Time and Wisdom: A Sacred Calendar Among the Ayöök People of Oaxaca, Mexico

Araceli Rojas
Universiteit Leiden, Netherlands

Abstract: The calendar of 260 days, made up of the combination of 20 signs and 13 numbers, was one of the essential traits of ancient Mesoamerican civilizations. Interestingly, this calendar system persists in some contemporary communities in Mexico and Guatemala, where it is still utilized by daykeepers, also experts in ritual, divination and medicine. The present article offers a brief documentation of one of these calendars, among the Ayöök (Mixe) people of Oaxaca, Mexico. Derived from this, an analytical view is offered to provide a better understanding of its function and social significance. This work attempts to shed light on the study of Mesoamerican calendars as well as to approach the calendrical and mantic pictorial manuscripts of the Teoamoxtli (Borgia) Group.

Keywords: Mesoamerican calendars, Ayöök, Mixe, ritual, codices, Mexico, Guatemala.

Resumen: El calendario de 260 días, formado por la combinación de 20 signos y 13 números, fue uno de los rasgos esenciales de las antiguas civilizaciones de Mesoamérica. Interesantemente, este sistema calendárico persiste en algunas comunidades contemporáneas de México y Guatemala donde aún es utilizado por *daykeepers*, también expertos en ritual, adivinación y medicina. El presente artículo ofrece una breve documentación sobre uno de estos calendarios, entre los ayöök (mixe) de Oaxaca, México. De ello se desprende un punto de vista analítico que ofrece un mejor entendimiento acerca de su función y significación social. Este trabajo intenta contribuir al estudio de calendarios mesoamericanos así como brindar un acercamiento a los manuscritos calendáricos y mánticos del Grupo Teoamoxtli (Borgia).

Palabras clave: Calendarios mesoamericanos, ayöök, mixe, ritual, códices, México, Guate mala.

One of the most essential features and advanced creations among ancient Mesoamericans were their calendars, by which the economic, political and social life in communities and cities was organized. Besides being a device to record historiographical events and give names to newborn children, they also programmed festivities and ceremonies, some of them in accordance with the seasonal and agricultural cycles. They constituted the framework for astronomical observation, mathematical development, writing innovations, prediction of natural phenomena, divinatory practices, medicine, ceremonial activities, and they even signaled moral codes. The Teoamoxtli (Borgia Group) codices illustrate the complexity and richness of symbols of time, and their

close bond to ritual and mantic knowledge. However, there is still much to be known about the nature, function and connection of Mesoamerican calendars with other social and cultural expressions.

Interestingly, the 260-day calendar is one of the oldest, and still longest, achievements of the Mesoamerican civilizations. It has existed for nearly three thousand years and fascinatingly it still persists among some contemporary communities in the K'iche' (Tedlock 1982) and Mixe areas (Lipp 1991; Rojas 2012). Herein lies a valuable source of information which can shed light on not only the nature and function of the calendar, but importantly on its social and personal significances. This article gives an account of one of these contemporary calendars, among the Ayöök (Mixe) people of Oaxaca, Mexico. It provides the social context of the use of this sacred count, and explains further the prognosticative and prescriptive attributes of the days in general daily situations. These attributes will be exemplified with applicable fragments of the Teoamoxtli codices in order to propose new light in the in the study of these calendrical and mantic books.

It would be false to assume that the present lines give a clear picture of the use and nature of the 260-day calendar in the past. It would be as wrong as to presume that this time and social system has not experienced changes during thousands of years since its invention. However its survival offers proof to a certain extent of its cultural resistance. The aim of this paper, for the most part, is to present a modern use of a ritual and divinatory calendar in order to understand better its qualities and purposes in a particular social context. Nonetheless, the analysis expects to bring forth insights for a better appreciation of the nature and function of the calendar also in the past. The following text represents at the same time a testimony of cultural development and resilience worth to note in a context of systematic and ferocious suppression of native religions. Hence it is also ineluctable to give honour to the strength and wisdom of the masters of time, medicine and esoteric knowledge among the Ayöök people.

Mesoamerican calendars revealed

Time is neither homogenous nor uniform, as Einstein would say. Nevertheless, time can be measured by natural astronomical markers, which are observed and managed by humans to create calendars. These arbitrary systems organize and represent time, but are not necessarily in accordance with nature (James & Mills 2005: 13). Cultures since ancient times and around the world have developed ways to adjust their calendars to astronomical time (e.g., leap years). Since calendars are human constructions which divide the natural flow of time, they are also full of cultural significance. Through their study, much can be revealed as to the cognitive and cultural notions of time, the world, and society.

The day, defined as the lapse of time from when the sun appears until it disappears on the horizon, can be considered a worldwide time unit. It is arranged in smaller and larger time units across the globe. In Mesoamerica, the basis for any calendar was formed by a combination of 20 signs and 13 numbers, in a constant and fixed sequence of 260 days, called in Nahuatl the *tonalpohualli* (Ayala Falcón 1994: 399; Urcid 2001: 82). This series of days gave nomenclature to other calendars, such as the count of 18 groups of twenty or *veintenas* (a Spanish term) and five additional days, the *xihuitl*, and the 'Round of 52 Years', the *xiuhmolpilli,* as they were known among the Aztec people. These and other calendrical permutations, like the Venus Cycle or the 65-day periods – *cocijos*, as they were called among the Zapotecs in the sixteenth century (Córdova 1987: 201-213) – combine astronomical observations, formal mathematical concepts, and a conventional system of signs that was expressed in a particular writing system in the ancient past (Broda 1996: 434). Overall, Mesoamerican calendars throughout time and regions were embedded with an aura of religion.

The first emergence of any form of a Mesoamerican calendar, recognized by the combination of a sign and a numeral, is attributed to the Olmec culture since the earliest evidence of its use appears in a ceramic seal dating from 650 BC from San Andrés, Tabasco, a site within the focal area of La Venta (Pohl, Pope & Nagy 2002). Interestingly, the glyphs "U" and "3 Ajaw" inscribed on it resemble Maya conventions. From the Mid-Late Formative times (500 BC-200 AD), numerous rock inscriptions at Monte Alban (e.g. the *Danzantes* slabs) reveal calendrical dates and personal names in a Zapotec hieroglyphic script which is still not fully deciphered (Caso 1965; Urcid 2001). During the Classic era (200-900 AD), the prominent Maya astronomers and hieroglyphic scribes created a calendar system capable of registering large cycles of time with high precision and extending over thousands of years. The Long Count system is found in numerous monuments in Maya city states, including stelae, murals, and ceramics. The Classic Mayas made such a sophistication of their calendars that even the kings were considered divine bearers of time, of the days, and therefore, of the sun itself (Rice 2008). The use of incipient Long Count dates, ranging from 300 BC to 150 AD have been found engraved in stones that come from Central Veracruz and Chiapas Pacific Coast areas in the Istminian style (Houston & Coe 2003). Interestingly, these have been attributed to descendants of the ancient Olmecs and speakers of a Mixe-Zoquean language (Kaufman & Justeson 2008; Pye & Clark 2006). Mixtecs and Aztecs during the Postclassic period (900-1521 AD), used a logo-pictographic writing to register dates with the same 260-day system. Screenfold books and *lienzos* from Oaxaca are worth to mention as genealogical, epic and historical memories of time (Jansen & Pérez Jiménez 2011). The Teoamoxtli codices containing complex prognostications and rituals of the days belong also to this epoch, most likely created by daykeeper diviners (Anders, Jansen & Reyes García 1993: 11). At the time of the Spanish invasion, the use of the calendar

was extended throughout Mesoamerica, from the Huastecs and the north Nahuatl and Otomí territories, passing through the Purepechas, Oaxaca, and the southern Mayas, and reaching the Pipil and Nicaroa populations in El Salvador and Nicaragua (Broda 1996: 434).

Colonial chronicles written by missionaries in contact with the native peoples provide long descriptions of different calendars and their practices, thus becoming the main source for their study. The information regarding Aztec calendars dominates the scene. Friars Toribio de Benavente, also known as Motolinia (1971: ch. 14 and 16), Bernardino de Sahagún (2006: books II and V), and Diego Durán (1967, vol. I: book I) fully described the functioning, festivities, gods and auguries of the days. However, their missionary endeavours to impose control and replace the native religions for Christianity, resulted in a colonialist and discriminatory view, accusing indigenous beliefs and practices of witchcraft and acts of the devil, a discourse that not only permeates into anthropological research (e.g., Carrasco, Miller & Weitlaner 1961: 157; Lipp 1991: 150; Miller 1952: 180), but also impels a closer and more genuine understanding. For example, Sahagún's negative perspective and misunderstanding of the basic native calendar is vividly expressed in the following quote:

> This count very perjurious and superstitious and very full of idolatry [... because of ...] festivities and idolatrous sacrifices that it contains [...] and the Indians not understanding that this count does not reach the whole year because it does not have more than 260 days [...] it cannot be a calendar [...] and this was ignored by those who say this is divinatory art is a calendar [...] wherever and whoever it may be seen know that is a very perjurious thing to our Catholic faith and shall be destroyed and burned (Sahagún 2006: 248).

The study of Mesoamerican calendars extends into the documentation of their on-going use in contemporary communities. Of important value, because of the social, religious and up-close details, are the works of Benjamin and Lore Colby (1981) who focus on an Ixil daykeeper, Barbara Tedlock (1982) and her apprentice experience as calendar diviner among the K'iche', and Frank Lipp (1991) describing the rituals and medical procedures in the Lowland Mixes.

In line with these previous studies, the present article is derived from recent ethnographical research done from 2007 to 2011 in a small community called Poxoyëm in the Highland Mixes (Rojas 2012). The aim was to register the persisting calendar system along with other time structures, placing them in its historical and social context. The line of research focused on the social significance of time (James & Mills 2005), i.e. the time that leads to human and community action and permeates the interpretation of the world, the past, the present and the future. The purpose was also to learn the indigenous Ayöök language in order to achieve a closer and more faithful comprehension of the calendar, its terms and expressions, and the culture symbolisms related. The methodology did not follow any particular school; it simply flowed from an inter-

cultural experience stimulated by works concerning "narrative ethnography" (Tedlock 1991), hermeneutics (Jones 1995), and a dignified treatment of the history and culture of indigenous peoples as a means to reach a decolonizing anthropology (Matías Cruz 2007; Gabriel Hernández 1982; Harrison 1991; Pérez Jiménez 1989; Smith 1999). As a result, the research gave detailed descriptions by the side of analysis of ritual activities, divination and other aspects of worldview related to the days such as personhood and sacred narrativity.

Poxoyëm, the Ayöök town

Poxoyëm is situated on the west border of the Mixe region, on the mountains of the Sierra Juarez, in the northwestern part of Oaxaca state. It lies right next to Villa Hidalgo Yalalag, an important Zapotec town. In the seventeenth century, this Mixe and Zapotec area was active in the ritual, divinatory and medicinal arts of the *tonalpohualli* (Alcina Franch 1993).

Poxoyëm means "leveled and chopped place" referring to its foundation story. This *kajpën ni Ayöök* or *kajpën nimaatyëkde* (historical narrative) describes the vicissitudes of a group that left Püjoyëm (Xochixtepec), in the Zapotec area, searching for a good place to settle down. After a series of unfortunate auguries and dreams, they saw candlelight in today's Poxoyëm center. Considered a good omen, they decided to level the ground of that area and cut down trees to build a church and the first houses. This first group was led by experts in the calendar and divination knowledge, recalling in this sense other Mesoamerican origin stories, such as the pilgrimage of the Mexicas away from Aztlan, led by the great diviner and healer Huitzilon (Serna 1953: 229-230).

Nowadays, Poxoyëm has little more than 600 inhabitants. All of them speak Ayöök (Mixe language), and practically all also speak Spanish, except for the very elderly inhabitants. Until 2011, the majority of men had migrated in search of better economic opportunities, mainly to the United States. Religious affiliation is divided among the population, and half of the people have converted to Adventism. Interestingly, the ones who have remained Catholic are those who believe in and maintain the old time traditions, including the 260-day count. In spite of the entrance of new beliefs and technologies and the forceful influence of the big cities, still some people in Poxoyëm reproduce the old and still effective traditions which obviously are not exempted of reshaping and adaptation.

In this context, women dominate not only in the domestic core but also in economic, social and religious spheres. Time consuming household chores, such as preparing the *nixtamal* (maize cooked in lime), making *tortillas*, taking care of the fowl and burden animals, cleaning the house, and washing the clothes, are all done by women. Labor in the fields, like sowing, weeding, harvesting and bringing lumber from the forest, is also done by women. Some also take part in commercial activity and others drive a car for

transportation services. Among them, there are midwives, *sobadoras* (masseuses), and herbalist healers. Within this group, there are a few women who handle the calendar. These women, with common rural lives, summon elevated wisdom of the occult world. The present research offered a valuable opportunity to portray the role of female religious experts, which is unusual in documentations of this kind.

In Poxoyëm the 365-day calendar, a division of 18 groups of 20 days plus five additional days, has not persisted. It has been shown, as in the Mazatec, Chinantla, and Lowland Mixe areas where it does exist, that this system functions mainly to program agricultural activities (Carrera González & van Doesburg 2001; Lipp 1991; Weitlaner 1936; Weitlaner & Weitlaner 1946; 1963). Nevertheless, as an agricultural community, the knowledge and course of labor in the fields - sowing, clearing, and harvesting - determine the rhythm of social and communitarian life in Poxoyëm. In addition, the Christian festivity calendar, which to some degree translated ancient ceremonies surrounding natural and agricultural deities into a new liturgy of saint worship (Broda 1983; Broda & Good 2004), provides a regular sequence to the flow of social time. In Poxoyëm it is possible to get a clearer picture of the past, when different calendars merged together and were embodied in the actions of society. For example, the Catholic community organizes a festivity half-way through the year (recalling the 18 feasts of the *veintenas*), around the summer solstice (corresponding to the astronomical calendar), when the maize tassels sprout (coinciding with the agricultural cycle), and it is organized so that it takes place on a 'good' day (of the 260-day calendar) in order to make appropriate offerings to God and It Naaxwin (Earth deity). In this paper, there is no space to explore the confluence between and social aspects of other calendars. For now, the focus will be on the structure of the 260-day calendar and its essential and social qualities.

The 260-day calendar of Poxoyëm

Aiming toward a better understanding of the basic count, it is here proposed that the 260-day calendar should be perceived as a skeleton, a bone structure of 20 signs and 13 numbers that supports 'muscles', which are the symbols pertaining to different realms including the social, worldview, religion, ritual, ethics, and divination (prognostications). Only bones and muscles together can prompt a cycle movement and allow multiple uses and interpretations. Only then does the system come alive.

Each new day starts at midday, and each day comprises a sign and a numeral, running strictly in sequence and in parallel, resulting in 260 different combinations. Table 1 illustrates a piece of this cycle including the names of numbers, signs and their literal meaning. The latter are faithful to the accounts of the daykeepers in Poxoyëm. A question mark has been placed where no reference was given, though is possible to find different definitions in other accounts of Mixe calendars, including a previous report

1. To'k	*Tëjk*	House
2. Mëjtsk	*Xaaw (Xaw)*	?
3. Toojk	*Jow*	Something ripe, tender and soft, like an avocado ready to be eaten
4. Maktaaxk	*Jöö'n*	Something hard, solid and strong
5. Mukoxk	*Tsaan*	Serpent
6. Toojtëk	*Oj*	?
7. Wixtoojtëk	*Naj*	?
8. Totoojtëk	*Wiptsy*	?
9. Taxtoojtëk	*Nëën*	? (Possibly Water or River, because *Nëë* is the referent for both)
10. Majk	*Jo'*	?
11. Majk to'k	*Jëm*	Something that ignites easily, like ashes in the hearth
12. Majk mëjtsk	*Tëëts*	Tooth
13. Majk toojk	*Käp*	Reed
1. To'k	*Kaa*	Cow or Bull (but probably derived from wild felines: e.g., *ujtskaa* meaning "puma" and *mistëkaa* meaning "tigrillo," possess the particle *kaa*. In Coatlán and Alotepec, *caa* or *kää* refers to "jaguar" and "tiger" (Hoogshagen & Halloran 1993: 328; Reyes Gómez 2005: 33).
2. Mëjtsk,	*Ju'uk*	Tobacco
3. Toojk	*Paöw (Paw)*	?
4. Maktaaxk	*Ojx*	Earthquake
5. Mukoxk	*Tap*	?
6. Toojtëk	*Mëy (Mëëy)*	Grass
7. Wixtoojtëk	*Gügën*	? (In other sources, this sign refers to a female deity of life, a spirit or force that has an effect on new-borns (Lipp 1991: 32; Weitlaner & Weitlaner 1963: 58).
8. Totoojtëk	*Tëjk*	(and the sequence continues…)

Table 1. Numbers, signs and literal sign-meanings of the 260-day calendar in Poxoyëm.

on Poxoyëm (Ballesteros & Rodríguez 1974: 62), as well as in Camotlán (Miller 1952), Mazatlan (Villa Rojas 1956), Guichicovi (Mann 1958; Weitlaner & Weitlaner 1963), Cotzocón (Carrasco, Miller & Weitlaner 1961), Chimaltepec (Beulink 1979), Yacochi and Tiltepec (Duinmeijer 1996). It seems that for the unknown cases, the literal meaning has been lost over time, and only their referents have been maintained as remnants of the past.

Unlike in Camotlán and Mazatlan the 260-day calendar is named *xëë tun* or *xëë too*, "path of the sun" or "path of the days" (Andrade 1995: 74; Lipp 1991: 61), here in Poxoyëm it is simply known by the Spanish word *calendario.* In Momostenango, they refer to it as *rajilabal k'ij* o *ch'ol k'ij*, meaning "the count" or "order of the days" (Tedlock 1982: 52). Among the Aztec Nahuas, this was the *tonalpohualli*, "the count of the days".

In Poxoyëm, the count is not said to go alternately up and down in each group of 13 days or *trecenas*, as was explicitly written in the calendar manuscript found by Miller (1952) and described by Lipp (1991: 56) and the Weitlaners (1963: 49) for the reckonings in the Low and Medium Mixe areas. In these latter areas, year bearers also exist, but in Poxoyëm these are lacking because there has been no persistence of the 365-day cycle (cf. year bearers in Carrasco, Miller & Weitlaner 1961; Lipp 1991: 53-54). Another difference with respect to these areas mentioned, is the use of particular names for calendar numbers, which are different to the names for common numbers. This sacred aspect of numbers can be traced to the Zoque language, which provides clues and contributes to the discussion of the origins of the 260-day count (Wichmann 1995; 1998).

It is worth remarking, as Tedlock (1982: 93) reports for the K'iche' calendar, that in Poxoyëm there is no first or last sign for the whole sequence. Table 1 starts with *Tëjk* in order to facilitate comparisons with other Mesoamerican calendars. For instance, *Tsaan* (5º, Serpent), *Nëën* (9º, Water), *Käp* (13º, Reed), *Kaa* (14º, Wild Feline) and *Ojx* (17º, Earthquake) match in position and literal meaning with Aztec and Mixtec calendars. Water, Tooth and Earthquake coincide with the Zapotec count proposed by Urcid (2001). Tooth, as has been noted before by Whittaker (1990: 210), corresponds to the same position as the image of a flayed mandible of the sign Grass in the Aztec and Mixtec calendars. Serpent, Tooth and Reed also occur in the K'iche' and Ixil examples (Colby & Colby 1981; Tedlock 1982). Curiously, the sign for House does not coincide in position with Aztec or Mixtec cases, though showing the variability among Mesoamerican calendars.

Serpent and Reed seem to have an important place in Mesoamerican calendars. They appear in almost all reported examples, including Aztec, Mixtec, Otomí, Matlatzinca, K'iche', Ixil, and Yucatec cases (Caso 1967: chart IX). Between these two signs lie 13 positions or days. Thirteen is a number of great importance in the Mesoamerican worldview, and, as will be shown further, Serpent and Reed share strong prescriptions and functions as important markers in the sequence of ritual petitions.

In fact, comparisons between calendars should be made cautiously. There can be multiple semantic meanings for only one referent, and although the search for a literal meaning can be fruitful in a philological sense, the meanings are not relevant for the social significances of the days. Even apparently and immediately translatable names are considered undecipherable within the context of the divinatory calendar (Tedlock 1982: 107). In Poxoyëm, the real meaning lies in the prognosticative and prescriptive knowledge of the days.

Xëë maywë machowë: The one who divines and counts the days

The people who handle the calendar knowledge in Poxoyëm are called *xëë maywë machowë. Xëë* refers to "day", *maywë* means "that divines", and *machowë,* "that counts": "the person who divines and counts the days". The intrinsic bond between the reckoning of days and divination is highlighted in the name, which recalls the old primordial couple, Oxomoco and Cipactonal, to whom the invention of the calendar and divination are attributed according to some origin narratives of the Aztec people (Historia de los mexicanos por sus pinturas 1979: 25; Mendieta 1973: 60). According to Sahagún (2006: 218), the Nahua daykeepers painted these two divine masters in their *tonalmatl* (books of the days).

Coincidently, on page 21 of the Codex of the Cihuacoatl (Borbonicus), Oxomoco holds a bowl in one hand and with the other hand seems to throw seeds, probably maize or beans, similar to the act of divination described in historical sources and which still occurs in some Oaxacan communities, including Poxoyëm (Figure 1). Cipactonal holds a smoking censer, a bone awl for self-bloodletting sacrifices, and a copal pouch. They both carry a gourd on their backs, like those containing *piciete* (tobacco) carried by priests in Mixtec codices. The image shows clearly that the old primordial couple bring together the arts of the calendar, divination and ritual. The same can be said of the women of Poxoyëm.

Besides keeping track of the days and knowing their significance, the *xëë maywë*, as they are called in short, are experts in the divinatory technique of casting maize kernels (cf. Rojas 2012 for an extended description). "Reading the maize" constitutes an intrinsic part of every calendar consultation. As described for other daykeepers in the Mixe area and Guatemala (Lipp 1991: 51; Tedlock 1982; Colby & Colby 1981), in Poxoyëm daykeepers are, besides diviners, experts in medicine, healing techniques, ritual procedures, prayers of respect, and ceremonial discourse.

Women *xëë maywë* reckon the days in their minds. Some use *El Calendario del más antiguo Galván*, a modern Catholic publication that includes a calendar in Gregorian style, extended day by day, including the periodical saint and liturgical celebrations, official festivities, mass programs, biblical readings, important astronomical events, weather prognostications, and historical records, among others. Interestingly, this little pocket

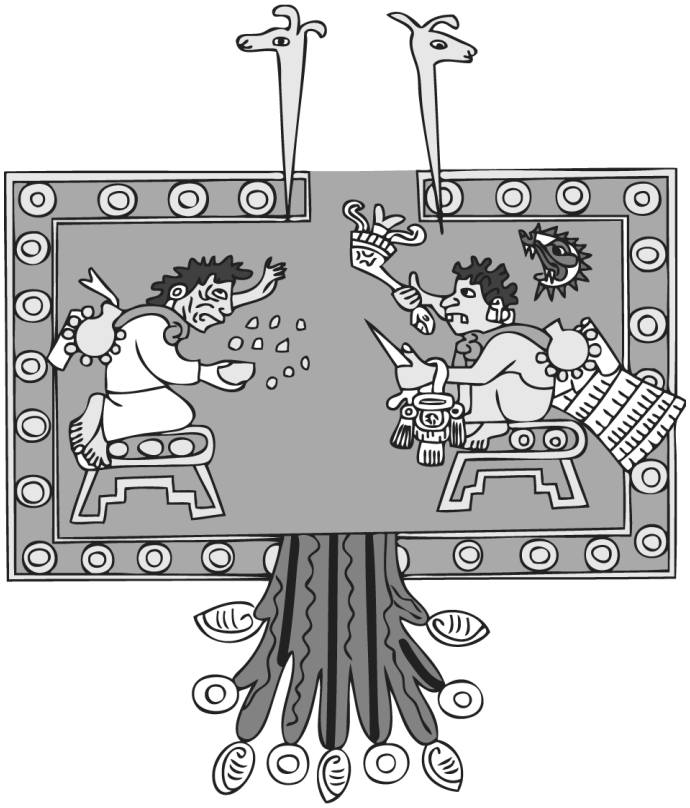

Figure 1. Oxomoco and Cipactonal (redrawn from p. 21 of Codex of the Cihuacoatl (Borbonicus)).

guide, with calendrical, ritual, and astronomical content, seems a logical replacement for the ancient Teoamoxtli and Maya codex manuscripts, which functioned in the same way as a practical manual for daykeepers and diviners (Anders, Jansen & ReyesGarcía 1993: 11).

There are several reasons to consult a *xëë maywë,* some of them similar to colonial descriptions (Motolinía 1971: 46; Sahagún 2006: book IV; Balsalobre 1953: 351-353). Most reasons have to do with affliction. The *xëë maywë* is an authentic counselor, psychological and medical therapist. She listens to dreams and meaningful events or presages. She will ask on what day and in what moment these happened. She also recommends procedures of respect to heal serious and long illnesses. She knows how to cure *susto* (frightening disease) in the proper time and place. She leads a series of actions to ask

for the well-being of the family, good fortune for a husband or son who will emigrate, good health for newborns, security for communal festivities and the annual service of authorities (*cargo* system), and success for finding a job, a partner, or in having a baby. If the requests are made to a saint, the Virgin, or It Naaxwin as a *manda* or promise, the *xëë maywë* will indicate the amount of days and offerings to be made, which in the recent past included fasting and sexual abstinence. If remembering ancestors is required, through prayer, food offerings or relieving a promise they made in life, the *xëë maywë* will give guidance in these endeavours. In short, she can tell the significance of a certain time depending on the things that happened then, and can recommend on which particular days and at which particular sacred places to dedicate offerings and pay respect to deities and saints in order to achieve the desired effects.

These religious acts are frequently called *costumbres*, as among other Oaxacan peoples (Barabas 2006). In Ayöök, the more or less invariant sequence of formal acts and utterances (following the definition of ritual by Rappaport 1999: 24), addressing It Naaxwin in natural and sacred places are referred as *wintsë'ëkë*, which has a literal meaning of "to give respect". Clearly, in the Ayöök worldview, offering, and what in anthropology is named as ritual, is an act of respect (Rojas 2012).

Becoming a *xëë maywë* can happen by learning the skills from parents, grandparents or relatives, or by receiving it as a sacred gift, a call from the divine world to develop a high level of human capacity. Either case requires a good understanding of how the world and the natural forces function. Here there is a stress on the natural, and rejection of the term "supernatural", which contradicts the native notion of the world. When turning into a calendar diviner it is also necessary to comprehend clearly the connection between human spirits and other animals, natural and divine worlds -the phenomena of *jawiën* and *tso'ok* or as in Nahua culture the *tonalli* and *nahualli-*. A *xëë maywë* must learn and trust in his or her power of addressing deities and divinities, including God, It Naaxwin, saints, the Virgin, ancestors, and sacred places such as hills and rivers. The role of a daykeeper belongs to the realm of goodness, which marks it as different to other similar human and high-level capacities destined to harm and defend from others, like the *tso'ok*. In order to learn and master the calendar well, its knowledge should be requested with respect at Mëj Kopk'am (also known as Zempoaltepetl), the most sacred place among the Ayöök. In other Mixe and Mesoamerican communities, it has been described how daykeepers have to go through dreams, illnesses and divine trials in order for knowledge and skills to be bestowed upon them (Lipp 1991: 150-152; Colby & Colby 1981: 62; Tedlock 1982: 53).

The *xëë maywë* are commonly elderly women. The necessary skills take several years to master, and the role also requires knowledge gained through life experience. The complex corpus of knowledge is hard to command. It does not simply require memorizing the reckoning of 20 signs and 13 numbers, and not even only learning 260

different meanings or formulas: it actually represents a multiple universe of more than 260 social, personal, ethical, worldview, religious, prognosticative and prescriptive significances that arise and vary according to the circumstances. This is a broad system of symbols that cannot be read by themselves, similar to the images in the codices: they highlight crucial aspects that can become relevant depending on the situation (Anders, Jansen & Reyes García 1991: 68). Herein lies the difficulty, but also the masterful skill, of the daykeeper diviners. When they are consulted, they are capable of identifying problems in life, such as the symptoms of a disease. Then they submit their impressions to a test by reading maize. According to this result, they acquire a better understanding of the situation and can then recommend a remedy, prescribing the right procedures and offerings to be applied at the proper time and place, just as Western medicine is prescribed according to correct dose and time. The daykeeper diviners, similar to the Nahua *tonalpouhque* described by Sahagún (2006: 215, 261), are real medicine men and women. Besides, regardless their common rural way of living and not pertaining to a privileged sector in the community, they possess a high level of wisdom and social authority, a situation that may well have existed in ancient times as Elizabeth Brumfiel (2011) also suggests for the Nahua commoners and thus in contradiction with the idea of conceiving calendar priests as an upper class elite, owners of a restricted knowledge.

The social significance of time

The symbolic content of the 260 day-count is sacred and occult. This is clearly shown by the graphic vocabulary that the Teoamoxtli codices display, where prognostication, ritual indication, the connection with dreams, and divinatory information is not sharply differentiated and elucidated (Boone 2007: 4). The significance of the days, as it is with the reading of codices, is highly culturally codified and the correspondences in meaning occur often by analogy and metaphor (Anders & Jansen 1993: 107). As with mantic text, this language tends to be ambivalent and 'open' (Jansen 2012: 83).

The 20 signs function as mnemonic sources from which broader significances are constructed (Tedlock 1982: 107). In the Poxoyëm case, the broader significance relies on the realm of prognostication, ritual prescription, and the character of a newborn child. For instance, the sign *Tëjk* stands literally for "house" and it is often used for practices of respect within the house for the well-being of the family circle. *Jöö'n*, denoting "strong" and "solid", makes sense for grave illnesses that started on this day and that do not seem to be getting better. This sign is also favorable and recommended for weighty and important ritual petitions. *Jëm* can allude to ailments that are advancing rapidly, as its literal meaning represent "ashes that ignite easily in the hearth". *Kaa* or "wild cat", points to powerful and courageous personalities. These are clear cases that function well as mnemonic sources, but there are still other signs whose link between literal and social meanings cannot immediately be elucidated.

The friars in colonial times ascribed firmly 'good' or 'bad' auguries for the days or group of 13 days (Durán 1967, vol. I: 226; Sahagún 2006: 94, book IV; Serna 1953: 122). This absolutist notion has distorted our view of the nature and function of the Mesoamerican calendar system, as well as for the native perception of time and destiny, a misinterpretation still reproduced to some extent by modern scholars (e.g., Boone 2007: 2; Monaghan 1998, 2001). The Ayöök calendar and language can shed light in this respect.

Depending on the situation or reason of the consultation, the *xëë maywë* is able to designate which are the *oy xëë* or *ka'oyë xëë*: "good" and "not good" days. As in Nahuatl, there is no exact word for "bad". To name something "bad" it is necessary to deny that it is good. Consequently there are no bad days, but days that are not good. Therefore, time is and cannot be bad either: there is no evil *per se*. This might seem a slight matter of language translation, but it shows clear cultural and cognitive differences between Western and Mesoamerican worldviews.

Since time is not good or bad as such, it cannot determine a good or bad augury by itself. Thus there are two different and separate entities, time and life events, and these latter can be considered 'good' (e.g. getting a new job) or 'not good' (e.g. falling sick). Time and life incidents come together when they coincide in social significance. For instance, if affliction, illness or a conflict with a third person occurs on a 'not good' day, this indicates bad fortune. On the contrary, if such events happen on a 'good' day, they might not signal anything serious: these are just bad events. If a person gets a new job, finds a new partner, or is given a present of money on a 'good' day, these events are considered the result of good luck deliberately brought into a person's life by acts such as carrying out rituals of respect for that particular purpose. If these events happen on a 'not good' day they still might be considered the outcome of fortune, of fulfilling a ritual promise, or behaving according to the moral codes.

Therefore, there is no absolutism in the calendar world vision. There is no sharp division between good and bad, or white and black, light and darkness. These are not fixed opposing forces that divide the universe, but inherent features in each aspect of life, nature, the divinities, human beings, and the days of the calendar. There are no days destined for misfortune or adversity. It is not possible for certain days of the calendar to point to bad happenings, in contrast to what is often said of the *Nemontemi*, in the Aztec calendar, as the ominous days, when catastrophes or the end of the world could happen, when events were inauspicious and newborn did not have the condition of 'persons' (Monaghan 2001: 250-251; Motolinía 1971: 38). The *Nemontemi* represented a period of preparation of the next 365-day cycle, and each one had a sign and number and therefore a prognostication as any other day. Good things can happen on 'not good' days, and vice versa. When problems in daily life occur is it possible to see if time is signaling trouble on a larger scale. The *xëë maywë* is capable of making this clear. Besides, even in

the most adverse situations and in births that signal unfortunate tendencies, there will always be the *costumbres* as something positive by which the unfavorable conditions can be solved or at least alleviated. The *xëë maywë* is able to conduct these acts of respect.

Contrary to an absolute character, the significance of the days are ambivalent or even multivalent. This means that one day can be good for one thing, and not very good for other things. For instance, *Tëjk* has a rather indifferent overall prognostication for presages or dreams, but is highly effective for asking for health and protection of the family and conducting *costumbres* inside the house. *Mëy* is a day that can announce 'not good' things to come, but it can also be used for visiting the cemetery or church for the well-being of a family member. *Kaa* does not have a clear prognostication, but it is suitable for remembering and giving offerings to ancestors; although it is not recommended for paying respect on the hills, it is favorable for a strong and brave character. Ambivalence is also conveyed by the imagery in the mantic and calendrical codices of the Teoamoxtli codices (Anders, Jansen & Reyes García 1993: 51) and by divinatory techniques, as when reading maize kernels (Rojas 2012). A lack of uniformity in the prognostication of the days has also been noticed in the contemporary Ixil and K'iche' calendars (Colby & Colby 1981: 224; Tedlock 1982: 107).

In an attempt to approach the multiple significances of days, it is perhaps useful to visualize different levels of information, or layers of knowledge, within each day. The first level is constituted by the general prognostication of the day-sign applicable to the interpretation of the auguries of presages and dreams. Here, a presage is defined as an event in daily life of cultural significance, an incident that works as a vehicle to transmit an occult message regarding imminent dangers or unattended ancestors. Presages that might signal hazards can be: encountering particular animals on the road, like serpents or pumas; or listening to the cry of birds like *tecolotes* (owls), *wäko'o* (unidentified white animal that accompanies pumas), or the *tsinaay*, a blue bird whose call is similar to laughter. Dreams as well have a rich repertoire of meaningful imagery. For instance, dreaming of lit candles inside a church, someone or something falling, or the *mano* (hand-held) of the *metate* (grinding stone) breaking, are all signals of imminent danger. This layer can also affect, favorably or unfavorably, certain events or purposes, like sicknesses, problems, and conflicts with other persons. Not all significant events have a straight connection with this time prognostication. There might be presages, sicknesses, dreams or conflicts that may occur without warning, but if they repeat themselves with more frequency or intensity in the same sign, this will point to important concerns that have to be taken care of. This layer is an overall prognostication, which in some cases appears clear and sharp, but still ambiguous, comparable to pages 9 to 14 in Codex Yoalli Ehecatl (Borgia) (Figure 2).

Figure 2. Patron deity and influence of the Flower sign: Xochiquetzal, goddess of beauty and joy, and an old lady with a broken mano of a metate, a sign of danger (redrawn from Codex Yoalli Ehecatl (Borgia), p. 9).

A second layer of significance is constituted by the prescriptive quality, by the type of ritual activity that the sign recommends. This is the most well preserved aspect of the calendar and therefore the most complete form of information in the memory of the *xëë maywë* in Poxoyëm. For them, this is the immediate meaning of the days. Lipp (1983: 219) also stated that this is the primordial use of the calendar. This layer provides a guide for the best time to go to a sacred place, hill or cemetery, pay respect to divinities or ancestors, apply a healing procedure to a sick person, or start a promise procedure in order to obtain a job, well-being, money, a house, a baby, or marriage. The religious acts can last one, two, seven, nine, 13 or 20 days, according to the situation. This layer includes recommendations for wedding celebrations, a date that the *xëë maywë* suggests after she has read the maize kernels. In the past, this layer gave more explicit indications on when to celebrate the start of the *cargo* services, when to undergo a long journey, or when to prepare the fields and begin sowing. Nowadays, these are simply done on good days, like *Tsaan* (see Table 2 for more indications of the days).

In any case, the *xëë maywë* will also signal the proper kind and suitable number of offerings to be prepared. For instance, in the case of an important petition like curing a strong disease or planning to cross the border into the United States, the *xëë maywë*

will ask to gather one turkey, *mezcal* and *tepache* (alcoholic beverages made of maguey), *tamales* made with beans, *weijy* or dried powder of maize dough, cigarettes (tobacco), candles, flowers, and a special food made of maize called *pinëk* which are tiny cooked dough balls, and *xëts*, which are thin dough strips arranged in two packages of 106 and 103 each (Figure 3). On a 'good' day prescribed by the *xëë maywë*, these offerings are brought to Mëj Kopk'am and arranged on the floor in front of the altar. In middle of long prayers, with a sophisticated and ceremonial style in Ayöök language, the *xëë maywë* or the family member leading the action, cuts the neck of the turkey and the blood is spilt on the offerings of maize food (Figure 4). Later on, the turkey is cooked and after a session of prayers and discourses, a meal is given to benefit and strengthen the petition. In some particular cases when trying to relieve the irritation of ancestors, recognized by bad dreams, bad luck or sickness within the family, the *xëë maywë* could ask to pray the Rosary before the altar in the house for seven or nine days previous to a particular date; seven days in the case of a deceased woman and nine for a man. On the determined day, the family will gather one turkey egg, *mezcal, weijy,* candles, *pinëk* and *xëts* in numbers 59 and 54 each. They will go to the cemetery and in front of the deceased ancestor they will pray and place the offerings on the grave, actually feeding him or her. In the past, as in other Mixe communities like Mazatlan, Camotlan and Cotzocón (Miller 1952; Lipp 1991; Weitlaner & Weitlaner 1963), in Poxoyëm they used to prepare and burn bundles of numbered splints of ocote tree as part of the offering assemblage (cf. Rojas 2012 for more detailed descriptions).

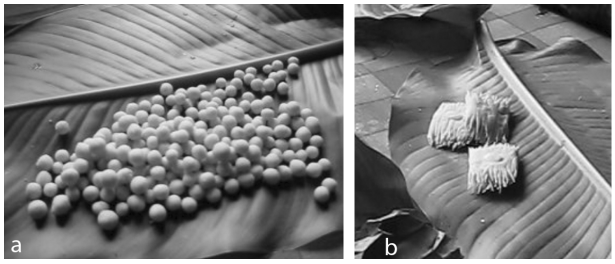

Figure 3. Offerings of maize food: a) *pinëk* and b) *xëts*, the latter in special number.

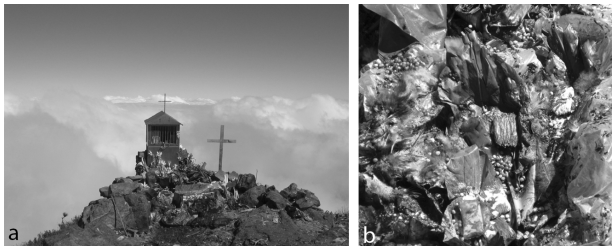

Figure 4. The top of Mëj Kopk'am: a) the altar and the offerings; b) maize food is impregnated with blood from fowl.

This prescriptive significance of the day can also be exemplified by the following instructions given by a daykeeper to a person who has received a prognostication of death:

> [...] to remediate your work, search for paper, or buy it, and white incense, *ixtli* [charcoal ashes], and the other things that you know are necessary to carry out your offering, and after you have assembled the necessary items, I will come on such a day as is opportune to make the necessary offering (wait for the 13 days of the sign to pass) to the Lord God of Fire, then you will come to me, because I will arrange the paper, and all the rest, the places and the manner, which you must have to be able to make the offering, and I will have to go and light, and burn it in your house [...] (Serna 1953: 212).

Similar directions that clearly indicate the number of offerings, in some cases particularly associated with the bundles of ocote splints (Figure 5), can be found in Codices Tezcatlipoca (Fejérváry-Mayer, p. 5-22), Mictlan (Laud, p. 45-46), and Tlamanalli (Cospi, p. 21-23) (cf. Nowotny 2005, Van der Loo 1989, Anders, Jansen & Van der Loo 1994, and Dehouve 2001, 2007 for studies on counted offerings).

A third level is composed of prognostications and character tendencies according to the day of birth. This layer is similar to a Western horoscope (from the Greek *hora*, "time", and *skopos*, "observer") in which the position of planets at the moment of birth offers a setting which influences personality and road of life. This layer is not an absolute and determined destiny (unlike the opinion of Monaghan 1998: 140; 2001). As the Austrian psychologist Carl Jung (1968: 245) would say for the 12 zodiac signs of Western astrology, these are projected facets of character, archetypes of human personality. Hence, in the Mesoamerican calendar there is a repertoire of 20 signs that point to different aspects of human nature. The birth sign stresses one of these signs in a profound way, without expelling the other (19) human aspects that can come out or be useful in different life situations. Here again, distinct from a reductionist view that somebody born under a Monkey sign will without fail become an artist or musician, a native Mesoamerican would be free to choose his or her destiny, probably having a

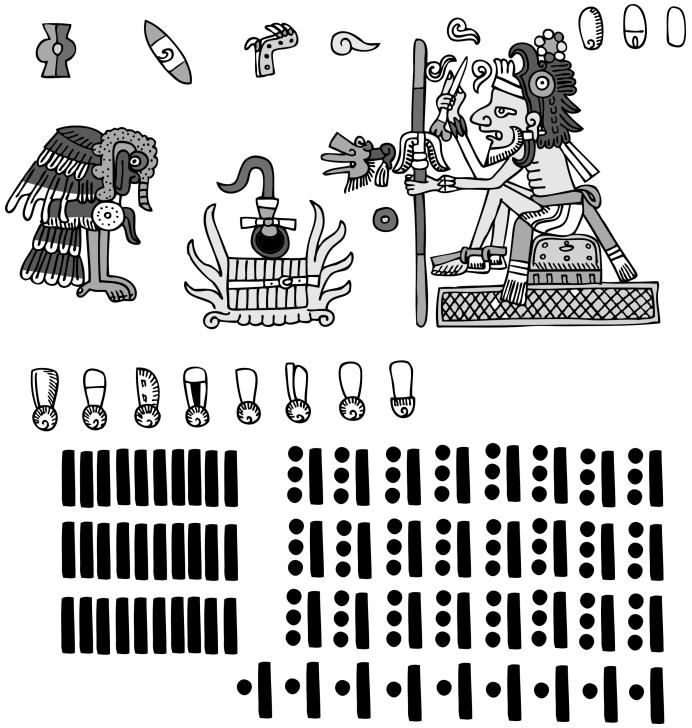

Figure 5. Indication of the amount of counted offerings, like bundles of splints of ocote (pine tree), to be burned with rubber, along with the sacrifice of a turkey, dedicated to an old god on the days Movement, Flint or Jaguar (redrawn from Codex Tezcatlipoca (Fejérváry-Mayer), p. 6).

stronger tendency for artistic or musical aspects in life. Similarly, the Momostenango calendar confers a *uwäch uk'ij*, "the face of the day" to a newborn (Tedlock 1982: 110). This layer provides information on possible risks or fortunes of newly born children, whose parents' responsibility is to take care of them during their first years of existence through proper offerings in particular places on certain days.

Some pages in the Codices Yoalli Ehecatl (15-17), Tezcatlipoca (23-29), and Tonalpouhqui (Vaticano B, 33-42) could be related to this third layer, where several crucial events in the process of being born are depicted: the opening of the eyes as a metaphor of "seeing" or "gaining life", the ceremonial presentation of the baby, the 'grabbing' and cutting of the umbilical cord, and the first breast feed (Figure 6). Each of these events signal for particular deities that rule according to the time of birth, and offer good or not good prognostications (Anders, Jansen & Reyes García 1993: 109-116).

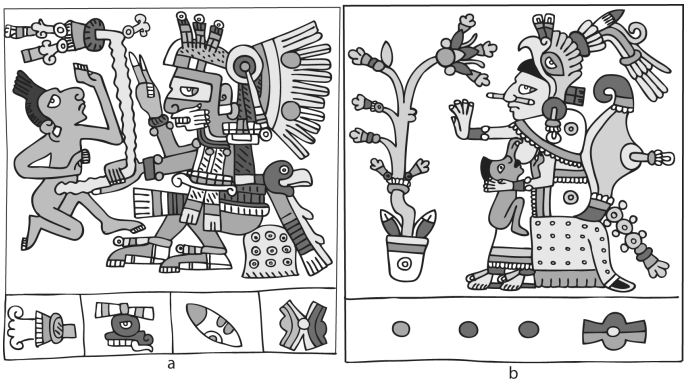

Figure 6. The prognostications for a child born on the day Movement and the following three days: a) Tonalleh Yaotl holds the precious umbilical cord: good auguries (redrawn from Codex Yoalli Ehecatl (Borgia), p. 15); b) Xochiquetzal breast-feeds the newborn and a tree with flowers and jade grows from a bowl with knives: health and wealth (redrawn from Codex Tezcatlipoca (Fejérváry-Mayer), p. 29).

Depending on the situation, the sign of the day provides the main source of significance. The final layer is connected to the day number, which gives intensity to the sign's prognostication or prescription. Low numbers correspond to weak influence and high numbers signify a strong effect. For example, a person who fell ill on a day with number 2 would have little pain and a rather fast recovery. A baby born on a day with number 12 will be under considerable inclination for the sign qualities. When carrying out rituals, numbers four, six, eight, ten and twelve are positive and fortunate, and these are called "complete days". The combination of the number 10 and the sign *Tsaan* (Serpent) is the best and most powerful day on which to pay respect and ask for any wish. Numbers five, seven and eleven are 'incomplete' and not indicated for performing *costumbres*. If they are combined with 'warning' signs and coinciding with 'announcing' dreams, illnesses or presages, they could point toward danger, conflict with other people, and not good fortune.

Table 2 shows the three layers of significance for each of the 20 signs in Poxoyëm. Perhaps a chart is not the best way to visualize the multiple significances of the calendar days, but for reasons of space this allows a summary of information. The *xëë maywë* does not rely on a similar format. In the past, the mantic and calendrical codices had diverse divisions of the days, aiding the daykeeper as mnemonic devices for solving different issues. Nowadays, dreams, presages, illnesses, conflicts with others, births, and ritual petitions are arranged all together in time simply in the minds of the *xëë maywë*.

	General prognostication	Prescription or recommendation	Birth prognostication
Tëjk	Inconclusive	*Costumbres* are done in the house, for protection and health for the family, 'closing the winds that harm', a good job, a good year to come, a safe trip, or for plans to develop well. More effective if combined with numbers four and eight. Appropriate for authorities asking for a good year in service.	(Not given)
Xaaw (Xaw)	Good	For going to the cemetery and remembering ancestors. Praying for the recovery of a sick relative. Asking for good fortune. Combined with the previous day, it is good for families and authorities to maintain the protection of their houses and the whole town, 'closing' the roads from harm, sicknesses or bad intentions.	Risk of not good health, illness and weakness of body and spirit.
Jow	Not good. Presages, dreams, ailments, or a fight with somebody can announce adversity or danger. Sicknesses are hard to cure.	*Costumbres* are not recommended.	Risk of illness and weakness of body and spirit
Jöö'n	Illnesses might be strong and difficult to cure, and can be caused by someone else.	If combined with numbers 6, 8, 10 or 12, it is good for asking for 'strong' wishes with respect to health, protection, and spiritual strength. Because of its force, it might be used ritually by others to cause serious harm or sickness.	Strong and rebellious personality. Tendency to be stubborn, hard-headed, and not to listen to or comprehend others.
Tsaan	Good	Excellent day to go to Mëj Kopk'am, asking for any important petition, curing sickness, or the well-being of migrants. Powerful and effective if combined with number ten. A series of offerings lasting 20 days can start, ending in this same sign with the sacrifice of a bird. In the past, it was used this way by authorities to take their *cargos*. Other types of procedures, starting in *Käp* and lasting 13 days, will end here as well. Convenient and favorable for a marriage petition or completion, better if combined with numbers 10 or 12.	Good fortune in life, strong and healthy in body and spirit.
Oj	Inconclusive	Good to make offerings and pay respect.	
Naj	Good. Presages and dreams tend not to be serious matters.	Paying respect, going to church and lighting a candle. Favorable for health and job petitions. Convenient and positive for completing a marriage proposal, better if combined with numbers 10 or 12.	Good fortune in life. Tendency toward money, success, to do something important in life, and being healthy and strong.
Wiptsy	Good	Very convenient for giving offerings to and remembering ancestors, asking for protection in the cemetery or Ujyokm. Even more effective if combined with numbers nine and 13.	Good health, strong body and spirit, but tendency for unreasonable and reluctant behavior.
Nëën	Not good. Presages, fights, dreams and sicknesses should be taken with precaution.	It is not recommended to carry out *costumbres*. This day might be used to do harm.	Risk of weakness and sickness.
Jo'	Not good. Day of caution and danger. Unfortunate events may announce bad fortune, or someone trying to cause harm.	Not good for giving offerings or doing *costumbres*.	Danger of illness and a weak body.

	General prognostication	Prescription or recommendation	Birth prognostication
Jëm	Not good. Dreams signal risk, especially when combined with numbers five, seven or 11. Sicknesses advance quickly, as when the ashes burn in the hearth.	Not recommended for visiting the hills or paying respect.	Tendency for sickness and a weak body.
Tëëts	Not good. Dreams should be taken with caution. They might announce that a relative is sick, has problems or an unconcluded promise.	*Costumbres* are not advised. It is better to wait until the following day.	Risk for not good health, illness and weakness of body and spirit.
Käp	Inconclusive	Effective for *costumbres* in cases of serious afflictions. A series of rituals can start here, lasting 13 days and ending in *Tsaan* with the sacrifice of a bird. For visiting church or the cemetery and lighting candles. In the middle of the year, for going to the sacred hills, asking for the well-being of the family for the rest of the year.	Good, calm and gentle character, with patience and tolerance, responding in a soft manner.
Kaa	Inconclusive	For strength of the *jawïën* (spirit), preventing or curing sickness such as *susto*. For visiting the cemetery and remembering ancestors with candles and food. Not indicated for paying respect if a promise or a presage of danger happened in the day before. It is better to wait for the next day.	Strong personality, brave, courageous, daring; someone that does not fear others or adversity.
Ju'uk	Good	For offerings in Mëj Kopk'am or the church, for any petition or asking for protection from winds that cause illness. It can also be used to respect ancestors.	Gentle and good character, with tolerance to others, acting soft and pacifically.
Paöw (Paw)	Not good. Dreams and presages should be taken cautiously and might announce danger.	Not indicated for *costumbres*.	Propensity toward sickness and weakness
Ojx	Not good. Presages might signal misfortune. Dreams and illnesses may be messages sent by ancestors indicating they are upset or they need to conclude a promise.	It can be used to go to the cemetery or church and pay respect to ancestors.	Risk of illness and tendency toward a weak body.
Tap	Good	For visiting the cemetery and asking for the well-being of ancestors. It can be used to make the same offering procedure as was done three days ago, on a *Ju'uk* day, in case the *xëë maywë* has prescribed that the procedure be done twice, in *Ju'uk* and *Tap*.	Calm, good, affable and obedient personality.
Mëy (Mëëy)	Not good. Presages, illnesses and dreams should be taken with caution and can announce an unfinished promise by a deceased relative.	*Costumbres* initiated in *Tap* can be continued.	Danger of sickness.
Gügën	Good	For going to sacred places, making a petition and a bird sacrifice. For healing. For concluding *costumbres* procedures and going to church. Convenient and favorable for celebrating a marriage, better if combined with numbers 10 or 12.	Good fortune in life. Tendency toward money, success, important things to be achieved, health and strength, friendly and obedient character.

Table 2. Three layers of significance in the 20 signs of Poxoyëm's calendar.

Final remarks

This brief description of the handling of a 260-day calendar in an Ayöök community offers an analytical view on the use and the social significances of this iconic and persistent Mesoamerican system of time. Among the observations worth to remark from the contemporary documentation are the capacity of the days to act as mnemonic sources connected with a multivalent quality that allows for different uses and meanings according to diverse situations. Another crucial aspect is the lack of absolutism or determinism in the divinatory character of the days. The 260-day count works for prognostications of dreams, presages, births and other cultural and meaningful events, as well as for prescriptions that aid the well-being, health, spiritual strength, and paying respect to divine entities and ancestors. The calendar is without doubt sacred wisdom.

The remarks mentioned above expect to shed light on possible uses and essential attributes that the 260-day calendar had also in ancient times. The prognosticative nature of the day-signs, the fortune of newly born children, and the prescriptive rituals dictated by the days were broadly recognized in the pictorial language of some parts of the Teoamaxtli codices and in the missionary accounts of the XVI century, giving proof to a certain extent of their continuity and resistance throughout time. Far from concluding that the present documentation reflects faithfully a view of the past, this study does attempt to offer a proximate picture of the nature of the 260-day calendar based on a better comprehension of the social context and the indigenous language. The survival of the calendar and divination experts and their knowledge inherited generation after generation is by itself an indication of the inner strength and effectiveness of this wisdom. Therefore, this type of research represents a valuable opportunity to overcome the discourses of that have been inherited from a colonialist view which blur our sight and understanding of native religions of the past and the present.

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