

WHEN HEAVENS SPEAK

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RESUMEN

El principal objetivo de este artículo es presentar algunas ideas referidas a la astronomía mixteca, según se deduce de las fechas y los sucesos escritos en el Códice Selden. Desde la publicación de los comentarios de Alfonso Caso (1964), ha habido pocos estudios que arrojen mayor luz. Por ende, me interesa buscar nexos entre los hechos históricos y los astronómicos en algunas páginas del código tal como las registraron los actores mismos, es decir las clases altas de Santa Magdalena Jaltepec, sitio en donde se originó el código.

ABSTRACT

The main goal of this paper is to introduce some ideas related to Mixtec astronomy, as can be deduced from dates and events as written in the Selden Codex. Since the publication of Alfonso Caso's commentaries (1964), there has been few analysis. Therefore, here it is intended to look for ties between historical, astronomical and religious events, according to the narration as told by the very same actors, the ruling elite of Santa Magdalena Jaltepec or Añute, from where the codex come.

Key Words: archaeoastronomy

1. INTRODUCTION

Several years ago, I started again study on Mixtec codices. My goal was to find out the ties between dates and agricultural activities, as well as their relation to the acts of Mixtec elites. I also faced the actual bizarre idea that even now considers Mesoamerican inhabitants as a group of people devoted almost exclusively to look up at the sky, and thus became separate of earthly matters. In doing so, I was against many opinions that sustain a kind of government hold by priests and/or astronomer priests. Obviously, such idea points out a misunderstanding or pre-Columbian affairs and history.

On the other hand, it is yet supposed that Mixtec codices reflect the allegedly militaristic character of Postclassic Period. It cannot be denied the great amount of wars and conquests performed by Mixtec rulers, among them Lord 8 Deer Jaguar Claw. Even so, this last view exemplifies but a single and narrow path dealing with a vast cultural panorama, as written in the codices.

Upon such basic ideas, I preferred to analyze some fragments of the long story offered in the Selden Codex (Figure 1). Though I used the interpretation of Alfonso Caso (1964: *passim*) about historical events, I focused my attention on several themes, namely:

1. Revision of all dates written in the codex.

2. To establish the whole correlation between Mixtec and Julian calendars, including day and month of the year.
3. To find significant astronomical events on such dates.
4. Look for relations between celestial phenomena and historical events.
5. Set up probable ties connecting astronomical data and those scarce Mixtec informs related to religion and deities.
6. Analyze geographical distribution of gods, ruling families and celestial events, if possible (Figure 2).

So, let us go forward into that ancient story of heavenly bodies, deities, and sacred rulers from the Mixteca Alta, specifically from Santa Magdalena Jaltepec or Añute.

2. SOME NOTES ON THE MIXTEC CALENDAR

I will not discuss profoundly the basis of the correlation of Mixtec calendar to Julian calendar. Caso settled the main grounds in his 1964 analysis of Selden Codex, and later again in his great work *Los calendarios prehispánicos* (1967).

Let it be enough to remember the two principal means of time register as declared in the codices: The 260 day-cycle, and the Day-Bearer. It is widely known that the first one refers to the chronological

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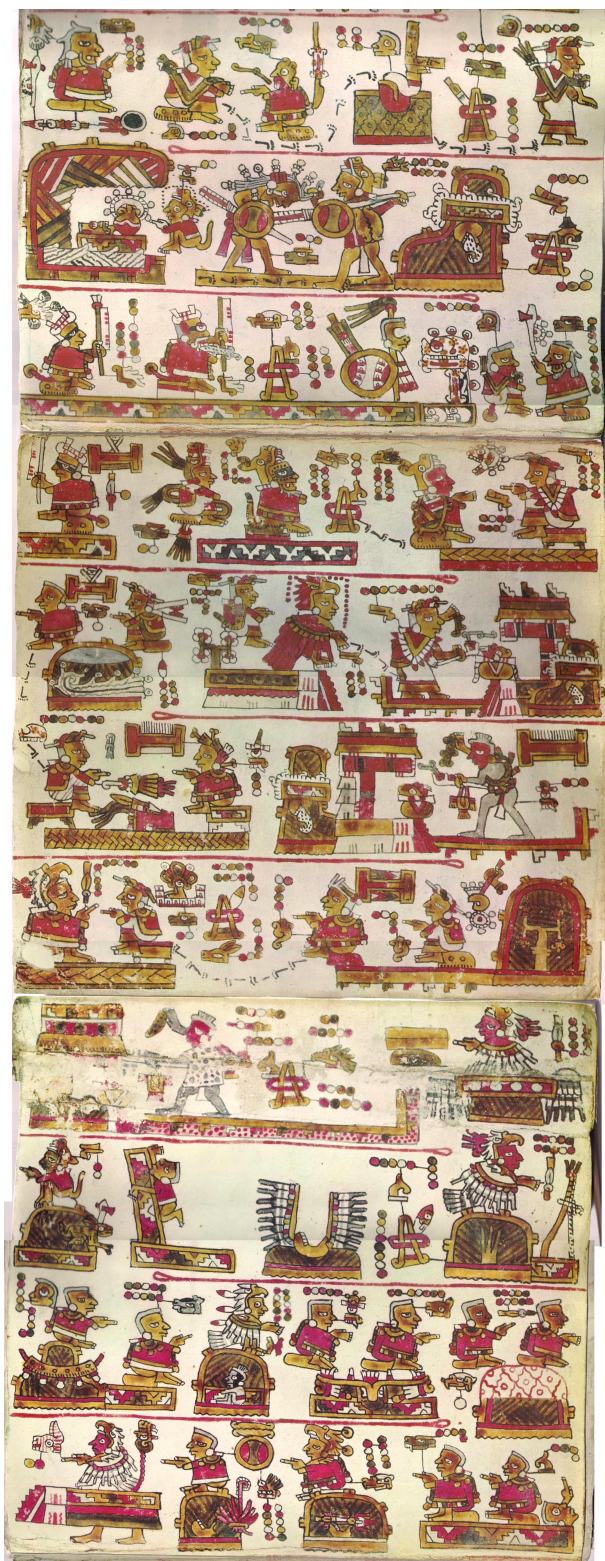


Fig. 1. Pages 4-ii to 6-ii, Selden Codex. Notice the reading order, from bottom to top and in boustrophedon, following the red horizontal lines. X

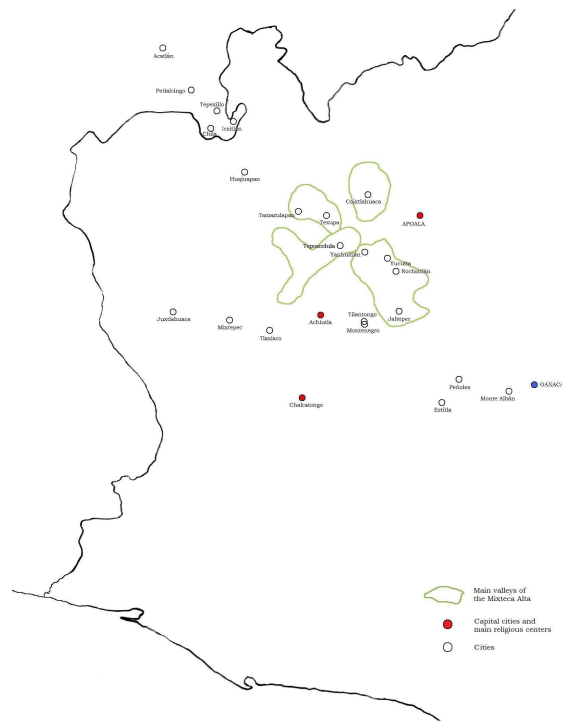


Fig. 2. Map of western Oaxaca region, showing the Mixteca area. Towns cited in this paper are illustrated. Drawing by Alfonso Arellano.

system that relays on 20 day-signs, combined with numbers 1 to 13. The second one deals with the 260th day of the calendar that names the 365 day-cycle². So, there are only four day-names that provide such bearer names: House, Rabbit, Reed, and Flint-knife, matching with numbers 1 to 13, and summing up to 52 years. Supported upon several evidences, I agree with Caso (1967: *passim*) when he states that the year-bearer must be placed at the end of the very same year, and therefore previous to the “nameless” (or *nemontemi*) days. Thus, Year-Bearer becomes a kind of “backward view” of the fortune of the whole year.

In this way, conversion of Mixtec to Julian calendar happens to be quite easy. Caso (1967) demonstrated all the elements to provide Mixtec dates according to Julian equivalents. Nevertheless, he did not proceed thus, but rather chose to offer the year, as the following quote exemplifies: “We have said that ♂ 2 Grass was born as adult (on day 79 of year 10 Reed); he married 15 days later (day 94 of that

²As a point of comparison, 2010 December 31 corresponded to Friday, and that of year 2012 to Monday: thus, both days are retrospective Day-Bearers: 2010 was “Friday”, and 2012 “Monday”.



Fig. 3. Lady 6 Monkey captures Lord 10 Earthquake, according to Bodley Codex.

Year 8 Flint-Knife, day 9 House	916, Mar. 31
Year 9 House, day 7 Eagle	917, Aug. 5
Year 12 Flint-Knife, day 7 Deer	920, Aug 1
Year 3 House, day 10 Deer	989, Apr 1
Year 9 House, day 8 Vulture	1021, Jul. 11
Year 4 House, day 4 Wind	1029, Dec. 27

year) and his son probably was born 267 days after the wedding, on day 10 Reed (360) of the very same year 10 Reed (879)” (Caso, 1977: I, 64)³.

In addition, Caso (1967: 84-85) only reached back just to 1116 AD; he did not go any farther into the historical past. Hence, I offer at once some Mixtec dates and their Julian equivalent:

As I demonstrated in other occasion (Arellano, 2013: *passim*), these dates come from pages 4-II to 6-II of Selden Codex, which I have also explained (*idem*). Now I will introduce here a different group of inferences supported by the Julian correspondence of Mixtec dates. On first sight, some of them have implications with solar events, namely Spring Equinox and Winter Solstice. When compared to historical-political events (Figure 3), it becomes clear its ritual and/or symbolic significance.

I will return later to these matters. It seems now adequate to have a synthesis of astronomical information.

3. DEITIES COME DOWN TO EARTH

About the astronomical analysis of dates of Selden Codex, I turned my attention to the Sun, Moon, Venus, Mars, Jupiter, the Milky Way, the Pleiades, and some constellations as Orion and Scorpio. Nevertheless, not all those heavenly bodies offered data to be related with historical events. Thus, I prefer to introduce a table dealing with dates, astronomical events, historical actors and their actions.

³Spanish text states: Hemos dicho que ♂ 2 Hierba nace adulto (el día 79 del año 10 Caña); se casa 15 días después (el día 94 de ese año) y probablemente su hijo, nace a los 267 días del matrimonio, el día 10 Caña (360) del mismo año 10 Caña (879). Translation: Alfonso Arellano.

The sky data were obtained thanks to Stellarium 0.12.1 system. The position of planets and stars were sought out at 6 am, 8 pm and at midnight of each and every day. The key for initials and signs used in the table is as follows:

Signs < and > stand for time elapsed from or since a given date; thus: 10 < ... = number of days counted from an event; 10 > ... = number of days required to arrive to an event.

Signs + marks alignments, and & defines conjunctions.

Dates for columns: Julian dates are given in normal letters; Mixtec in italics. Mixtec year goes first with initial Capital letters [House], then the day in small letters [lizard]: Thus 10 Rabbit, 8 dog means year 10 Rabbit, and day 8 dog. Dates between parentheses indicate no written dates at the Selden Codex, though they could be deduced from other sources or calendar calculations. (This is evident in the case of the birth of actors.)

Sun: SE = Spring Equinox, SS = Summer Solstice, AE = Autumn Equinox, WS = Winter Solstice, ☉ = Zenithal Passage.

Moon: ☾ = Half-moon crescent, ☽ = Full Moon, ☿ = Half-moon decreasing, ● = New Moon.

Venus: VMS = Morning star, VES = Evening star; SC = Superior conjunction, IC = Inferior conjunction; ME = Maximum elongation.

Others: Mer = Mercury, Ve = Venus, Mar = Mars, Jup = Jupiter; 1/2N = midnight, * = Milky Way.

I must add two more remarks. According to Dahlgren (1966: 283 ff., 268 ff.), children at age 5-7 were taken to “monasteries”; where a priest pierced their ear-lobes, and then christened with a new name: the “nickname” or “*sobrenombre*” (thus called by Caso: 1967: *passim*). Noble boys remained there for a year, learning ritual life, calendar calculations, anthems and prayers to the deities, offerings, etc. I am quite sure that offerings as shown in the Selden codex convey such ceremony, even though it happened earlier in the life of children; that is to say when they are 4 or 5 years-old.

On the other hand, it is quite suggestive to reconsider those offerings. Caso (1964: *passim*) assumed they represented “Xipe-bundle”, while Hermann (2008: *passim*) called them “Ñuhu bundle”

TABLE 1
DATES OF SELDEN CODEX

Dates	Sun	Moon	Venus	Others	Actors	Events
916, Mar. 31 8 Flint-knife, 9 house	10 < SE	☾	VMS 52 > SC		♂ 10 Reed	enthronement
917, Aug. 5 9 House, 7 eagle	end of Canicula	○	VMS 103 < IC 40 > ME	Ve at Gemini Pleiades zenith 1/2N	♂ 10 Reed	offerings enthronement
920, Aug. 1 12 Flint-knife, 7 deer	end of Canicula	○	VMS 30 < IC	Pleiades + Jup *** zenith 1/2N	♂ 10 Reed ♀ 2 Lizard	wedding
(921, Sep. 17 13 House, 3 rain)	52 < ☉ 4 > AE	○	VES 115 < SC 67 > ME	Antares + Ve	♂ 3 Rain	birth
989, Apr. 1 3 House, 10 deer		☾	V at IC	** horizon 1/2N	♂ 10 Eagle ♀ 9 Wind	wedding
(989, Apr. 2 3 House, 11 rabbit)		☾	VMS heliacal rising		♀ 9 Wind	enthronement
(990, Jun. 21 4 Rabbit, 1 Reed)	SS	☾ 2 > ●	VES 117 < SC 60 < ME	Sun & Mer & Mar & Jup	♂ 1 Reed	birth
(991, Mar. 26 5 Reed, 6 monkey)	5 < SE	☾	VMS 106 > SC		♀ 6 Monkey	birth
(992, Oct. 24 7 House, 12 water)	33 < AE	☾ 3 > ●	VMS	☾ + Ve + Mar	♂ 12 Water	birth
(993, Sep. 6 8 Rabbit, 4 death)	15 > AE	○	VES 56 > ME	Orion rises 1/2N	♀ 4 Death	birth
(994, Sep. 4 9 Reed, 3 water)	17 > AE	☾ 2 > ●	VMS 13 > SC	☾ + Mar + Jup, ca. Antares	♂ 3 Water	birth
1021, Jul. 11 9 House, 8 vulture	14 > ☉ 20 < SS	☾ 1 < ●	VMS 110 < IC	*** zenith 1/2N	♂ 1 Reed ♂ 12 Water ♂ 3 Water	war and death
1029, Dec. 27 4 House, 4 wind	6 < WS	☾	V at SC	Mar amid Orion-Gemini *** zenith 1/2N	♂ 10 Eagle ♂ 3 Lizard	war and capture



Fig. 4. Taiñu'u offerings and a taiñu'u lord, depicted in Selden Codex.

(Figure 4). Due to the actual recognition of the main image, that is to say the “stone face” (Boone, 2010: passim), and its clear connection to the “Earth-People”, I decided to label them as “taiñu'u bundle”.⁴ I do support my opinion in the myth that recounts the origin of the first Mixteca inhabitants.

They were born at the Earth's Core or Anu'u, and thus they were not sprouts of the Sacred Salix Tree at Apoala. They also were the aboriginal lords of the land, as well as owners of the Mixtec language. Their appellation was taiñu'u, ñaño'u, tainisino, tainisai ñu'u: “Earth-People”, and sometimes “Stone-People”, but also “True People”, “Sacred People” (Arana and Swadesh, 1965: passim).

Later, another people came, those born at Apoala. They get divided in four groups, but all called themselves ñuudzavui: “People of Rain or Clouds”, and they brought laws, married to the taiñu'u and adopted their language. Also ñuudzavui recognized taiñu'u as the ancient lords.

So, it is probable that taiñu'u offerings conceal a form of recognition or memorial from ñuudzavui people to taiñu'u original inhabitants.

Back to the table, five events involved taiñu'u offerings: Three enthronements (two of Lord 10 Reed and one of Lady 9 Wind), and two weddings (of Lord 10 Reed to Lady 2 Lizard, and of Lord 10 Eagle to

Lady 9 Wind). When taken into account the aforementioned memorial, probably then Lord 10 Reed and Lady 9 Wind produced their offerings to the sanctified “Earth-People” predecessors, as a way of political and religious validation.

Moreover, weddings took place on Deer-days. Evidently there was a religious tie to Creator God and Goddess: ♂ 1 Deer Snake Puma, Ñu'u Ydzu Coodica'a, and ♀ 1 Deer Snake Jaguar, Ñu'u Dze'e Coocuine, whose main temple situated at Apoala. On a first thought, I considered that both Creators were personified in the Milky Way, but a deeper analysis proved it to be wrong. A better identification hints at the Pleiades, but this possibility still requires more comparisons between calendarical and historical data derived from the codices themselves.

It is also quite notorious that offerings produced by Lord 10 Reed occurred on a day 7 Eagle. In the first place, his grandmother was Lady 7 Eagle, queen at Cave Head or Cave Human Face, and founder of the dynasty of such site. By the way, and only as a mere hypothesis, the Mixtec word for “head, face” is cavua: the very Mixtec name of Tepeji, situated at the South of Puebla State. Also a town at the Mixteca Baja actually exists, known as Tepejillo, midway between Petlalcingo and Ixcitlan, and North of Chila. Could Tepejillo-Cavua be the capital city of Lady 7 Eagle's realm? Anyway, Lady 7 Eagle's name reveals strong attach to god Ya'a Cui Cu'u, “Eagle 4 Earthquake”, venerated at Acatlán, and perhaps at Tepejillo. According to these ideas, let it be remembered that the nickname of Lord 10 Reed was Fire Eagle... Was Ya'a Cui Cu'u deity the totemic founder of his royal lineage? What planet or star corresponds to Ya'a Cui Cu'u? As far as data make available, I can't give answers to these questions.

No doubt, Lord 10 Reed was a descendant of a very high-status family from the Mixteca Baja, who moved Southeast to the Nochixtlán Valley, at the beginning of X century (see Figure 2). He acceded to the throne at Bow Grass Mountain (not yet identified), and one year later to that of Jaltepec (Añute); at such occasions he made taiñu'u offerings.

About Scorpio Constellation, Antares is present in two dates. Both are linked to the birth of two princes: Lord 3 Rain and Lord 3 Water. Aside from the time elapsed between the two dates (73 years), it is not a coincidence that Antares set 1 hour apart respectively: at 9:30 pm, and 10:26 pm. I only know one study dealing with the identification of Scorpio, its tie to the Sun, and both their probable implications among Mixtecs. The constellation is depicted in a mural-frieze at Mitla (Flores, 2004: 437-438).

⁴I chose to write the name as taiñu'u, instead of tayñuhui, for clarity sake. According to the “Vocabulario” by Arana and Swadesh (1965), the *h* stands for a glottal stop instead of an aspirated consonant: thus, ñuhui could be misread as ñuju, instead of the proper way ñu'u.



Fig. 5. The two wars referred to in Selden Codex: April 1st, 989 AD, and December 27, 1029 AD.

Unfortunately, I have not found ethnographic evidence about the precise role played by Scorpio.

Finally, the two wars were associated to the Milky Way (Figure 5). It was seen at zenith, midnight. Mixtec name of the Milky Way is Sichiñu'u: "Pathway of Spirits, Sacred Pathway; Pathway of Fire and/or Light". Maybe the name makes allusion to the celestial road used by all deities and ancestors, as it happens among other Mesoamerican people.

On the other hand, there are three gods of war: Yya Saatnacanu (Lord Breaker of Backs), Ñu'u Yecutna'ñu (God Beater of Enemies), and Tandozo or Xitandozo (Father Hunter). This last one is the only god that feed on human hearts, and was venerated at Juxtlahuaca, Mixtepec, Texupa and Yanhuitlán (Arellano, et al., 2012: passim). All of them keep close relationship to the Sun God. Also, XVI century documents state that, before fighting, rulers asked to the Achiutla Oracle about the convenience of war and fate of warriors. The oracle laid at the summit of a mountain, where god "Heart of the Town/People" (Ñuu Ndiya) lived. He also had a shrine inside a cave near Yanhuitlán (Dahlgren, 1966: 231 ff.; 276 ff.).

I am confident that the Milky Way or Sichiñu'u represents these gods of war, at least when it is seen at the zenith, midnight. I wonder if it also refers to them when it is laid along the horizon. However, I think the Milky Way is not only the Road of deities and ancestors, but also as the Path of



Fig. 6. The "Lane of War", as mentioned in Selden Codex.

Fire-Light symbolizes the Lane of War as depicted in the codices: a ribbon decorated with chevrons (Figure 6).

Enough said. Let us make room for the last commentaries.

4. CONCLUSIONS

I have tried to explain some remarks obtained thanks to reviewing the skies at ancient Mixtec times, the epoch when the Añute (Jaltepec) Dynasty was consolidating. Movements of stars, constellations and planets seemed to be fruitful, as equivalences between Julian and Mixtec calendars have put forward.

Achievements indicate to some directions:

1. Venus is not relevant. The variability of its positions in the sky do not allow to confirm any implication.
2. The same idea seems to apply for the Sun and Moon.
3. The Pleiades is a good candidate to analyze. On the one hand, maybe it is related to taiñu'u offerings, and on the other perhaps it represents Creator Deities 1 Deer.
4. The Milky Way, or Sichiñu'u, probably represents war gods Yya Saatnacanu, Ñu'u Yecutna'ñu, and Tandozo. Perchance the image of a strip with chevrons ("path of war") may be the pictorial representation of Milky Way.
5. Scorpio/Antares maybe plays a role in birth, but as these dates in Selden are deduced, the idea must remain only as a hypothesis.

Certainly, more links can be found between astronomical themes and written dates, as the Selden Codex illustrates. As I aforementioned, the analysis of codices deserves so far new and deepest approaches, dealing with astronomy but not as a mere exercise pointing out Mixtec scientific knowledge, or positions of celestial bodies in the sky. It is necessary to face astronomy as a long-term way of explaining the whole Mixtec universe, in tight relations merging history, politics, economy, religion, etc. Also it is unavoidable to include astrology, understood as the way that deities establish communication with humankind thanks to the calendar.

Thus, my goal has been to open a door that has been closed throughout the years. I have only introduced some hypotheses that still are under revision, compared to other Mixtec codices, as well as other Mesoamerican civilizations.

Scholars have revealed that Mesoamerican cultures were concerned with looking at the Heavens, not only for the plain worship of deities, as said so many times. I am confident that ancient elite inhabitants, wise men and priests, exerted astronomy with the aim to find answers to earthly distresses, dealing with elite activities or with peasants. To acquire holy protection as seen and revealed in the skies has always been a main goal along the history of humankind. Thus, Moon, Venus, Mars, the Milky Way and several heavenly bodies will provide more accurate ways of understanding Mixtec cosmovision.

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