

# Contacts

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- Our history starts in the Lóngjiāng shipyard, outside Nánjīng, in 1405.
- By order of the Emperor Yǒnglè, a fleet of between 200 to 300 ships and up to 28,000 men has been assembled under the command of admiral Zhèng Hé to travel through Asia.
- No other similar fleet would be assembled until the First World War (1914-1918).
- Questions:
  1. Who was Zhèng Hé?
  2. Why should we start with China?
  3. What does this naval expedition tell us about the world of the early 15<sup>th</sup> century?



## Zhèng Hé (1371-1433)

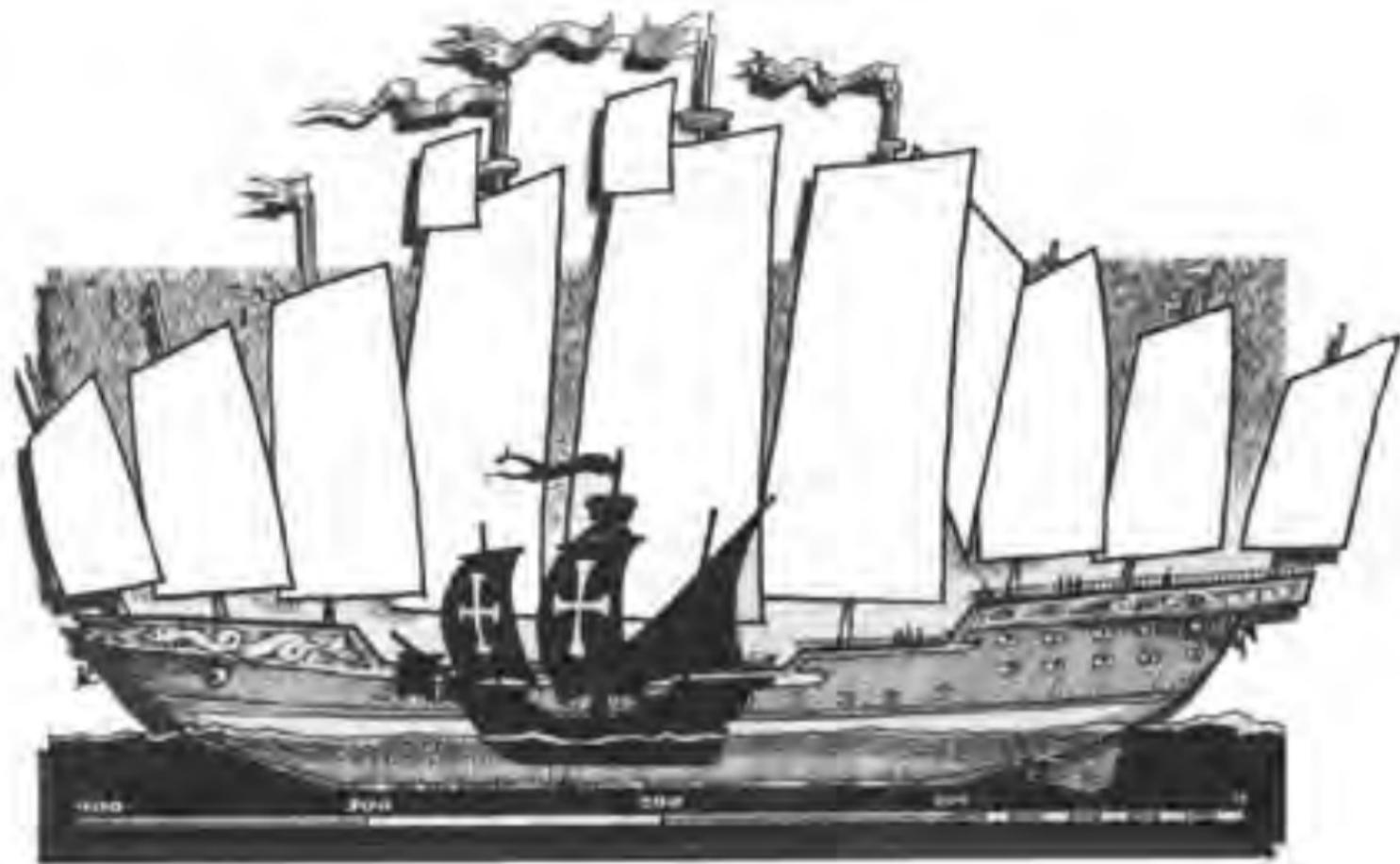
- Born in Yúnnán province as Mǎ Sānbǎo.
- Hui ethnic group: Muslim. Father, Mir Tekin, and grandfather, Charameddin, had made the pilgrimage to Mecca.
- In 1381, Yúnnán is conquered by a Míng army and ruled by a combination of direct civil administration and treaties with local tribes.
- Mǎ Sānbǎo is made an eunuch and taken to Běijīng.
- Advances quickly in the civil service.
- Made an admiral and undertakes 7 voyages.



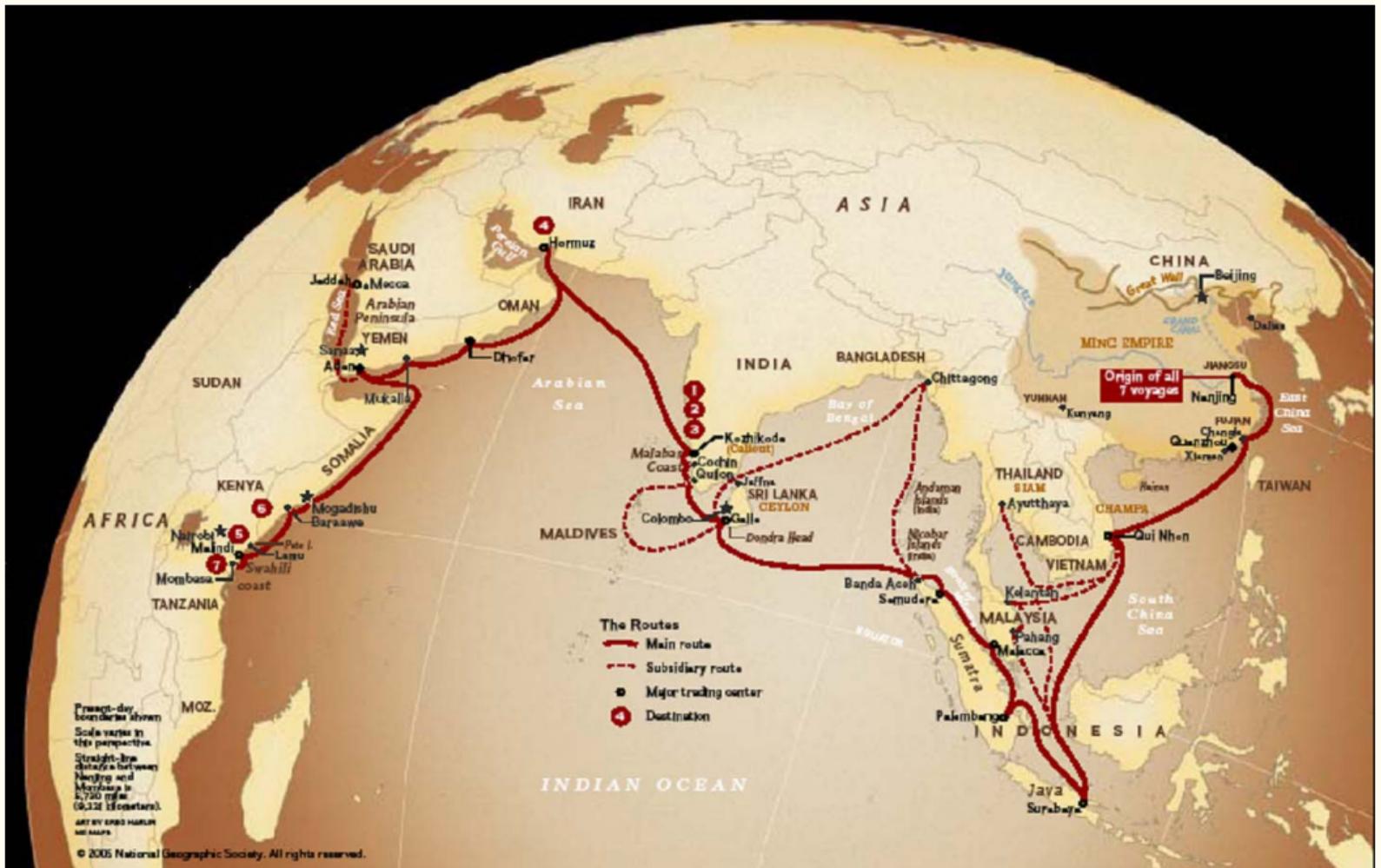
# Treasure ships

- Traditional accounts: 450 ft long and 180 ft wide, nine masts and four decks ([Joseph Needham, Science and Civilization in China](#), [Simon Winchester, The Man who Loved China](#)).
- Much bigger than any other wooden ship ever built.
- Most modern research:
  1. Real ships were smaller: perhaps 200-250 ft long. Otherwise, difficult to manage in open sea.
  2. The largest ships Treasure Ships were used by the Emperor and imperial bureaucrats to travel along the Yángtǐ for court business.
- Even if we accept 200-250 ft long dimension, the accomplishment is impressive.









# Why China?

- Around 1405 is perhaps the richest and more populated country of the world.

Rough Population Estimates

	1300	1500
China	100	130
Europe <sup>a</sup>	52	71
India <sup>b</sup>	88	110
Japan	10.5	15.4
World	372	438

a) excluding Turkey and former USSR

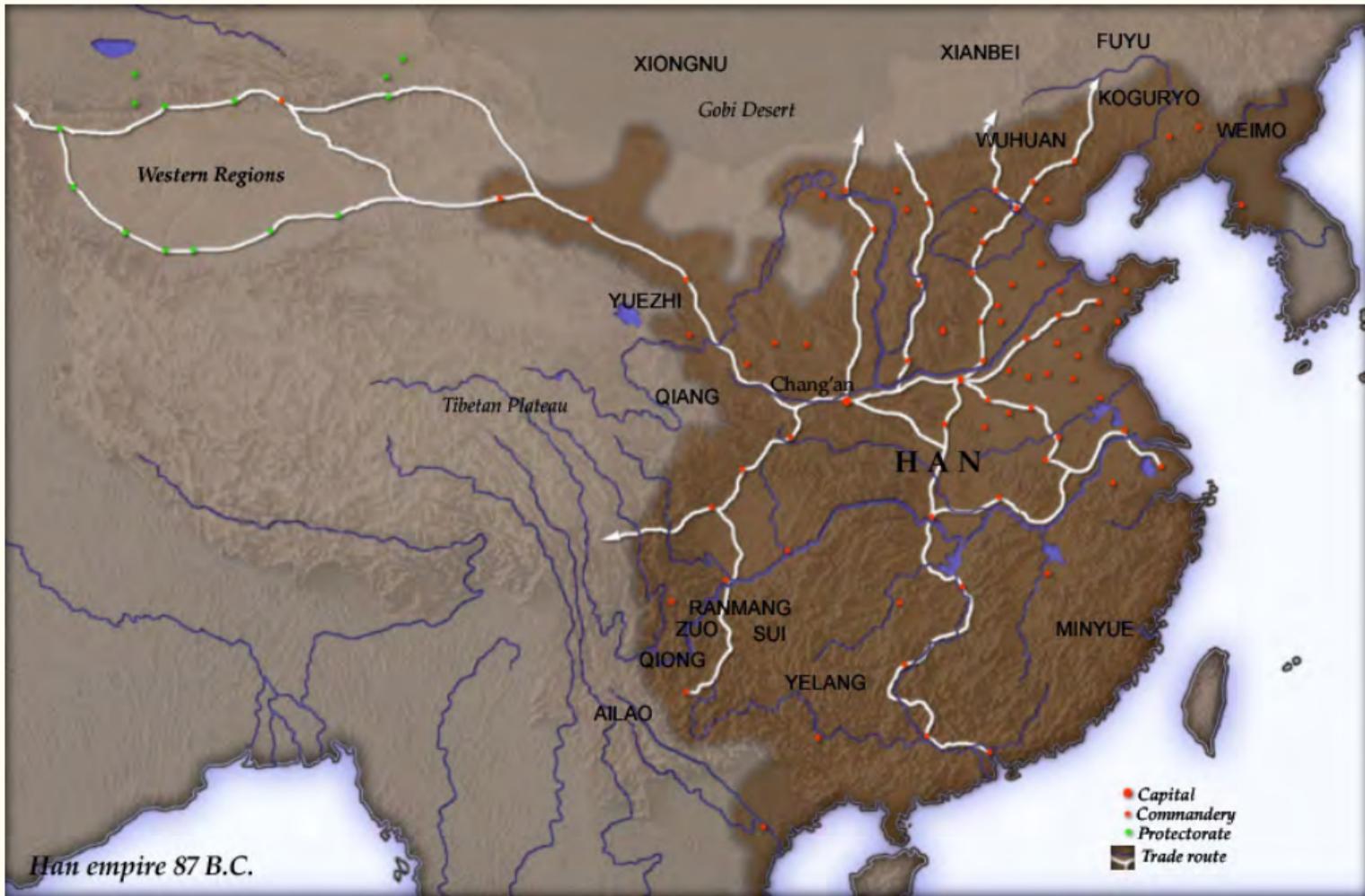
b) India+Bangladesh+Pakistan

- Also, perhaps, the most technologically advanced society in the world (more difficult to measure).



## A fundamental contrast

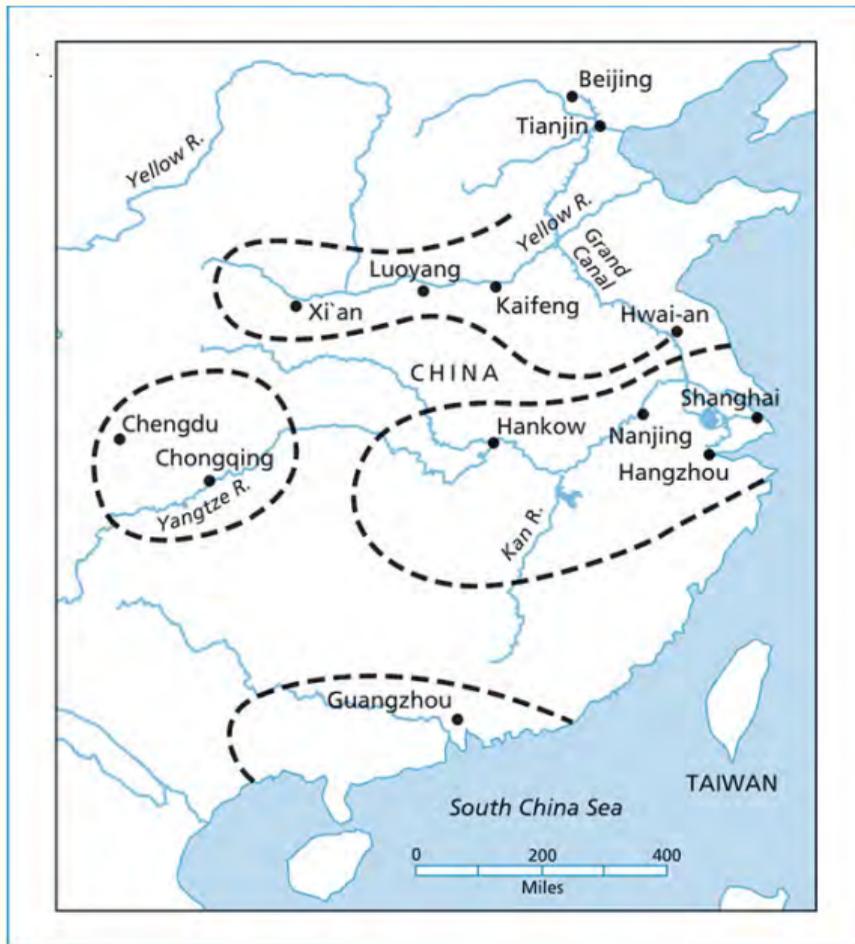
- China was first unified around 221 BCE by the First Emperor (Qín Shǐhuáng). Since then, except for relatively short periods, unified state (the last partition ended with the arrival of Mongols in 1275 CE).
- In particular, China recovered lost unity after the fall of the Hàn dynasty (220 CE) by the time of the Suí dynasty (581 CE).
- Europe has never been unified since the fall of the Roman Empire (476 CE). Even Roman Empire was defeated at Teutoburg (9 CE), in what the German nationalist author Heinrich von Kleist called *Die Hermannsschlacht*.
- Why?
  1. Geography.
  2. Cultural factors.



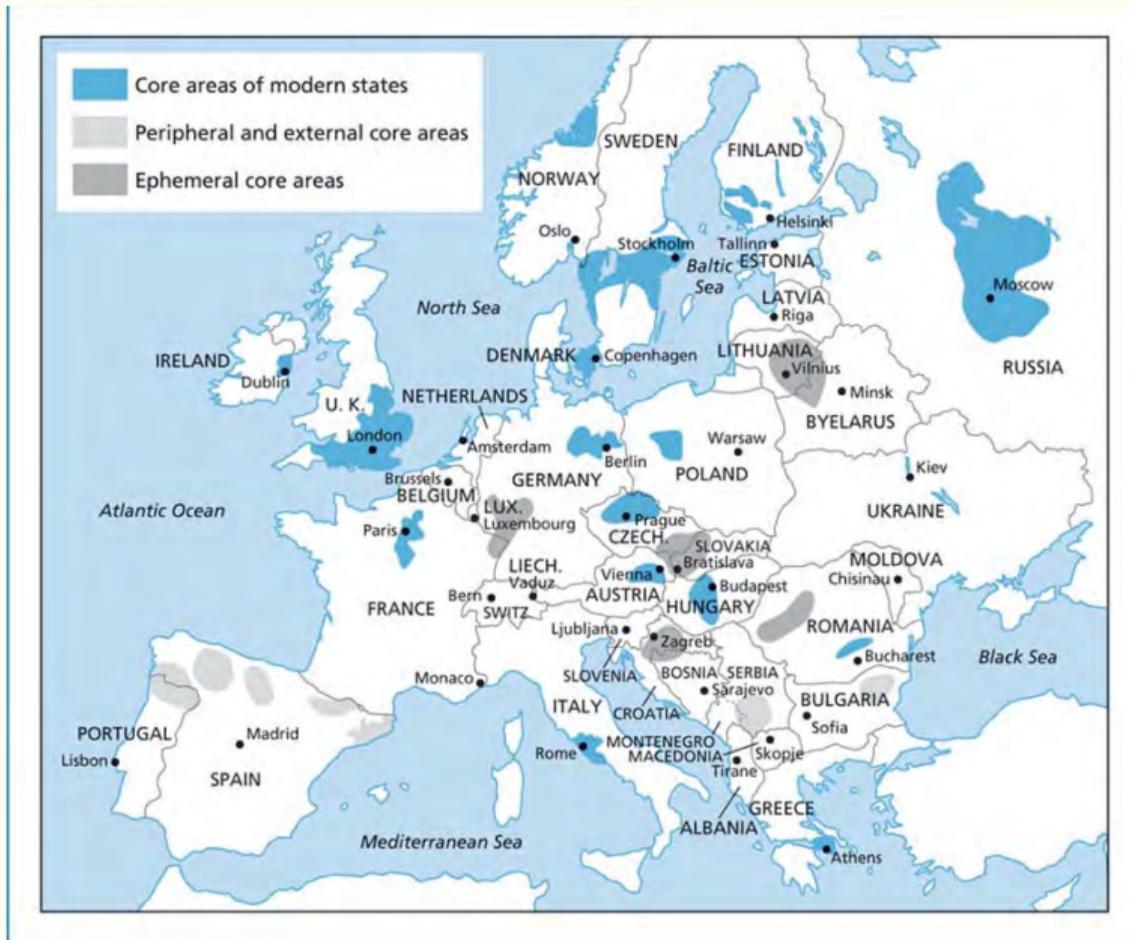


## Core areas

- China: two main areas, the Yellow River and Yángtǔ river, with no big natural barrier between them.
- Moreover, strong reason for unification in the Yellow River area:
  1. Loess plateau is easy to farm but requires coordination. Erosion control is a public good.
  2. The Yellow River changes its course often.
  3. Numerous droughts and floods. Need risk-sharing.
  4. Close to nomads lands (fifteen-inch isohyet line).
- A strong state is bound to appear (Qín). Comparison with Prussia in modern Germany. Both tough, efficient, and at the border of “civilization.”
- Europe: dispersion of core areas.



Source: Stover (1974).



Source: Pounds and Ball (1964).

# Cultural factors, I

- Language:
  - First Emperor unified and standardized the characters. Simplified communications along all Sinosphere.
  - Eliminated an important source of local identity.
  - Europe, in contrast, used alphabets. Latin and successor lingua franca never achieved the same degree of cohesion.

## **Charles V, 1500-1558 (George Parker, Emperor, p. 378)**

If I need to talk to God, I would do so in Spanish, because the language of Spaniards suggests gravity and majesty; if with friends, in Italian, because the speech of Italians sounds friendly; and if to seduce someone, in French, because no language sounds more seductive; but if I want to threaten or scold someone I use German, because their entire language is threatening, harsh, and emphatic.

- Construction of identity.
- Again, First Emperor destroyed local archives and traditions. Continued effort of amalgamation.
- Europe, authorities created local identities.

# Europe in Late Middle Ages

Kings limited by:

1. Parliaments and other legal restrictions:
  - 1.1 England, Magna Carta in 1215, Henry III, in 1258, swears an oath to the Provisions of Oxford and a thrice-yearly meeting of parliament to monitor their performance.
  - 1.2 France, Parlement of Paris, born out of the Curia Regis in 1307. Parlements issued regulatory decrees for the application of royal edicts or of customary practices. Furthermore, they could refuse to register laws that they judged contrary to fundamental law or simply untimely.
  - 1.3 Spain, Kingdom of León in 1188, Catalonia in 1218, the Kingdom of Castile in 1250, Kingdom of Aragón in 1274, Kingdom of Valencia in 1283 and Kingdom of Navarre in 1300.
  - 1.4 Holy Roman Empire, Reichstag since the early times.
2. Power of cities.
3. Power of Catholic Church. Henry IV (1056-1105) fights with Gregory VII during the Investiture Controversy: Dictatus Papae 1090: "That it may be permitted to him to depose emperors."

*[The page contains dense, handwritten text in a cursive script, likely a historical document or manuscript. The text is mostly illegible due to fading and the angle of the page. It appears to be a single column of text with some marginalia.]*

*[A line of handwritten text at the bottom of the page, possibly a signature or a concluding note.]*

## Swearing of the Kings of Aragon

“Nos, que cada uno de nosotros somos igual que vos y todos juntos más que vos, te hacemos Rey si cumples nuestros fueros y los haces cumplir, si no, no”

“We, which each of us are equal than thee and we together more than thee, make thee King if you obey our laws and make them be obeyed, and otherwise, we do not.

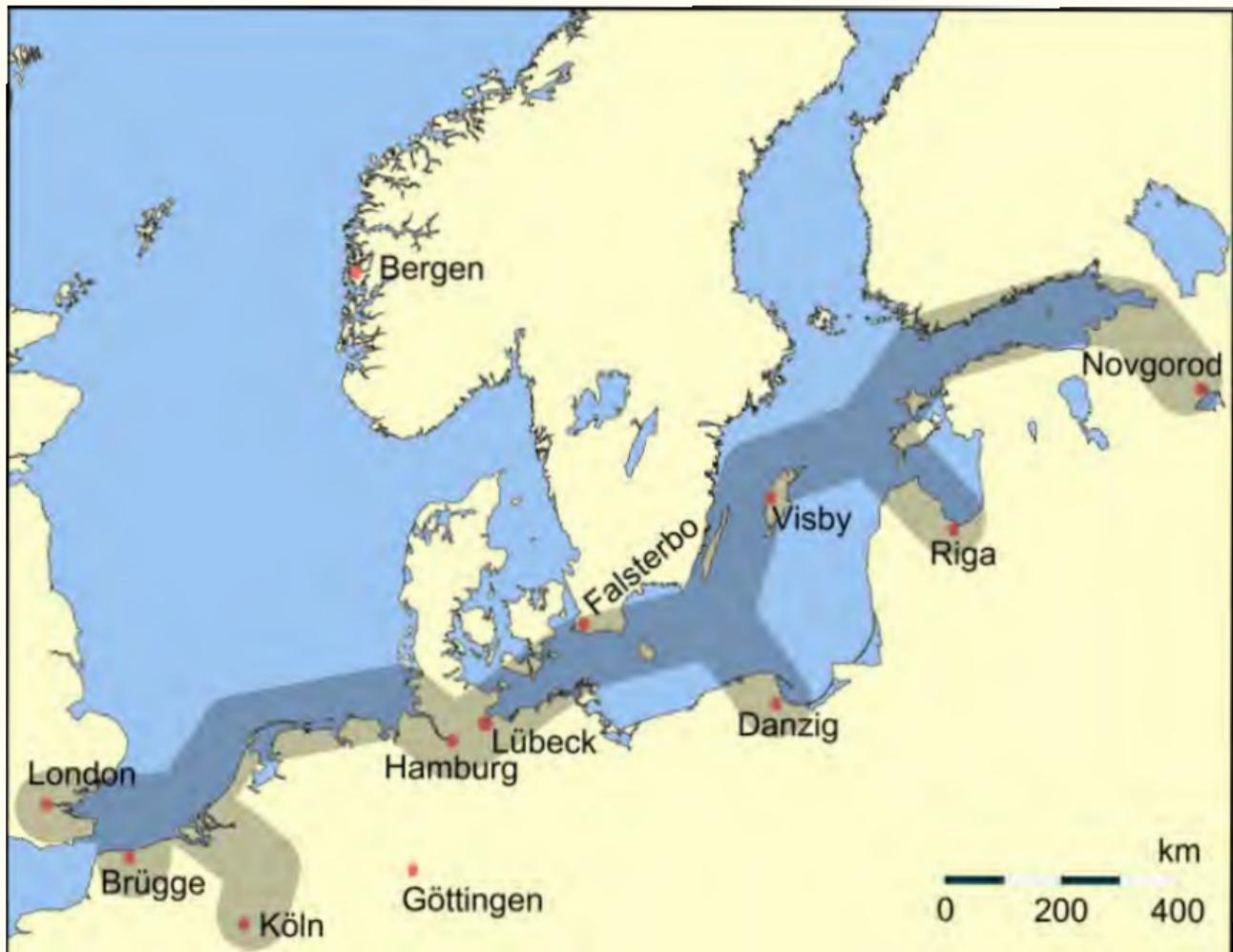
- Why?



Cities: rights and privileges.

- Across Europe.
  1. Italy: Venice and Genoa, Florence, .....
  2. Germany: free imperial cities (*freie Reichsstadt*), Hanseatic League,
  3. Spain: *fueros*.
- Why? *Stadtluft macht frei*: Emancipation
- A system of nation-states was preceded by a system of city-states.
- We can look for the origins of modern economic growth there, in the city-states.





## Cities II: lands of the Duke of Burgundy

- **Henri Pirenne**, *Early Democracies in the Low Countries: Urban Society and Political Conflict in the Middle Ages and the Renaissance*.
- Dukes of Burgundy attempted to create a new state.
- Cut deals with local elites.
- New magistrates: **échevins**. Between 12 to 13, chosen by Count (later Duke) among powerful city individuals.
- Strong city autonomy: administration, legislation, and judicial system.
- Big boom of Bruges, Ghent, Ypres, Brussels.
- Trade, entrepreneurs, ideas, culture ⇒ Late Gothic, Northern Renaissance.



**The House of Valois-Burgundy 1465-1477**  
(during the reign of Charles "the Bold")



Abbreviations: B: Duchy, C: County, S: Sarony, P-A: Prince-Bishopric



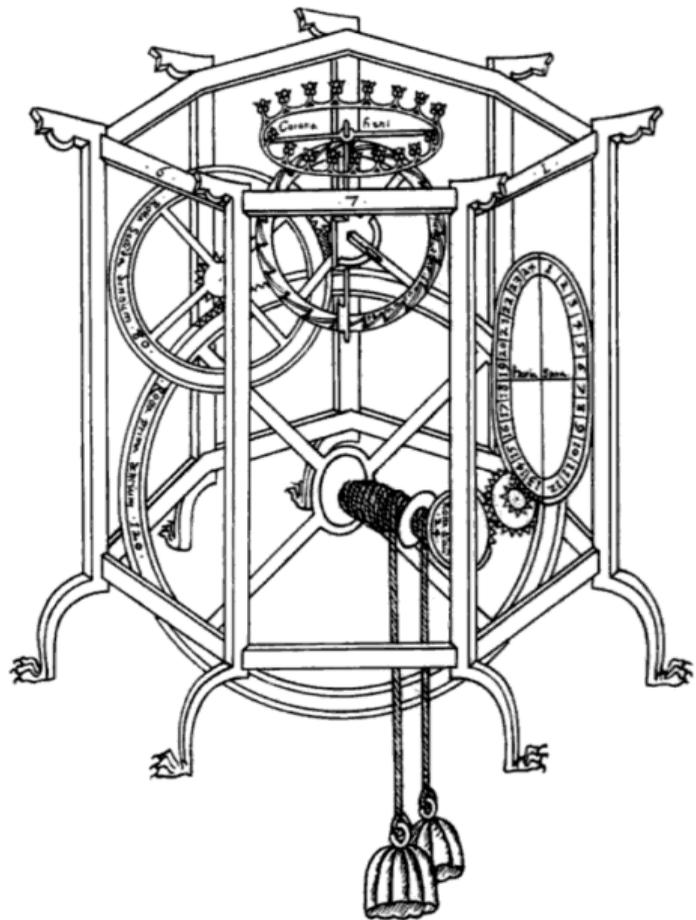


# Technological innovation

- Middle ages Europe, despite common belief, was a highly technologically dynamic society.
- Agriculture:
  1. Heavy plow: new areas north of the Alps, expensive piece of machinery.
  2. Three-field system: fallow, winter crops, spring crops.
  3. Horses: stirrup, horseshoe, harness.
- Energy: Waterwheels, windmills, wheelbarrow.
- Weight-driven clocks.
- Movable type: Gutenberg (1453).
- Spectacles (1285 in Italy).
- Clothing: spinning wheel, button (around 1230 in central Germany).









4.

IMPRESSIO LIBRORVM.

*Potest vt vna vox capi aures plurimas;*

*Linunt ita vna scripta mille paginas.*

*Juan. Simonis fecit. 1675. Galle. curavit.*



# Technological adoption

- Rapid adoption of foreign technology.
- Agriculture: eggplant, spinach, asparagus, artichokes, banana, orange, lemon, watermelon.
- Quickly, many of these inventions are improved upon:
  1. Guns and gunpowder.
  2. Navigation.
  3. Production of paper.

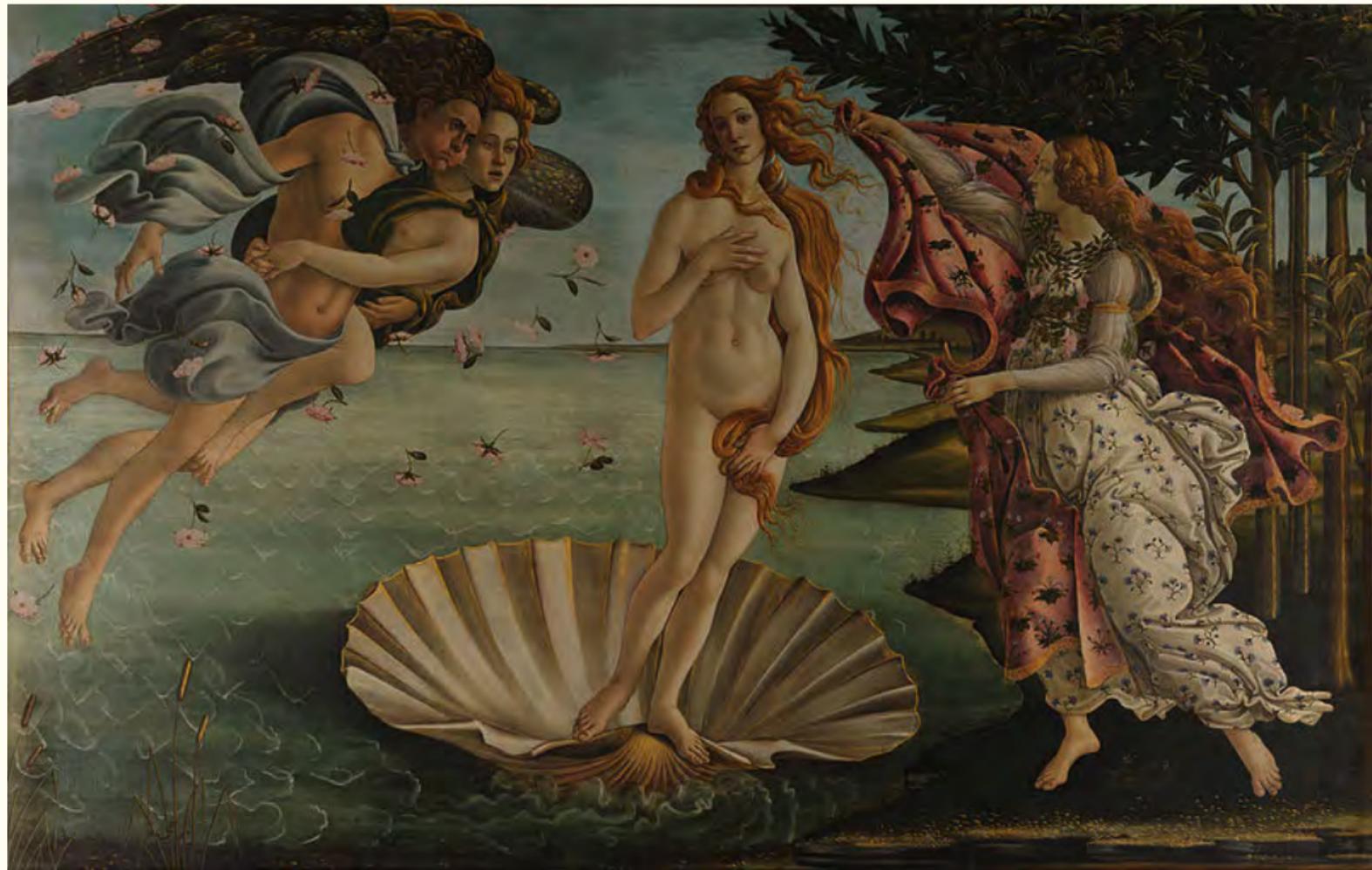
# Institutional innovations: Banks

Raymond de Roover, [The Rise and Decline of The Medici Bank, 1397-149.](#)

- Medici Bank in Florence founded by Giovanni di Bicci de' Medici.
- The Medici family produced two Popes (Leo X and Clement VII), two queens of France (Catherine and Marie) and three dukes.
- Patrons of arts and science (Basilica di San Lorenzo, Palazzo Pitti).
- You really want to think about the Corleone Family.
- Highly developed institution:
  1. Holding firm, with branches over Europe (Florence, Venice, Rome, Geneva, Pisa, London, Bruges, and Avignon).
  2. Main activity: foreign exchange.
  3. Factories.







- Medici kept three accounting books:
  1. libro segreto (secret book).
  2. libro di entrata e uscita (book of income and expenditures).
  3. libro dei debitory e creditori (book of debtors and creditors).
- Invention of Double-entry bookkeeping system: Luca Pacioli (1446/7-1517), publishes in 1494 "Particularis de Computis et Scripturis."
- Checks circulate, some wages paid in Checks.

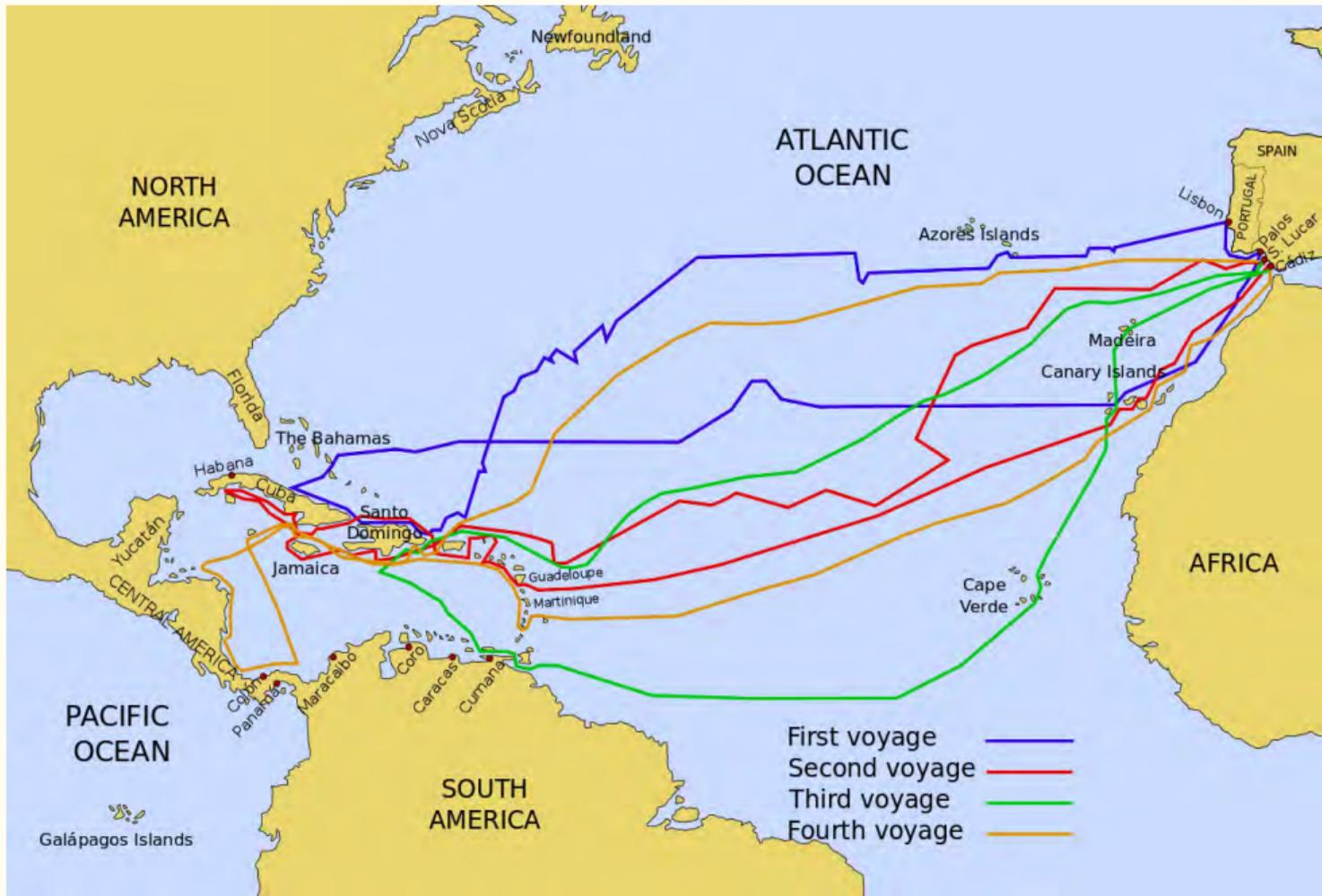


# Big trips

- Big trips:
  1. 1492: Columbus reaches America. Three ships (Pinta, Niña, and Santa María) and 90 men.
  2. 1498: Vasco de Gama reaches India. Four ships (São Gabriel, São Rafael, Berrio+supply ship) and 170 men.
- Trade:
  1. Spices.
  2. Porcelain.
  3. Cotton.
  4. Silk.
  5. Tea and Coffee (after XVII century).
- Besides, Europeans will intermediate among Asian countries: Japanese cooper to China and India, Persian carpets to India and Japan, Indian textiles to south East Asia.
- Minerals: gold and silver.









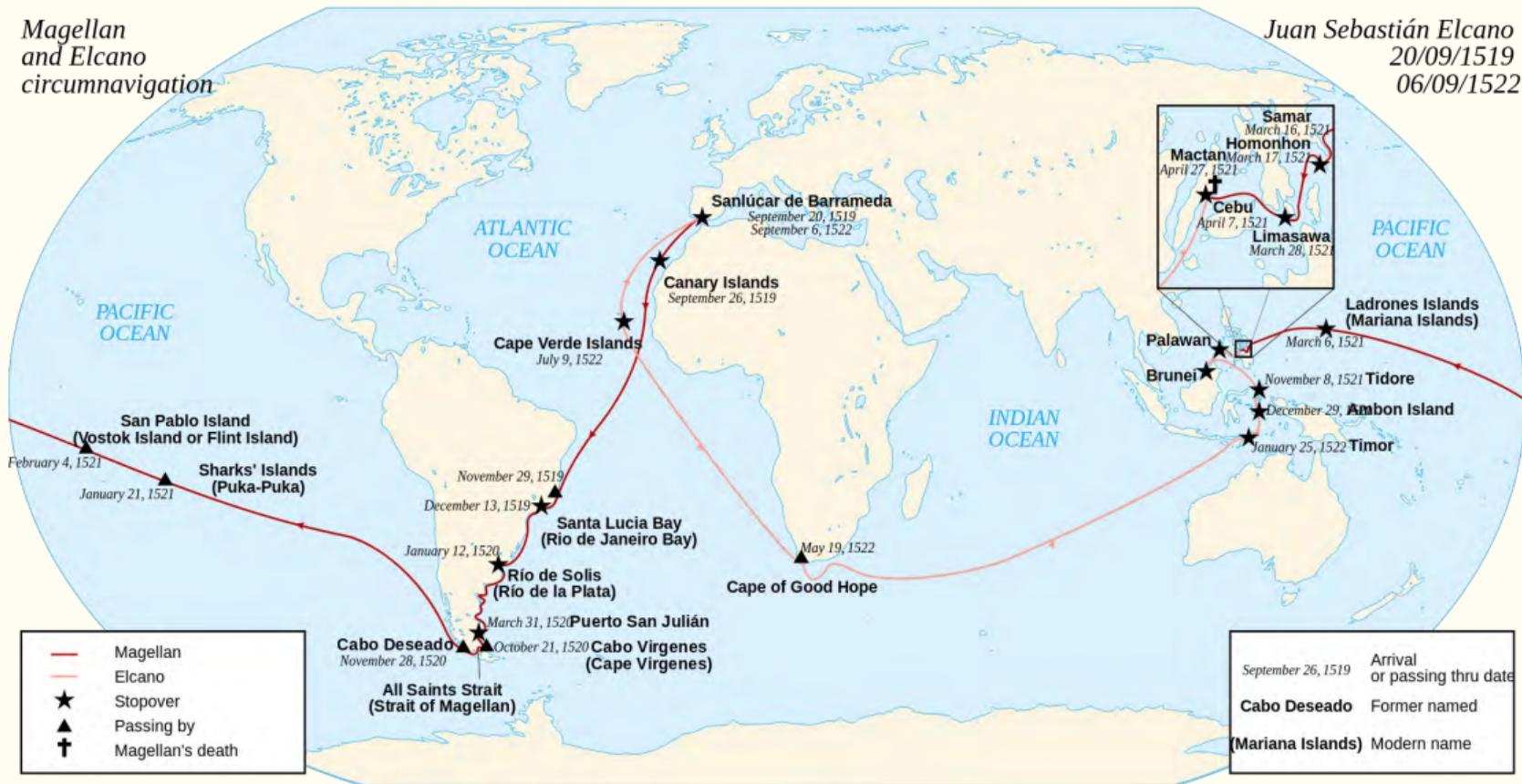
*Vasco da Gama's First Voyage to India, 1497-99*



A COMPTON'S MAP

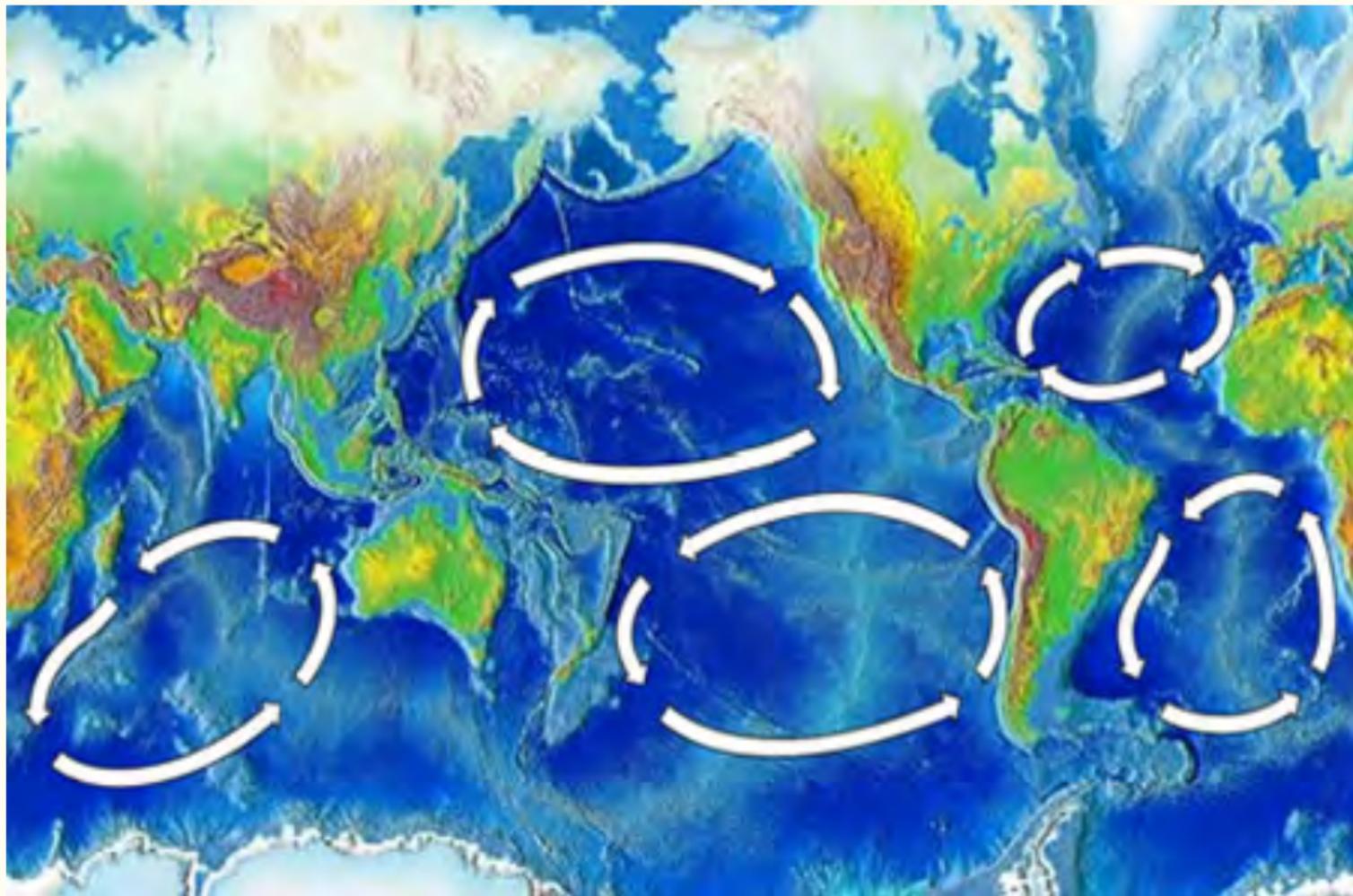
Magellan and Elcano circumnavigation

Juan Sebastián Elcano  
20/09/1519  
06/09/1522

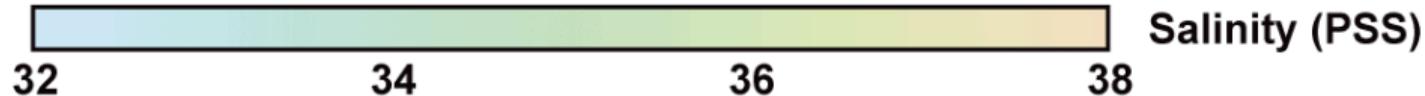
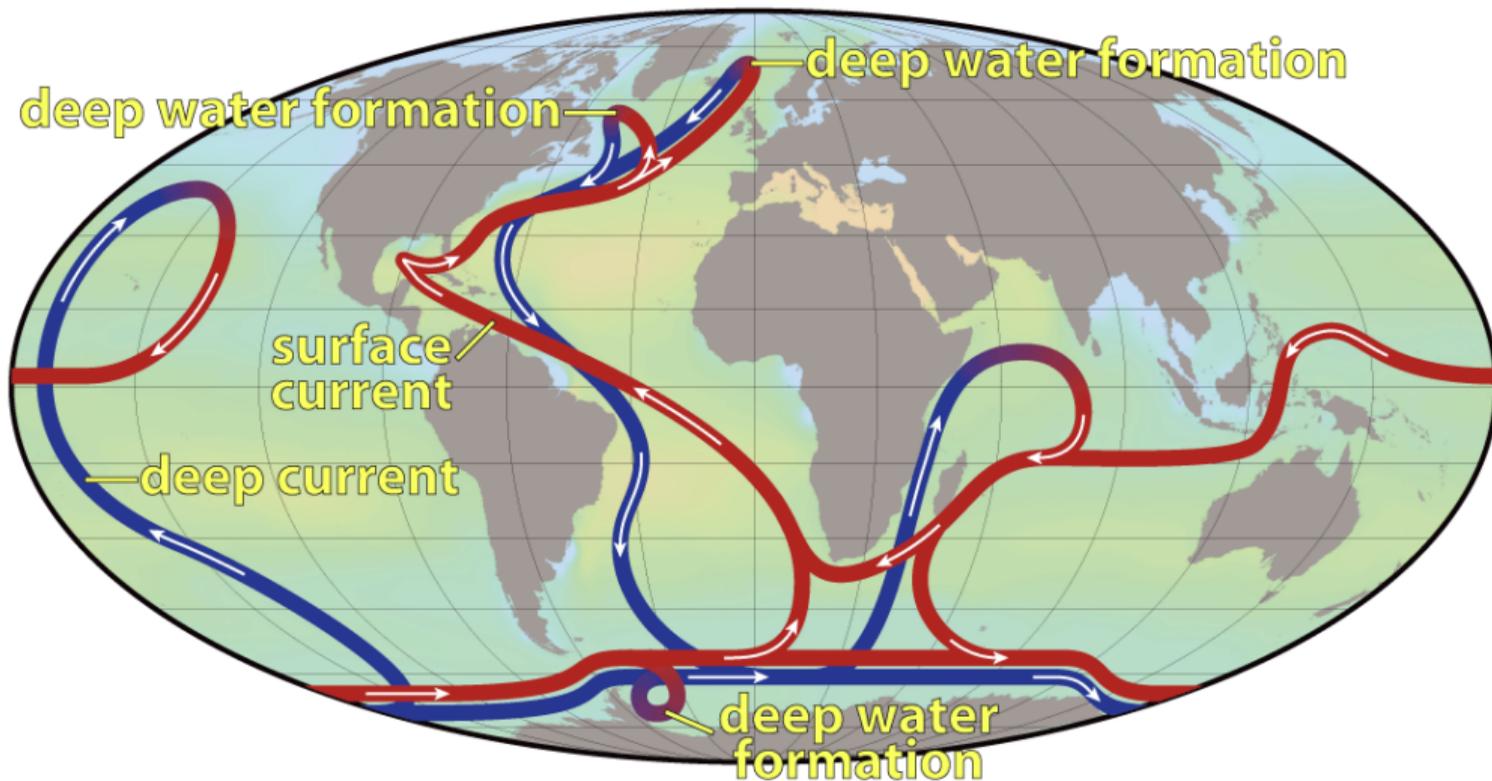


# Incentives to innovate and to trade

- If you do not innovate, some else will eat you: defensive modernization.
- Case of Portugal: Crown of Castille.
- Ottoman empire: limited trade of spices and extracted rents. Two strategies:
  1. Modus vivendi with Ottomans: Genoa, Venice (Venice controlled around 60% of the spices market in Europe).
  2. Going around them: either to the west (Spain) or around Africa (Portugal).
- Two market developments:
  1. Relative price of spices was increasing.
  2. Demand was increasing (1,000 tons a year of pepper+470/550 tons of other spices in 1400, to 1,200 tons and 1200/1350 of different spices in 1500).



# Thermohaline Circulation



## What Do Europeans find in America?

- Big differences in population density, social organization, and technology.
- Aztec and Inca empires were emerging as local hegemons.
- Most of the rest of the continent was still in transition to more stable political forms.
- Castilian soldiers easily conquered most of the continent in a few years (Cortés around 500 soldiers, Pizarro around 180).
- How can we think about this big difference?



CONQUISTA DE LA  
CIUDAD  
ATAGUALPAINGA  
DE LA MARCA EN SU TIEMPO



En la conquista de la ciudad de Atagualpainga de la Marca en su tiempo.

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# Diamond's explanation

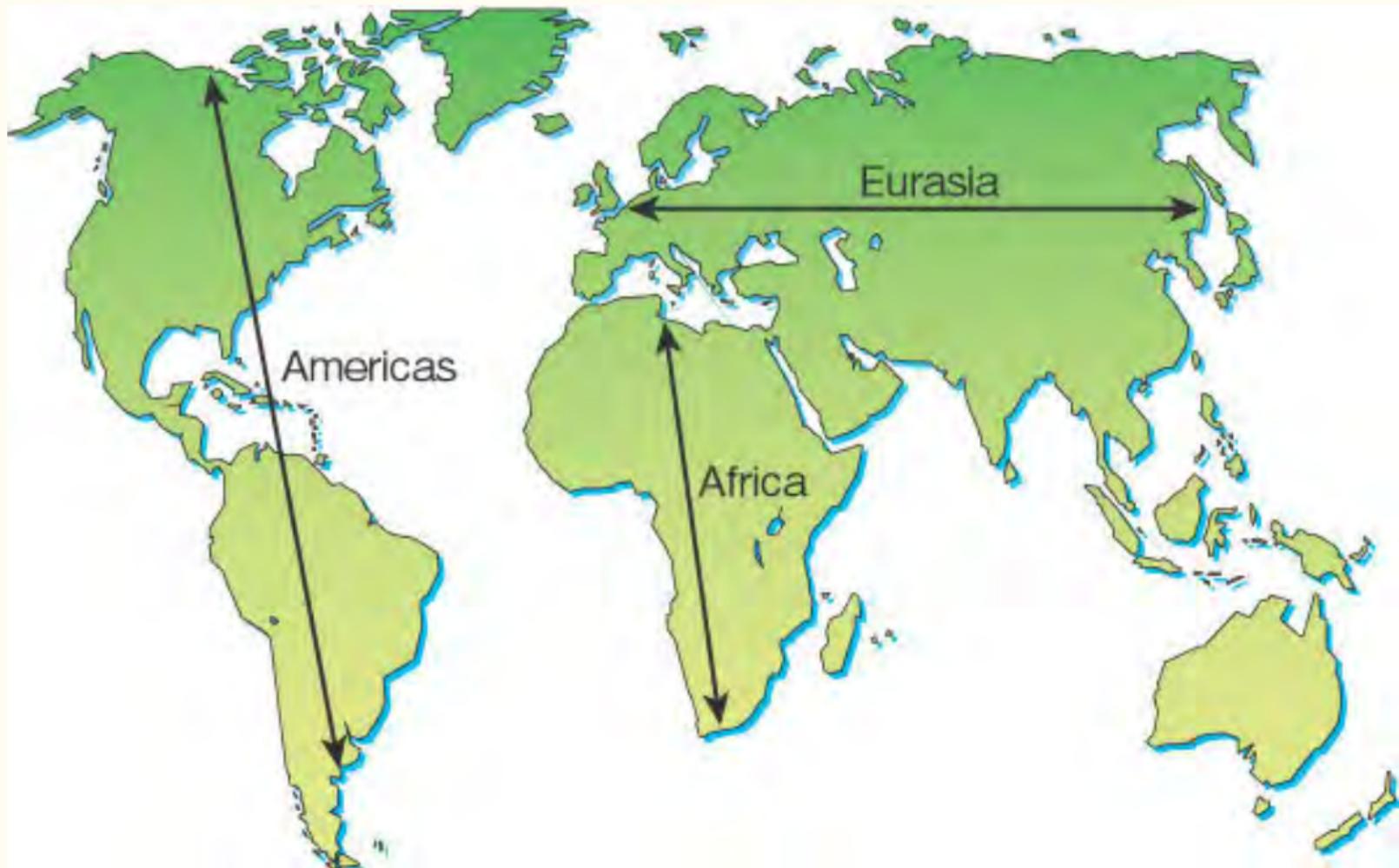
- Jared Diamond, *Guns, Germs, and Steel*.
- Grand Connection: from 1492 (Columbus arrives in America) to 1770 (James Cook arrives in Australia).
- Populations in different continents enter into contact for the first time in millennia.
- Europe quickly becomes the dominant power and spread over the whole planet:
  1. American and Australia: previous cultures were nearly wiped out.
  2. Asia: partial control.
  3. Africa: somehow in the middle.
- Why was Europe so superior in expansion?

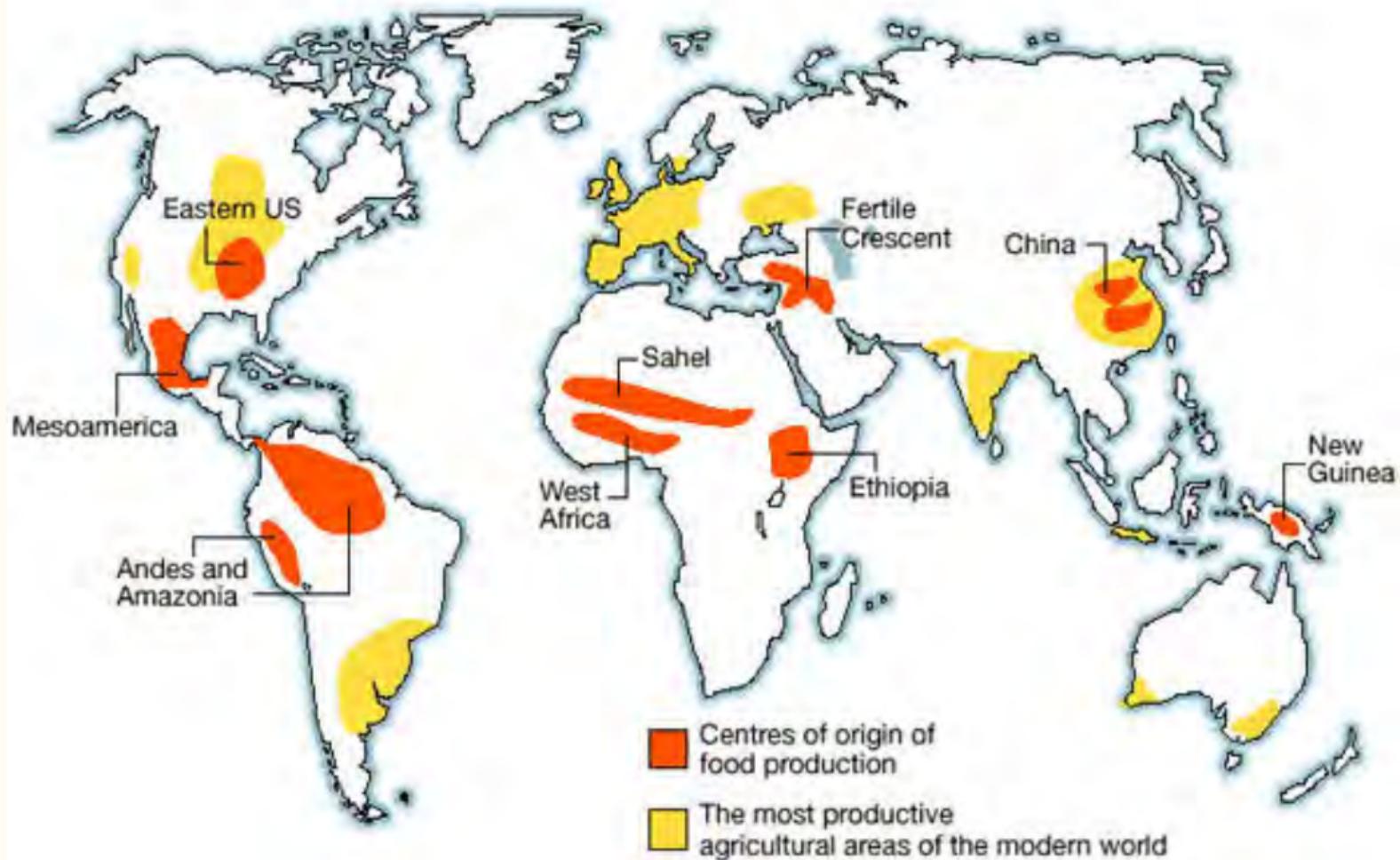
## Proximate causes

- Guns: stands for better weapons, horses, military organization, and tactics,....
- Germs: stands for infectious diseases that were endemic in Eurasia.
- Steel: stands for modern tools, writing, political organization, bureaucracy,....

# Ultimate causes I

- Eurasia is bigger (50% than America, 250% as Sub-Saharan Africa, 800% than Australia):
  1. More plants. Out of 56 food grains, 39 are native to Eurasia, 11 to America, 4 to Sub-Saharan Africa, and 2 to Australia.
  2. More animals to domesticate: cows/pigs/horses/sheep/goats versus llamas and alpacas.
  3. Eurasia is horizontal (east/west axis): transmission of plants, animals, and technology.
- Many domesticated plants and animals: “great leap forward” of agriculture earlier and more pronounced.
- Other uses of animals: feed, manure, plowing, transportation, military (horses: key factor of Indo-European expansion 4000 BCE).





## Ultimate causes II

- Bigger food production and storage  $\Rightarrow$  sedentary societies, bigger populations, social stratification  $\Rightarrow$  more advanced technology: guns and steel.
- Germs: large populations + many domesticated animals.
- Natural experiment: Polynesian islands.

# Transition to agriculture

- Several locations: Fertile Crescent, China, Andes, Mesoamerica.
- Evidence that farmers worked longer hours and eat less than hunter-gatherers. Why transition?
- Preliminary point: no sharp distinction between farmers and hunters-gatherers.
- Possible reasons to switch to agriculture:
  1. Reductions in animal density.
  2. Changes in climate⇒more wild cereal.
  3. Development of techniques to deal with wild cereal.
  4. Bigger populations.
  5. Pressure from neighbors.

# Political organization

- Political centralization and organization follows agricultural development.
- Several advantages:
  1. Conflict prevention.
  2. Collective action.
- Some groups will do better than other  $\Rightarrow$  random differences, but those groups better organized will dominate other groups (among hunter-gatherers, defeated group moves away).
- Society controls: religion and shared identities.

## A Canonical example: the Fertile Crescent

- Several advantages:
  1. Mediterranean climate.
  2. Highly productive wild cereal.
  3. Selfers: i.e., plants that do not cross-pollinate and ruin selection by farmers.
  4. Relatively broad range of altitudes and variations of climate.
  5. Several big mammals: goat, sheep, pig, and cow.
- Easy extension over Eurasia (horizontal axis), in comparison with America and Africa (vertical axis). Moreover, severe barriers in America and Africa (deserts).

# What happened with Fertile Crescent?

- Climate changes: dryer and less productive.
- Center of activity translates to Mediterranean (Egypt, Greece, and Rome).
- Why?
  1. Natural fluctuations of climate.
  2. Human action: deforestation and excess salinity.

# Why not China?

- But, how can Diamond explain China?
- Between the 8th and the 12th century, China experienced a burst of economic activity: gunpowder, printing, water-powered spinning wheel.
- With the arrival of the Míng dynasty (1368), China stagnates.
- Europe gets ahead.

# Conclusion

- World starts to interconnect at unprecedented levels from 1400 to 1500.
- Europeans arrive in America and, taking advantage of their technology and germs, conquer the whole continent.
- Later, they will do the same with Oceania, Africa, and a large part of Asia.
- Great Asian empires (Ottoman Empire, Persia, Mughal India, China) will progressively fall behind.