1 The New World

2 The Meaning of the European Expansion
   ▸ “1492 and all that”
     ▹ European discovery of the entire globe
     ▹ Expansion of the cosmos

3 The Renaissance
   ▸ Appreciation and search for novelty--for other “New Worlds”
   ▸ Liberation from tradition

4 Printing
   ▸ Fundamental change in communications --- one of history’s most important inventions for this reason alone

5 Printing--additional reasons for importance
   ▸ 1) We know who, when & where printing was invented
   ▸ 2) Printing spread with tremendous speed
   ▸ 3) Printing represented a technological system

6 Paper
   ▸ Before printing made technological sense -- inexpensive paper was required

7 Papermaking
   ▸ Originated in China
     ▹ 1st-2nd century AD
     ▹ In Islamic world by the 8th century
     ▹ Reaches Europe about the 13th century

8 Papermaking
   ▸ Required waterpower and linen rags for manufacture

9 Papermaking
   ▸ One of the earliest (along with gunpowder) specialized manufactures

10 Before Printing
    ▸ Paper used for prints (illustrations)
      ▹ Woodcuts
      ▹ Engravings (copperplate)

11 Johannes Gutenberg

12 Great Bible (1455-56)

13 Rapid Spread of Printing
   ▸ 30-35,000 different editions
   ▸ 15-20 million volumes printed 1450-1500
Printing and Technology

- Books are used to record and disseminate technical knowledge
- Illustrations become a particularly important means for spreading technical information

G. Agricola: *De Re Metallica (On Metals)*, 1556

Agricola--a Mine Hoist

**The Renaissance & the Technological Imagination**

- The Machine Books
  - Technology becomes a subject not only of reporting but of the imagination

Machine books

Machine books

Machine books

Leonardo da Vinci (1452-1519)

Leonardo da Vinci

Leonardo’s machinery

Leonardo’s Flying Machine

**QUESTION:**

- It has been claimed that printing was the single most important invention in the last 1000 years. Do you agree? Why or why not?