

Fri: Research Paper 1 due by 5pm

- preferably print out paper + deliver to me or my office.
- reminder about use of evidence

Read/cover:

Mechanical clocks: changes to timekeeping.

Recall the situation prior to the arrival of mechanical clocks and consider the changes that appeared after their arrival

	Before	After
By whom were clocks used?	* Church, clergy * Astronomers	
How did clocks indicate time?	* Striking bells often manually * some form of dial	* How striking clocks * Automated dial/display
What system of hours were used	* Mostly temporal hours except by astronomers who used equal hours	* Equal hours mostly * Two 12 hr periods, starting at midnight

We now turn to the questions:

- 1) Who used the newer mechanical clocks?
- 2) How might the arrival of such clocks have affected society at that time?
- 3) How did the arrival of such clocks affect the concept of time?

## Use of early mechanical clocks

Early mechanical clocks initially appeared in the public realm either on churches or else in clock towers. The church would have been an early adopter of these since it already regulated worship and life in monasteries using time.

However, records indicate that the church only used the hours loosely as they were tied to worship several times during the day.

During the 1300s, demands for construction and maintenance of clocks and clock towers increasingly came from non-church sectors of society. These included local rulers, members of the community and others.

Rossum Ch5

Again, time signals were provided by bells struck automatically by clocks that were keeping the time. In the late 1300s and 1400s these became increasingly complex. The attachment illustrates a reconstruction of the bells in Venice in the 1300s.

~~Scan~~ Scan: Rossum pg 207-209

Q: Identify the activities (in general) and the classes of people ~~that~~ to whom <sup>which</sup> these bells signalled?

Q: What social arrangement did the presence of timekeeping allow for?

Q: Broadly what is similar + different about this versus your regular day?

regimentation → no longer bells, different work.

The previous excerpt describes the regimentation of the work day before the 1300s. This could be accomplished using clocks + timing.

During the 1300s and 1400s clocks appeared increasingly in urban areas. Important classes of users were:

- 1) Notaries (people drawing up legal documents)
- 2) Chroniclers (people recording history)
- 3) Merchants + business people
- 4) Those regulating urban environment.

These records indicate that the first reference to the hour at which events occurred appeared in the late 1300s. Consider each of these

Rossum  
pgs 222  
- 225

1) Notaries - drew up legal documents. (instruments)

- these documents were valid in courts.

- hour of the day first appeared in 13<sup>th</sup> century using temporal (canonical) hours.

pg 224

- use was not uniform.

pg 225

- first use of equal hour time 1381.

- overlapping systems in early 1400s

pg 226

2) Chroniclers - those chronicling events + history

- record hours of births, deaths of notable people

3) Merchants. - documentation of recorded times from late 1300s.

Business class

- initially family events

pg 227

- later contracts

pg 227-228

- emergence of typical statements about time

pg 228

Q: What need would merchants have for recording times?

#### 4) Regulating/ordering in cities

- municipal officials + rulers started regulating urban activities in the 1300s.

pg 233

increasingly so in the 1400s

- municipal statutes  
school statutes.  
ecclesiastical statutes, etc...

- example from Cologne late 1300s:

pg 234 - 236

- courts + council proceedings

pg 236

#### Features of this regulation

Important changes that the use of public clocks + time brought about were:

1) appearance of time-consciousness - people in urban areas became attuned to time at least in increments of hours

- people would have become aware of a common shared time.

2) detachment of time from religious entities

- timekeeping was no longer just the concern and provenance of the church

- timekeeping and the ordering of events using time passed into the civic sector.

### 3) abstraction and mechanization of time

- timekeeping was now done using machinery, increasingly perceived as more reliable than non-mechanical means
- time would no longer necessarily refer to some "natural" phenomenon
  - position of sun
  - time taken to say a prayer etc,...
- time referred to what the timekeeping machine read
- time could be used in the abstract. - one hour at any period during the day was just as good as any other one hour.