

A brief history of time

From last time: Augustine and time

- Time as the dramatic marker of being human
- Several ways to conceptualize time:
- The ‘time-lessness’ of God
- The time of humans ‘thrown’ *in time*, something that cannot be fully comprehended and that connects the inside/outside
- The measuring of time does NOT mean understanding time, but as humans this is an important thing to do
- Today: let us talk about measuring time, a distinctively HISTORICAL question

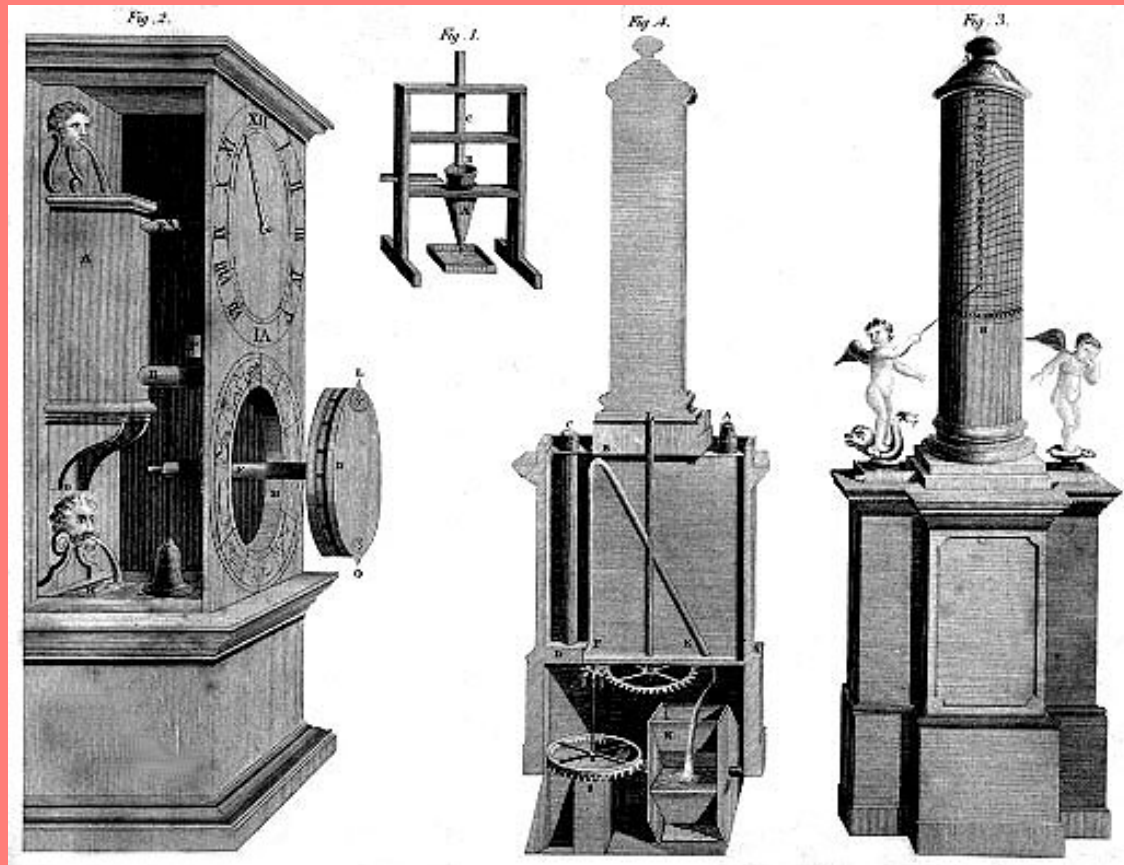
Starting to measure time: the sun clocks (starting since around 3500 BCE)



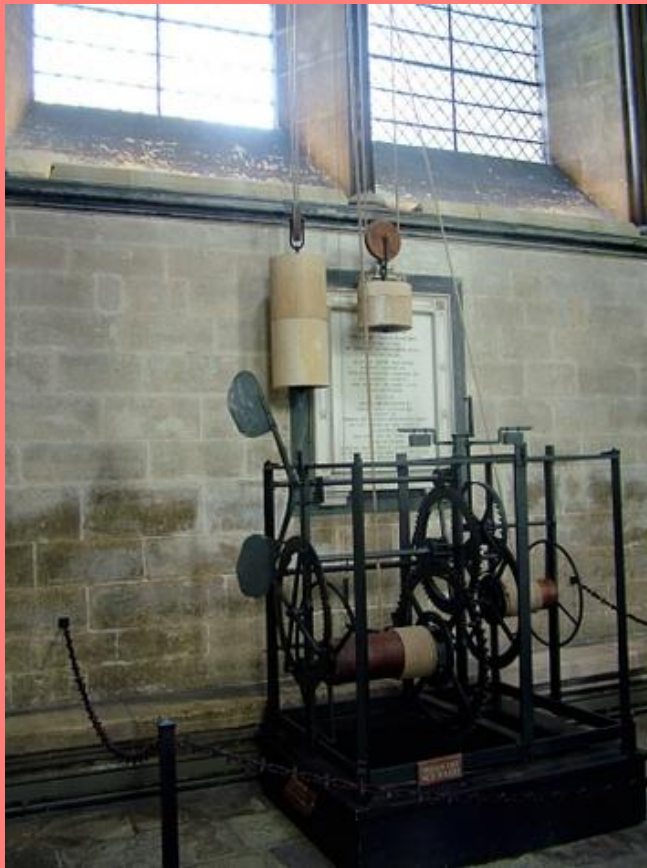
Athanasius Kircher's sunclock



11th Century in China: Su-Sung's clock (waterclock)

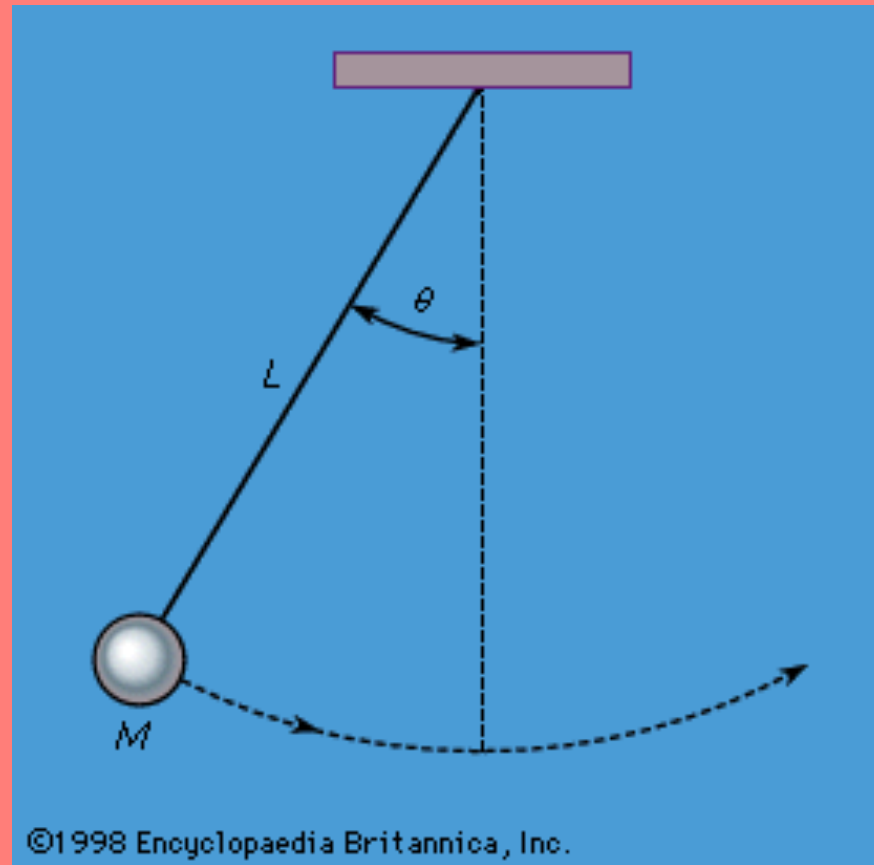


14th century Europe: church-clocks, mechanical, no minutes



Clock in the Salisbury Cathedral, 1386

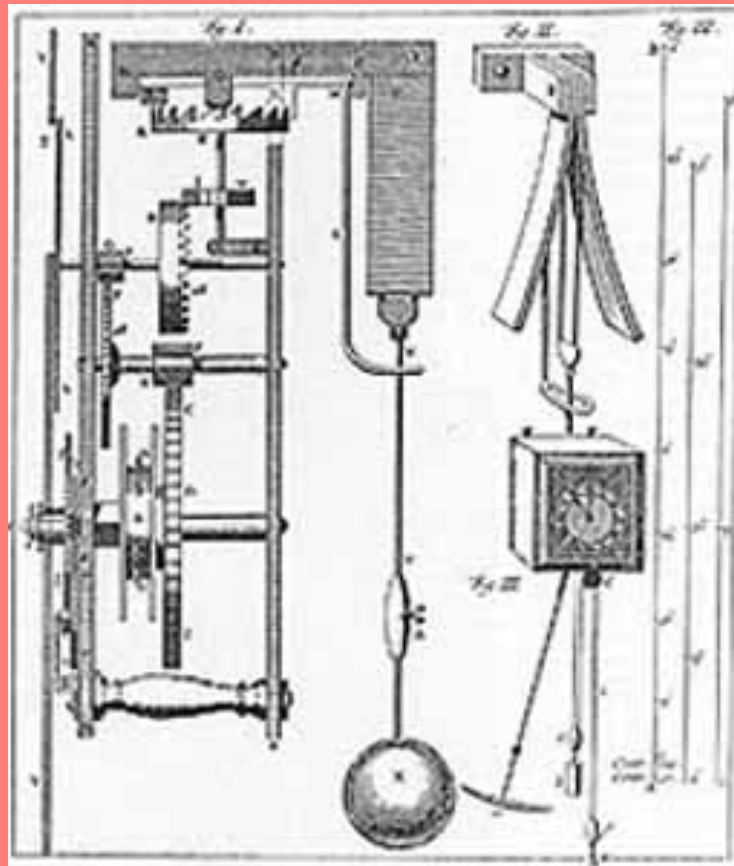
Galileo and Huygens: the study of the pendulum



Christian Huygens and the pendulum clock (ca. 1650s)

- The pendulum swings left and right, and as it swings, it turns a wheel with teeth. The turning wheel turns the hour and minute hands on the clock
- On the first pendulum clocks, the pendulum used to swing a lot (about 50 degrees). As pendulum clocks were improved, the pendulum swung a lot less (about 10 to 15 degrees)
- The first pendulum clock with external batteries was developed around 1840. By 1906, the batteries were inside the clock

Pendulum clock



Pocket-Watch: 17th century Netherlands



- Pieter Claesz (ca 1597-1660),
‘Vanitas’
- Willem van Aelst,
(ca 1627-post 1683),
still life



So...

- So far we have seen the linear, measurable time of the clock
- However, Europeans for many centuries lived under a different time, the cyclical time of the Church (this is your first reading)!
- These 'times' coexisted in Europe through the Middle Ages and the early modern times, and then the time of the clock started to take over the time of the Church
- Industrial revolution a key moment in that (this is your second reading)!

Conclusions

- From Augustine's reflections on time:
- Time as the dramatic marker of being human
- Time is fundamentally impossible to comprehend, but...
- It can be measured!
- History of measuring time
- 'Measurable' time supersedes the cyclical time of the Church
- In a sense, time is a HUMAN creation
- Relationship between human and technology as an important aspect of the 'history of time'
- Another aspect of the modern history of 'measuring' time...ELI!