

IT Seminar #11

Danish Day



SALIDA DE EMERGENCIA

SALIDA DE EMERGENCIA





VIERUMÄKI

intellia

L&T

WESTERN
SYSTEMS OY

Canon

SOL SOL

JÄTTI

JÄTTI

JÄTTI

JÄTTI

JÄTTI

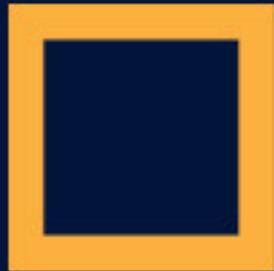
JÄTTI

JÄTTI

Finnlamelli

LAAKKONE





cphbusiness
COPENHAGEN BUSINESS ACADEMY

- Largest business academy in Denmark
- 5.800 full time students
- 7.200 part time students
- 380 employees
- Five campuses in Copenhagen and Northern Zealand



cphbusiness
COPENHAGEN BUSINESS ACADEMY

- Lyngby campus
- Computer Science
- Multimedia
- Marketing
- Finance
- Controller
- Sport
- Entrepreneurship
- Bachelor top-ups



- Size: $\frac{3}{4}$ of EU
- If we include Greenland

- And goes back to about 1450
- Status in 2017:
 $\approx 1\%$ of EU


EU

But we have ...

Denmark

- Dannebrog – the oldest national flag in use
- Fell from Heaven in 1219 in Estonia when
 - Valdemar Atterdag was re-christening the Estonians

Sky mountain

Danish weather

147 m

- But Yding Skovhøj is even higher
- 172,54 m including a bronze age burial mound
- The land of “smørrebrød” open sandwiches
Royal Copenhagen,
Carlsberg, and Lego



Zeit

Temps

Time

Aika

Tid

Tiempo

Tempo

IT Seminar 2017

Talking about **time** in Switzerland



Talking about **time** in Switzerland

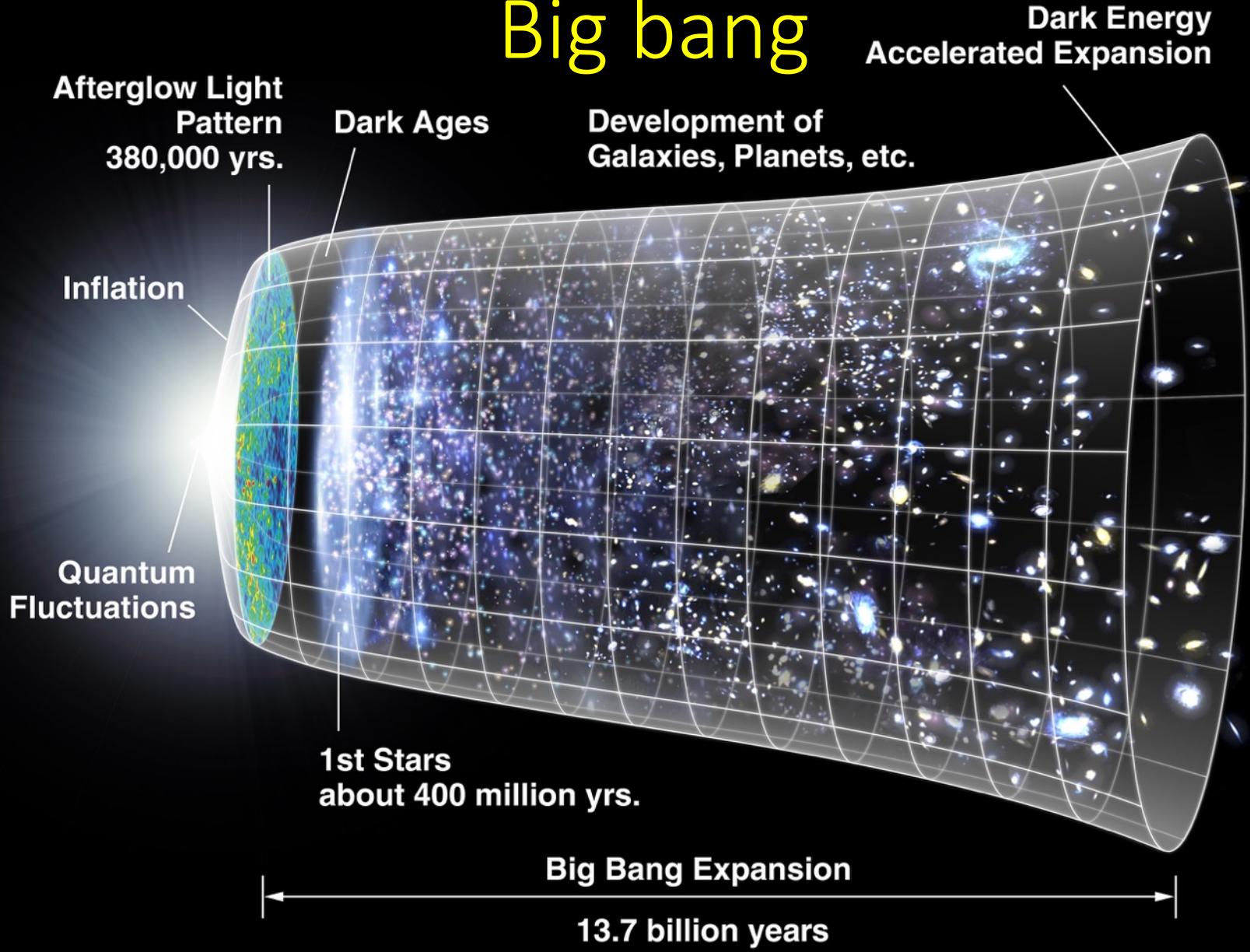
- In Italy, for thirty years under the Borgias, they had warfare, terror, murder, and bloodshed, but they produced Michelangelo, Leonardo da Vinci, and the Renaissance.
- In Switzerland, they had brotherly love, and they had 500 years of democracy and peace. And what did that produce?
- No, the Cuckoo clock is from Swartzwald
- And 500 years ago the Swiss army was feared through out Europe, the pope still has a Swiss Guard

Xρόνος - Khronos

- Father of
 - Chaos – Void
- Grandfather of
 - Gaja – Earth
 - Tartarus – Hell
 - Eros – Love
 - Erebus – Darkness
 - Nyx – Night

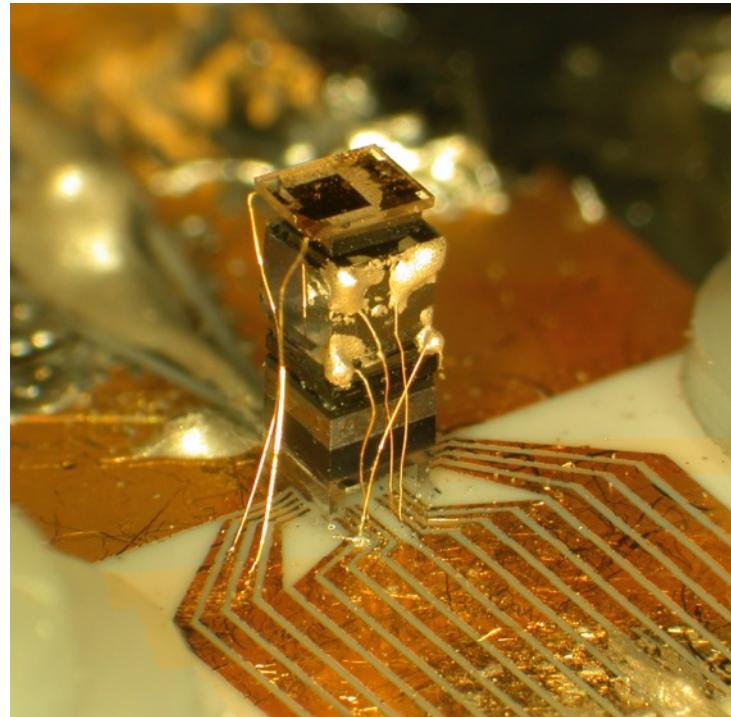


Big bang



What is time

- What clocks measure
(physicist Albert Einstein)
- A linear continuum of instants
(philosopher Adolf Grünbaum)
- What prevents everything from happening at once
(physicist John Wheeler and others)
- A continuum that lacks spatial dimensions
(Encyclopaedia Britannica)
- Just another spatial dimension
 - Have to obey the law of increasing entropy



What is time - seconds

- 1/86 400th of a mean solar day
- The duration of 9.192.631.770 periods of the radiation corresponding to the transition between the two hyperfine levels of the ground state of the caesium 133 atom.
- 1/86 400th of any day
- $1 \text{ s}/c \approx 1/299.792.458 \text{ m} \approx 3,3356 \text{ nm}$

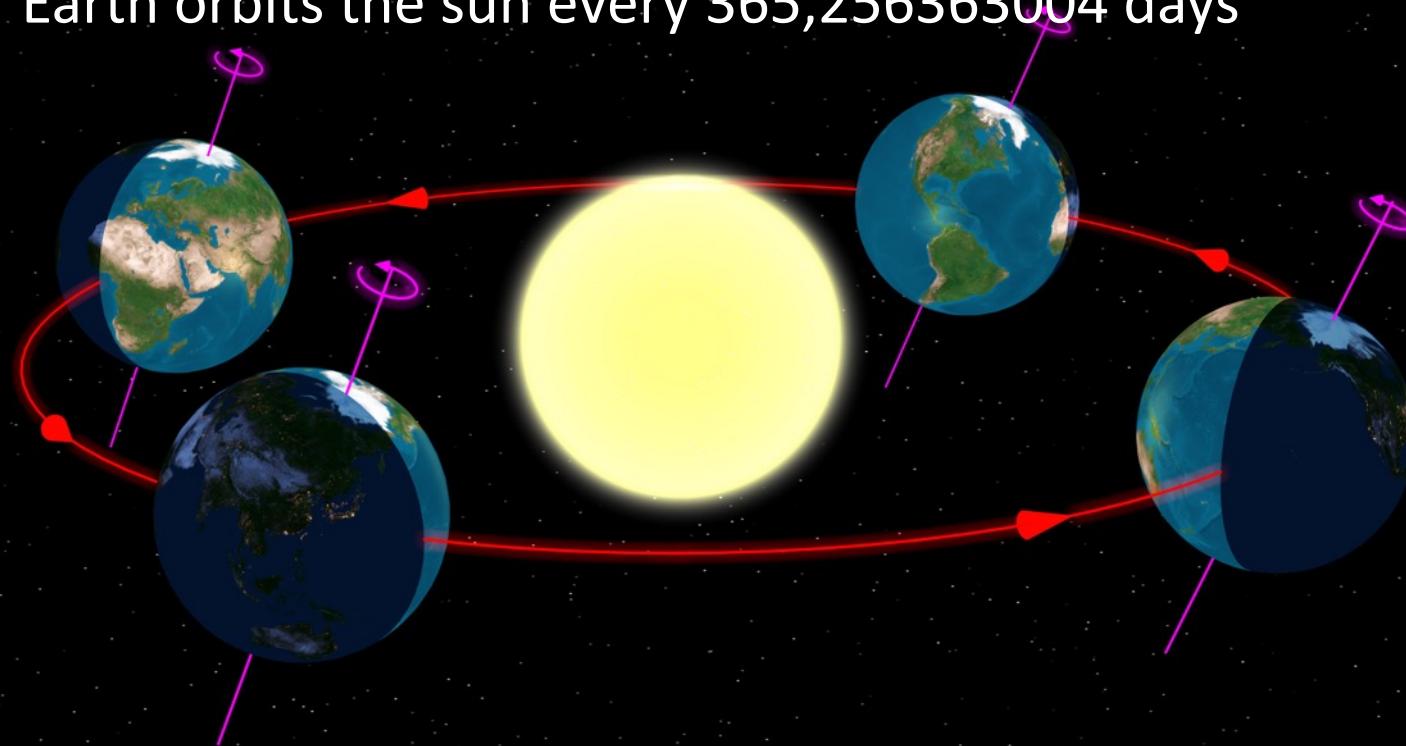
Calendar building blocks



The Sun

At least until
Copernicus
came along

- Defines the day
 - Sun orbits the Earth exactly once a day
- Defines the year
 - Earth orbits the sun every 365,256363004 days





The Moon

- Defines the month
- 27,321662 days per rotation w. respect to the Stars
- 29,530589 days per rotation w. respect to the Sun
 - Calendar months of 29 or 30 days makes more sense than 31 day months

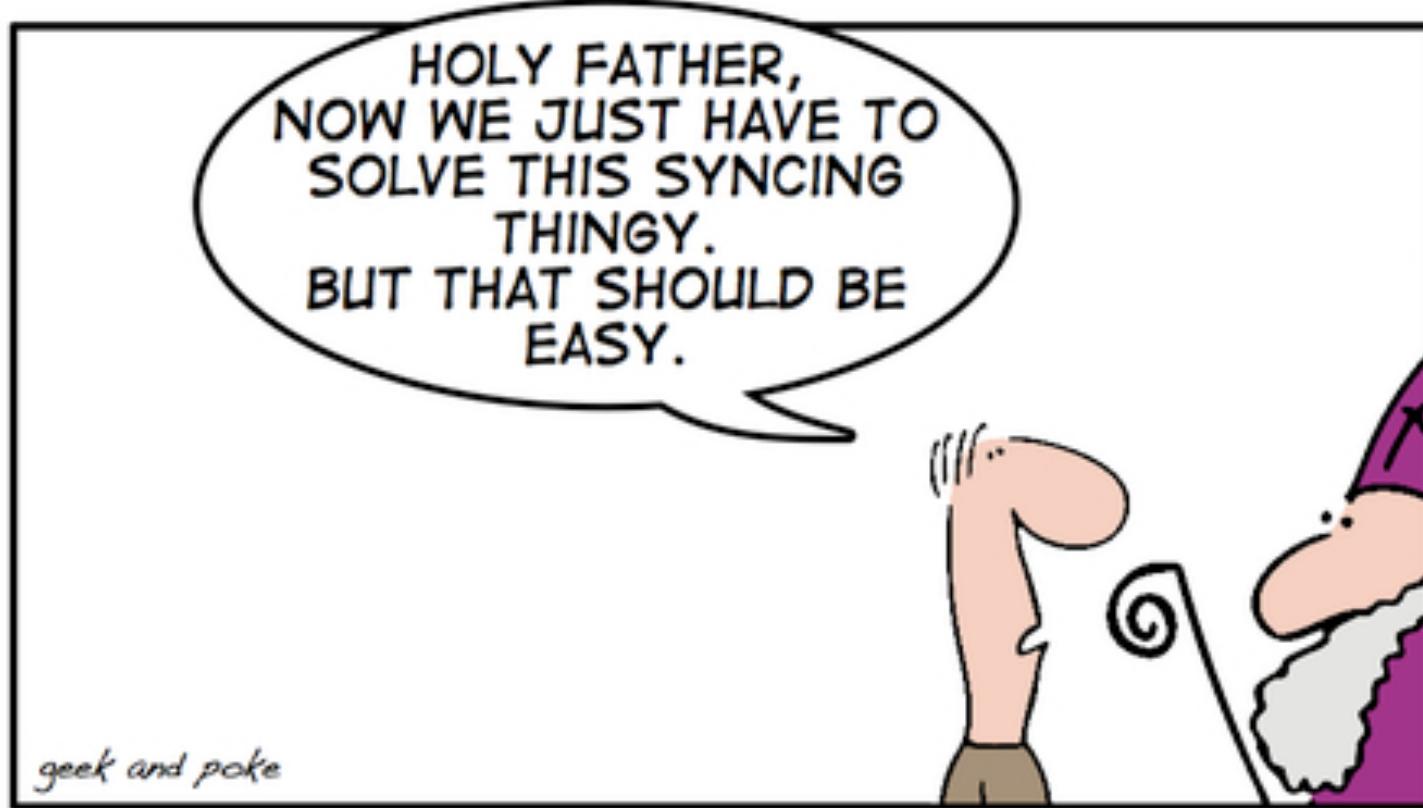


Roman calendars

- Romulus calendar had ten months and winter
- Then January and February replaced winter
- Julius Caesar introduces leap years in the
Julian Calendar
- BC 46 is the longest year ever, with 445 days
- A Julian year lasts 1 year, 11 minutes, and 14 seconds

Gregorian Calendar

THE BIGGEST MISJUDGMENTS IN HISTORY



PART 1: FEBRUARY 24TH 1582
POPE GREGORY XIII HAS JUST DECREED THE GREGORIAN CALENDAR

Gregorian Calendar

- Spain: 4 Oct 1582 → 15 Oct 1582
- Switzerland
 - Catholic cantons: 1583, 1584 or 1597
 - Protestant cantons: 31 Dec 1700 → 12 Jan 1701
- Denmark: 18 Feb 1700 → 1 Mar 1700
- Finland: 17 Feb 1753 → 1 Mar 1753

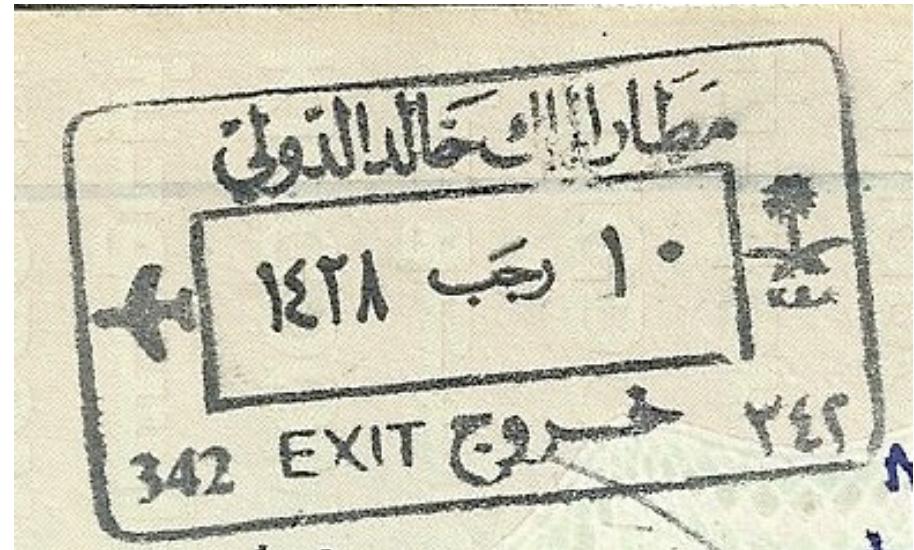
1923 Julian Calendar strikes back

- Leap year when
 - divisible with 4 and
 - not divisible with 100
 - or not 200 or 600 when divided by 900

Calendar	Introduced	Days per year	Error per year
Revised Julian	1923	365,242222	< 1s
Gregorian	1582	365,242500	≈ 2s
Julian	-45	365,250000	≈ 13s
Roman	-	365,000000	≈ 6 hours

Islamic calendar

- Starts when Muhammad and his followers migrated from Mecca to Medina and established the first Muslim community (AD 622).
- Months are 29 or 30 days long depending on the moon cycle.



10 Rajab 1428 / 24 July 2007

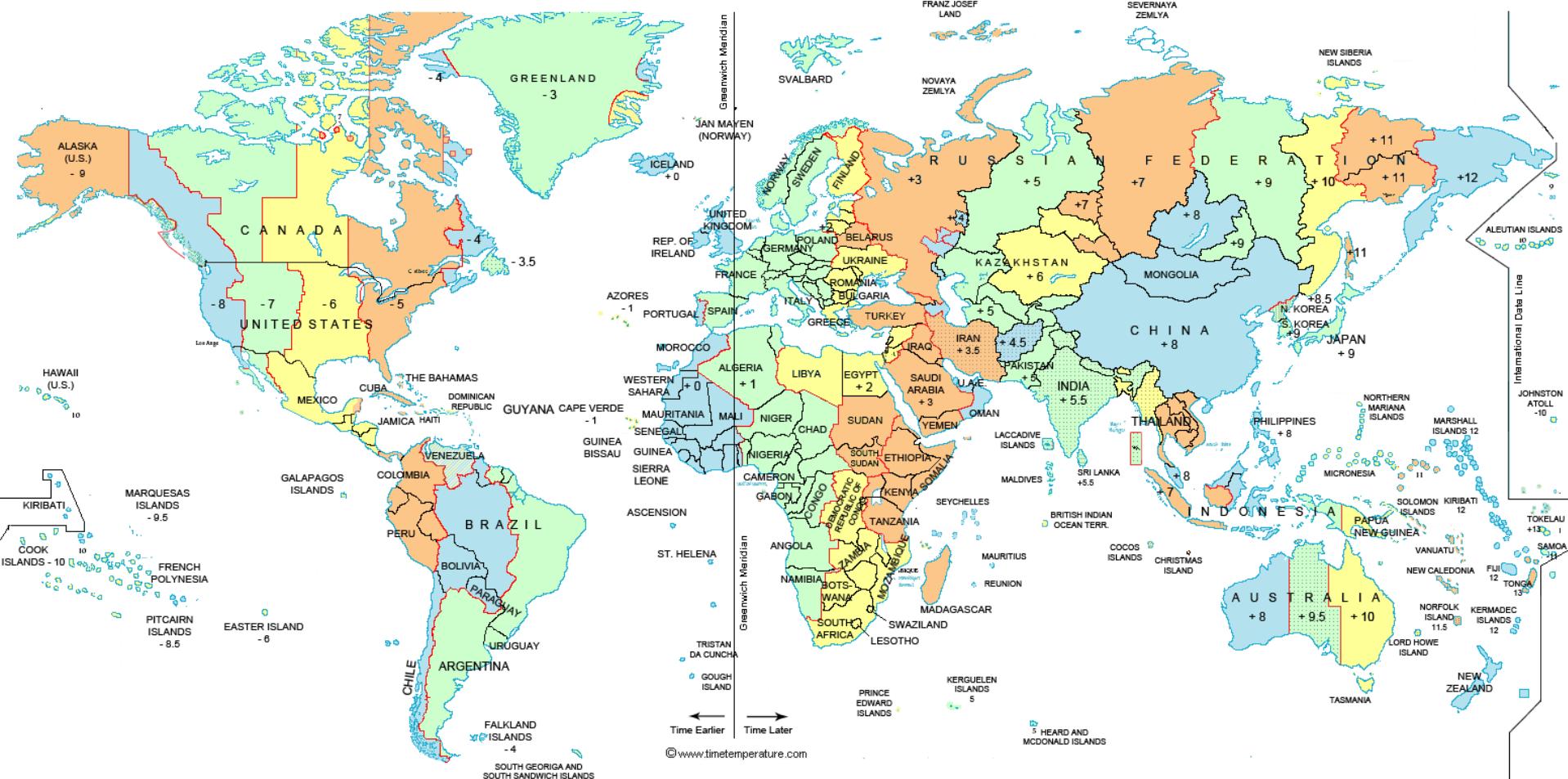
Chinese Calendar

- Twelve animals (zodiacs)
- Five materials
- Twelve or thirteen months of 29 or 30 days
- 353/355 days per normal year
- 383/385 days per leap year

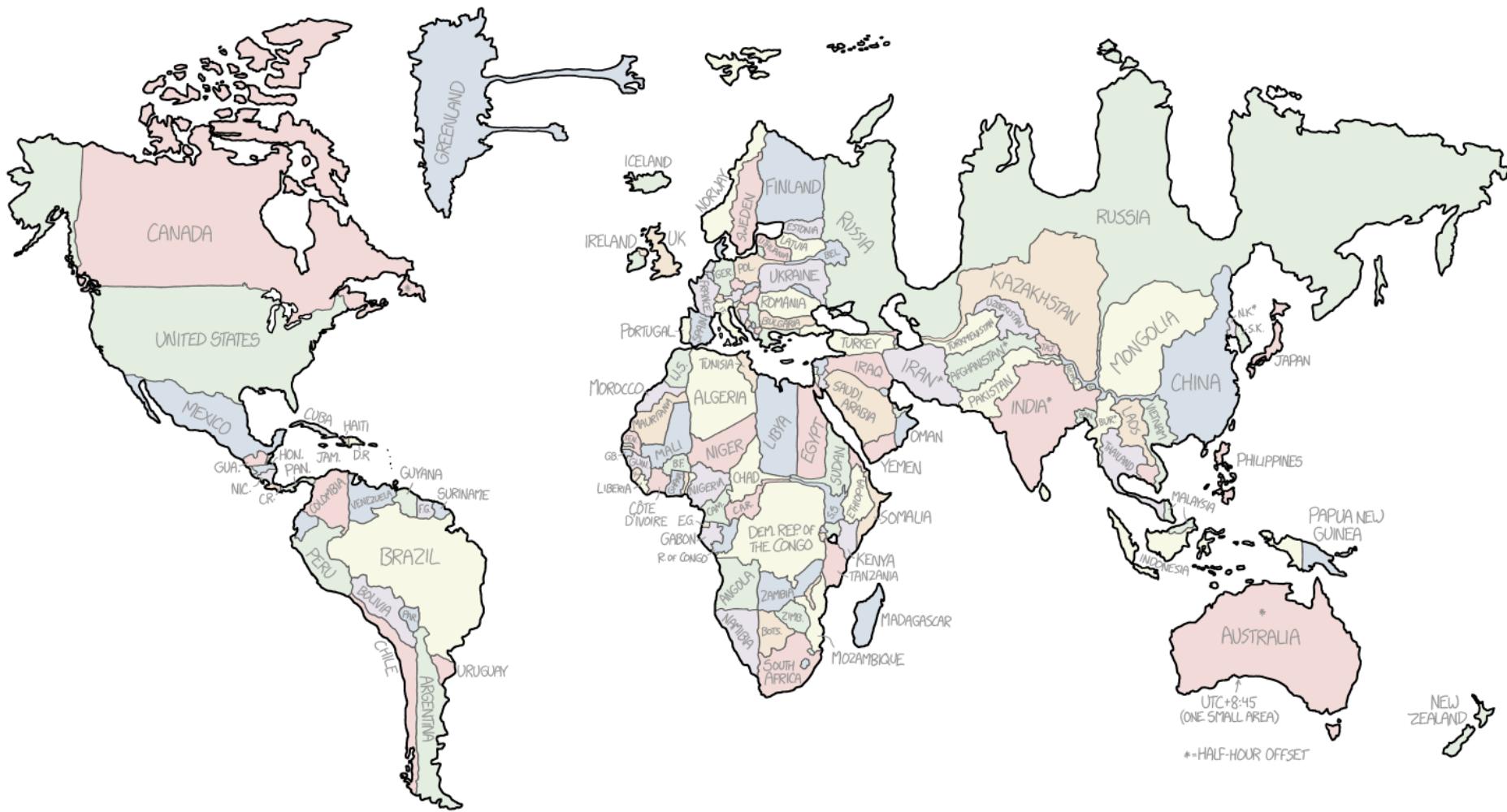
Week and day numbers

- Sunday or Monday as first day of week
 - Early Christians observed the seventh day with prayer and rest, but they also gathered on the first day. By the 4th century, Christians were officially observing the first day, Sunday, as their day of rest, not the seventh.
- Which week is the first US/EU
 - ISO-8601: The first week of the year is the week that contains that contains the years first Thursday. Week starts with Monday
 - The week with January 1st is week one
 - The first full week is week one

Time zones



BAD MAP PROJECTION #79:
TIME ZONES
WHERE EACH COUNTRY SHOULD BE,
BASED ON ITS TIME ZONE(S)



UTC

- Coordinated Universal Time
- Temps universel coordonné
- Not the same as GMT – guess why!

Daylight saving time

- 76 countries uses DST
- They do not agree on starting and ending time
 - Not even within the same country (Mexico)
- Normally 1 hour, but Lord Howe Island uses $\frac{1}{2}$ hour

DST Observance	Count	Example
Countries that have used DST at least once	141	USA
Countries using DST in 2017	76	USA
Countries no longer using DST	65	India
Countries that have never used DST	107	Indonesia
Most years with DST	105	Canada
Least years with DST	1	Bangladesh

DST - does it work?

- No, it doesn't save energy
 - When Indiana decided to introduce DST in 2006, a study found that the measure actually increased energy use in the state.
- Can make people sick
 - Especially when starting
- Less artificial light used
 - Make people go more outdoors
 - Decreases traffic incidents



Mårum, DK



C

°C

°C

18°

15°

12°

9°

6°

3°

0°

SØN., 26. MARTS

MAN., 27. MARTS

TIR., 28. MARTS

MM

6

5

4

3

2

1

0

m/s

14 16 18 20 22 00 02 04 06 08 10 12 14 16 18 20 22 00 02 04 06 08 10 12 14 16 18 20 22 00 02

10

8

6

4

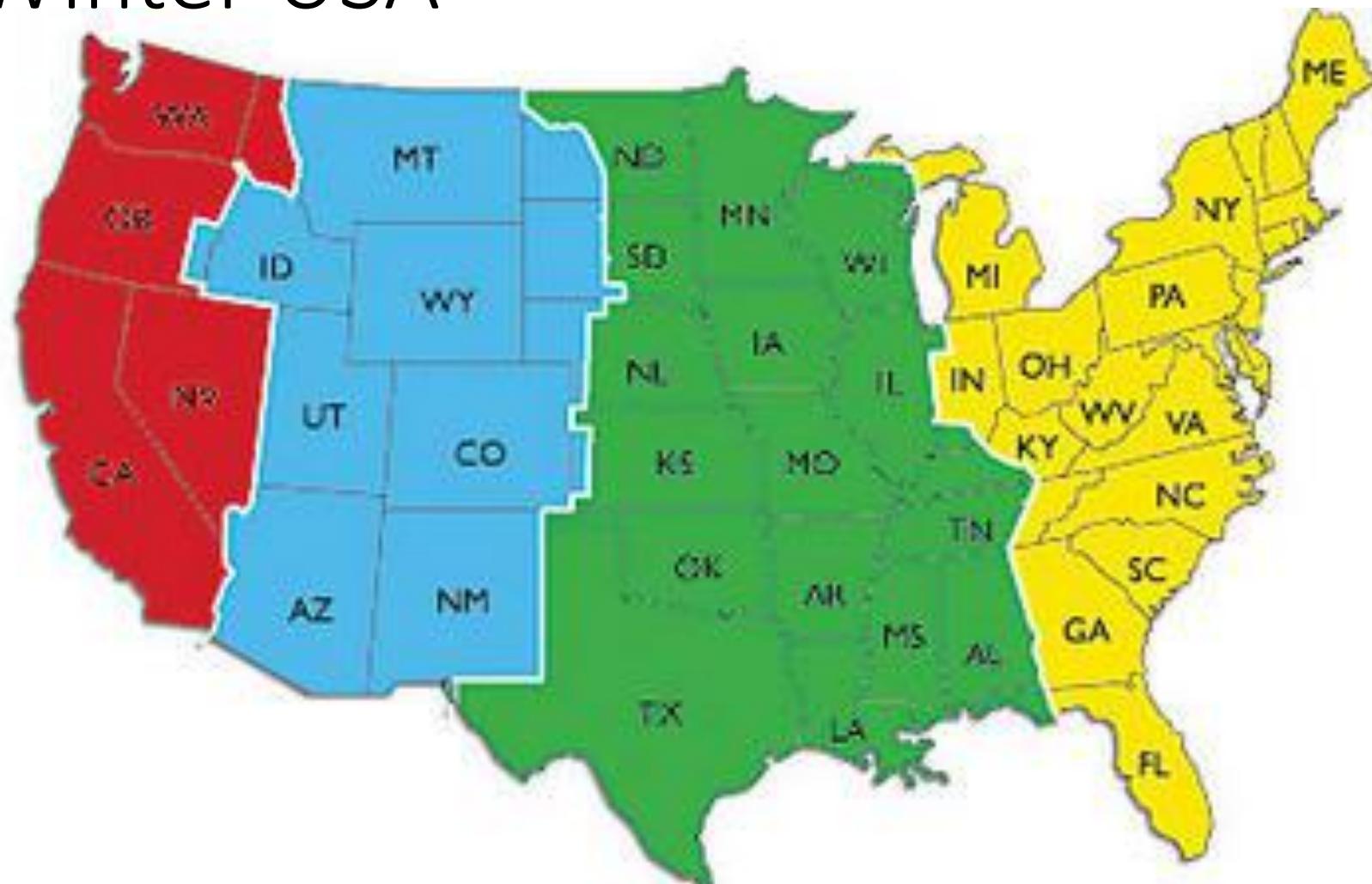
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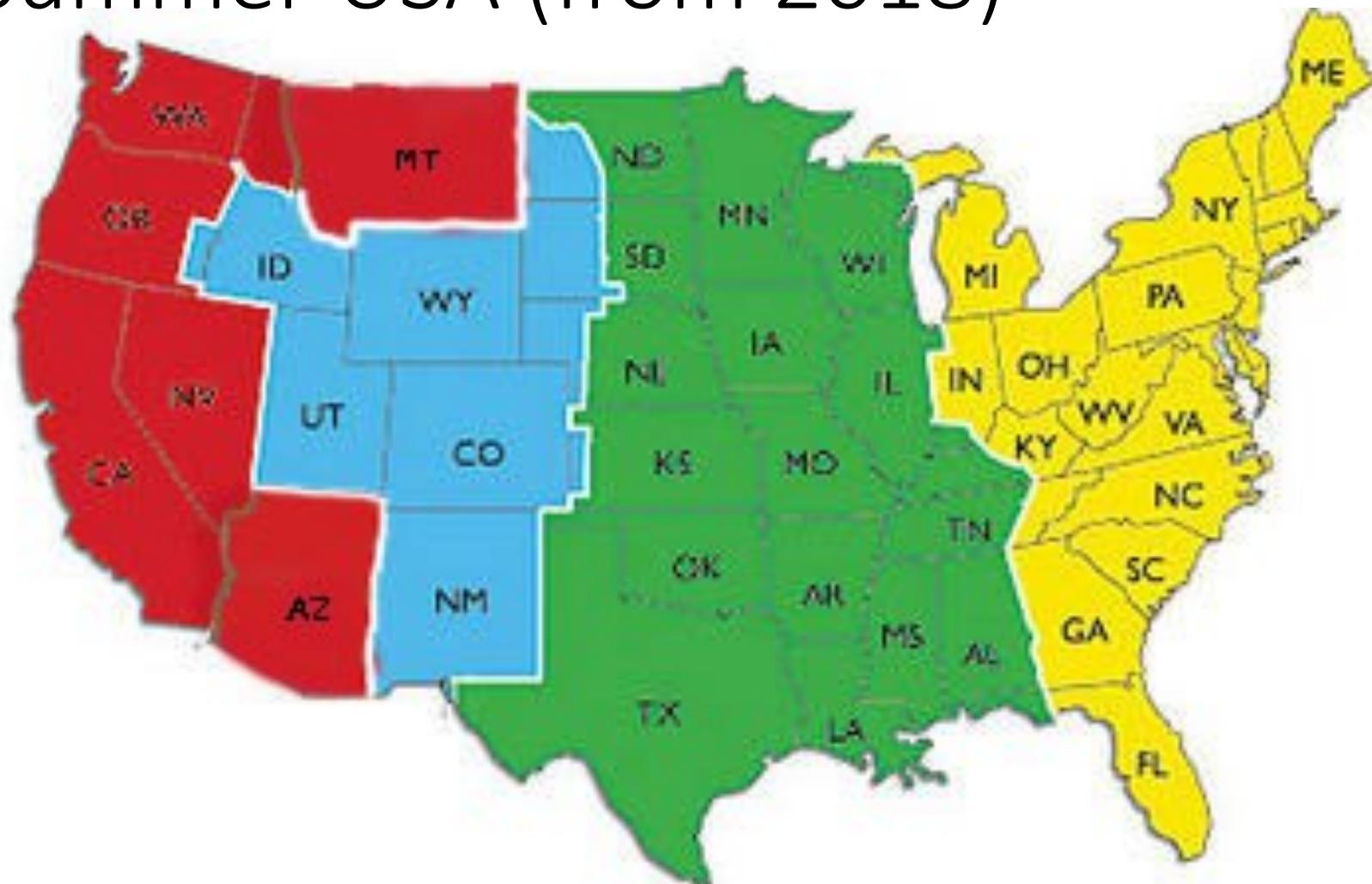


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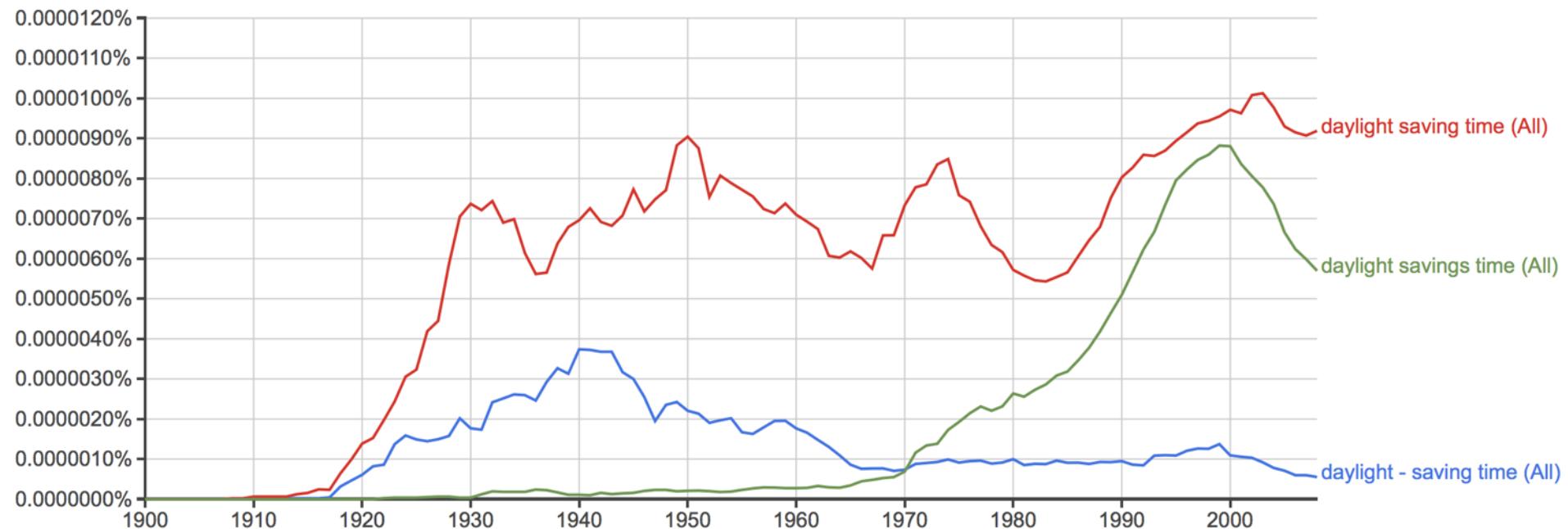
Winter USA



Summer USA (from 2018)



We don't even agree on the spelling



Source:

<https://books.google.com/ngrams/>

Time formats

- yyyy-mm-dd and dd-mm-yyyy
- mm/dd-yyyy
- mmm dd. yyyy
- dd mmm yyyy
- am/pm
- Automatic detection of date and time formats
 - 11/14-1959 or 14-11-1959 no problem
 - 01/04-1960 or 04-01-1960 problem



Time
for a *short*
break