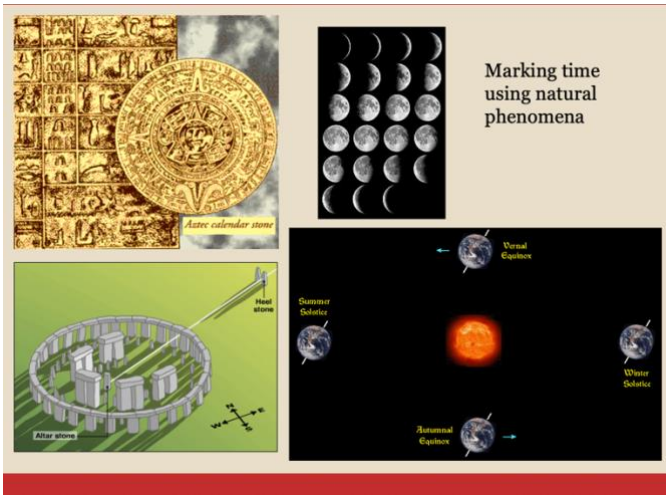
Calendars, Coins, and Comets

Patrice L. Jeppson, 2007

Have you ever walked up to a complete stranger and asked, “Pardon me, but do you know what day it is today”? When you pay your bills do you glance at your watch or maybe at the wall before filling in that little line next to the word “date”? When setting up a dental appointment or a business meeting, do you consult your smart phone?

You more than likely do because every day we assign a multiple of our actions to a system of standardized, fixed, divisions of time known as *the calendar*. We don’t usually give a lot of thought to this practice, but it happens to be tremendously convenient for helping us prevent mistakes and disputes as we reckon time in advance. While we all occasionally slip up and still forget to maybe pick up a kid after band practice or meet a neighbor for lunch, we all use calendars to help us structure our lives. When did this start to happen?

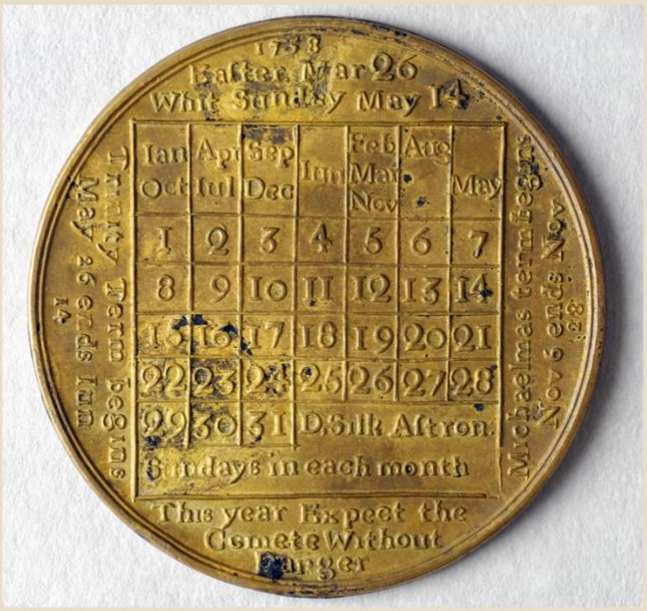


We know that since ancient times people have marked time with recurring natural phenomena such as a seasonal rainfall, cycles of the moon, or the solstice and equinox. However, these general cycles seem far removed from the busy schedules we track in modern life. How did the calendar as we now know it come to be part of our everyday life experience?

An artifact excavated at Independence National Historical Park is showing us how our forbearers in colonial America kept track of dates. The object in question comes from a colonial-era neighborhood that now lies buried beneath the streets of the modern city of Philadelphia. We don’t know everything about it yet, but we have a good start. We know that it is a *calendar medal* -- also called a *calendar token*, or *calendar coin* -- and we know that this object is giving us a small peak into some pretty big changes taking place in the 18th century.

1758
Calendar
Medal

NCC Site,
INHP
Philadelphia



Side A

approximate size:
1.5 inches in diameter

Photograph courtesy of National Park Service Archeologist Jed Levin. Independence Living History Center Archeology Laboratory, INHP.

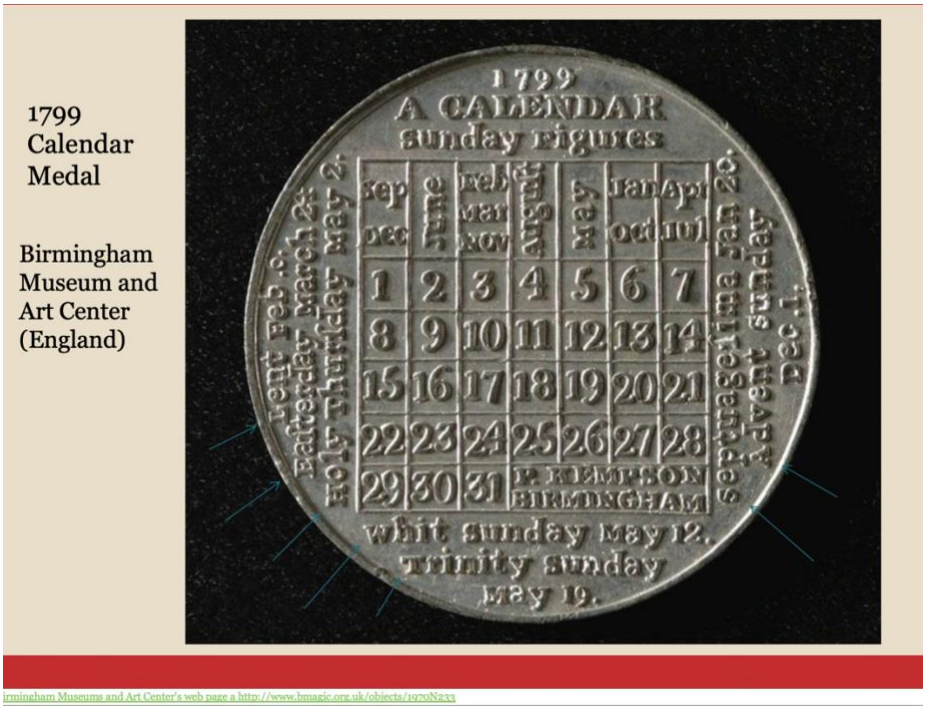
Side B

approximate size:
1.5 inches in diameter

Photograph courtesy of National Park Service Archeologist Jed Levin. Independence Living History Center Archeology Laboratory, INHP.

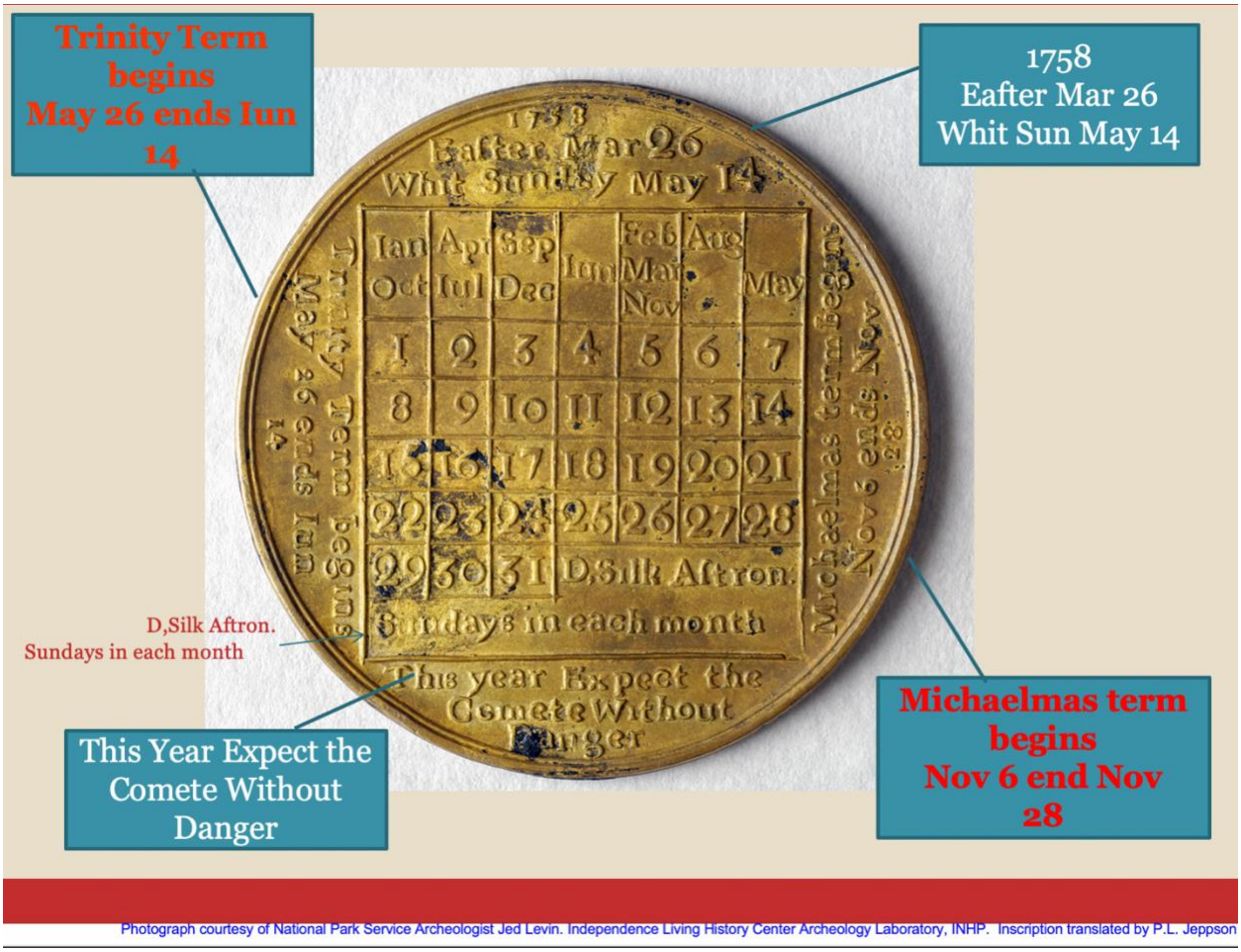
Calculating Important Dates

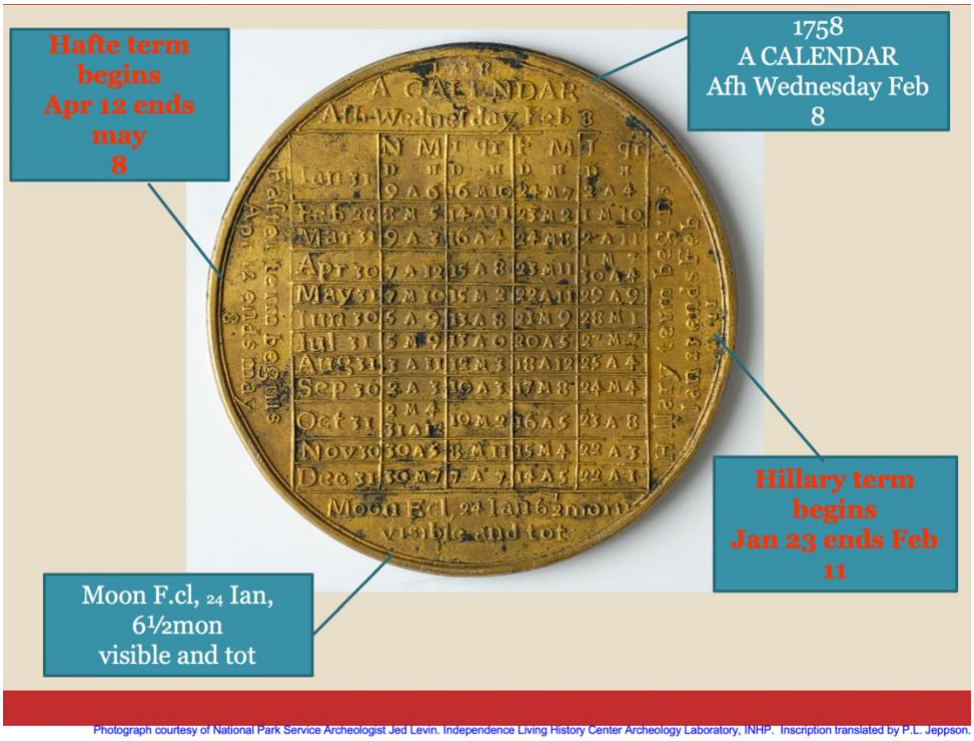
Calendar medals were very practical before the invention of printing equipment that allowed for inexpensive paper calendars. These *die struck* metal disks allowed people easy access to the correct date. Designed to be carried in a pocket or purse, these calendars form a kind of forerunner of the modern pocket diary.



Calendar medals provided the date of each Sunday in the year, along with key dates from the Christian calendar. The reverse side of the medals included the dates of the new and full moons plus certain important anniversaries such as the King, Queen, or Prince's birthday. (An example can be viewed at the Birmingham Museums and Art Center's web page at http://www.bmagic.org.uk/objects/1970N233).

Most calendar coins, including this Philadelphia specimen, also include the four terms of the *legal year* used in the English and Welsh Courts of Law. This legal year is still divided into *Michaelmas term* from October to December, *Hilary term* (spelled "Hillary" on the coin) from January to April, *Easter term* from April to May and *Trinity term* from June to July. Between terms the Courts are in vacation and no trials are heard. These names, Michaelmas, Hilary, Easter, and Trinity are also used to describe the *academic year* at several English Universities and institutions (although some English universities do not include the term Easter, for the summer term, as part of the academic year). These are older designations derived from the Christian calendar. For example, Hilary term comprises the first through the ninth Sunday after the feast day of St Hilary, the bishop of Poitiers who lived in the 4th century A.D.





Photograph courtesy of National Park Service Archeologist Jed Levin. Independence Living History Center Archeology Laboratory, INHP. Inscription translated by P.L. Jeppson.

Inscribed Text (reading clockwise)*

1758/Eafter Mar 26/Whit Sun May 14

Michaelmas term begins/Nov 6 ends Nov/28

D, Silk Aftron./Sundays in each month

This Year Expect the/Comete Without/ Danger

Trinity Term begins/ May 26 ends Iun/14

1758/A CALENDAR/Afh Wednesday Feb 8

Hillary term begins/Jan 23 ends Feb/11

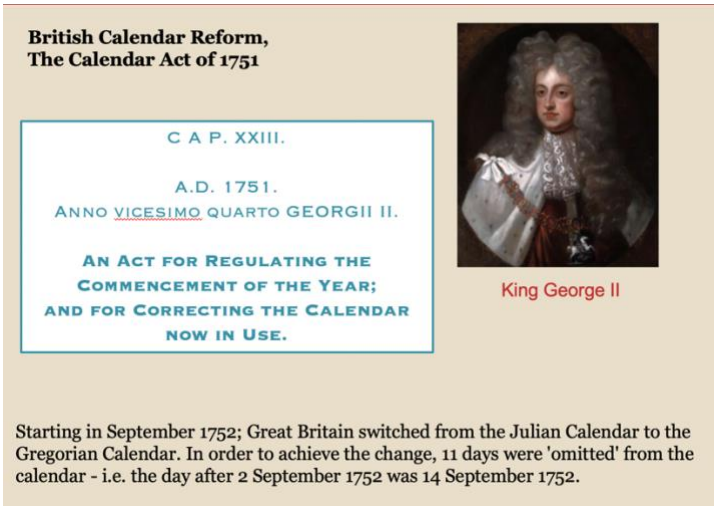
Moon F.cl, 24 Ian, an61/2mon-/visible and tot

Hafte term begins/Apr 12 ends may/8

*Inscription translated by P.L. Jeppson.

(Photograph courtesy of Jed Levin, Independence Living History Center Archeology Laboratory, INHP.)

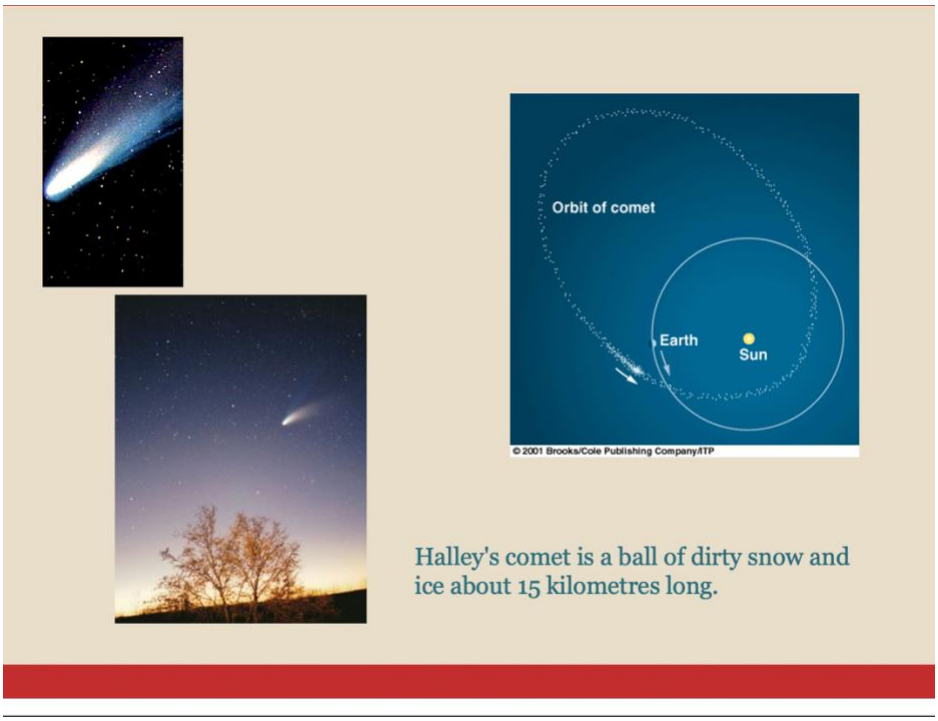
This calendar token was produced not long after a major calendar revision in the British dominated world with the passage of the British Calendar Act. In 1751-52, the Parliament and King George II adopted the Gregorian, arithmetic calendar, replacing the solar-based Julian calendar. Eleven days were dropped out of the month of September to bring the calendar back into agreement with the earth's position, correcting a synchronism with the seasons so that the equinox's and solstices fell on the same nominal days. The Act instituted Leap Year and also changed the beginning of the year from March 15, as used by the government for legal purposes, to the popular date of January 1. This change went into effect in lands belonging or subject to the Crown of Great Britain in Europe, Asia, Africa, and America.



The Philadelphia Calendar Medal: Science and American Politics

The calendar medal excavated in Philadelphia features something different. It is stamped with an inscription referring to Halley's Comet (also known as *Comet Halley* [rhymes with 'valley']).

Halley's is the most famous of the earth-crossing, short-period comets. These are comets which return fairly often (in less than 100 years) and which penetrate to the inner solar system (within the earth's orbit) as they go around the sun. Halley's is the only such comet which is bright enough to been seen with the naked eye, and since it returns every 75-76 years, almost everyone will get a chance to see it sometime during their lifetime. Edmund Halley (who lived from 1756 to 1742) was the first to recognize that this celestial event was the *same object returning* periodically overtime. He made the first prediction of the comet's return which he calculated would be in 1758. Halley died 16 years before his prediction was proved correct by the comet's return.



The comet-based inscription on the colonial Philadelphia calendar medal advises of this first, predicted, arrival of the comet. As such, this object is tangible evidence of the scientific revolution that was then changing the nature of European culture (which was of course being exported to the North American colonies). This was a time when natural philosophers (early scientists) were challenging medieval understandings long used to explain the world and its mysterious happenings. While comets inspired awe since ancient times, people commonly viewed comets as harbingers of doom and would respond with a rededication of their belief in their god or gods. In Europe, comets were considered a bad omen and were blamed for catastrophes such as earthquakes and the Black Plague.

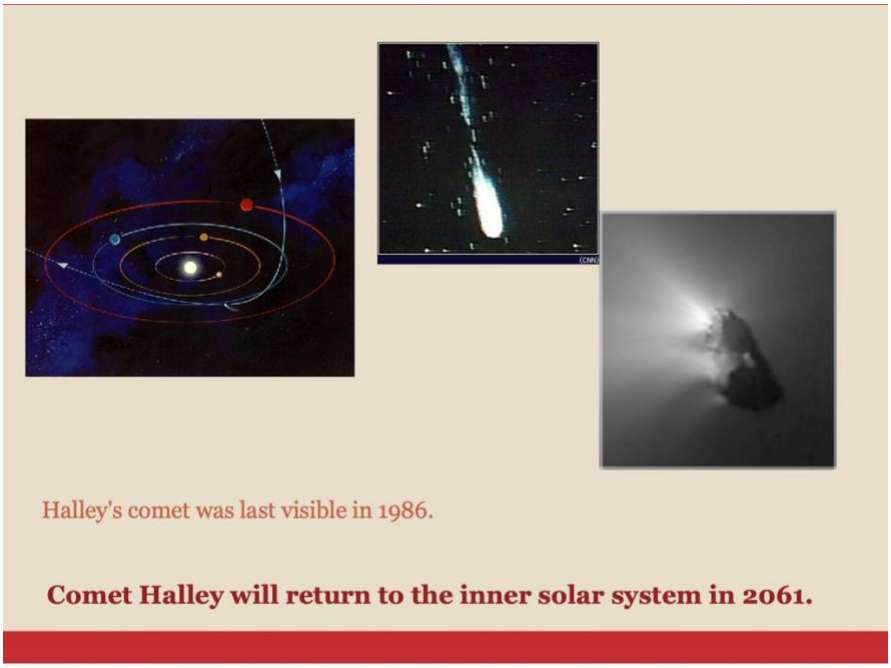
This particular calendar medal with its prediction about Halley's comet is physical evidence of how 18th century Europeans were using scientific observations to explain the workings of nature. The Philadelphian who carried this coin around in their pocket was looking to rational thought to understand the world and their place in it. Unlike many such medals, this coin does not highlight Christian holidays nor does it make note of the birth dates of royal rulers. The English legal system and the comet are featured instead.

This artifact provides some insight into the scientific revolution that forms the backdrop against which the new country of the United States is formed. The same rational thought and language of natural law that defines the Enlightenment shapes the inherent freedoms and self-determination at the basis of the American experiment. As such, this small metal object helps tell the bigger story surrounding the founding of our country.

21st Century Archaeology

The Philadelphia neighborhood where this calendar medal was once used to calculate dates is today a place where American's commemorate the birth of the nation --*Independence National Historical Park*. The medal was discovered in 2001 during excavations undertaken to construct a museum to teach about the Constitution (*the National Constitution Center* which opened in 2004. It was conserved for the National Park Service, and thereby for the American people, courtesy of the American Numismatic Society. This artifact is one of more than a million artifacts recovered from the site, all of which belong to the American people and are taken care of for us by the National Park Service. This calendar medal joins the Liberty Bell and other national treasures preserved at Independence Park that remind us *how we came to be who we are today*.

Comet Halley will return to the inner solar system in 2061.



Learn more about archeology at Independence National Historical Park
https://www.nps.gov/inde/index.htm

- Read about a 2000+ year old Armenian coin which may bear a star with a curved tail denoting the passage of Halley's comet in 87 BC here...(*Australian Broadcasting Company Science On-line*).

- See images of Halley's Comet on-line at NASA at https://solarsystem.nasa.gov/asteroids-comets-and-meteors/comets/1p-halley/in-depth/
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