

Weds. Draft 2 due.

Read Mondsch 137-140

Barnett. 114-121

### Timekeeping at the turn of the 19<sup>th</sup> century

We have seen that, in England, the end of the 18<sup>th</sup> century ushered in dramatic large scale changes in society

- \* urbanization increased
- \* road transport networks began to develop.
- \* the work environment changed.

In the case of the latter

Earlier system

Later system

Londos  
240-241

- \* cottage industries
- \* putting-out system (subcontracting)

- \* larger factories required co-ordination of tasks

Thompson  
70-

- \* irregular work activities for any individual
- \* work based around tasks and completion of tasks and paid per task
- \* loose + irregular time schedule.

- \* work done by time
- \* work paid by time spent.

## 1 Changing lives and timekeeping at the end of the 18<sup>th</sup> century

This exercise explores the rapidly changing circumstances of ordinary lives and the relationship to time at the end of the 18<sup>th</sup> century, mostly in Britain. Information can be found in Landes, *Revolution in Time*, pages 238–245 and E. P. Thompson, *Time, Work-Discipline and Industrial Capitalism*, Past & Present, No. 38, pp. 56–97 (1967).

a) To what extent was Britain urbanized during the 1700's? How does this compare to our current experience?



b) What was the state of transport in Britain in the late 18<sup>th</sup> century? How did this change in the early 19<sup>th</sup> century? In what way would the transport of that era have affected your life compared to the way that you live today?

Done Friday



c) How did the non-agricultural workplace in Britain change during the late 18<sup>th</sup> century? What demands did this place on timekeeping? In what fundamental ways was the work environment of the mid 18<sup>th</sup> century different to that which you experience today? What conveniences would that work environment offer compared to that of yours today? What disadvantages would it impose?

Landes

pg 241

Actual clock  
production

Landes 242

Thompson

66-70.

- d) How did developments in the industrial, economic and work environments of the late 1700s and early 1800s affect the production of clocks and the demand for these by ordinary people? How did the availability of clocks constrain the lives of ordinary people? In relation to timekeeping, what changes that appeared in this period still affect your life today?

The increasing regularity of work and the necessary timekeeping resulted in larger demand for clocks + watches. Data provided in the articles shows production increasing rapidly and a multitude of clockmaking enterprises appearing.

They constrained the lives of ordinary people by imposing time requirements at work.

- e) Clearly the industrial workplace of the early 1800s would require clocks and moderately accurate timekeeping. These clocks would still have to be checked for correctness and reset occasionally. Who might have acted as the authority against which a clock in any workplace might have been checked?

The world would have to have been a central clock, checked occasionally against the sun by an expert.

- f) Consider your daily life today compared to how it would have been had you lived in Britain around the 1800. What things that you own or use today would not have existed at then? What activities that you typically do currently would you never have done or very seldom have done around 1800? What would the differences in communication and travel be?

communications - no phone, internet, radio, TV, ...  
- limited to in-person, mail + newspapers

transport - no cars, trains, planes  
- mobility would have been restricted to the vicinity of one's location / village / town.

During the late 1700s and early 1800s societies in Europe and North America began to industrialize. This meant

- \* more people living in towns + cities,
- \* more people working in factories and other workplaces that required work at regular hours,
- \* a greater need for timekeeping in workplaces and at home
- \* a greater ability for ordinary people to purchase clocks and watches.

Overall awareness of time in our modern way would have increased during this period. However, it was still a local system:

Each town and its surroundings would have adhered to one time, which may have differed from those of surrounding towns.

How did this arrangement disappear and get replaced by our current more uniform system?

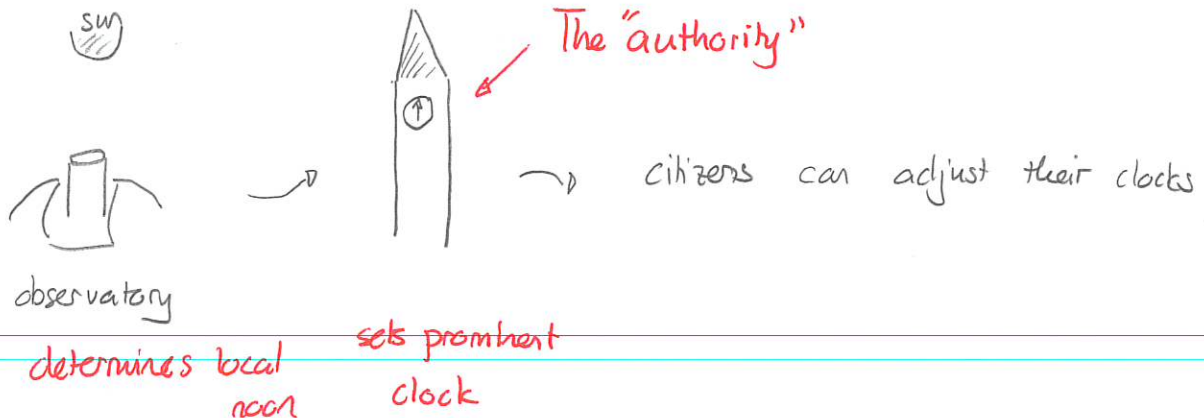
## Local time

By the early 1800s clocks that would lose a few seconds per day were widely available and increasingly people were able to acquire these. However, they still needed to be set initially and adjusted - perhaps once per week.

How would this be done?

In general time was still measured against the apparent motion of Sun and stars. The positions of these would have had to be recorded accurately so as to eliminate errors on the order of 10s or 1min in a clock. This task requires specialized skills.

In general larger towns and cities would have had a facility for observing the passage of the Sun or stars at their location. Then they could determine local noon and use that to reset clocks.



This resulted in a system of local times that differed based on longitudes. In the early US

Boston	$71.06^{\circ}$ W	+24min ahead of Washington
New York	$74.01^{\circ}$ W	+12min
Washington	$77.04^{\circ}$ W	noon
Pittsburgh	$80.0^{\circ}$ W	-12min behind Washington.

How did this proliferation of local times evolve into our current time system?