

Building a Geometric Christian Social Calendar

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Introduction

- The purpose is explain the human experience of time from a social perspective, based on Christian/ biblical principles.
- Each of the major religions has its own calendar.
- Sometimes two calendars were used simultaneously - one for religious purposes and another with more secular uses.
- Christian countries use the Gregorian calendar for secular purposes and the lunar ecclesiastical calendar to fix the date of Easter.

Celestial elements of calendar

- By creating the sun and the moon, God established three basic units of time for all mankind: the day, the month and the year
- The day and year are determined by the sun. The cycle of rising and setting is the day.
- The days are short in winter, become longer in spring and summer, and ten shorter again in autumn.
- The complete cycle of long days and short days is a year.
- The monthly is the cycle of the moon, appearing first as at thin crescent, gradually growing to a full moon, and finally shrinking and disappearing again.

- The solar year is approximately 365.25 days.
- A month is defined as the time between the appearance of one new moon and the appearance of the next. It is on average a little more than 29.5 days long.
- the month is defined only by the cycle of the moon. The length of a month is a relationship between two independent units of time, days and months.

13 month year

- 7 is approximately the number of days in one phase of the moon.
- Keeping a calendar in step with both the moon and the seasons is difficult.
- One solution was to introduce or intercalate a thirteenth month into the year from time to time.
- There are 13 rail periods - a social year.
- My church (SDA) celebrates the 13th Sabbath.

364 days

- The year contains 365 days or 366 in the occasional leap year. These numbers themselves do not divide easily into factors.
- 364 - factors - 2, 4, 7, 13, 14, 182, 91, 52, 28 26
- 365 - 5, 73
- August Comte's calendar has 13 months of 28 days or 4 weeks.
- 13 is an inconvenient number - it is prime and cannot be subdivided into any set of equal periods - let alone four equal seasons (or can it?).
- Book of Enoch - 364 days
- Rail periods - a social year

- The Sabbath commandment gave a fourth unit of time - the week.
- 'The hebrew word for Sabbath is believed to have been derived from a verb that means "to cease from labour" .
- Seven-day intervals played a prominent role in ancient Jewish liturgy. The establishment of a seven-day week based on the regular observance of the Sabbath is a distinctively Jewish contribution to civilization.
- Christ plays a similar role to the Sabbath for Christians (Why?).

Geometry: The Gregory-Newton Problem

- In 1694, during a famous conversation, D. Gregory and I. Newton discussed the following problem.
- The Gregory-Newton Problem: Can a sphere touch 13 spheres of the same size
- Newton thought "no, the maximum is 12" while Gregory believed the answer to 'yes'.
- Sometimes referred to as the thirteen spheres problem.

The Space of Debt

- Graeber: p120 - 'Debt is a very specific thing, and it arises from very specific situations. It first requires a relationship between two people who do not consider each other fundamentally different sorts of being, who are at least potential equals, who are equals in those ways that are really important, and who are not currently in a state of equality - but for whom there is some way to set matters straight.'
- Intertemporal budget constraints - a symmetry.
- The seven circles is a natural 'space of debt' - conjectured here; not proved (but mini explanation helps!)
- Sabbath and debt commandment - ratio of 6/7ths

MATH RESULT: Circle and Sphere Packing; weeks and months

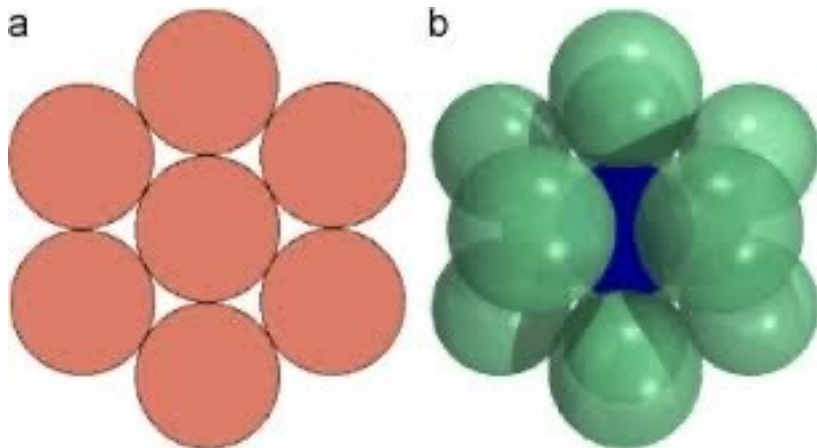


Figure (1) Caption

Geometry of a social Calendar based on Christ

- Take the seven circle packing.
- Make seven days one week - one circle of size equivalent to seven smaller circles; each representing a day.
- Seven times four is 28 - a month; of four weeks.
- Four circles (of size "seven") fit on one sphere
- Thirteen spheres makes one year of 364 days.
- All neatly and optimally packed together.
- Note: Christ had 12 disciples 'around' him much as the Sabbath has six days 'around' it.