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SKIPPING YEARS AND SCRIBAL ERRORS

Kaqchikel Maya timekeeping in the fifteenth, sixteenth, and seventeenth centuries

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Abstract

Adrián Recinos's correlation of Kaqchikel Maya and Spanish dates in the *Annals of the Kaqchikels* contains numerous errors, and there are several scribal and calculation errors in how both the 260-day and 400-day Kaqchikel Maya calendars were used within the manuscript. These are dating problems that stem from errors by the scribes in their attempt to adapt to a European counting and documentation system and their inexperience with the Kaqchikel Maya calendars. In addition, unique citation marks and two scribal errors shed light on the existence of earlier documents and subsequent effects on the later time counts of the Kaqchikel Maya calendar system. This paper adjusts the previous correlation by Recinos and extends it from 1570 until 1603. Moreover, by highlighting and correcting the internal errors, this paper offers a caveat to scholars when reconstructing the histories, events, and social relations of past Mesoamerican peoples and scripts without regard for internal errors.

The *Annals of the Kaqchikels*, also known as the *Memorial de Sololá* and the *Memorial de Tecpán-Atitlán*, is one of the major chronicles known from the New World. Along with nearly fifty other extant *títulos* from the sixteenth century, mostly written in indigenous languages, it is one of many documentary sources for the historical anthropology of the highlands of Guatemala. This manuscript was written in Kaqchikel Mayan, a member of the K'iche'an linguistic family, during the sixteenth and seventeenth centuries and consists of many documents that span several distinct genres. It reflects the way in which indigenous languages were used in early Colonial Guatemala, providing a crucial source of colonial historiography and historical ethnography.

The *Annals* have long been available to scholarship through partial translations (Brasseur de Bourbourg 1907–1908; Brinton 1885; Galich 1933; Gavarete 1873–1874; Miguel Díaz 1928; Telet or 1946; Polo Sifontes 1980; Raynaud 1928, 1937; Recinos 1950, 1953; Villacorta-Calderón 1934). In recent years, there has been a renewed interest in this manuscript, including its rereading, retranslation, and reinterpretation, the results of which are only now becoming public (Academia de las Lenguas Mayas de Guatemala 2001; Esquit-Choy 2001; Fischer and Sattler 2003; Hamrick 1999, 2001; Maxwell 2001; Maxwell and Hill 2003; Romero 2001; Smith 2000, 2003; van Akkeren 2000; Warren 1998). The most comprehensive results of this work are two new and complete translations, one originating from the Academia de las Lenguas Mayas de Guatemala, and the other from Tulane University in the United States (Maxwell and Hill). It was my work on the Tulane translation project that led to the current study.

This paper addresses the Spanish and Kaqchikel calendrical records in the *Annals*. Two calendars are reflected: the ritual calendar of 260 days, which is well-known to Mesoamericanists, and a more poorly understood calendar of 400 days. Reflections of these indigenous calendars have been discussed before (Edmonson 1988; Long 1935; Recinos 1950, 1953; Seler 1889, 1902; van Akkeren 2000), with the primary aim being the correlation of references in Maya calendars to their equivalents in Spanish chronology. It is Recinos's widely available work that is generally used in recent publications.

In addition, this paper reanalyzes the entirety of the calendrical records in this manuscript. Such a reanalysis is required in part because of numerous errors in previously published correlations that are identified and corrected here, and in order to provide correlations for those dates not treated by Recinos (those after 1570). More subtle issues arise from consideration of what turn out to be errors in the manuscript itself, whose analysis leads to a clearer picture of the overall calendrical organization of the document and its cultural correlates, the date of its composition, and how both Kaqchikel and Spanish dating practices corroborate the actual dates of recorded events. It focuses specifically on what are shown to be errors by the authors and scribes in their attempt to adapt to a Spanish counting and documentation system. In addition, it shows how two scribal errors, which Recinos failed to discuss, shed light on the existence of an earlier document and its effects on later time counts of the Kaqchikel calendar system. In this paper, I will be using the orthographic system advocated by the Academia de las Lenguas Mayas de Guatemala and approved by the Ministry of Culture and Sports (Acuerdo Gubernativo

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1046–87) and the Congreso de la República (Decreto Legislativo 65–90: Ley de las Lenguas Mayas de Guatemala).

CHRONOLOGY AND SECTIONING OF THE MANUSCRIPT

Although *The Annals of the Kaqchikels* has been described as the work of two authors—Francisco Hernández Arana, who started the document in 1573, and Francisco Días, who continued the entries after the previous author's death in 1582 until 1604 (Hill 1992:129–130; Recinos 1953:11–12)—five scribes are specifically mentioned between 1584 and 1603 (where the office of the scribe is listed): Pablo Ximénez, Matheo García, Baltasar Aju', Bernabé Sayin, and Estéban Martín. This manuscript can be divided into five distinct, yet related, documents, based on theme and chronology:

Section I: ff. 1r–9r
Section IIA: ff. 9v–24r
Section IIB: ff. 24r–34r.26
Section III: ff. 34r.27–44v.10
Section IV: ff. 44v.11–48v

Section I: ff. 1r–9r

The first section of the document, which was not translated completely by Daniel Brinton (1885) and only selectively translated by Recinos (1953), discusses legal battles and land issues. Brinton's translation leads up to 1559 (a date that later will be shown to have beeen troublesome for him). Recinos completely translates only until 1560 and then writes:

> From here on the manuscript speaks of affairs of less importance to the reader, and therefore I have limited myself to extracting some items which throw light on the life of the author or on events of some importance in the development of the native community [Recinos 1953:143].

Section IIA: ff. 9v–24r and Section IIB: ff.24v–34r.26

The next section, which describes events that occurred before 1558, may be considered the mytho-history of the Kaqchikel nation. It contains two subsections. The first comments on the original creation and wanderings of the highland tribes. The second describes the Tuquche' lineage's revolt on May 20, 1493, and documents other events between the revolt and the installation of *alcaldes* (mayors) in 1558. Although it is not entirely clear whether this revolt established the unique 400–day calendar used in the *Annals*, it will be shown later that anniversaries of the event are celebrated with this calendar and that this revolt is the only occasion whose anniversaries are recounted.

The first subsection speaks of migrations from various ancient Tulans (Tulan being the primordial land of origin for many indigenous groups of Mesoamerica). As for other groups, this was an important claim of Toltec ancestry at a time that the Kaqchikels were attempting to establish their own legitimacy and dominance in the highlands vis-à-vis the K'iche' nation, whose capital was at Q'umarkaaj (Carmack 1973, 1977, 1981; Fox 1977, 1978). Thus, this part of the manuscript also describes the separation of the Kaqchikel nation from that of the K'iche's with whom they had been contracted warriors. During this "independence period," dates are given for births, deaths, and war events in the 260-day count.

The second subsection starts with the Tuquche' revolt (the third faction of the Kaqchikel nation at Iximche', behind the Xajila' and the Sotz'ila', both of which would retain power), and every entry from this event on contains a reference to how many 400-day years had passed since that reference point. That is, the revolt's anniversaries in the 400-day year provide a native chronological framework for the subsequent events. This part of the manuscript describes the arrival of the Spanish and documents the changing relationship between the Kaqchikel leaders and Pedro de Alvarado, the Spanish conquistador of Guatemala. It was near the end of this section, with entries starting in 1555, that the Kaqchikel scribes made an attempt to correlate the system of Spanish years with the 400-day anniversary calendar. The scribal errors that will be shown in this paper occur in the years 1569 (anonymous scribe) and 1600 (Baltasar Aju'). It is highly unlikely that Aju' was the scribe in both years. Thus, I refer to more than one scribe having made an error. Moreover, I will demonstrate, based on patterns of scribal errors, that this section was probably copied from an earlier version.

The header of the entry about the Tuquche' revolt is a large "O" with crosshatching, and the entries for the 60 years that follow it are given a smaller, plain "O" marking. (One anniversary, 13 Aj, which would have occurred in the year 1516, does not have this header. I have not been able to detect any content that clearly distinguishes this entry from earlier or later entries in the section and thus presume that it was an oversight during recopying.) As demonstrated later, based on patterns of scribal errors and special entry markers, each year of this section was probably copied from an existing compilation or document, whereas later sections were not. The first section that cannot have been copied begins with the year 1558; this is also the first year in which the "O" mark does not occur. Given this contextual difference, the "O" may have been an explicit mark of the citation rather than a similar separator for discussion of the events of the successive Spanish years.

Robert Hamrick has worked with both of these subsections of the manuscript. He focuses on the use of formal linguistic mechanisms, reported speech, and direct address, and argues that their highly repetitive use in these subsections establishes a particular poetic structure that sets them apart from other sections of the manuscript (1999). Thus, for instance, while direct address occurs sporadically throughout the manuscript, the author of these subsections explicitly invokes his addressees as *ix nuk'ajol* (you, my sons), *ix qak'ajol* (you, our sons), or *at nuk'ajol* (you, my son) 39 times. For example:

"Xux," kecha' nab'ey qatata' qamama', ix nuk'ajol.	"So it was," our first fathers and grandfathers say, you, my sons. (9v.29–30)
Ke re' k'a xloq'o wi winäq ri', kecha ojer winäq, ix qak'ajol.	So were these people beloved, say the ancient people, you, our sons. (10r.4–5)
K'a chila', k'a ch'aqa' palow k'o wi ijuyub'al, itaq'ajal, ix nuk'ajol.	Yonder, across the sea lie your mountains, your valleys, you, my sons. (10r.22–23)
Ke re' k'a töq xya'är Tuquche' ri ojer, ix nuk'ajol.	Thus were the Tuquche' dissolved long ago, you, my sons. (25r.25–26)
Ke re' k'a töq xul Kastilan winäq ri ojer, ix nuk'ajol.	Thus it was when the Spanish people arrived long ago, you, my sons. (29r.25)
Ronojel xqatz'ët k'a ronojel ri', ix nuk'ajol.	We all saw all of this, you, my sons. (31r.15–16)

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Section III: ff. 34r.27–44v.10

The fourth section of the document begins with the year 1559 and continues until 1594. This section can be distinguished as a unit and as distinct from the other four sections through several features. The year 1559 is the first in which the "O" citation mark ceases to be recorded consistently—it occurs two more times in the manuscript (4v.36). It is also the year in which the consistent reference to *nuk'ajol* stops, as well as where Brinton chose to close his translation (1885:194). Each entry of this section opens with the Spanish year, the name of the *alcaldes* of that year, and the day of the 260-day divinatory calendar on which the anniversary of the revolt fell. This format is unchanged until the record for 1599 (page 13), where the *alcaldes* are given first, followed by the Spanish year.

Section IV: ff. 44v.11–48v

The fifth section of the manuscript is a collection of documents, references, sermons, and diverse events from the years 1564, 1583, 1591, 1593, 1594, 1596, and 1600. The documents are not given in chronological order, nor are they provided as entry headers with parallel anniversary dates. Based on references in the first person by various people, this section has many authors, but demonstrating this is outside the scope of this paper, and nothing in the arguments depends on this conclusion. As in the rest of the manuscript, the main text (excluding margin notes) of this document is written in the same hand.

THE 260-DAY DIVINATORY CALENDAR

All indigenous dates in this document are represented in the Kaqchikel 260-day divinatory calendar. This calendar system is still in use today in highland Guatemala, with numerous studies presented on its structure and use (Earle 1986; Edmonson 1988; León-Chic 1999; Rupflin-Alvarado 1999; Tedlock 1982). Known in modern Kaqchikel as the *cholq'ij* (lit., ordering of days), each day's name consists of one in sequence of 20 names, each preceded by a numeral coefficient between 1 and 13. For example, if today is 1 Imöx, tomorrow will be 2 Iq', followed by 3 Aq'ab'al, then 4 K'at, then 5 Kan, and so on, until one reaches 13 Aj, the thirteenth number and the thirteenth name. Given that there are only thirteen numbers but twenty days, the sequence of numbers starts over while the sequence of days continues. The next day after 13 Aj would be 1 I'x, followed by 2 Tz'ikin and 3 Ajmaq, and so on. After reaching 7 Junajpu', the sequence of names starts over while the sequence of numbers continues. A complete pass through the calendar occurs when the first number, 1, again occurs with the first name, Imöx. This takes 260 ($= 13 \times 20$) days (Table 1).

In addition to the 260-day count, Kaqchikel months are referred to throughout the manuscript but are not specifically named. More information about the Kaqchikel month names can be found in Calendario de los Indios de Guatemala (Anonymous 1685) (see also Brinton 1885:29–30; Edmonson 1988:145).

Table 1. Day signs of the 260-day Cholq'ij

1	Imöx	11	B'atz'
2	Iq'	12	Ey
3	Aq'ab'al	13	Aj
4	K'at	14	I'x
5	Kan	15	Tz'ikin
6	Kamey	16	Ajmaq
7	Kej	17	No'j
8	Q'anil	18	Tijax
9	Toj	19	Kawöq
10	Tz'i'	20	Ajpu'

THE ANCHOR DATE FOR THE CORRELATION

Four lines of evidence make it possible to correlate Kaqchikel dates in this manuscript with their Spanish counterparts:

1. There are two entries in which a Kaqchikel date is given with a Spanish month name (i.e., *1 Kan fell in December*). Although these are useful because of their consistency, they do not distinguish between this new correlation and that of Recinos.
2. There are four entries that link a Kaqchikel date in the divinatory calendar with a Spanish date by giving either the Spanish month and day of the week with the Kaqchikel day (i.e., *1 Kan fell on Tuesday in December*) or the Spanish month (or day) with the Kaqchikel day (i.e. *1 Kan fell on Tuesday*). Aztec, lowland Maya, and highland Maya calendars show a good deal of agreement within a few days of a European correlation. Although there is some leeway, this allows for a choice between correlations that will specify a date within six days or fewer. By specifying a day of the week, this will confirm the choice of correlation between a few days.
3. The most obvious evidence comes from 22 occurrences in which an exact correlation is given (i.e., *1 Kan fell on December 14*).
4. Seventeen other entries link the Maya and Spanish dates of different events by an explicit time count (i.e., *Ten days from 1 Kan*).

Each of these dates and their respective correlations have been tested and, in the case of uncertainties, resolved using independent evidence. Ethnographic accounts of the modern divinatory calendars of highland Guatemala provide a correlation of those calendars with Spanish chronology as it was in the twentieth century. For example, Barbara Tedlock (1982:60) records that the day 1 Deer (Kaqchikel 1 Kej) fell on April 21, 1976. This is consistent with Jackson Lincoln's data on the Ixil divinatory calendar (1942) and with Oliver La Farge's work from Jacaltenango (Thompson 1950:303, who summarized agreement of data) and Santa Eulalia (La Farge 1947). In addition, it corresponds with Benjamin and Lore Colby's correlation of Ixil ritual calendar dates (Colby and Colby 1981).

The *Annals* place the day 2 Tijax on September 10, 1541, and the day 1 Kan on October 14, 1555. These dates were both in the Julian calendar (the Gregorian system not yet having been invented). A back-projection of the Gregorian calendar would put these dates 10 days later, on September 20, 1541, and October 24, 1555, respectively. The relevant computations are as follows. Between 1541 and 1976, 435 years elapsed. Leap years have 366 days; other years have 365. In the Gregorian calendar, all years divisible by four are leap years, except century years that are not divisible by 400 (in this case, all but 1700, 1800, and 1900); there are therefore 106 years of 366 days and 329 years of 365 days. Therefore, the number of days between April 21, 1541, and April 21,

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1976, was (106 × 366) + (329 × 365) = 158,881 days. September 20, 1541, was the 263rd day of that year, while April 21, 1541, was the 111th day, 152 days earlier. Thus, the manuscript date fell 158,881 − 152 = 158,729 days before April 21, 1976. Counting in the divinatory calendar, 158,729 days = 260 × 610 + 129 days. Any multiple of 260 days leads from 2 Tijax back to the same day, 2 Tijax; 129 days later than 2 Tijax is 1 Kej. By the same method it can be shown that 153,582 days separate the Julian date October 14, 1555, from the Gregorian date April 21, 1976, and that 153,582 days leads from 1 Kan to 1 Kej. John Justeson checked all of the dates on which the current study is based, aided by a computer program (MCAL) written by Floyd Lounsbury.

A lynchpin of the chronology of the Kaqchikel anniversary-year count, using 400-day years, is provided by a double-dated entry (having both a Maya and a Spanish date) of the 57th anniversary of the revolution that fell on October 22, 1555. This was calculated from the first mention of a Spanish date with its Maya counterpart, when 1 Kan fell on Monday, October 14, 1555:

Töq xkäm chi k'a ajaw Don Francisco Ajposotz'il, chi jun kan xkäm.	Then the lord Don Francisco, high lord of the Sotz'il, died; on 1 Kan he died.
Pa lunes xkajlajuj öq chi q'ij ik' octubre öq xkäm.	On Monday, the fourteenth day of the month of October, he died.
Ja k'a ri juna' ralaxik qajawal Jesucristo,	Since the year of the birth of our lord Jesus Christ,
Xwuqlaj rujub'atz' ruk'in wolajuj chïk chi juna' öq mixkäm Don Francisco	1540 and fifteen years had passed when Don Francisco died,
xb'elejej öq tel wuqla'uja' rox may.	nine days before fifty-seven years [after the revolt] came out.
Chi b'eleje' aj xel ruwuqla'uja' rox may.	On the day 9 Aj, fifty-seven years had elapsed. (33v.6–11)

Note that the text says that nine days after 1 Kan was 9 Aj, the 57th anniversary (400-day calendar) of the Tuquche' revolt. A count of nine days from October 14 leads to October 23. However, a count of nine days forward from 1 Kan leads to 10 I'x, not to 9 Aj. This is because the counting of days in this manuscript is similar to that of Kaqchikels today. Days are counted forward and backward including today's date as the first day. For example, if today is March 20, a Kaqchikel would say that five days from today is March 24, not March 25. Thus, counting nine days forward from 1 Kan, including 1 Kan as the first day, leads to 9 Aj, the correct Kaqchikel date as mentioned in the text. This shows that the correct Spanish date of the anniversary was October 22 rather than October 23, 1555.

This new anchor date for the correlation is secure: It is internally consistent with the other dates in the manuscript, and it agrees with the correlation of the modern divinatory calendars of the Guatemalan highlands. The correlation adopted in this paper as a whole is not new. It was previously proposed by Georges Raynaud (1928, 1937), based on his belief that April 14, 1524, fell on 1 Junajpu' in the Maya calendar.

Recinos was led to an erroneous chronology by failing to interpret properly the nine-day interval leading from the death of Don Francisco Sotz'il to the anniversary of the revolt. He misunderstood the nine-day interval of the manuscript as leading to October 23, 1555, seemingly inconsistent with the evidence of the Kaqchikel day names themselves that the temporal distance, in Spanish terms, was eight days. He based his chronology on the Kaqchikel date of the entry of Alvarado into Iximché and a Spanish date he inferred from a Spanish document, a letter by Pedro de Alvarado:

> For example, on page 00 it is stated that the Spaniards entered Iximché, the Cakchiquel capital, on the day I Hunahpú. Now in the first letter to Cortés, written from Utatlán, the Quiché capital, Alvarado declared: "I leave for the City of Guatemala [Yximché] Monday, April 11." And in the second letter: "I, Sir, left the city of Utatlán and in two days came to this city of Guatemala." It appears certain, therefore, that Alvarado and his army reached Yximché on twelfth of April, 1524, and that this date corresponds to the day 1 Hunahpú, upon which the manuscript fixes the date of that event [Recinos 1953:32].

Recinos used his inferred equation of April 12, 1524, with 1 Junajpu' as the anchor for his correlation (Recinos 1953:32, 121). Given the correlation established earlier, however, 1 Junajpu' fell on April 14, 1524. However, although Alvarado's "in two days" was intended, it is not consistent with a departure on April 11 and arrival on April 14. Because the correlation established in this paper is secured by all data internal to the document, Recinos's equating of 1 Junajpu' with April 12, 1524, must be incorrect. Whatever the source of the error, Recinos was forced later in his translation to add two days (giving him the correct correlation) when the document double-dates the destruction of Ciudad Vieja from the 1541 mud slide of the Agua volcano:

> However, I have accepted the error of two days as we approach the year 1541 to agree with another clear equivalence, that of the day 2 Tihax and September 10, 1541, the date which marked the destruction of the city of Guatemala founded at the foot of the Volcano of Agua. On the assumption that 1 Hunahpú was April 12, 1524, 2 Tihax would be September 8, 1541, which is evidently incorrect. For this reason, from 2 Tihax (September 10, 1541) on, two days have been added to the corresponding dates in the Spanish calendar [Recinos 1953:33].

The only thing "evidently incorrect" here is Recinos's manipulation of the dates and correction of adding and subtracting two days where he saw fit. Using the correlation established here, and consistent with that of modern ethnographic research, there is no need to adjust the dates and correlation. The arrival of the Spaniards occurred on 1 Junajpu', which fell on April 14, not April 12, 1524. Recinos did not accept this date, critiquing Raynaud's belief that Alvarado arrived on April 14, because it "would indicate that the journey took four days, but this contradicts the statement of Alvarado" (1953:32). In fact, there is no contradiction here with what Alvarado wrote; rather, the contradiction is with what Recinos inferred from what he wrote. The statement in the first letter mentions Alvarado's intention to leave on April 11; the statement that the journey took two days was retrospective. It is also not out of the question that Alvarado misrepresented or was mistaken about the anticipated date of departure or about the time that it took to make his journey, or that the Kaqchikel report of Alvarado's arrival on 1 Junajpu' was mistaken or misleading in some way. But whatever the source of the discrepancy, these data are not definitive enough to establish a correlation that is contradicted by all of the data internal to the document itself.

THE 400-DAY ANNIVERSARY CALENDAR

The years that are counted in the anniversary statements were 400 days long. According to Munro Edmonson (1988:134–135), this 400-day calendar "bears no relation to solar astronomy but explicit political rationale seems to corroborate a political rather

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than purely calendrical motivation." Justeson and Lyle Campbell (1997) show that a 400-day year was probably used by other K'iche'an groups, as well; it is reflected, for example, in the use of the word *may* for a period of 20 years in several of them, while in Q'eqchi' the word now means both "20" and "8,000"—presumably via the equivalence of 20 years with 8,000 days. Eric Thompson alluded to such a count for Veracruz when he tried to build a case for the epi-Olmec long count dates being in a 400-year count, but they are not, and in his 1950 book he mentions only Kaqchikel as a direct source. It would appear, then, that the *Annals* are the only documentary or ethnographic source for the existence of a 400-day year anywhere in Mesoamerica. This unique calendar starts with the Tuquche' lineage revolting on the day 11 Aj, as stated in the text:

Rukamib'al Tuquche'.	The death of the Tuquche'.
Wa'e' qitzij xya'är chi kamïk.	Here truly they were delivered unto death.
Qi k'a tipakatäj ruxe' kaj chi julajuj aj, xb'os pe Tuquche' ch'aqa' tinamït.	When the day broke on 11 Aj, the Tuquche' erupted from the other side of town. (25r.1–6)

The revolt was commemorated frequently throughout the document in anniversary statements, using the Kaqchikel word *juna'*, "year," for example:

Chi ka'i' aj xel oxi' juna' rub'anik yujuj.	On 2 Aj ended the third year since the revolt. (25.v18)

The anniversary statements indicate the day on which the 400-day year ended. Because 400 is a multiple of 20, an anniversary of any event falls on the same one of the 20 named days as the original event. Because the date of the revolt was 11 Aj, all of the anniversaries take place on a day Aj. And because 400 days is three fewer days than a multiple of 13 (specifically, $400 = [31 \times 13] - 3$), the numeral coefficient of the day Aj should decrease by three with each successive anniversary statement. The coefficients of Aj in the anniversary dates are therefore predictable from the number of the anniversary (Table 2).

In all of the earlier entries in the document, this structure is kept intact. After an 11 Aj entry will come an 8 Aj entry, then a 5 Aj entry, and so on. To compute the Kaqchikel date of the next anniversary, one must subtract three from the numeral coefficient of the current anniversary date. In addition, each entry gives the number of years since the revolt occurred:

Chi wo'o' aj xel rukab'a' rub'anik yujuj.	On 5 Aj ended the second year since the revolt.
Chi ka'i' aj xel oxi' juna' rub'anik yujuj.	On 2 Aj ended the third year since the revolt. (25v.17–18)

There are no discrepancies between the recorded and expected coefficients associated with any of the anniversary dates in the first and second sections of the manuscript except for 1514, 1569, and 1600 (the reasons for this will be shown later). If the Spanish date of any anniversary is known, the Spanish correlates for every one of the entries can be determined by calculating forward or backward, as long as there are no discrepancies.

As mentioned, the 57th anniversary of the revolt is anchored at Tuesday, October 22, 1555. The Spanish date of the Tuquche' revolt of 11 Aj, therefore, was $57 \times 400 = 22{,}800 = (62 \times 365) + 170$ days earlier. This puts the date of the revolt in the year 1493. There were 15 leap years in this interval, so in terms of the Spanish calendar, the interval of 22,800 days amounts to $(47 \times 365) + (15 \times 366) + 155$ days. The date of the Tuquche' revolt of 11 Aj was therefore 155 days before October 22, 1493, or May 20, 1493—two days after Recinos's correlation.

Table 2. The Aj cycle

Day of the Anniversary	Years (400-day) Since the Tuquche' Revolt
11 Aj (Tuquche' revolt)	0/13 years/26 years/39 years
8 Aj	1/14 years/27 years/40 years
5 Aj	2 years/15 years/28 years
2 Aj	3 years/16 years/29 years
12 Aj	4 years/17 years/30 years
9 Aj	5 years/18 years/31 years
6 Aj	6 years/19 years/32 years
3 Aj	7 years/20 years/33 years
13 Aj	8 years/21 years/34 years
10 Aj	9 years/22 years/35 years
7 Aj	10 years/23 years/36 years
4 Aj	11 years/24 years/37 years
1 Aj	12 years/25 years/38 years

In the second section of the manuscript (ff. 9v–34r.26), which contains pre-1558 dates, there are no discrepancies between the recorded data and the correlation used in this paper, except for a scribal error in 1514, which does not affect the count (discussed later). However, in the records for the year 1559, there is a problem.

SKIPPING YEARS: THE FIRST INTERNAL ERROR

In the Spanish year 1557, there is an entry of the 59th anniversary of the revolt, which fell on 3 Aj:

Chi oxi aj xel b'elejla'uja' rox may yujuj.	On the day 3 Aj elapsed fifty-nine years since the revolt.
Alcaldes 1557 años Don Juan Juárez Francisco Pérez.	*Alcaldes* [in the year] 1557; Don Juan Juárez [and] Francisco Pérez. (34r.4–5)

Although not stated in the text, the Spanish correlate for this event was December 30, 1557. The next anniversary entry, according to the 400–day cycle (Table 2), should be 11 Aj. The recorded anniversary falls on the correct Kaqchikel date:

Chi oxlajuj aj k'a xel rox may rub'anik yujuj.	On the day 13 Aj elapsed sixty years since the revolt occurred.
Mixel oxmay.	Sixty years went by.
1558 años	1558 years. (34r.11–12)

However, looking at Appendix 1, one may notice that successive anniversary dates fall in later and later months in the Spanish calendar. This movement, of course, is due to the 35-day difference between the lengths of the years in the two calendars (365 versus 400 days). Thus, each year, the Kaqchikel anniversary date will fall about 35 days later than it did in the previous year (Table 3).

In consequence, if the Kaqchikel count were maintained correctly, every tenth or eleventh Spanish year would not include a Kaqchikel anniversary date. The year 1558 is lost, then, because when the 35 days are added to December 30, 1557, the gap must

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Table 3. Worksheet showing loss of the year 1558

12 Aj falls on	*September 17, 1554*
+ 365 days →	September 17, 1555
+ 30 days →	October 17, 1555
+ 5 days →	October 22, 1555
September 17, 1554 + 400 days →	October 22, 1555
12 Aj + 400 days →	9 Aj
9 Aj falls on	*October 22, 1555*
+ 366 days →	October 22, 1556 [leap year, includes February 29, 1556]
+ 31 days →	November 22, 1556
+ 3 days →	November 25, 1556
October 22, 1556 + 400 days →	November 25, 1556
9 Aj + 400 days →	6 Aj
6 Aj falls on	*November 25, 1556*
+ 365 days →	November 25, 1557
+ 30 days →	December 25, 1557
+ 5 days →	December 30, 1557
November 25, 1557 + 400 days →	December 30, 1557
6 Aj + 400 days →	3 Aj
3 Aj falls on	*December 30, 1557*
+ 365 days →	December 30, 1558
+ 31 days →	January 30, 1559
+ 4 days →	February 3, 1559
December 30, 1557 + 400 days →	**February 3, 1559**
3 Aj + 400 days →	13 Aj

Note: Boldface signifies that a year has been skipped.

now also jump ahead by one extra calendar *year*, from 1557 to 1559. In particular, the 60th anniversary of the revolt, correctly recorded as 13 Aj, must have occurred on February 3, 1559; no anniversary of the revolt could actually have occurred in 1558 (Table 4). This posed a problem for the timekeepers. The year 1557 was the first in which there were *alcaldes* in Sololá (Barrios-Escobar 1996:111–127; Brinton 1885:194), who were installed in office on January 1 (as is done in present-day Sololá) to serve for the Spanish calendar year that would begin the next day. This section is organized in a succession of entries, each of which deals with the events of a single Spanish calendar year, under the authority of a particular set of *alcaldes*. The year 1558 would be the second in which both Kaqchikel and Spanish dates would be registered as an entry header. If the scribes had maintained the native anniversary count correctly, they would have waited until the next 400–day anniversary, which fell on February 3, 1559. For whatever reason—for example, a misunderstanding of the workings of the 400-day calendar or administrative pressure to associate both Spanish and Kaqchikel years with each entry—the format of this section called for an anniversary date in association with each mayorship or Spanish year. A Kaqchikel anniversary date was recorded in the 1558 entry. So what happened?

Table 4. Year skip of 1558

Kaqchikel date	Spanish date
9 Aj	October 22, 1555
6 Aj	November 25, 1556
3 Aj	December 30, 1557
13 Aj	XX, 1558 (cannot exist)

Two types of solution can be considered: that the date that is attributed to the anniversary count was an actual day 13 Aj in the year 1558 but was not, as stated, the actual 60th anniversary of the Tuquche'; or that the Kaqchikel revolt anniversary dates were computed, in order to create this account, by people who did not understand the 400-day calendar and simply assumed that each Spanish year would contain an anniversary of the revolt.

I originally arrived at and temporarily adopted the first type of solution. Under this solution, the more complicated of the two, timekeepers were well aware of the different year lengths in the two calendars. What they did was manipulate the calendar mathematically, which allowed them to maintain their system while including the foreign system—in essence, adapting to a Spanish institution. Whenever an anniversary date, such as 13 Aj, did not fall in the current Spanish year, it would fall in the first 35 days of the next such year, but the same day in the Kaqchikel divinatory calendar would also have occurred once in the current Spanish year, 260 days earlier than the revolt anniversary, which would fall 140 days after the last revolt anniversary and between the 106th and the 140th day (April 16 to May 20) of the current current calendar year. The hypothesis, then, was that in 1558, the timekeepers selected as a stand-in for the true anniversary the day on which 13 Aj fell in 1558, or May 19, 1558. This provided the needed 13 Aj date and allowed the timekeepers to have a Spanish entry date for recording the *alcaldes* of that year.

It appears that someone did interpret the 13 Aj of May 19, 1558 (following the first hypothesis) as the anniversary of the revolt. The entry before the 60th anniversary of 13 Aj talks about Lord Ramírez and Don Martin leading an expedition against the Lacandon on the day 5 Ey (April 28, 1558), specifying that this was 20 days before the 60th anniversary (5 Ey is in fact 21 days before 13 Aj, and given the the counting scheme discussed earlier in connection with Kaqchikel divinatory calendar dates, a 22-day characterization would have been expected). However, because divinatory calendar dates in this part of the year occur just once in that year, the reference to this date occurring 20 days before the anniversary could have been an inference based on the divinatory calendar date rather than on the anniversary scheme itself.

Looking at the next entry, for 1559, one is given the correct Kaqchikel date of the 61st anniversary as 10 Aj. The question is: When did this occur? That is, was the 1558 "anniversary" date—at 140 rather than 400 days after the 1557 anniversary—used as the base for future anniversaries? Did the Kaqchikel timekeepers end up having to conform to the Spanish system? In the first solution, the answer is no. They switched right back on schedule, and the 61st anniversary, 10 Aj, fell on March 9, 1560. The next entry states that "in the eleventh month that we are in, Lord President Royal arrived in Antigua, on 3 K'at" (September 2, 1559). Because September is the ninth Spanish month, the reference to the eleventh month must refer to the eleventh month of the Kaqchikel year. Maya months had 20 days each, so the eleventh month consisted of the 201st through the 220th days of the Kaqchikel year. In 1559, 3 K'at fell 211 days after the true 13 Aj anniversary of February 3, 1559. Accordingly, the "eleventh month" was figured from the true Kaqchikel anniversary system as it was in 1559. Had

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a new base been established at 13 Aj on May 19, 1558, 3 K'at would still, of course, have fallen in the eleventh month since 13 Aj, but that date would have fallen on December 16, 1558, rather than in 1559. The base of the 400-day year count was therefore not shifted permanently, if at all, and the month count within the 400-day year was evidently maintained.

John Justeson (personal communication, 2001) points out an important consequence of this result. Because the Kaqchikel month count proceeds from these anniversary dates, the anniversary dates were not simply commemorations of the date of the Tuquche' revolt. Rather, the anniversary date was the final day of the Kaqchikel 400-day year. The 400-day-year calendar, then, had the Tuquche' revolt and the first major victory of the Kaqchikel state as its inaugural date, and the anniversary dates were in fact the names and year-ending dates of the Kaqchikel years. In this respect, as stated by Thompson (1950:151) without demonstration, the Kaqchikel year names parallel the names of years in the lowland Maya long count; the anniversary statements in the *Annals* are in fact naming the Kaqchikel years.

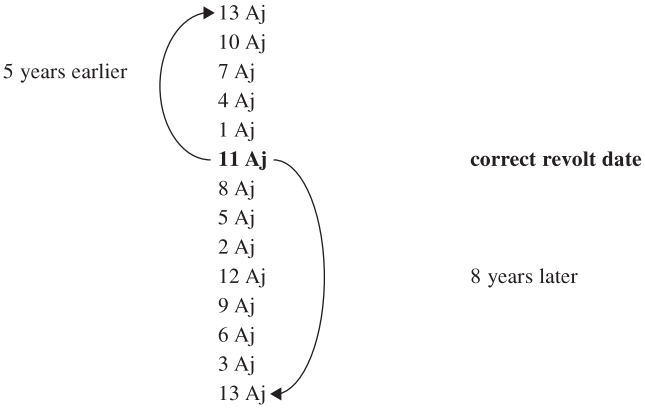
Under this hypothesis, then, the timekeepers adjusted the calendar in order to place an anniversary date in 1558, but the alteration of the position of that anniversary, by 260 days, was not continued beyond that one year's entry. However, the 400-day year count remained permanently shifted. As stated earlier, the 61st anniversary was correctly given as 10 Aj, but this anniversary was placed in the year 1559 rather than correctly in the year 1560. The true anniversary system was intact, but the count of the anniversaries was not.

The simpler alternative solution is to suppose that the composer of these records—or, at least, of their anniversary statements—recognized from copying the earlier Kaqchikel records (with the "O" citation marks) that the coefficient of each successive anniversary date is reduced by three and simply supplied an anniversary to each successive year using the appropriate coefficient of the next year. This pattern of decrease by three is easily recognized by looking at Appendix 1; this was in fact how I understood the pattern of successive anniversary dates from working through the successive records in the process of translation rather than from the arithmetic properties of the number 400. This simple solution is consistent with the later entries. Because of the evidence that divinatory calendar dates were linked to the computed anniversary dates, it indicates that the anniversary count was not being maintained—at least, not by those who were involved in producing the *Annals*. This result also shows that the composer was not an *ajq'ij* (day keeper) and did not understand the 400-day year. Moreover, with the correct use of the Maya months (that September 2 did fall in the Kaqchikel eleventh month), it appears that those who were responsible for keeping track of the months knew when the first month and the twentieth month fell—that is, which 13 Aj was the anniversary date. However, those providing the Maya–Spanish dates were not familiar with this system.

THE SCRIBAL ERRORS: THE SECOND INTERNAL ERROR

Three other discrepancies are involved in the compilation of this manuscript, all of a similar sort. Recinos (1953:113) pointed to one of them: "Chi Vahxaqui Ah, or 8 Ah, the original reads, but it is evidently a mistake." However, he did not explore this; nor did he catch the later two scribal errors (Recinos 1953:146, 159).

Table 5. Erroneous reconstruction of 13 Aj: 400-day years



These three errors turn out to be relevant to understanding the history of this manuscript.

I begin with the two errors that Recinos did not address. The text states that the Tuquche' revolt occurred on 11 Aj, and numbered anniversaries in the first sections are correctly calculated from that date. However, later dates near the close of the sixteenth century cannot be calculated back to this date. Calculating back from them, the revolt would have occurred on 13 Aj—at least five years earlier or eight years later, as can be seen from the anniversary-cycle chart (Table 5).

Analysis of the sequence of day names associated with each anniversary shows that discrepancies in the sequence occur at exactly two years. Through the date 9 Aj on the 70th anniversary, all recorded coefficients of Aj are as they should have been. This changes with the record for the year 1569, when the 71st anniversary of the Tuquche' revolt is recorded:

1568 años	Year 1568
Don Pedro Solís Juan López Ma Sinaj Alcaldes.	Don Pedro Solís and Juan López Ma Sinaj, *Alcaldes.*
Rulajuj juna' ruka may yujuj chi b'eleje' aj.	On the day 9 Aj seventy years elapsed since the revolt.
Chujunab'il mixik'o wi Don Francisco Breseño visitador chuwi' Sub'a mani xul wawe'.	This year the Visitador Don Francisco Brizeño passed above Sub'a, he did not come here.
Wawe' xik'o chi wi Don Francisco Breseño Patulul Sancta Maria Magdalena.	Don Francisco Brizeño passed through Patulul [and] Santa María Magdalena.
Wawe' xk'amär wi jupillio chuwuq ik' noviempre 1569 años.	The jubilee was brought on November 7, in the year 1569.
Gonzalo de Cuzman Francisco Ernantez Q'ale B'ak'ajol Alcaldes.	Gonzalo de Guzmán and Francisco Hernández Q'ale B'ak'ajol, *Alcaldes.*
Rujulaj juna' rukaj may yujuj chi wajxaqi' aj.	On the day 8 Aj elapsed seventy-one years since the revolt. (35r.33–35v.9)

Given that the 70th anniversary of the Tuquche' revolt fell on 9 Aj, the seventy-first year of the revolt should have fallen on 6 Aj. However, it was written down (and copied later) as 8 Aj. It is plausible that this error resulted from confusion based on pronunciation. At that time, the number 6 in Kaqchikel was the archaic *waqaqi'* (today it is *waqi'*, although some older speakers in Sololá use *waqaqi'*), while the number 8 was the phonetically similar

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wajxaqi' (underlyingly, *waqxaqi'* as it is today). This is not a unique mistake; rather, the same substitution of 8 for 6 occurs again in the record for 1600:

Don Miguel López Pablo Ximénez Alcaldes.	Don Miguel López [and] Pablo Ximénez, *Alcaldes.*
Francisco Oo Francisco B'atz'in Ch'okojay je' Alguasil Mayor.	Francisco Oo [and] Francisco B'atz'in Ch'okojay, *Alguacil[es] Mayor[es].*
Jun juna' 1599, años waqmay yujuj chi Iximche', ja k'a chi b'eleje' aj.	In the year 1599, one hundred and twenty years since the revolt at Iximche', on the day 9 Aj. (7r.17–19)
Esteuan Martín, Francisco Arana Alcaldes.	Estéban Martín [and] Francisco Arana, *Alcaldes.*
Francisco Xitayul, Agustín Pérez Alvasil Mayor.	Francisco Xitayul and Agustín Pérez, *Alguacil[es] Mayor[es].*
Scriuano Baltasar Aju'.	Scribe, Baltazar Aju'.
Ka'i' juna' ruwaq may yujuj chi Iximche';	One hundred and two years since the revolt at Iximche';
ja k'a chi wajxaqi' aj, juna' 1600 años.	it is [the day] 8 Aj, in the year 1600. (8v.22–24)

Again, the anniversary should have fallen on 6 Aj, not 8 Aj.

It must be emphasized that these dates were written down wrong and later copied. The result of the previous section is that the date of the anniversary assigned to a given Spanish year was computed from the date of the preceding year by subtracting three from the coefficient of the day Aj. The sequence of coefficients in the manuscript proceed from the erroneous 8 Aj of the 71st anniversary to an erroneous 5 Aj for the 72nd anniversary; this suggests that all subsequent dates were computed by the original compilers from the entry recorded for the previous year. Had the error been introduced by a copyist, it is unlikely that the substitution of 8 Aj for 6 Aj would have continued, and the counts would not have been off for later dates. Such a result would require that the copyist had recognized that every subsequent entry was in error and had carefully corrected every one of them but was not careful enough to recheck the last entry before each of these errors was made.

A similar error occurs in the second section of the manuscript, but it had different effects and points to a different facet of the compilation of the manuscript:

Chi b'eleje' aj xel chïk wajxaqla'uja' yujuj.	On the day 9 Aj elapsed eighteen years since the rebellion. (27r.2)
Chi wajxaqi' aj xel b'elejla'uja' yujuj.	On the day 8 Aj elapsed nineteen years since the revolt. (27r.11)
Chi oxi' aj k'a xel jumay rukamik Tuquche' rub'anik yujuj.	On the day 3 Aj elapsed twenty years since the death of the Tuquche', the occurrence of the revolt. (27r.18–19)

Unlike in the two previous cases, after the incorrect record of 8 Aj in place of 6 Aj, the correct sequence immediately returns with 3 Aj. The writing of 8 Aj does not affect the following entry of 3 Aj, which would be expected after the correct 6 Aj. Because this error did not affect the count, it must have been an error in copying or in committing an oral tradition to writing; the anniversary records in this early part of the manuscript, in the discussion of events that occurred before the arrival of the Spanish and the Spanish calendar system, were not computed, or the count would have shifted at this point to an incorrect sequence of anniversary dates. Therefore, it is unlikely that this section was copied from a previously written version (in Latin script or not).

The error of substituting "8" for "6" occurs three of eight times that anniversary dates fell on 6 Aj. This indicates that these errors are systematic, not independent of one another. The most obvious source of a relationship among these errors would be a particular scribe who was prone to that error and involved in making them all. This is not feasible for the third error in the year 1600. Baltasar Aju', scribe in 1591 and 1600, most likely was not the scribe in 1569, the year of the second scribal error. In fact, a scribe is not named for that year. However, the 1600 error could have resulted if Aju' was using the records from the years 1557 onward to work out what the current anniversary dates should have been, knowing that the sequence repeated. In particular, while following up the recorded 9 Aj anniversary for 1599, he may have registered 8 Aj for the anniversary in 1600 after seeing that the 9 Aj anniversary assigned to 1568 was followed by an 8 Aj anniversary in 1569.

A similar copying error could have occurred for 1558, relying on the error of 1512. I suggested earlier that the assignment of anniversary dates to each Spanish year, starting in 1557, was due to familiarity gained with the changes in the system of coefficients as a result of copying. If this is so, then the anniversary date of 1568 is likely to have been computed, and the error would not have resulted from copying. As a result, it is likely that at least the error associated with the 1569 record was made by the same person who made the first of these errors. The second error would have occurred after the scribe computed the correct position, 6, and was in the process of writing it down. This suggests that it was Francisco Hernández who wrote down the first sections of the manuscript, whether from oral tradition or as a copyist, in preparation for the recording that he was about to do each year until his death under the *alcalde* system.

SUMMARY

This paper has shown that *The Annals of the Kaqchikels* contains both scribal and calculation errors involving anniversary dates in the 400-day Kaqchikel year that help to elucidate the history of the composition of the manuscript. There are dating problems in this document that stem from errors by the scribes in their attempt to adapt to a Spanish counting and documentation system and from their inexperience with the Kaqchikel 400-day year. These led to several errors in Recinos's correlation of Kaqchikel and Spanish dates in the *Annals*, which are corrected here.

The fourth section of the manuscript is basically organized by Spanish chronology, framed in terms of Spanish calendar years under the civil authorities of the *alcaldes* who served during the year of entry, and is seemingly drawn from the record of civil scribes working in terms of Spanish chronology. This is inferred from references to the Spanish death dates of scribes, whose names are partly Spanish. These secular officials were evidently not fully conversant with the 400-day annual calendar, but they noticed a "system" to the sequence of the Kaqchikel year dates and assumed that they could provide a Kaqchikel year name for a given Spanish year. However, because the lengths of the Kaqchikel and Spanish years were different, some Spanish years did not contain a Kaqchikel year end. Consequently, this computing practice produced an incorrect correlation between the Kaqchikel and Spanish years. In addition, two scribal errors that consisted of writing the word *wajxaqi'* (8) for the phonetically and orthographically similar word *waqaqi'* (6) in the coefficient of the anniversary of the revolution affects all the subsequent records, showing that anniversary dates were calculated, not carried over from records. Thus, both the year offsets and two scribal errors suggest the existence of an earlier document.

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RESUMEN

La correlación de fechas mayas y europeas en los *Anales de los Kaqchikeles* de Adrián Recinos contiene numerosos errores y en los calendarios mayas de 260 y 400 días ambos contienen errores dentro del manuscrito. Los problemas son los resultados de las prácticas de grabado de sistemas de los calendarios mayas y españoles. Estos errores provienen de los escritores por querer adaptar el contenido al sistema europeo, desde su experiencia con el calendario maya. Además, hay marcas únicas de citación y dos errores del escribano que dieron a conocer la existencia de un documento más antes y más tarde tuvo sus efectos en las cuentas del tiempo, del sistema del calendario maya. La cuarta sección del manuscrito es organizada básicamente por cronólogos europeos, hechos con términos del calendario europeo, bajo la autorización de los alcaldes civiles, quienes servían durante la toma de posesión como alcaldes y aparentemente lo copiaron de escritores civiles, trabajándolo en términos del calendario europeo. Esto surgió de las referencias de escritores europeos ya muertos, cuyos nombres son en parte europeos. Simplemente pusieron, estos oficios seculares y notaron un "sistema" a los números (en cuanto a este papel actual) y creyeron que ellos podían usar un chivo para calcular cuando y cual es la fecha correcta de aniversario que daba 400 días durante un año europeo. Por consiguiente, esto está completamente fuera de cuenta. Además, dos errores del escribano son que escribió *wajxaqi'* (no. 8 en Kaqchikel) fonéticamente y ortográficamente similar a *waqaqi'* (no. 6) indicando que las fechas de los aniversarios son calculadas y no lo tomó tal como se debe hacer de acuerdo a los tratados originales. Estudiantes indígenas o extranjeros deben ver este manuscrito como una advertencia, cuando reconstruyen las historias y las relaciones sociales de personajes históricos; y se consideren los errores internos de los escritos.

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APPENDIX 1. New correlation

Actual European Year	Recorded 260-day		Actual 260-day			
	Anniversary	Station	Anniversary	Station	Present paper	Recinos
1493	0	11 Aj	0	11 Aj	May 20, 1493	May 18, 1493
1494	1	8 Aj	1	8 Aj	June 24, 1494	June 22, 1494
1495	2	5 Aj	2	5 Aj	July 29, 1495	July 27, 1495
1496	3	2 Aj	3	2 Aj	September 1, 1496	August 30, 1496
1497	4	12 Aj	4	12 Aj	October 6, 1497	October 4, 1497
1498	5	9 Aj	5	9 Aj	November 10, 1498	November 8, 1498
1499	6	6 Aj	6	6 Aj	December 15, 1499	December 13, 1499
1501[a]	**7**	**3 Aj**	**7**	**3 Aj**	**January 18, 1501**	**January 16, 1501**
1502	8	13 Aj	8	13 Aj	February 22, 1502	February 20, 1502
1503	9	10 Aj	9	10 Aj	March 29, 1503	March 22, 1503
1504	10	7 Aj	10	7 Aj	May 2, 1504	April 30, 1504
1505	11	4 Aj	11	4 Aj	June 6, 1505	June 4, 1505
1506	12	1 Aj	12	1 Aj	July 11, 1506	July 9, 1506
1507	13	11 Aj	13	11 Aj	August 15, 1507	August 13, 1507
1508	14	8 Aj	14	8 Aj	September 18, 1508	September 16, 1508
1509	15	5 Aj	15	5 Aj	October 23, 1509	October 21, 1509
1510	16	2 Aj	16	2 Aj	November 27, 1510	November 25, 1510
1512	**17**	**12 Aj**	**17**	**12 Aj**	**January 1, 1512**	**December 30, 1511**

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APPENDIX 1. *Continued*

Actual European Year	Recorded 260-day		Actual 260-day			
	Anniversary	Station	Anniversary	Station	Present paper	Recinos
1513	18	9 Aj	18	9 Aj	February 4, 1513	February 2, 1513
1514	19	**8 (6) Aj**[b]	19	6 Aj	March 11, 1514	March 9, 1514
1515	20	3 Aj	20	3 Aj	April 15, 1515	April 13, 1515
1516	21	13 Aj	21	13 Aj	May 19, 1516	May 17, 1516
1517	22	10 Aj	22	10 Aj	June 23, 1517	June 21, 1517
1518	23	7 Aj	23	7 Aj	July 28, 1518	July 26, 1518
1519	24	4 Aj	24	4 Aj	September 1, 1519	August 30, 1519
1520	25	1 Aj	25	1 Aj	October 5, 1520	October 3, 1520
1521	26	11 Aj	26	11 Aj	November 9, 1521	November 7, 1521
1522	27	8 Aj	27	8 Aj	December 14, 1522	December 12, 1522
1524	**28**	**5 Aj**	**28**	**5 Aj**	**January 18, 1524**	**January 16, 1524**
1525	29	2 Aj	29	2 Aj	February 21, 1525	February 19, 1525
1526	30	12 Aj	30	12 Aj	March 28, 1526	March 26, 1526
1527	31	9 Aj	31	9 Aj	May 2, 1527	April 30, 1527
1528	32	6 Aj	32	6 Aj	June 5, 1528	June 3, 1528
1529	33	3 Aj	33	3 Aj	July 10, 1529	July 8, 1529
1530	34	13 Aj	34	13 Aj	August 14, 1530	August 12, 1530
1531	35	10 Aj	35	10 Aj	September 18, 1531	September 16, 1531
1532	36	7 Aj	36	7 Aj	October 22, 1532	October 20, 1532
1533	37	4 Aj	37	4 Aj	November 26, 1533	November 24, 1533
1534	38	1 Aj	38	1 Aj	December 31, 1534	December 29, 1534
1536	**39**	**11 Aj**	**39**	**11 Aj**	**February 4, 1536**	**February 2, 1536**
1537	40	8 Aj	40	8 Aj	March 10, 1537	March 8, 1537
1538	41	5 Aj	41	5 Aj	April 14, 1538	April 12, 1538
1539	42	2 Aj	42	2 Aj	May 19, 1539	May 17, 1539
1540	43	12 Aj	43	12 Aj	June 22, 1540	June 20, 1540
1541	44	9 Aj	44	9 Aj	July 27, 1541	July 25, 1541
1542	45	6 Aj	45	6 Aj	August 31, 1542	August 31, 1542
1543	46	3 Aj	46	3 Aj	October 5, 1543	October 5, 1543
1544	47	13 Aj	47	13 Aj	November 8, 1544	November 8, 1544
1545	48	10 Aj	48	10 Aj	December 13, 1545	December 13, 1545
1547	**49**	**7 Aj**	**49**	**7 Aj**	**January 17, 1547**	**January 17, 1547**
1548	50	4 Aj	50	4 Aj	February 21, 1548	February 21, 1548
1549	51	1 Aj	51	1 Aj	March 27, 1549	March 27, 1549
1550	52	11 Aj	52	11 Aj	May 1, 1550	May 1, 1550
1551	53	8 Aj	53	8 Aj	June 5, 1551	June 5, 1551
1552	54	5 Aj	54	5 Aj	July 9, 1552	July 9, 1552
1553	55	2 Aj	55	2 Aj	August 13, 1553	August 13, 1553
1554	56	12 Aj	56	12 Aj	September 17, 1554	September 17, 1554
1555	57	9 Aj	57	9 Aj	October 22, 1555	October 22, 1555
1556	58	6 Aj	58	6 Aj	November 25, 1556	November 25, 1556
1557[c]	59	3 Aj	59	3 Aj	December 30, 1557	December 30, 1557
1558	60	13 Aj				
1559	**61**	**10 Aj**	**60**	**13 Aj**	**February 3, 1559**	**February 3, 1559**
1560	62	7 Aj	61	10 Aj	March 9, 1560	March 9, 1560
1561	63	4 Aj	62	7 Aj	April 13, 1561	April 13, 1561
1562	64	1 Aj	63	4 Aj	May 18, 1562	May 18, 1562
1563	65	11 Aj	64	1 Aj	June 22, 1563	June 22, 1563
1564	66	8 Aj	65	11 Aj	July 26, 1564	July 26, 1564
1565	67	5 Aj	66	8 Aj	August 30, 1565	August 30, 1565
1566	68	2 Aj[d]	67	5 Aj	October 4, 1566	October 4, 1566
1567	69	12 Aj	68	2 Aj	November 8, 1567	December 12, 1568
1568	70	9 Aj	69	12 Aj	December 12, 1568	January 16, 1570
1569	71	8 (6) Aj[e]				
1570	**72**	**5 (3) Aj**	**70**	**9 Aj**	**January 16, 1570**	**none given**
1571	73	2 (13) Aj	71	6 Aj	February 20, 1571	none given
1572	74	12 (10) Aj	72	3 Aj	March 26, 1572	none given
1573	75	9 (7) Aj	73	13 Aj	April 30, 1573	none given
1574	76	6 (4) Aj	74	10 Aj	June 4, 1574	none given
1575	77	3 (1) Aj	75	7 Aj	July 9, 1575	none given

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APPENDIX 1. *Continued*

Actual European Year	Recorded 260-day		Actual 260-day			
	Anniversary	Station	Anniversary	Station	Present paper	Recinos
1576	78	13 (11) Aj	76	4 Aj	August 12, 1576	none given
1577	79	10 (8) Aj	77	1 Aj	September 16, 1577	none given
1578	80	7 (5) Aj	78	11 Aj	October 21, 1578	none given
1579	81	4 (2) Aj	79	8 Aj	November 25, 1579	none given
1580	82	1 (12) Aj	80	5 Aj	December 29, 1580	none given
1581	83	11 (9) Aj				none given
1582	**84**	**8 (6) Aj**	**81**	**2 Aj**	**February 2, 1582**	**none given**
1583	85	5 (3) Aj	82	12 Aj	March 9, 1583	none given
1584	86	2 (13) Aj	83	9 Aj	April 12, 1584	none given
1585	87	12 (10) Aj	84	6 Aj	May 17, 1585	none given
1586	88	9 (7) Aj	85	3 Aj	June 21, 1586	none given
1587	89	6 (4) Aj	86	13 Aj	August 5, 1587/Gregorian	none given
1588	90	3 (1) Aj	87	10 Aj	September 8, 1588	none given
1589	91	13 (11) Aj	88	7 Aj	October 13, 1589	none given
1590	92	10 (8) Aj	89	4 Aj	November 17, 1590	none given
1591	93	7 (5) Aj	90	1 Aj	December 22, 1591	none given
1592	94	4 (2) Aj				none given
1593	**95**	**1 (12) Aj**	**91**	**11 Aj**	**January 25, 1593**	**none given**
1594	96	11 (9) Aj	92	8 Aj	March 1, 1594	none given
1595	97	8 (6) Aj	93	5 Aj	April 5, 1595	none given
1596	98	5 (3) Aj	94	2 Aj	May 9, 1596	none given
1597	99	2 (13) Aj	95	12 Aj	June 13, 1597	none given
1598	100	12 (10) Aj	96	9 Aj	July 18, 1598	none given
1599	101	9 (7) Aj	97	6 Aj	August 22, 1599	none given
1600	102	8 (6) (4) Aj[f]	98	3 Aj	September 25, 1600	none given
1601	103	5 (3) (1) Aj	99	13 Aj	October 30, 1601	none given
1602	104	2 (13) (11) Aj	100	10 Aj	December 4, 1602	none given
1603	105	12 (10) (8) Aj				none given

[a]Boldface type indicates that no anniversary could have fallen in the previous year. Thus, a year was skipped.
[b]The first scribal error appears in the year 1514. However, it did not affect the later time counts. This is evidence that the error was made in copying rather than in the original entry or compilation. The parenthetical number is the correct date that was recorded incorrectly (i.e., the incorrect 8 was written instead of 6).
[c]This is the first year in which a European year was given in numeric form as an entry header.
[d]Recinos incorrectly writes 4 Aj instead of 2 Aj for the 1566 entry (1953:146). The manuscript has the entry 2 Aj (ff. 35r.24). Incidentally, his following two-year correlations are wrong and, with the second scribal error in 1569, he stops giving Spanish equivalents altogether.
[e]Second scribal error. The parenthetical number is the correct date that was recorded incorrectly (i.e., the incorrect 8 was written instead of 6).
[f]Third scribal error. The parenthetical number is the correct date that was recorded incorrectly (i.e., the incorrect 8 was written instead of 6).

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