manuscripts, both the Borgia Group of religious content and the historico-genealogical Mixtec codices. For a Westerner who is accustomed to keeping track of days according to a fixed sequence of months in the solar calendar, the idea of counting a cycle of 365 days (the solar year) within a different cycle of 260 days may seem rather counterintuitive and exceedingly difficult to master. It should be noted, however, that no system for counting astronomical days and years is perfect, given that the Earth’s rotation is not constant and that approximately six hours every year exceed the 365 days. Thus, periodic adjustments will always be required regardless of the counting system used.

### 3.3. The calendar and the festival cycle

The veintena calendar described in colonial sources compiled by the friars was primarily liturgical despite its agricultural and even astronomical underpinnings (Broda 1983, Broda 2004, Graulich 1999). Its ceremonies constitute one of the most important aspects of Nahua and Mesoamerican religion in both written and pictorial sources. The earliest document on the veintena cycle is possibly the Codex Borbonicus (pp. 23–37), followed by Primeros Memoriales (paragraphs 2A and 2B, ff. 250r–253v), the Codices Telleriano-Remensis (ff. 1r–7r) and Vaticanus A (ff. 42v–51r), and the manuscripts of the so-called Magliabechiano Group (Thudela, ff. 11–28; Magliabechiano, ff. 29–46; and Ixtlixochitl, ff. 94–102). Among other friars, Sahagún (1950–1982, bk. 2) and Durán (1971) devoted a large part of their documentary efforts to the compilation of ceremonies during the eighteen veintenas. Despite the relative wealth of information on the veintenas in the sources, their timing and exact position within the solar year remain a matter of debate, as they are not unequivocally explained in the documentary record.

In early colonial sources such as the Codices Telleriano-Remensis and Tudela, for example, the attempt to correlate veintenas, solar months, and the Julian calendar led annotators to correct dates several times. The Codex Telleriano-Remensis (f. 7r) depicts the nemontemi, the remaining days at the end of the solar cycle, and contains a gloss that reads, “On February 29 the five dead days on which there was no sacrifice.” Although Quinones Keber (1996, 151) believed that “29” was a mistake and that the correct day was the 19th, the painter and annotator may have made a conscious effort to come to terms with the final counting of the days of the year and related adjustments. The information may indicate the day added every four years to the end of February, as is customary in the Julian and Gregorian calendars. In the central part of the page, another annotator changed the number of nemontemi days from five to four, while another day was also pictorially added (Quinones Keber 1995, 151). Is this inconsistency in the source purely attributable to a note-taking error, or does it indicate a deeper indeterminacy in the calendrical system itself?

The inexorable precision of the tonalpohualli finds an unsurmountable obstacle in the incommensurability of the astronomical year. Despite Caso’s (1967) efforts to fix the veintenas in the solar calendar, veintenas would significantly shift positions in only a matter of years without a periodic adjustment, which Caso (1967, 33, 48) himself believed was not possible in the tonalpohualli. It is well known that, among the Mayas, no adjustment was made to the tzolkin, the 260-day calendar (Thompson 1960, 121). The uinal, as the twenty-day period is called in Mayan, was used in both the Long Count and the haab, the solar year (Thompson 1960, 96–97, 143–144). In the former case, on the one hand, the uinal indicated the second position right after kin (day) in the progressive count since a fixed “day one.” In this instance, the position and use of the uinal conformed to the vigesimal Mesoamerican counting system (the second position in the decimal system is taken by the tens). In the solar calendar, on the other hand, the uinal indicates one of eighteen fixed twenty-day periods, which are each assigned a distinct name. In this case, the uinal functions in a manner similar to the months in the Gregorian calendar. In fact, in dates found on Maya monuments from the Classic period, the uinal is always accompanied by a numeral that indicates the day within the period. The inexorable accumulation of a delay in the position of the uinal within the haab is somewhat countered by the Long Count, which registered every elapsed day.

Understanding the counting of the solar year and the veintena calendar as part of the same calendrical system of the tonalpohualli may help resolve some lingering problems in the existing scholarship. While the counting proceeds steadfastly, actual celebrations (i.e., the festival cycle) may have adjusted to the concurrent passing of the individual days of the tonalpohualli or tzolkin. Akker (2018, 118–119) proposed that, among the Mayas, agricultural ceremonies and activities were indeed movable and not bound to the uinal of the haab, which are by necessity fixed. Contemporary K’iche’ communities only celebrate certain seasonal and yearly feasts in a grand manner; most are only modestly observed. As a result, the burden of the cost and logistics of the entire ceremonial cycle in the region is shared among communities in the highlands through a rotational system. Astronomical phenomena are almost exclusively observed according to the Gregorian calendar, which is synced with the solar year thanks to the bisextile correction. The relationship between the calendar count, as a fixed system, and ceremonial events is flexible and fluctuates. In this respect (and to close the discussion of the Maya calendar system as it pertains to my work), it should be noted that the most accepted correlation between the Maya and Gregorian calendars, known as the Goodman–Martinez–Thompson (GMT) correlation, is indeed only a statistical median within a range of days (Klokočník et al. 2008, Gaspani 2013). While mathematical precision indicates a specific moment, the correlation is more accurately defined as a span of days that neighbor a specific point in time.

I argue that celebrations related to veintena periods, which were established through the vigesimal count and the
65 × 4 partition of the tonalpohualli, would slowly begin, peak, and eventually fade out in a manner that was fluid and allowed for concurrent celebrations and variations according to cultural and geographical differences. Variations could also occur within a single community, depending on the cults and priests involved. Festivals related to the veintenas could therefore overlap and stretch, peak and fade according to heightened moments dictated by the tonalpohualli. La Farge (1934, 115) noticed that among the highland Mayas of Guatemala, while the day was perceived as beginning at dusk, the day as a whole was understood as starting the following morning and including activities conducted in daylight. By contrast, periods such as the uinal or the haab were counted as beginning exactly at dusk, thus seemingly during the previous tzolkin day. This indicates that there were differences in the counting of days and periods. Tedlock (1983), for example, noted that in Momostenango, days and periods are perceived as slowly beginning and fading out rather than having a clear-cut beginning and ending (see also Akker 2018, ch. 2). Caso (1967, 53) suggested that the Mexica changed the day at noon rather than at midnight, a difference that could account for occasional mistakes in concordances. The information is provided, among others, by a gloss in the Codex Telleriano-Remensis (f. 48v).

These examples indicate that there was no necessary agreement between different groups and communities on when a day or period started despite using the same calendar, the tonalpohualli. The sun, Venus, the moon, and all constellations move seamlessly through the sky, slowly rising and descending in the horizon. They do not appear and disappear in a moment. Their periodic movements are at odds with the day count, which require periodical adjustments in calculation. There are several clues in early colonial pictographic and alphabetic sources about the assimilation of a fluid festival cycle into a fixed system akin to the European monthly and liturgical calendar, which is tied to the solar year. In Primeros Memoriales, the veintenas of Atemoztli and Izcalli can be found in folios 252v and 253r, respectively. In both instances (Fig. 3.6), the upper part of the image is dominated by the main temple in the center. It is flanked on the left by a priest carrying a gourd and a tobacco pouch and wearing a turquoise diadem, and on the right by a woman drinking a foaming beverage from a cup. In the lower part of the image, four or five young boys and girls are also drinking from a cup while standing on petates (straw mats). The two images seem to represent the same ceremony, Pillahuana, which was celebrated every four years and involved children in the consumption of pulque (Doesburg 1996, 113–114).

Figure 3.6. Atemoztli and Izcalli (bottom), Historia general de las cosas de Nueva España. Patrimonio Nacional. Madrid, Real Biblioteca, II/3280, ff. 252v–253r.
However, according to the accompanying text on folio 253r, it was only during the latter veintena of Izcalli that Pillahuana was periodically observed. During Atemoztli, the cult was dedicated to the rain gods that resided in the mountains. The consumption of pulque is only mentioned in relation to the feast of Atemoztli in the Florentine Codex (Sahagún 1950–1982, bk. 1, ch. 21, bk. 2, ch. 35) but not as a primary aspect of the cult. In this regard, it may be noted that the Codex Magliabechiano (ff. 40v–41r) assigns the periodical celebration of Pillahuana to the veintena of Tepemahuitl, the monthly celebration of the mountain rain gods of the central Mexican basin. Finally, four drops of water are visible in the upper right corner of the image related to Atemoztli. While they may have represented the name of the festival (which means “water falls”), the four blue drops could also signal a celebration that occurred every four years, as in the case of Pillahuana.

The similarities between the two scenes in Primeros Memoriales do not seem to be coincidental. In the original pagination, the illustrations of Atemoztli and Izcalli face each other at the bottom of two opposing pages. It is generally understood that the images were drafted before the text was added. Did the tlacuilo intend to draw attention to the similarities and correspondences between the rituals of the two veintenas that were not otherwise noted? Or was the painter creating similarities at the moment they drew the picture? It would appear that these early colonial images of the veintenas attempted to creatively systematize what was possibly a much more flexible and diverse ceremonial life than what friars were accustomed to in Europe and eventually imposed on Indigenous peoples in New Spain.

In the Florentine Codex, Sahagún dedicated a separate chapter to so-called movable feasts, at the end of the description of the eighteen veintenas. The last sentence in the chapter (Sahagún 1950–1982, bk. 2, ch. 19, 41) reads, “These movable feasts, in some years, displace the feasts of the calendar, as also happens in our publications.” Sahagún’s statement suggests that there is perhaps a closer connection between the veintenas and the feasts dictated by the tonalpohualli than is usually acknowledged. It may also be that Sahagún, drawing on his long experience as a missionary in Tepepulco, reached a certain conclusion on the redaction of the veintenas, which he himself acknowledged created “spurious festivities” that could not be completely assimilated into the cycle.

The pictographic manuscripts known as the Codices Tudela (ff. 29r–30r; Fig. 7.10) and Magliabechiano (ff. 46r–48v) conclude the section on the eighteen veintenas. The last sentence of the text was added. Did the tlacuilo intend to draw attention to the similarities and correspondences between the rituals of the two veintenas that were not otherwise noted? Or was the painter creating similarities at the moment they drew the picture? It would appear that these early colonial images of the veintenas attempted to creatively systematize what was possibly a much more flexible and diverse ceremonial life than what friars were accustomed to in Europe and eventually imposed on Indigenous peoples in New Spain.

Several scholars remarked on the patterning of the veintena festivities. Graulich (1986, 1999, 85–87) noted the parallelism of rituals performed during the veintena celebrations in the first half (from Tlacaxipehualiztli to Xocotl Huetzi/Huey Micailhuitl) and second half of the solar year (between Ochpaniztli and Atatlahualli). Kirchhoff (1968) correlated historical and modern calendars throughout Mesoamerica and grouped the eighteen feasts into six simple celebrations and six double celebrations. The double celebrations are Pachtontli and Huey Pachtli, Micailhuitontli and Huey Micailhuitl, and Toztotlani and Huey Toztontontli. They extended over a two-month period, according to different sources. More recently, Torres Cisneros (2011) remarked on the same pattern in the 260-day calendar in use among the Mixe of southern Oaxaca. These examples seem to indicate that different communities throughout Mesoamerica followed similar but somewhat adjustable patterns in their ceremonial lives rather than a fixed calendar of celebrations. Ultimately, this should be unsurprising considering the many ecological systems and lack of a unified religious or political authority in Mesoamerica.

3.4. The festival cycle in the southeastern Nahua region

Huautla de Jiménez and other towns in northeastern Oaxaca, home to the Mazatec, Popoloca, and Chinantec peoples, are the only communities in modern Mexico where an agricultural calendar akin to the veintenas is still known (Weitlaner 1936, Weitlaner and Weitlaner 1946, Carrera González and Doesburg 1996; see Appendix).

Historically, the festival cycle has been documented in the region since the early colonial period. According to Fray Toribio de Benavente, also known as Motolinía (1971, ch. 25), who worked at the Franciscan mission in Tehuacán, a Nahua town in southern Puebla, the three neighboring towns of Tehuacán, Coatecatlán, and Teotitlán observed similar religious practices despite their different local tutelary gods. The friar (Motolinía 1971, ch. 16) also specifically mentioned the yearly celebrations of the veintenas, whose Nahuatl names differed slightly from the more commonly known ones in central Mexico. A few decades later, in the 1580s, the Relación de Teotitlán del Camino (Paso y Troncoso 1905, vol. 4, 213–231) stated that veintena ceremonies were performed in modern-day Teotitlán de Flores Magón and the surrounding area, including Huautla, which is mentioned in the same source as a dependency of Teotitlán. Both sources referred to the veintenas in Nahautl, one of the languages spoken in the area, and listed the same names, as noted by Paso y Troncoso (1905, vol. 4, 217n1). This is particularly noteworthy because Motolinía’s account and the Relación were independently redacted roughly forty years apart. First, the friar learned first-hand narratives of historical deeds and pre-Hispanic religious customs during his time at the evangelical mission in the 1540s. Later, Spanish emissaries and local Indigenous officials compiled a...