From Dusk till Dawn: Conceptualizing Sunrise and Sunset in the *Florentine Codex*

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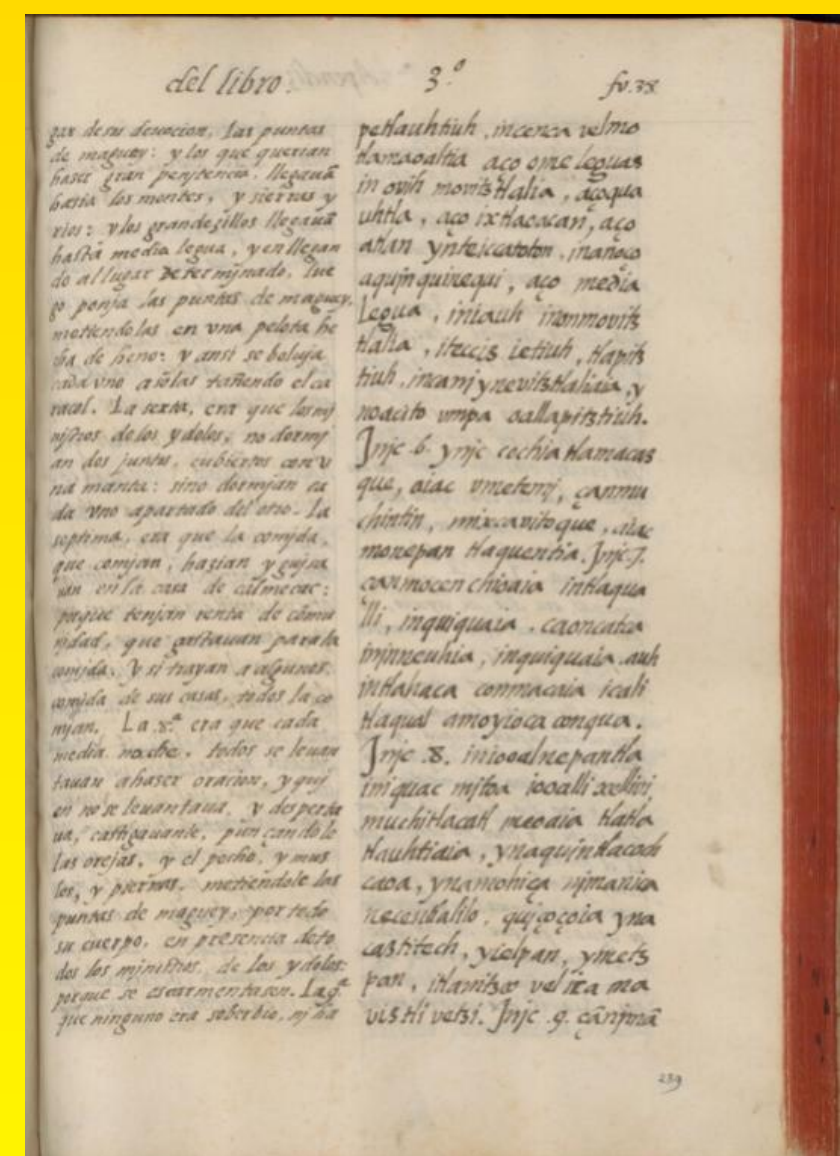*with thanks to the Frederick B. Kilmer fund*

Sunrise

Sunset

Introduction

The *Florentine Codex*, published in the late 1500s CE, is an invaluable resource of 12 Books (chapters) with over 2,000 pages that chronicles many aspects of Mexica (Aztec) culture, as it was before and during the conquest era. It is written in both Spanish and Classical Nahuatl. Each language tells the same narrative. The codex has only recently become widely accessible thanks to the digitized version available at florentinecodex.getty.edu. Hopefully, accessibility to this primary source will aid in contextualizing and correcting many long-standing widespread myths about the historical Mexica, one being that they had a conception of time that was purely cyclical. An analysis of the Spanish translation of the Nahuatl text will provide insight into how these periods of time were conceived by the Mexica. It also sheds light on how certain temporal expressions were translated and interpreted by the Spanish, whose linguistic and cultural background differed substantially from the Mexica's.
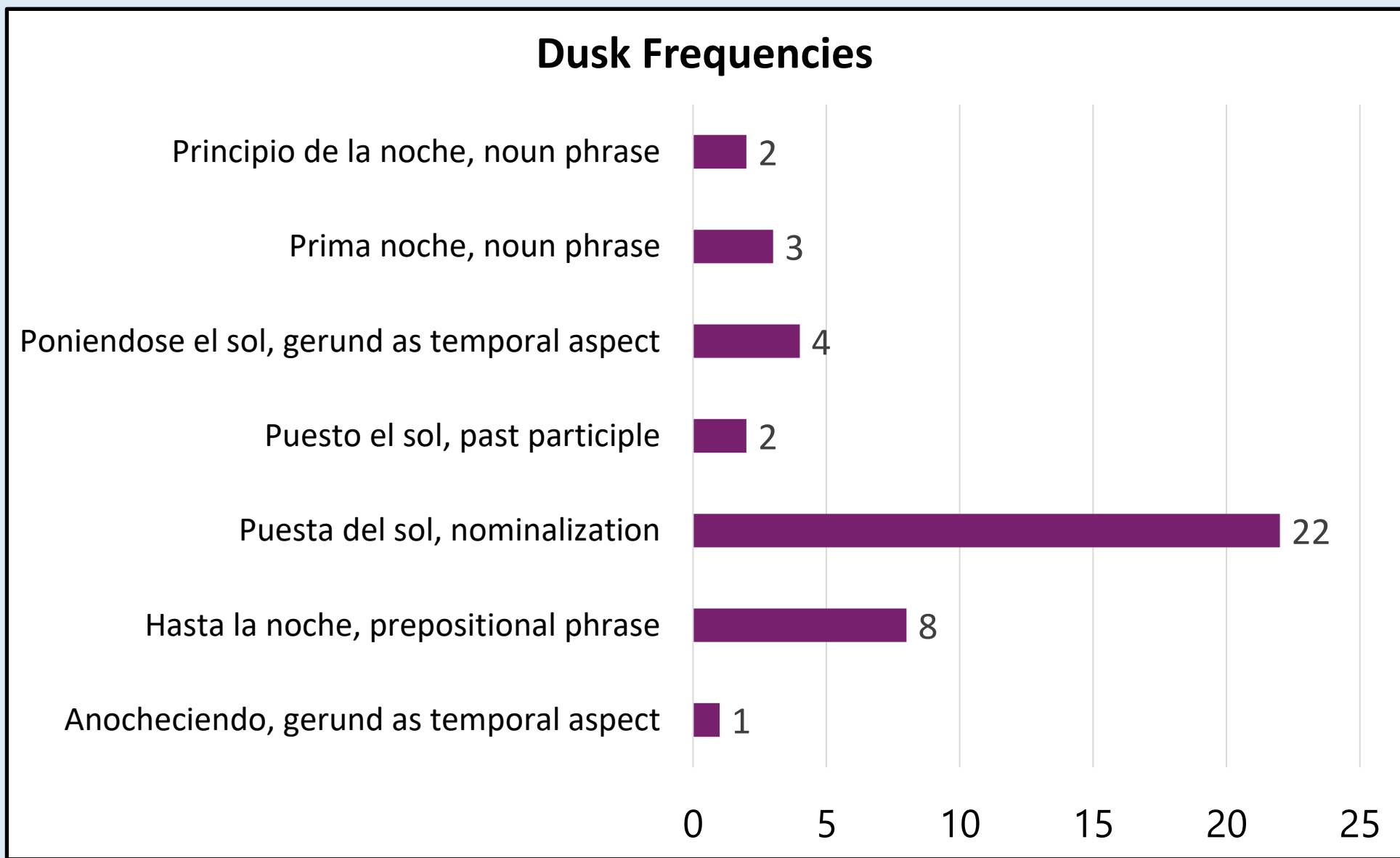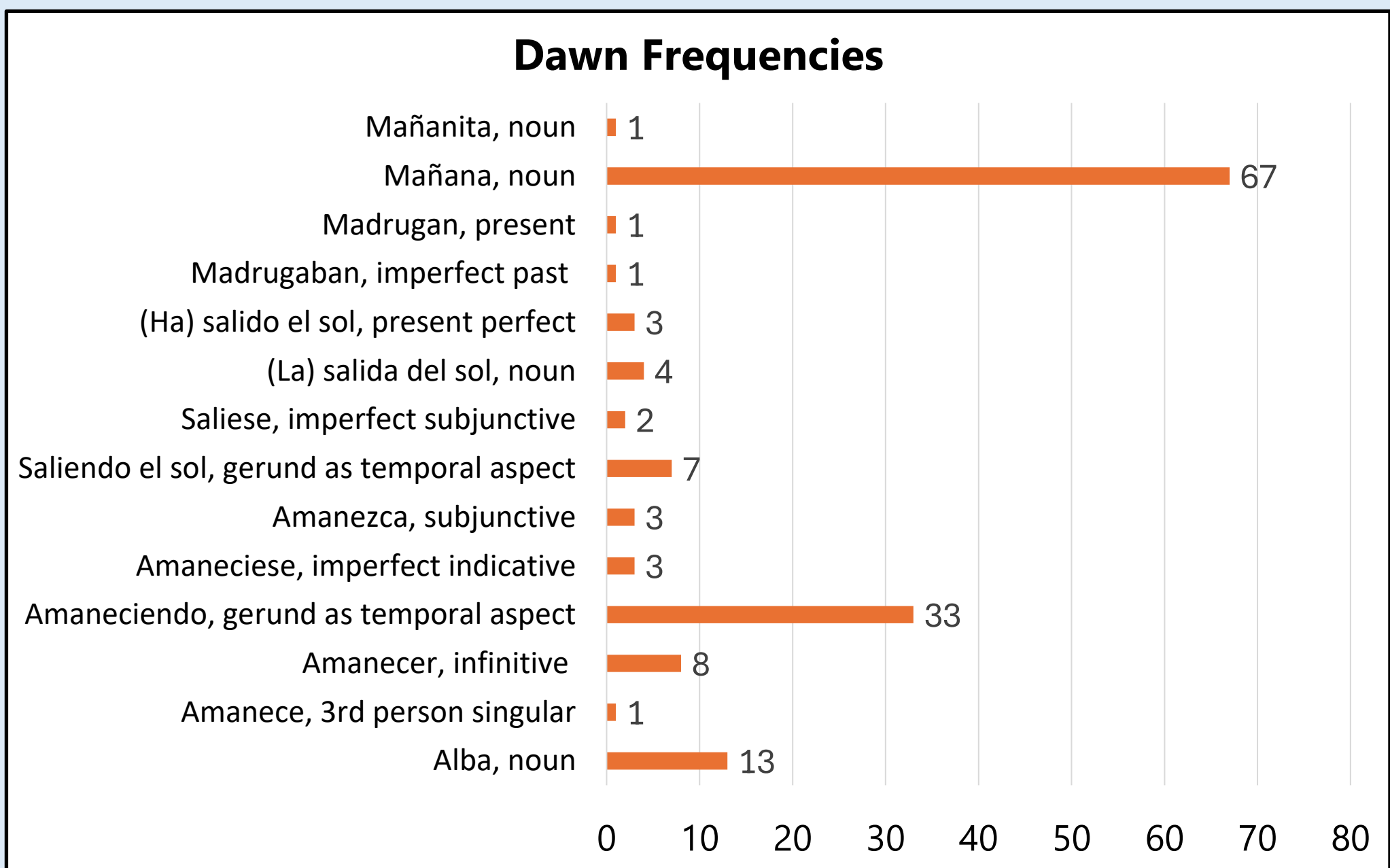
Research Questions

❖ What terms and metaphors were used to refer to the time periods of dawn and dusk?

❖ Is the name of the sun god Huītzilōpōchtli used in metaphor, and if so, how?

❖ What does the Spanish translation convey about the Mexica concept of these time periods?

Methodology

In this project I have used computer assisted corpus analysis. A corpus is a collection of oral or written data, while computer assistance refers to the use of specialized software to analyze that data. For this project I have utilized the AntConc program. This form of analysis is very rarely applied to the Mesoamerican codices due to their format and lack of accessibility. The first tool I used was KWIC (keyword in context). I then used the collocate tool. Finally, I manually examined the KWIC data for spatial mapping and metaphors. Spatial mapping, the application of spatial terms to express temporal experiences, is common across languages.

KWIC	Plot	File View	Cluster	N-Gram	Collocate	Word	Keyword	Wordcloud	ChatAI

Total Hits: 13 **Page Size** 100 hits — 1 to 13 of 13 hits

	File	Left Context	Hit	Right Context
1	7.docx	ulo 9. De las cerimonias que hacían al romper el	alba,	y lo que hacían en saliendo el sol.
2	8.2 and ...	no. De las cerimonias que hacían al romper del	alba,	y lo que hacían en saliendo el sol. fo. 32
3	8.2 and ...	ulo IX de las cerimonias que hacían al romper el	alba,	y lo que hacían en saliendo el solCuando ya
4	2.3.docx	e. la quinta vez, un poco antes que venieße, e	Y cuando	a la prima noche ofrecían incienso, sal
5	7.docx	el cielo, y en toda parte apareció la luz del	dicen que	después desto los dioses se hincaron

1. The KWIC tool gives the number of times a term was used (frequency) and indicates the surrounding words.

Collocate Types 4 **Collocate Tokens** 4 **Page Size** 100 hits — 1 to 4 of 4 hits

	Collocate	Rank	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
1	encendía	1	1	0	1	1	16.103	12.969
2	rencle	2	1	1	0	1	15.155	12.291
3	fuego	3	1	0	1	1	8.246	7.308
4	dellos	4	1	0	1	1	7.996	7.126

Search Query ☑ Words ☐ Case ☐ Regex **Window Span** From 5L To 5R ☐ Min. Freq 1

anocheciendo — Start ☐ Adv Search

Sort by Likelihood ☐ Invert Order

2. Collocates are words that appear next to another at a statistically significant rate.

Results – Frequency

Dawn Frequencies

Term	Count
Mañanita, noun	1
Mañana, noun	67
Madrugan, present	1
Madrugaban, imperfect past	1
(Ha) salido el sol, present perfect	
(La) salida del sol, noun	4
Saliese, imperfect subjunctive	2
Saliendo el sol, gerund as temporal aspect	7
Amanezca, subjunctive	3
Amaneciese, imperfect indicative	3
Amaneciendo, gerund as temporal aspect	33
Amanecer, infinitive	8
Amanece, 3rd person singular	1
Alba, noun	13

Dusk Frequencies

Term	Count
Principio de la noche, noun phrase	2
Prima noche, noun phrase	3
Poniendose el sol, gerund as temporal aspect	4
Puesto el sol, past participle	2
Puesta del sol, nominalization	22
Hasta la noche, prepositional phrase	8
Anocheciendo, gerund as temporal aspect	1

Book 3, folio 38r. Spanish text is on the left while Classical Nahuatl is on the right.

❖ There are 14 terms used for dawn and seven used for dusk. Dawn terms are used 3.5x as frequently as dusk terms (147 vs 42). This aligns with the importance the Mexica placed on the sun.

❖ *Día* is used 498 times, while *noche* is used 393 times.

❖ Four of the dawn terms are nouns, while eight are verbs, and two are gerunds (verbs acting as nouns).

❖ Three of the dusk terms are nouns or nominalized phrases, two are gerunds, one is a verb, and one is a prepositional phrase.

❖ Of the 82 total times *mañana* is used, 67 of them refer to morning or dawn instead of tomorrow. When tomorrow is meant, it is always directly clarified.

Results – Collocates

Dawn

Collocate	Rank	Freq(Scaled)	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
dia	1	4980	41	24	17	11	168.045	4.305
luego	2	9880	31	24	7	9	71.93	2.913
noche	4	3930	21	16	5	8	68.782	3.661
mañana	6	820	11	6	5	7	55.276	5.009
ante	7	1140	11	7	4	6	48.25	4.534
romper	9	70	5	4	1	4	41.879	7.422
luz	10	450	6	4	2	3	30.062	5
chocando	11	40	3	0	3	3	25.426	7.492
saliendo	13	190	4	2	2	3	23.631	5.659
aderezabanse	14	70	3	0	3	2	21.993	6.681
sol	15	2480	8	4	4	4	18.865	2.953
fiesta	16	6110	12	6	6	4	18.375	2.237
otro	17	8180	12	12	0	8	18.148	2.032
hola	18	20	2	2	0	1	18.148	7.907
almorzaban	18	20	2	0	2	2	18.148	7.907
almorzaron	18	20	2	0	2	1	18.148	7.907
vestan	21	900	5	1	4	3	16.468	3.706
amaneciese	18	20	2	0	2	2	16.464	7.322
apareijbanse	22	30	2	0	1	2	16.464	7.322
ya	24	6790	12	7	5	6	16.464	2.065
portieronse	25	40	2	0	2	2	15.287	6.907

Dusk

Collocate	Rank	Freq(Scaled)	FreqLR	FreqL	FreqR	Range	Likelihood	Effect
la	1	92170	39	31	8	12	52.357	2.014
areito	3	850	6	4	2	3	38.827	6.074
perseveraban	4	20	3	2	1	2	38.099	10.484
dia	5	4980	8	7	1	8	28.869	3.939
hasta	6	3360	6	3	3	6	22.82	4.091
entonces	7	590	3	0	3	3	17.452	5.601
cesaba	8	100	2	1	1	1	17.077	7.577
cesaban	8	100	2	0	2	1	17.077	7.577
duraba	10	140	2	1	1	2	15.728	7.091
tarde	11	190	2	2	0	2	14.509	6.651
cantar	12	1080	3	3	0	3	13.92	4.729

❖ Linear time is not always indicated in the grammatical tense of the target terms, and it is also indicated with collocates that contextually assure sequentiality: *luego*, *otro* (as in *otro día*), *ya*, and *tarde*.

❖ *Noche* is not a collocate for dusk terms, but it is for dawn, as well as *día*.

❖ Both times are associated with festivities or ceremonies: *fiesta*, *cantar*, and *areito* (a ritual song and dance).

❖ *Sol* is a collocate for dawn, but it is used less frequently than *luz*. The collocates for dusk do not mention celestial bodies or properties attributed to them.

❖ The dawn actions of the sun (*romper* and *saliendo**) add context to the sentence instead of being part of the term as they are for dusk.

❖ The frequency of *luz* is correlated to how dawn occurrences will further specify the time (ex. before the rays of the sun become visible or after), while dusk occurrences do not.

❖ The verbs associated with dawn are actions performed by people (dressing, eating, etc.), while the verbs collocating with dusk are indicating how long an action lasted (preserving, ceasing).

Saliendo appears in the collocates because it is paired with other dawn terms, not because it is in *saliendo el sol*.

The Sun

Results – Mapping, Metaphors, and Others

Huītzilōpōchtli's name is not used in time metaphors in this data. However, his name is mentioned once in association with dusk. It is not mentioned at dawn, but Painal's name is, once. Painal is best defined as a representative of Huītzilōpōchtli that took his place in some ceremonies. It is said that a song to Huītzilōpōchtli was sung at dusk. This is also said once about Xiuhtecuhtli, who is the god of the calendar. Overall, the vast majority of the terms did not appear with any spatial mapping or spatial metaphors. The use of non-spatial metaphors was also very infrequent.

Yet, some of the most valuable information came from these sentences that did not use the spatial metaphor format:

y en nuestra presencia gocemos de la luz y del | alba | del día que nuestro señor hará cuando pariere.

"…and in our presence let us enjoy of the light and of the dawn of day that our Lord (Quetzalcóatl) will make when he gives birth."

This metaphor is from a section that details the Mexica perspective of pregnancy and childbirth. It further highlights the importance of the sun by connecting its appearance to birthing. Births were especially important in Mexica culture because of their intricate calendar and astrological systems.

This interpretation of time and religion is contrasted in the following example, which is not a metaphor. Here, the Catholic rationale of the Spanish friars has been applied to a Mexica narrative:

Y dixeron los antiguos que cuando acomienza la noche, comenzaba | amanecer | en el Infierno, y entonce despertaban y se levantaban

"And the ancients said that when the night started, it started to dawn in Hell, and so they (demons) woke up and got up… "

The positioning of dusk and night as opposites to dawn and day is interesting considering that the collocates show no evidence of this being a common idea. Additionally, the collocates do not include adjectives that would indicate the general perception of these time periods. However, the data does frequently mention the religious importance of the pre-dawn when it is getting light before the sun appears.

Conclusion

The amount of information I was able to obtain in this project indicates that computer assisted corpus analysis can be a very promising tool for codex research.

The most widely used terms for dawn and dusk are nouns, while the second most used terms both contain words that define the internal temporal or spatial relationships of dawn and dusk rather than its stages on a linear timeline. This shows less of an emphasis on linearity that correlates with the lack of spatial metaphors. It is, however, an open question whether this is a linguistic convention, or whether it reflects the relationship between the codex's Spanish author and his Mexica consultants. It must also be asked if this is the same in the Classical Nahuatl. To answer this question, further analysis of the Classical Nahuatl text is required.

Citations

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