del Gobernador, Alcaldes y Regidores de Mexico "Codice Osuna"
(1973) Ministerio de Educación y Ciencias, Madrid

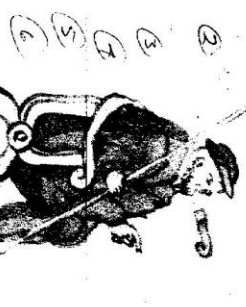
464 2 verso 5 of

II-5

① lines 2 and 3 n=3

Note, C in line 2 ≡ Como añadido al doctor - transcription from Chavez Orozco 1877 (1875)
Codice Osuna

① 200102/rey nos /



Comandante de la Real Armada de la Paz
delegado de la Real Armada de la Paz
delegado de la Real Armada de la Paz
delegado de la Real Armada de la Paz
delegado de la Real Armada de la Paz
delegado de la Real Armada de la Paz

② 2 = 2 ENAR line 1 Spanish

464-2 verso

Codice Osuna

② Y tenex chucatesponti xpm matlaclatt onca x monamato
③ ymanuillaclapillo.

0
00000 00000
11111111 11111111

Códice Osuna

iffy & but
 ④ on line 1 also line 11, 13
 ? N=6 reversed See 464-2
 ? N=6 Reversed
 ⑨ no but see line 8, part
 Spanish line 5
 line 6 of 7
 So 4-23p, 1 Na
 Spanish
 of dicha dha y la and line 12 las de las
 so part of dha, dl joined. Spanish
 En 46-26, 27

2 Cymemoquey tetemmil ay amotlaxitahua y milapixcahua. itotant
 3 cauz y humo y de serrero y condaoz y fadoz

4 amoligicau al dhenada pa carfensa de la laguna 8ta in dha
 5 mandad de dha berron y amq ce p. p. me ten n. c. e. r. a. n.
 6 dha m. l. no f. e. d. i. d. e. o. m. e. n. i. o. t. a. c. i. f. i. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 7 dha m. f. e. d. i. d. e. o. m. e. n. i. o. t. a. c. i. f. i. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 8 p. r. e. m. i. t. a. d. o. s. q. u. a. n. t. i. d. a. d. d. e. i. n. d. i. v. i. d. u. a. l. e. s. y. s. a. n. d. a. g. o. y. o. n. a. m. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 9 dha m. f. e. d. i. d. e. o. m. e. n. i. o. t. a. c. i. f. i. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 10 m. e. n. t. e. n. l. o. d. h. a. l. e. z. a. y. m. a. s. y. m. u. n. t. e. n. l. o. d. h. a. l. e. z. a.

11 Como aza dha amotlaxitahua y milapixcahua. itotant
 12 enestapalapa pa traxitahua de la oba dha p. t. a. m. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 13 enq. dha f. a. z. a. n. y. m. e. f. e. r. m. i. n. i. a. d. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 14 dha m. f. e. d. i. d. e. o. m. e. n. i. o. t. a. c. i. f. i. e. n. t. e. n. l. o. d. h. a. l. e. z. a.
 15 m. e. n. t. e. n. l. o. d. h. a. l. e. z. a. y. m. a. s. y. m. u. n. t. e. n. l. o. d. h. a. l. e. z. a.
 16 dha m. f. e. d. i. d. e. o. m. e. n. i. o. t. a. c. i. f. i. e. n. t. e. n. l. o. d. h. a. l. e. z. a.

4 Cuenti - line 15 Ai misspelled??, looks like 4 to me.
 Cuenti
 But transcribed as cuenca. see below last line
 a misspelling? mis transcription?
 Cymemotitacae. aculotti. y napa y itapallapa. y amomintitacahua
 y n macehualtin. y jum. de quipa. y mator como y mgle sia m. a. n. d. a.

Cuenca
 Cuenca
 II-6

Códice Osuna

469-7

7 of 7

\odot n=0
 \square n=7
 \otimes n=2
 \circ n=0
 Δ n=1
 top line

\hat{y} n=5, \hat{o} n=1, \hat{e} n=1
 y n=the in nahua
 line 8 other Δ in Nahuatl writing (Lima) and Spanish
 in line 8 and line 15. labeled Δ with normal
 cut at top X not X or X

En 46. Δ b. De


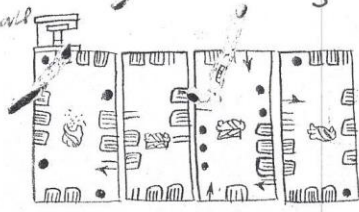
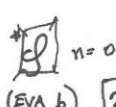
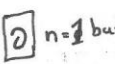
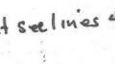
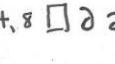




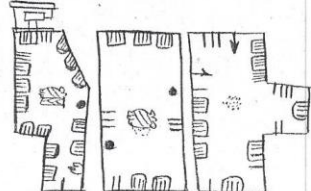
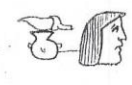
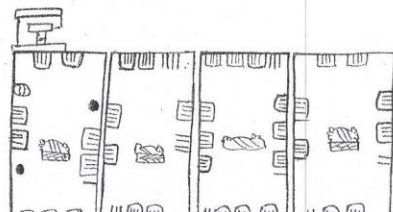
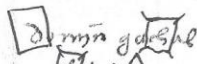

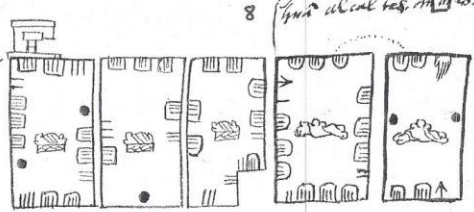
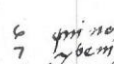
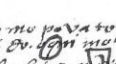
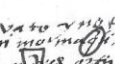
- 1 Cymemoquey tetanamil. ay amon \otimes lahua y mihap \otimes ahua. i totit
- 2 cau \square y \square Su mao. y de serrero \square y condadoz. y fadoz.
- 3 amoligian Cal de mada pa Cal fenza de la laguna 8ta i bda p 10
- 4 mandad de \otimes berruy. y amq \otimes Ce p. me ten n'los tan
- 5 \otimes m L. n'los di. el omer in ota. \otimes f. enlo Cal n'los 30
- 6 \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 7 \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 8 \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 9 \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 10 Como aza di de amon p. omer in ota. y San dago y omer in
- 11 enestapalapa pa. \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 12 enestapalapa pa. \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 13 de mepi ay San dago. y amq f. de \otimes l' omer in ota. y San dago y omer in
- 14 \otimes m f. de \otimes l' omer in ota. y San dago y omer in
- 15 \otimes m f. de \otimes l' omer in ota. y San dago y omer in

16 Cymemotafacae. acalotti. y \otimes m f. de \otimes l' omer in ota. y San dago y omer in
 17 y n macehualtin. y \otimes m f. de \otimes l' omer in ota. y San dago y omer in

Enam. 

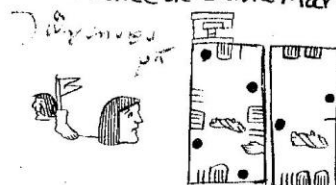
II-7

Códice de Santa María Asunción folio 11 r. 3 of 4

line 1. *from m'ic'ac'ol*   EVA g  n=0 but see lines 4,5 elongated
(EVA b)  n=1 but see lines 4,8  
2 n=0
3 n=0
4 n=0 but see line 3
5 n=0 but see 99r line 1 n=1 Sp.
6 n=0 but 9=8 line 2 9=8+9
7 n=0 but 9=8 line 7. (9=8 line 4) (8=9 line 7.)
8 n=0 but see line 5   
BIBLIOTECA NACIONAL DE MEXICO
n=1 above line 2
Many other examples above g
for example folio 11 r p. 114 (line 2 this p.)
and below c folio 11 v p. 116
last line reverse of present folio
+ete pi cac
line 2. *m'ic'ac'ol*  
line 3. *m'ic'ac'ol*  
line 4  *from m'ic'ac'ol*
line 5  
6 *from m'ic'ac'ol*  *from m'ic'ac'ol*
7 *from m'ic'ac'ol*  *from m'ic'ac'ol*
8 *from m'ic'ac'ol*  *from m'ic'ac'ol* 1873
III-3

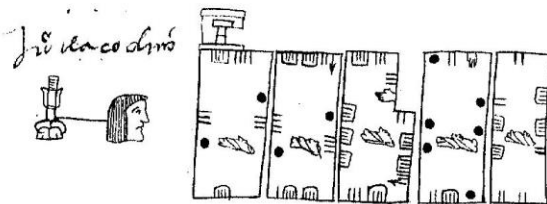
Códice de Santa María Asunción Folio 14 v 4 of 4

line 1

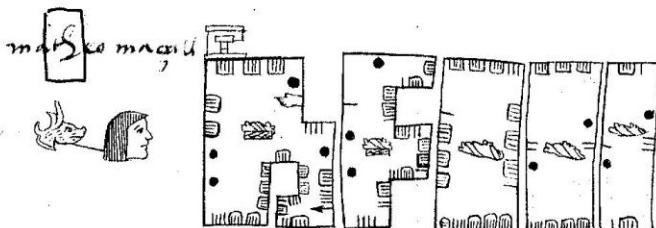


EVA g n=1 line 4 of 'ch'
ZVA m g n=1 line 3 'th'

line 2



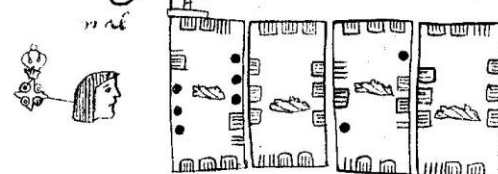
line 3



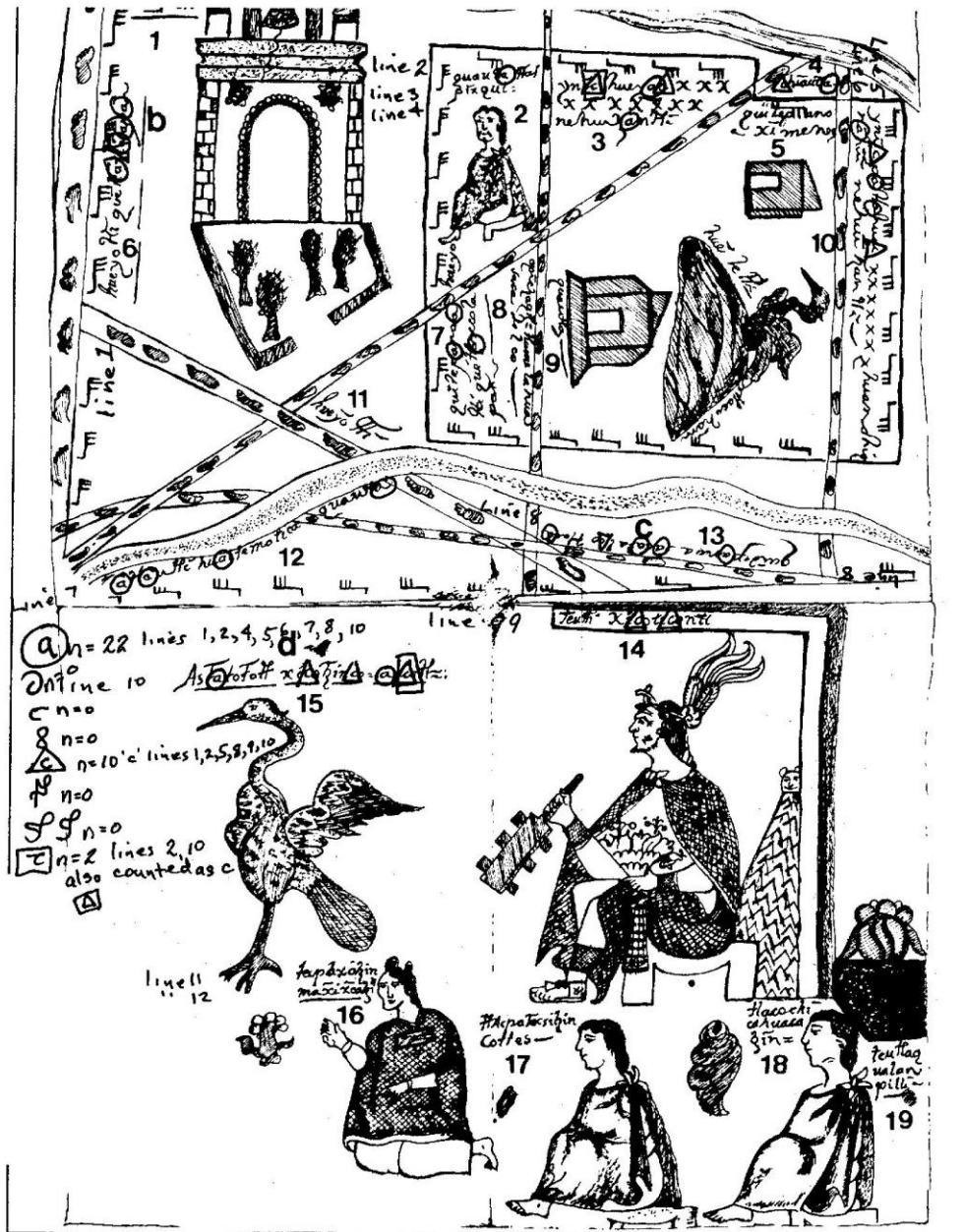
line 4

Samia z o c s

line 5



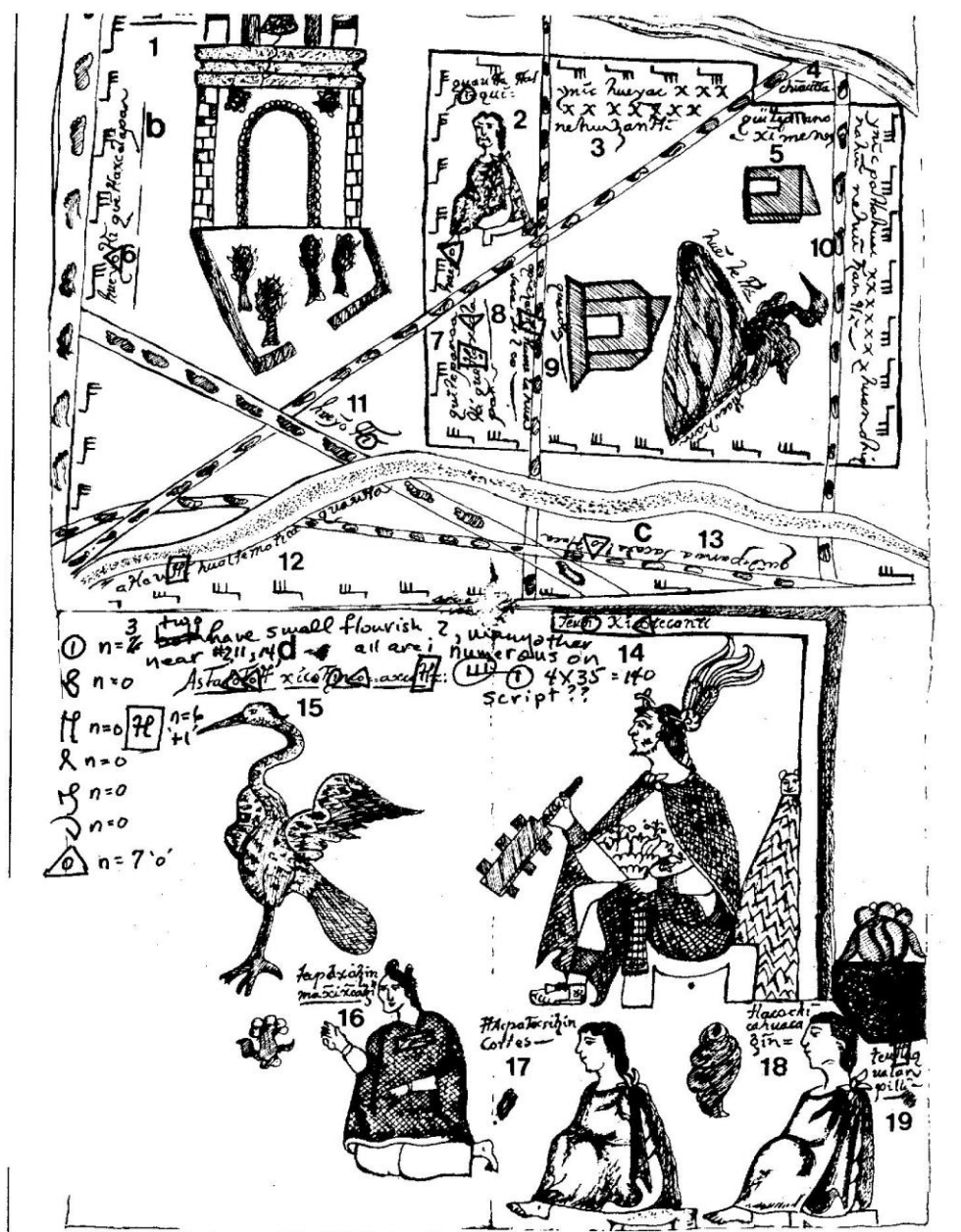
III-4



XVII. Códice de Santo Toribio Xicotzinco
Documento A

1 of 6

IV-1

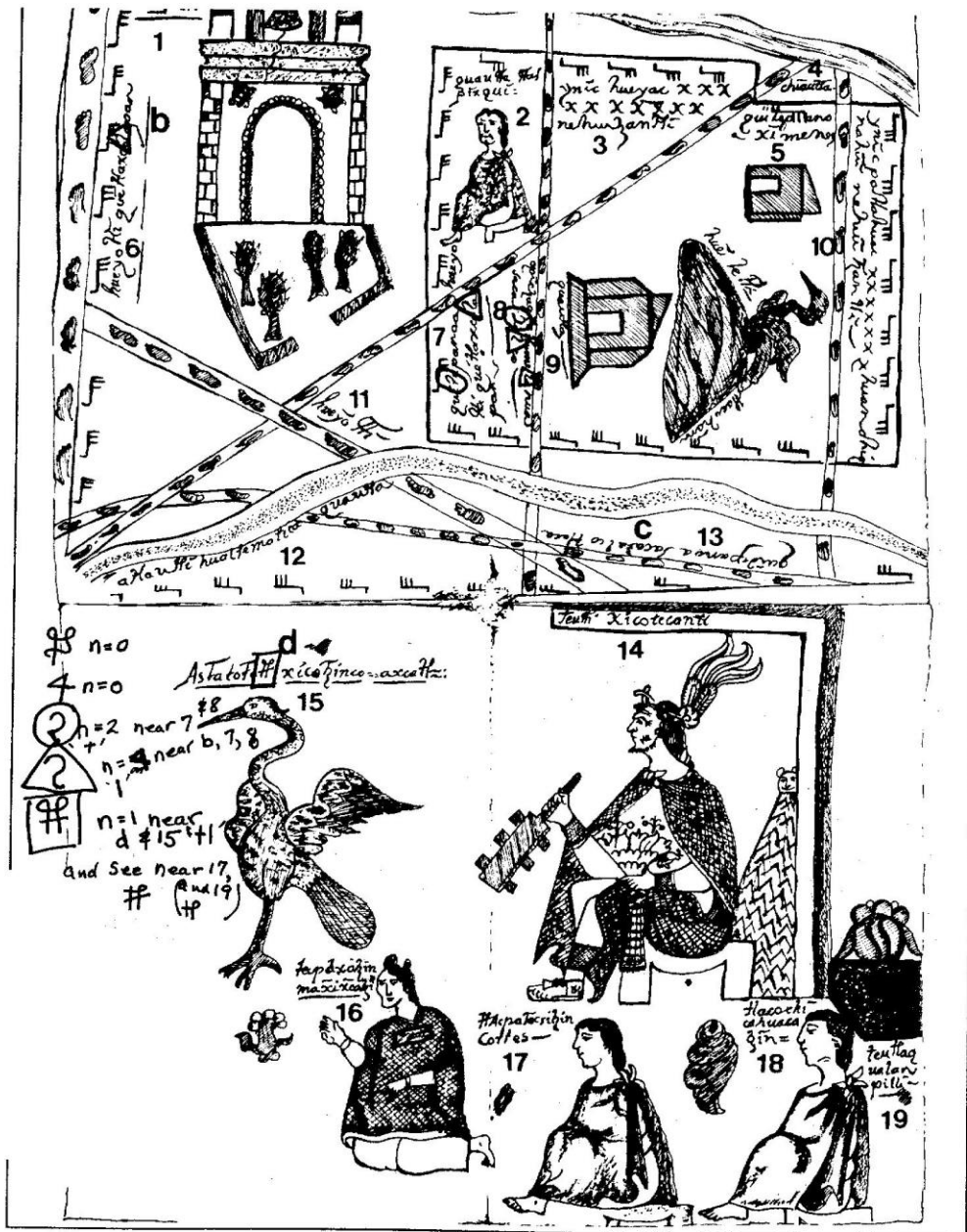


256

XVII. Códice de Santo Toribio Xicotzinco
Documento A

2 of 6

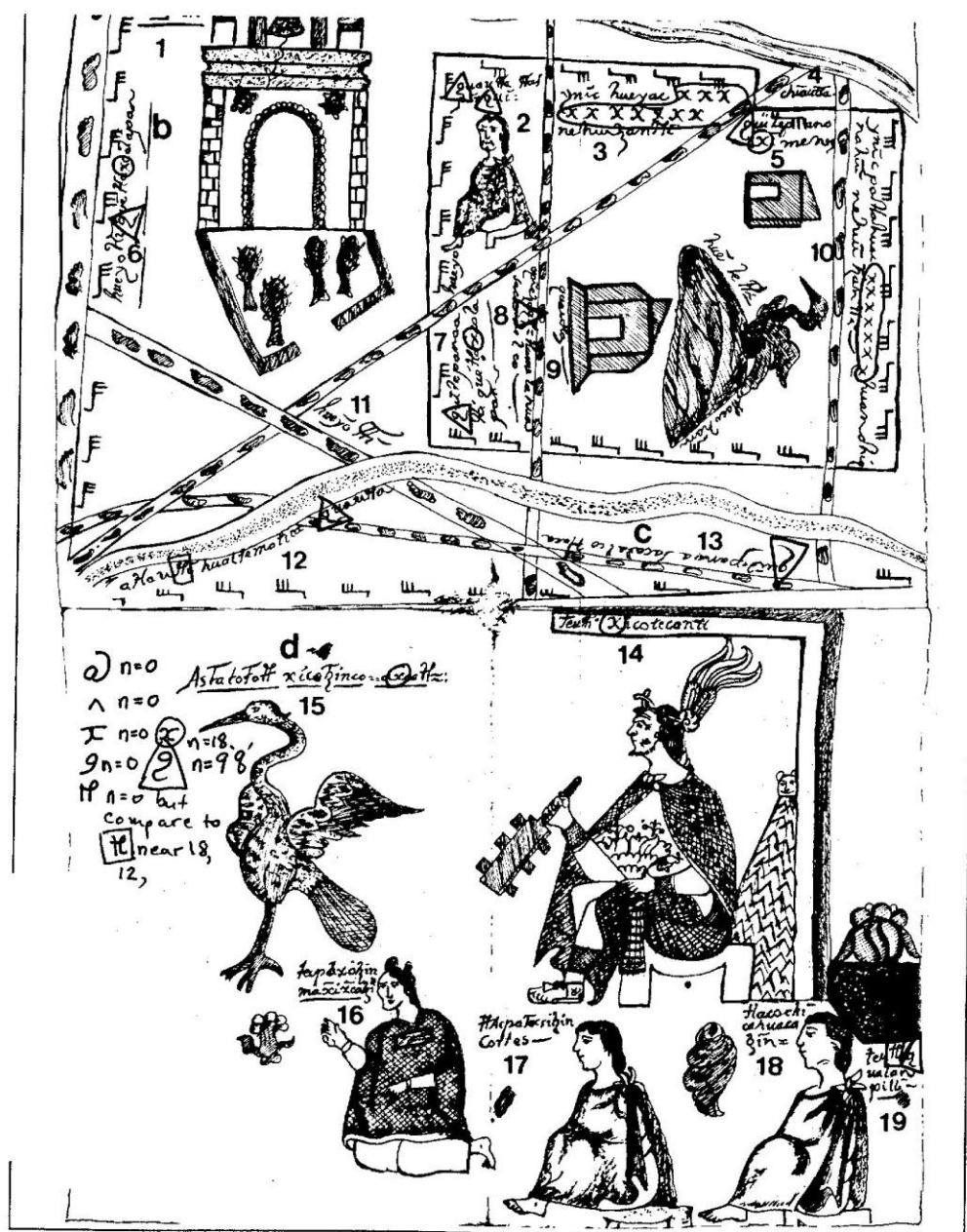
IV-2



256

XVII. Códice de Santo Toribio Xicotzinco
Documento A

3 of 6
IV-3



256

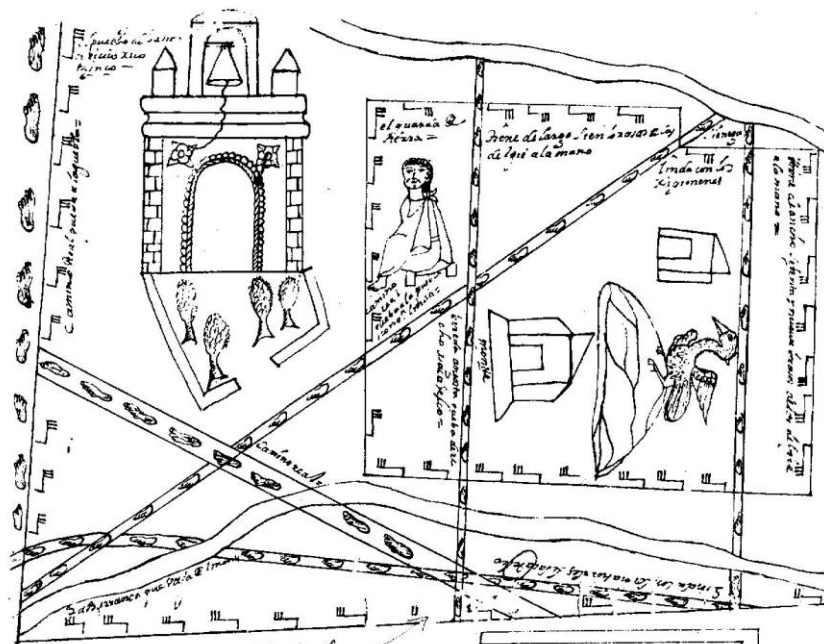
XVII. Códice de Santo Toribio Xicotzinco
Documento A

4 of 6

N-4



76



9 = ~~in~~ Sacatelco - circled by both
 Abarotelli xicotzin coaxotli
 8 not final's
 in Cortes
 H n=2
 one precise
 above crane H
 one with right
 loop elongated H
 thus imprecise
 both transcribed
 as H - both
 appear to be
 variations of
 Capital double R
 H - cite? Glenn Caston
 on Vms list.
 GC. Glenn Caston?
 2. to ② of lower right figure



Document B San Toribio Xicotzinco

6of6

IV-6

Line 1 **Enio - Aquinos. 31. Inno. 66. anhuandati anagira.**
 Line 2 **Antoghuay.**
 " 3 **anagira.**
 " 4 **anagira.**
 " 5 **anagira.**
 " 6 **anagira.**
 " 7 **anagira.**
 " 8 **anagira.**
 " 9 **anagira.**
 " 10 **anagira.**
 " 11 **anagira.**
 " 12 **anagira.**
 " 13 **anagira.**
 " 14 **anagira.**
 " 15 **anagira.**
 " 16 **anagira.**
 " 17 **anagira.**
 " 18 **anagira.**
 " 19 **anagira.**
 " 20 **anagira.**
 " 21 **anagira.**
 " 22 **anagira.**
 " 23 **anagira.**
 " 24 **anagira.**
 " 25 **anagira.**
 " 26 **anagira.**
 " 27 **anagira.**
 " 28 **anagira.**
 " 29 **anagira.**
 " 30 **anagira.**
 Line 31 **Amahup. Inghomto. 21. om.**
 Line 32 **Amahup. Inghomto. 21. om.**
 Line 33 **Amahup. Inghomto. 21. om.**
 Line 34 **Amahup. Inghomto. 21. om.**
 Line 35 **Amahup. Inghomto. 21. om.**
 Line 36 **Amahup. Inghomto. 21. om.**
 Line 37 **Amahup. Inghomto. 21. om.**
 Line 38 **Amahup. Inghomto. 21. om.**
 Line 39 **Amahup. Inghomto. 21. om.**
 Line 40 **Amahup. Inghomto. 21. om.**
 Line 41 **Amahup. Inghomto. 21. om.**
 Line 42 **Amahup. Inghomto. 21. om.**
 Line 43 **Amahup. Inghomto. 21. om.**
 Line 44 **Amahup. Inghomto. 21. om.**
 Line 45 **Amahup. Inghomto. 21. om.**
 Line 46 **Amahup. Inghomto. 21. om.**
 Line 47 **Amahup. Inghomto. 21. om.**
 Line 48 **Amahup. Inghomto. 21. om.**
 Line 49 **Amahup. Inghomto. 21. om.**
 Line 50 **Amahup. Inghomto. 21. om.**
 Line 51 **Amahup. Inghomto. 21. om.**
 Line 52 **Amahup. Inghomto. 21. om.**
 Line 53 **Amahup. Inghomto. 21. om.**
 Line 54 **Amahup. Inghomto. 21. om.**
 Line 55 **Amahup. Inghomto. 21. om.**
 Line 56 **Amahup. Inghomto. 21. om.**
 Line 57 **Amahup. Inghomto. 21. om.**
 Line 58 **Amahup. Inghomto. 21. om.**
 Line 59 **Amahup. Inghomto. 21. om.**
 Line 60 **Amahup. Inghomto. 21. om.**
 Line 61 **Amahup. Inghomto. 21. om.**
 Line 62 **Amahup. Inghomto. 21. om.**
 Line 63 **Amahup. Inghomto. 21. om.**
 Line 64 **Amahup. Inghomto. 21. om.**
 Line 65 **Amahup. Inghomto. 21. om.**
 Line 66 **Amahup. Inghomto. 21. om.**
 Line 67 **Amahup. Inghomto. 21. om.**
 Line 68 **Amahup. Inghomto. 21. om.**
 Line 69 **Amahup. Inghomto. 21. om.**
 Line 70 **Amahup. Inghomto. 21. om.**
 Line 71 **Amahup. Inghomto. 21. om.**
 Line 72 **Amahup. Inghomto. 21. om.**
 Line 73 **Amahup. Inghomto. 21. om.**
 Line 74 **Amahup. Inghomto. 21. om.**
 Line 75 **Amahup. Inghomto. 21. om.**
 Line 76 **Amahup. Inghomto. 21. om.**
 Line 77 **Amahup. Inghomto. 21. om.**
 Line 78 **Amahup. Inghomto. 21. om.**
 Line 79 **Amahup. Inghomto. 21. om.**
 Line 80 **Amahup. Inghomto. 21. om.**
 Line 81 **Amahup. Inghomto. 21. om.**
 Line 82 **Amahup. Inghomto. 21. om.**
 Line 83 **Amahup. Inghomto. 21. om.**
 Line 84 **Amahup. Inghomto. 21. om.**
 Line 85 **Amahup. Inghomto. 21. om.**
 Line 86 **Amahup. Inghomto. 21. om.**
 Line 87 **Amahup. Inghomto. 21. om.**
 Line 88 **Amahup. Inghomto. 21. om.**
 Line 89 **Amahup. Inghomto. 21. om.**
 Line 90 **Amahup. Inghomto. 21. om.**
 Line 91 **Amahup. Inghomto. 21. om.**
 Line 92 **Amahup. Inghomto. 21. om.**
 Line 93 **Amahup. Inghomto. 21. om.**
 Line 94 **Amahup. Inghomto. 21. om.**
 Line 95 **Amahup. Inghomto. 21. om.**
 Line 96 **Amahup. Inghomto. 21. om.**
 Line 97 **Amahup. Inghomto. 21. om.**
 Line 98 **Amahup. Inghomto. 21. om.**
 Line 99 **Amahup. Inghomto. 21. om.**
 Line 100 **Amahup. Inghomto. 21. om.**

Alvarado Guinehard (1976) p. 60

Alvarado Guinchard (1976) p.60

[illegible]

Alvarado Guinchard (1976) p.60

V-3

Book 11, Chapter 5, Paragraph 617, p 85

EVA a ○
EVA c △
EVA e □
EVA j & ○
Spanish, final s
EVA o - many
not indicated
just look

Libro undécimo

quando quiere piar y llenanta
se en alto, y arroja se sobre lo
que quiere piar: y quando piar
tambien ella muere. porque e
cha de un golpe toda su puer
ta y caxella larvada.







¶ Parrapho septimo de
otras celebres monstruosas
en su ser y en sus propieda
des.

Auh ahu velittu. in ahu
nauh notie in quiqua. a
iqua. in tegra. iniqua
tathoponja. ahu in aguyn qu
thoponja: can nima miltre
ti. amo vel ce ora in miquy
can vel albitunca: ahu in
tequa. ahu pa passanj vel
tlacpala vel aco miah: ahu
can ipan oaltemo in aguyn
in nla tlein quiqua. Auh in
icpaltanj. in manoce ic oal
temo. cenca iehca: in quet
quish icremj. injc passanti
nemj. Auh iniquac tequa. n
ma noiquac miquy. quish ipa
pa: can nima molli tlamj in
itengualac. miztlac. canel
noco iehoaht miztoca. mca
nijn tathoponja. ahu albi
corvca in thoponj lary: ahu
no vncan yeti in in cooatm
hi: —
¶ Injc chcome parrapho in
tecpa tlacva cooame. vew
mtn: ahu ceca tlamaht m
ca.

2042

EVA 3 ② = r
n.b. No 'r' sound
in Nahuatl,
so meaning is
'l' sound.

EVA V  also
several rounded
ie  line 5 
next to last line.

EVA Y 9  = g
but stem is
usually straight
9 or 9



g
Note ligatures:
ch ch
cti cti
th th
tzi tzi

Libro undécimo

quando quixere piar y llenanta
se en alto y arrojesse sobre lo
que quixere piar: y quando pira
tambien ella muere. por que e
cha de un golpe toda su porco
ra y con ella la vida.



¶ Parapho septimo de
otras culebras monstruosas
en su ser y en sus propieda
des.

auh acan velittu. in campe
noc: auh notle in quiqua. ca
iquac noci in tequa. iniquac
tehoponja. Auh in aquin qu
thoponja: can njma mictlan
ha. amo vel ce  in miqui.
can vel  miqui: auh in
tequa. Auh pa patlanj. vel
tlacpac. vel aco mictlan: auh
can ipan oaltemo in aquin
in noço tlein quiqua. Auh in
icpatlanj. in manoce ic oal
temo. cerca iekcar: in quex
quixi icremj. injc patlanti
nemj. Auh iniquac tequa. nj
ma noiquac miqui. quixi ipa
pa: can njma mictlan in
itengualac. in mictlan. canel
noço iekoañ mictlan. in
njan tehoponja. aocmo ahi
corctua in thoponjorj: auh
no vinean velittu in cooatm
hi.

¶ Injc dicitur parapho in
tecpa tlacpa cooatm vel
mictlan: auh cecé llamati in
ca.

Page from Florentine Codex (Chapter 5)

Page 204. Title 10. (1963)

VE2