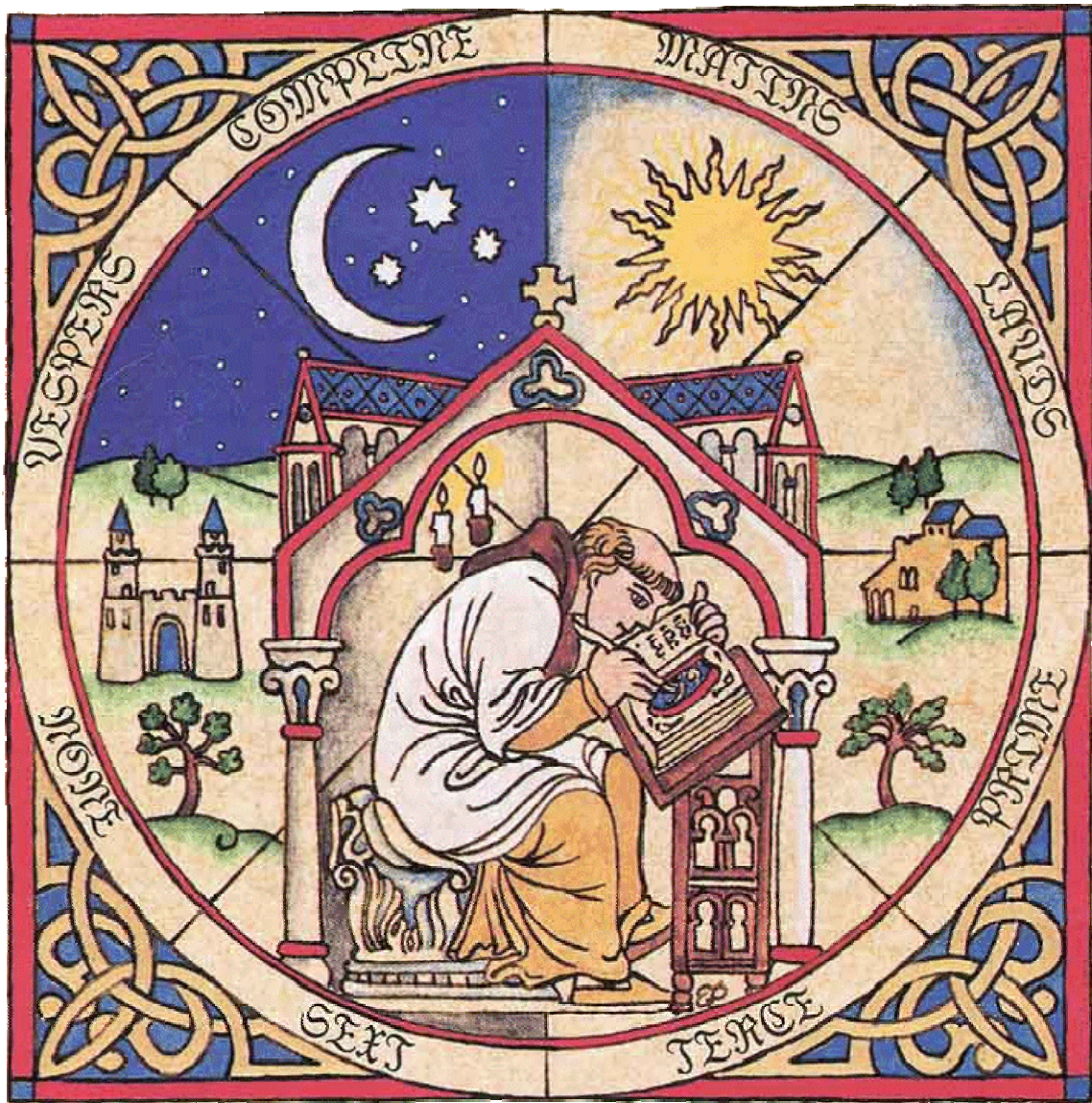


## The Medieval Roman Calendar

*Including a Period method of Discerning the Date of Easter,  
Canonical Hours and Constructing a Personal Liturgical  
Calendar for these Current Middle Ages*



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Updated June 2016



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The calendar utilized in Western Europe during the middle ages was not the universally standardized version we enjoy today. The year centered on the major festivals of the Church superimposed on the structure of the ancient Roman calendar. Some of the Church celebrations occurred on fixed dates such as St. John the Baptist or Christmas, while others occurred relative to the movable date of Easter (such as Pentecost). Dates were commonly referred to by their Church festival rather than the familiar month/day/year used in modern times. It was also quite common to see documents with the dates given in the style used in the ancient Roman Empire.

The calendar used in the middle ages in lands that had been in contact with the Romans was developed for Julius Caesar and enacted in 46 BC, and known to us by his name – the Julian Calendar. The Romans set year 1 of their calendar to glorify the founding of Rome in 753 BC. Years counted under this system were referred to as “from the founding of the city,” *ab urbe condita* (AUC). In antiquity the Romans had used year lengths of 10, 11, and 12 months, but by the fall of the Empire the calendar had settled into 12 months with each month having the same number of days as we are familiar with in the 21<sup>st</sup> century.

### **Roman Inclusive Counting**

Before looking closer at the Roman calendar, there is a quirk of Roman counting that is essential to understanding their system. The Romans used “inclusive” counting which counts both the beginning and ending points, unlike the way we would count in modern times. Using this system, the number of days between dates is one more than the way we would count it. For example, tomorrow would be the second day from now – today=1, tomorrow=2. Have you ever been confused by the Easter story of Jesus being 3 days in the tomb? In modern times we would consider Friday evening to Sunday morning to be a day and a half, or two if you were being generous. However, using the Roman method, you would count Friday as day one, Saturday as day two, and Sunday as the third day.

### **Division of the Roman Month**

The month in the Julian calendar was divided into irregular segments, likely to have originally been connected with the phases of the moon. The first day of the month is the Kalends and originally occurred at the new moon. The name comes from the Latin *calere* – “to call” as the pontifex would “call out” the announcement of the new month as signaled by the sighting of the moon just past new. The next division was the Nones occurring 9 days prior to the Ides and fell on the 5<sup>th</sup> or 7<sup>th</sup> of the month. The Ides represented the full moon. The name is derived from *iduate* – to divide. The Ides is the 15<sup>th</sup> of the month in March, May, July, and October, and the 13<sup>th</sup> in January, February, April, June, August, September, November, and December. The remaining days of the month are counted as the number of days before the next Kalends, Nones, or Ides (counting inclusively) and are labeled, e.g. *ante diem III Kalends Martius* which would be the 28<sup>th</sup> of February in a leap year. The day before the Kalends, Nones, or Ides is *pridie* (e.g. *pridie Kalends Martius* – the last day of February).

### **Leap Year**

A problem that has plagued all calendar systems is there isn’t an even number of lunar months in a solar year. This causes the calendar dates to drift in relation to the seasons. Julius Caesar attempted to fix this drift by adding an extra day to every 4<sup>th</sup> year to give an average of 365.25 days per year. This was much closer to the actual length of year of 365.2422 days. This slowed the drift of the seasons, but over several centuries it became obvious the dates in the calendar were shifting through the seasons.

Pope Gregory XIII instituted a more refined system in 1582 that we are still using in our Modern Middle Ages. Leap years occur every 4<sup>th</sup> year except century years, (unless they are also divisible by 400 such as 1600 and 2000). This brings the average days per year to 365.2425 – very close to the actual 365.2422. The actual leap day is inserted after *a. d. VI kalendis Martias* (24 Feb) and called *a. d. bis VI kalendis Martias*, and is the origin of the term *bissextile* to describe a leap year. For unknown reasons, Medieval authors put *a.d. bis VI* before *a.d. VI*.

### **The New Year**

Even though Dionysius Exiguus defined year one of the calendar when he developed his tables of Easter in the early 6<sup>th</sup> century, there was still a lot of confusion as to the actual date when the new year started:

“If we suppose a traveler to set out from Venice on 1 March 1245, the first day of the Venetian year, he would find himself in 1244 when he reached Florence: and if after a short stay he went on to Pisa, the year 1246 would already have begun there. Continuing his journey westward, he would find himself again in 1245 when he entered Province, and on arriving in France before Easter (16 April) he would be once more in 1244.” *Cheney p 8.*

The starting points of the calendar that have been used include Christmas, the Annunciation (March 25), Easter, and January first. Christmas Day makes sense since a year numbered based on the birth of Jesus would start on the date celebrated as his birthday. It was used in various locations as late as 14<sup>th</sup> century. The Annunciation is also called “Lady Day” and was commonly considered the start of the new year in England until the Gregorian calendar was adopted in British lands in 1752. Some areas were one off on the starting year and used dates one year earlier than other locations. Easter Day was used in some parts of France. What goes around comes around, as January 1 was historically used by the Romans and was recommended for use by both Dionysius and Pope Gregory XIII. It was formally adopted in England with the change to the Gregorian calendar.

## The Date of Easter

Though details are sketchy, the date of Easter was declared by the Council of Nicea as having to be on a Sunday, rather than on whatever day of the week the Jewish Passover fell on. This was further clarified by Dionysius Exiguus with the tables he published in 525 AD. Easter was then defined as the first Sunday following the first full moon following the vernal (spring) equinox. These landmarks are not the astronomical ones that you would see if you were looking at the spring sky, but were set mathematically. The vernal equinox was defined as 21 March, whereas astronomically it can occur on 20 or 21 March. The full moon is likewise a calculated value. The earliest possible date for Easter is 22 March and the latest 18 April.

There is a simple formula to determine the date of Easter, however, this is not period. The period method was to have professional astronomers build tables of the dates of Easter. The method they used is fairly straightforward.

The ancients recognized that the cycles of the phases of the moon and the seasons didn't completely agree. The Metonic cycle is 19 years in which the lunar cycle of 13 months a year and the solar cycle of 12 months a year come together. The position of the current year in the Metonic cycle is called the Golden Number. It can be calculated by:

$$\text{Golden Number} = 1 + \text{MOD}(\text{Year}, 19)$$

Where MOD means divide Y by 19 and throw away everything but the remainder. Thus 2016 would be

$$\text{MOD}(2016, 19) = 2 \text{ (2016 divided by 19 equals 106 remainder 2)}$$

$$2 + 1 = 3$$

therefore 2016 has a Golden Number of 3.

Most medieval calendars include a column containing Roman numerals. This serves as a lunar almanac. The Roman numerals represent the date of the calculated new moons for a year with that Golden number. For example, February 28 has the number *iv* next to it, therefore it is considered a new moon date in years with a Golden number of 4.

**Calendar Fragment for  
Calculating the Date of Easter**

*Calculating Easter from the Tables*

The attached calendar fragment is for useful for calculating the date of Easter for the years 1900 – 2099 AD. Easter can only occur between March 22<sup>nd</sup> and April 25<sup>th</sup> (inclusive). First, look at March 21. This is the date that is defined as the Vernal Equinox for the purpose of Easter calculations and is labeled in blue. Using AD 2016 as an example, The Dominical Letter after 29 Feb is B (labeled in red), which means any date with a B by it is a Sunday. The Golden number is 3, so any date on the chart with an *iii* by it is the calculated (not actual) new moon. The Paschal New Moon will be the new moon closest to the Equinox (occurs in the range 8 March – 4 April). Referring to the calendar excerpt, the Paschal new moon is on March 9<sup>th</sup> (again marked in red). The full moon following that will be 14 days later (or 15 days if you are using Roman inclusive counting), 23 March (outlined in red). This is a Tuesday (day letter E). Easter would then be the next Sunday (letter B), March 27<sup>th</sup>.

The table of Golden Numbers used in the *Computus Dignorum* was developed by first shifting the table from the Julian calendar as used in period to the Gregorian calendar used in Catholic Europe since 1582 and England (and the Colonies) since 1752. The numbers were hand-tweaked by comparing the numerically-calculated date of Easter with the table-calculated version until harmony was reached.

March	8	<i>xiv</i>		
	9	<i>iii</i>	E	vii Ides
	10		F	vi Ides
	11	<i>xi</i>	G	v Ides
	12		A	iv Ides
	13	<i>xix</i>	<b>B</b>	iii Ides
	14	<i>viii</i>	C	prid. Ides
	15		D	Ides
	16	<i>xvi</i>	E	xvii Kal
	17	<i>v</i>	F	xvi Kal
	18		G	xv Kal
	19	<i>xiii</i>	A	xiv Kal
	20	<i>ii</i>	<b>B</b>	xiii Kal
<b>Equinox</b>	<b>21</b>		C	xii Kal
	22	<i>x</i>	D	xi Kal
	23		E	x Kal
	24	<i>xviii</i>	F	ix Kal
	25	<i>vii</i>	G	viii Kal
	26		A	vii Kal
<b>Easter</b>	<b>27</b>	<i>xv</i>	<b>B</b>	vi Kal
	28	<i>iv</i>	C	v Kal
	29		D	iv Kal
	30	<i>xii</i>	E	iii Kal
	31	<i>i</i>	F	Prid. Kal
April	1		G	Kalends
	2	<i>ix</i>	A	iv Nones
	3	<i>xvii</i>	<b>B</b>	iii Nones
	4	<i>vi</i>	C	prid. Nones
	5		D	Nones
	6	xiv	E	viii Ides
	7	iii	F	vii Ides
	8		G	vi Ides
	9	xi	A	v Ides
	10		<b>B</b>	iv Ides
	11	xix	C	iii Ides
	12	viii	D	prid. Ides
	13		E	Ides
	14	xvi	F	xviii Kal
	15	v	G	xvii Kal
	16		A	xvi Kal
	17	xiii	<b>B</b>	xv Kal
	18		C	xiv Kal
	19		D	xiii Kal
	20		E	xii Kal
	21		F	xi Kal
	22		G	x Kal
	23		A	ix Kal
	24		<b>B</b>	viii Kal
	25		C	vii Kal



## **The Liturgical Year**

Advent  
Christmas  
Epiphany  
Lent  
Eastertide  
Pentecost  
Common time

## **The Movable Feasts**

Several of the major celebrations of the Church are based on the date of Easter. The first of these is Ash Wednesday which marks the beginning of the Lenten season. It occurs 46 days prior to Easter. This gives 40 days of Lent, since the six Sundays aren't considered to be a part of Lent. Shrove Tuesday is the day prior to Ash Wednesday and was the last day meat products were allowed before Easter, thus the term carnival (Latin *carne vale*), which means "goodbye meat."

Next comes Palm Sunday which ushers in Holy Week. This is the Sunday before Easter. The days of Holy Week are Holy Monday, Holy Tuesday, Holy Wednesday, Maundy Thursday, Good Friday, and Holy Saturday. The next day is Easter, beginning the Octave of Easter (Easter Sunday through the Sunday after). The Ascension is 10 days before Whitsunday (Pentecost), which is 49 days after Easter (50 if you use inclusive counting).

The week following Whitsunday is Trinity Sunday. The feast of Corpus Christi (not the town in Texas) is 12 days (inclusive) after Trinity Sunday.

Other movable dates that don't depend directly on Easter are the four Sundays before Christmas which mark the beginning of the Christian year with the season of Advent.

Ember days are times of special prayers for each season and are the Wednesday, Friday, and Saturday after Ash Wednesday, after Whitsunday, after the Exaltation of the Cross (14 September), and after St. Lucia (13 December).

Rogation days are days of fasting and prayer to appease God's anger with man's transgressions. They are the Major Rogation day on April 25, and the minor Rogation days the three day prior to the Feast of the Ascension.

## **The Fixed Feasts**

Like many facets of medieval society, the feasts celebrated by the Church had a lot of room for variation, when properly approved by the local bishop, of course. The main outline of the festivals of the year were standard, but many of the minor saints' day celebrations varied by region or country. Especially favored were saints that had a connection to the local area. The dates I've chosen heavily follow English usage. I've attempted to use the date for the celebration as used in the middle ages, unless it is also a well-known modern date. In making a calendar for your own use, you can of course include any saints or celebrations that fit your persona or modern preferences.

## **Hagiography**

A hagiography is a book or listing of Saints. I use the term here in conjunction with feasts which occur on a fixed date. The current listing is based on English practice. Major feasts utilize modern date to keep in sync with current practice. Minor saints' days are on their tradition date (most do not differ). This allows period practice without being out of step with the modern Church.

## Galien of Ockham

For the details of my calendar for the Modern Middle Ages, see the Time section of my website <http://medievalscience.org> and check out the Excel spreadsheet *Computus Digitorum*.

## **The Division of the Day**

The monastic day was divided into at least seven times of prayer as called for in Psalm 119:164: “Seven times a day I have given praise to thee, for the judgments of thy justice.” The actual times of the services varied widely due to local custom, the monastic order, and the actual length of the day and night.

The divisions of the day were not the uniform hours we use today. The period from sunrise to sunset was divided into 12 equal hours as was the period from sunset to sunrise. Therefore, a day hour was a different length than a night hour. The length of an hour also varied season-to-season, especially in northern Europe. The hours were numbered starting with the first hour at sunrise, on through the 11<sup>th</sup> hour just before sunset. The hours of the night started at sunset. Thus, noon was the sixth hour of the day. This system can be seen in the King James version of the Bible from 1611. Mechanical timepieces were not commonly available until the mid to late 1400s and since they were more adept at keeping a uniform hour the equal hour slowly came to be the dominant form of timekeeping (hours “of the clock” or o’clock).

Though some of the Canonical hours were combined or moved to give the monks more time to sleep (especially during the short summer nights of northern Europe), I have adopted a system of Hours spaced every three unequal hours. Keeping the tradition of the ancients, the day began at sunset. The first of the Canonical Hours, at sunset, was Vespers. Compline was the prayer time before bed and is halfway between Vespers and midnight. At the midpoint of the night comes Matins. Halfway from midnight to dawn is Lauds, which in period was often combined with Matins (which gives seven periods of prayer). Sunrise marks the first hour of the daytime, thus the name Prime (Latin for first). The beginning of the third hour of the day (halfway from sunrise to noon) is Terce (from the Latin for third). Noon is the sixth hour of the day; therefore, Sext was the noontime prayer. Mid-afternoon brought None (the ninth hour). This brings us back to Vespers.

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