

Renascent Eng. 1450 - 1800

Prerequisites for.

e.g. :

- exploration (ocean trips)
- machines (some)
- personal skills
(crafting proficiency)
- personal wealth
- tech. math knowledge
- education

Cathedral in Florence
Exploration

Renaissant Eng. 1450-1800

~1450 another large building: largest dome,
cupola, cathedral Florence

prerequisites for exploration established:

compass, some machines, skills,

personal wealth (capital base), education

tech./math knowledge

Achievements: exploration, America,
Africa, entire world, navigational
aids, big ships, trade (sea), Gutenberg
astronomy, [theological conflicts]

science, eng. list of practitioners, exchange
of ideas, CALCULUS, theory for prediction

Steam power, thermo

[railways, ships, late]

industrial development
centralization of production,
more flexible location

economies of scale
specialization

Social/Political

Population shift:
rural, village → towns, cities
problems: health, sanitation, housing,

Economic shift: cottage industry ↓,
factory owners ↑, some employees ↑
distribution of income, wealth,

Relationship engineer - (client)/employers, society
e.g. Gutenberg, Galileo, Brunelleschi,
Leonardo da Vinci, Copernicus, Prince Henry
independent/semi-independent → employed
eng.

Education (esp. eng.)

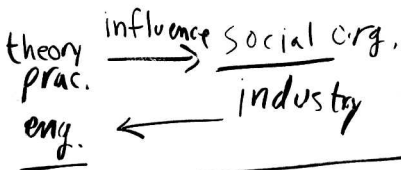
apprenticeship, on-the-job,
self-study,

Univ. Leyden (NL) 1600s (early), Giessen

Polytechnics France 1750-180

theory $\leftrightarrow$ practice

city



Org. for Device Production