

Maritime Revolution





Exploration

- Early 1400s **venturing into Atlantic islands and west African coast**
- **Gains from Arabs and Chinese:**
 - **Magnetic compass**
 - **Astrolabe**
 - **Caravel** (lighter ship w/ lateen sail and steerable rutter)
- **Purpose: gold, glory, & God**



astrolabe



Astrolabe, used to measure latitude

Better Maps



Mariner's Compass

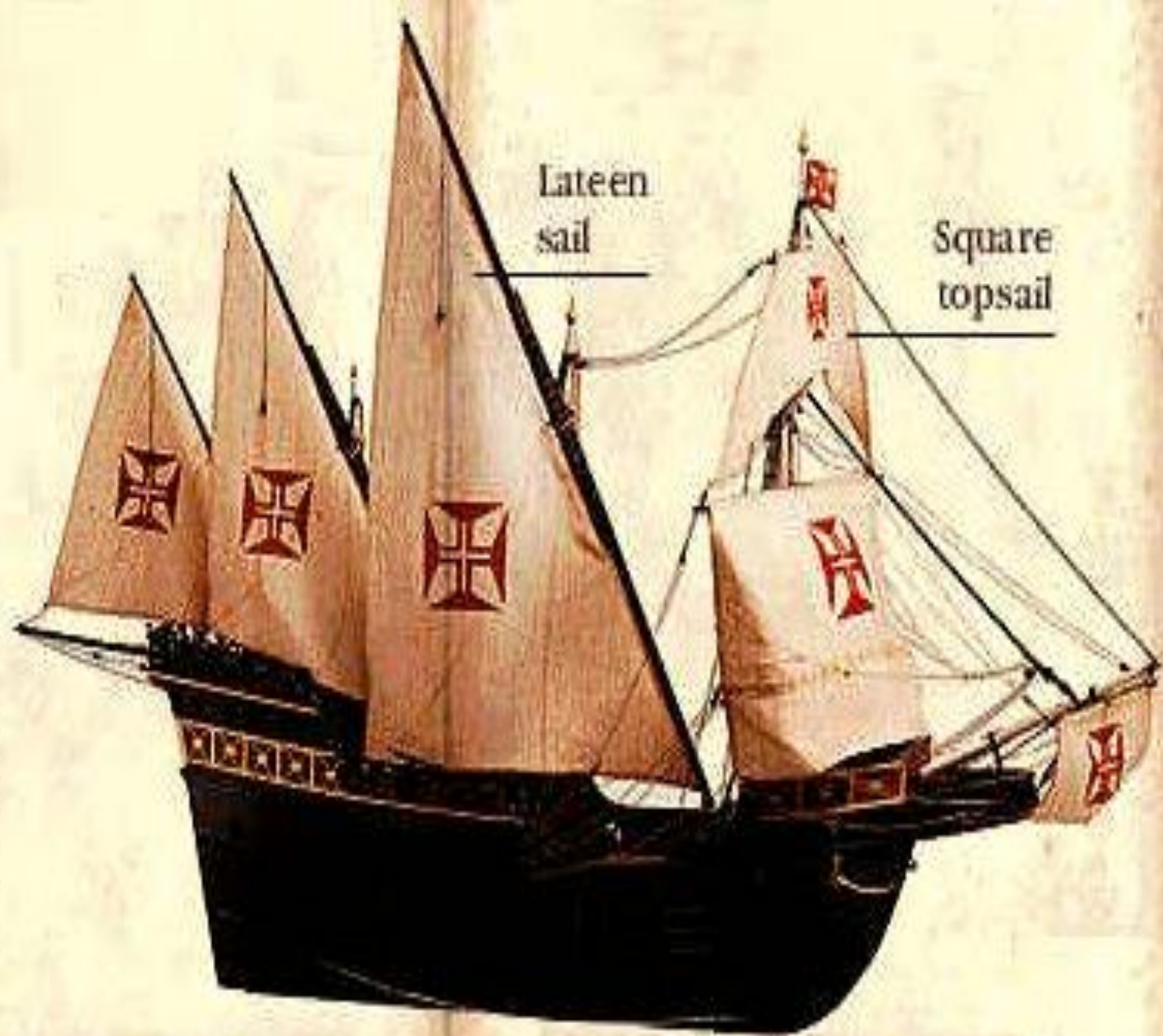


Sextant—used for determining latitude—replaced astrolabe b/c more precise

Caravel

- Developed by the **Portuguese** in the late 1400's used for the next 300 years
- Improvement on ships because it could **sail fast and into the wind**
- 2 or 3 masts with square sails and a triangular sail (called a lateen)
- Could carry roughly 130 tons of cargo
- B/c **small**—could explore upriver on coastlines
- Best sailing vessel of time b/c of economy, speed, agility, and power

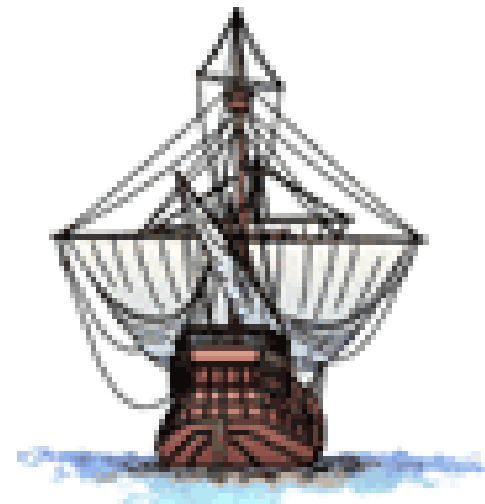


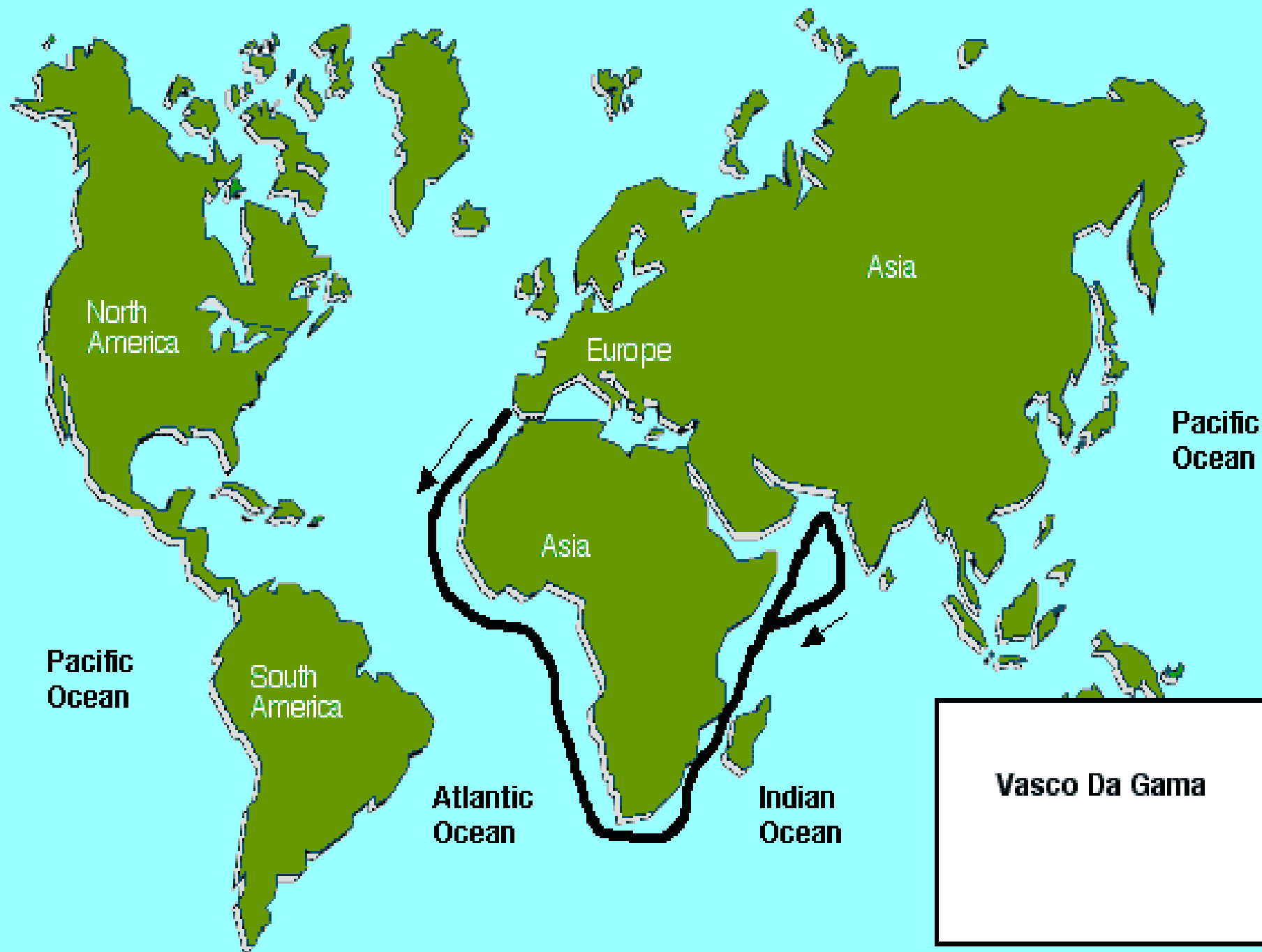


CARAVEL
Portuguese
navigators
of the 1400s
sailed in
caravels.

Portugal Leads

- **Prince Henry the Navigator**—organized expeditions along African coast
 - Founded a navigational school for mapmakers, instrument makers, ship builders, scientists, and sea captains
- **West African Coast** (trading gold & iron pots for spices & slaves)
- **Diaz—1488—sails around tip of Africa**
- **Vasco da Gama—1498—reached India**
 - Sailed around Cape of Good Hope to India
 - Came home with spices, rare silks, gems
 - Broke Muslim & Italian monopolies
- **1500—Cabral—Accidentally blown off course and reached Brazil**—claimed it for Portugal
- **1542 reached Japan**—missionary effort





A Map of the Known World, pre- 1488



Prince Henry “The Navigator”

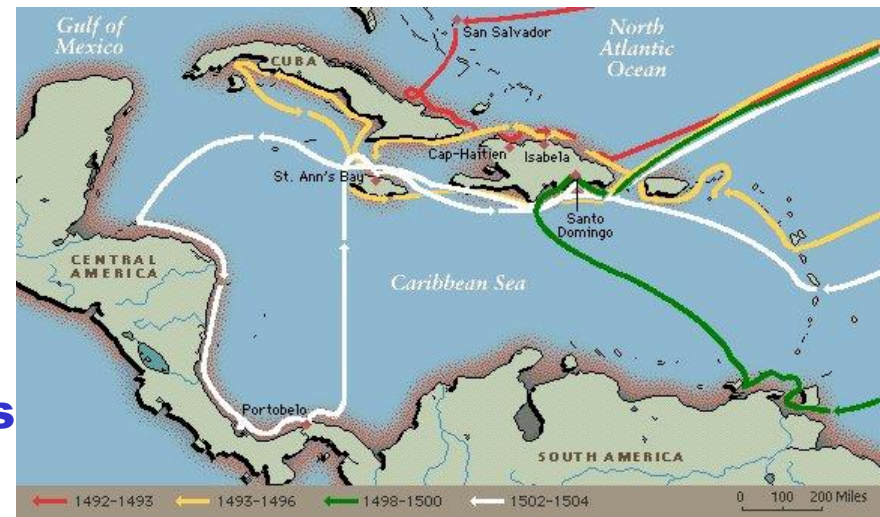


Spanish Exploration

- Recently freed from Muslims—had religious zeal & desire for \$\$
- **Columbus** sailed on behalf of Spain in 1492—rediscovered the Americas
- Amerigo Vespucci—headed an expedition
- **Magellan—1519 his crew was the first to circumnavigate the globe**
 - **Philippines** was claimed as a colony of Spain
- **Conquistadors—Cortes and Pizzaro take over Aztecs and Incas**



Columbus' Voyages



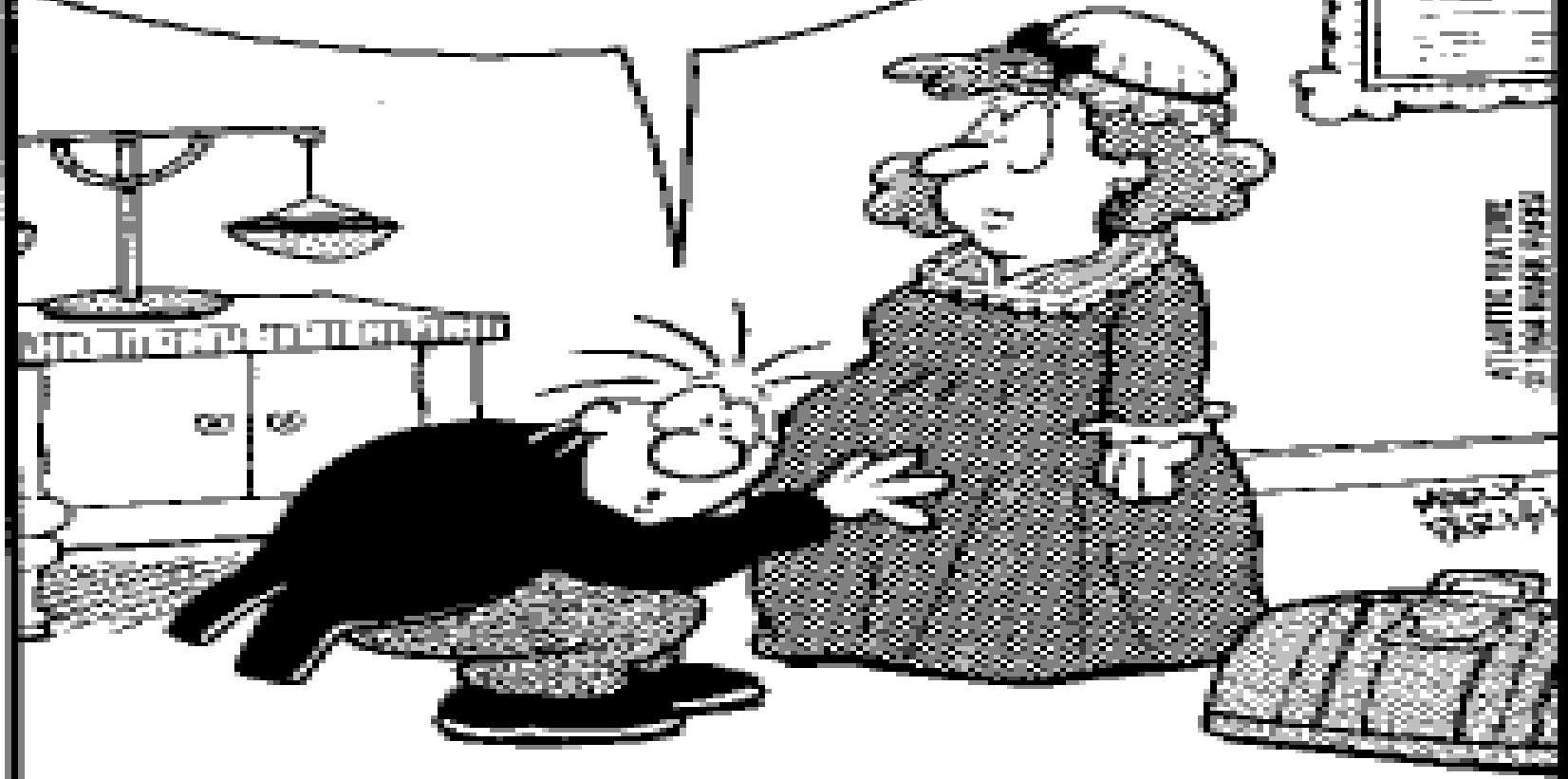
Christopher Columbus




Columbus' Landing



THERE'S A LOT OF MOVEMENT...
THE BABY SEEMS TO BE, WELL,
ATTEMPTING TO TRAVEL AROUND
THE UTERUS...

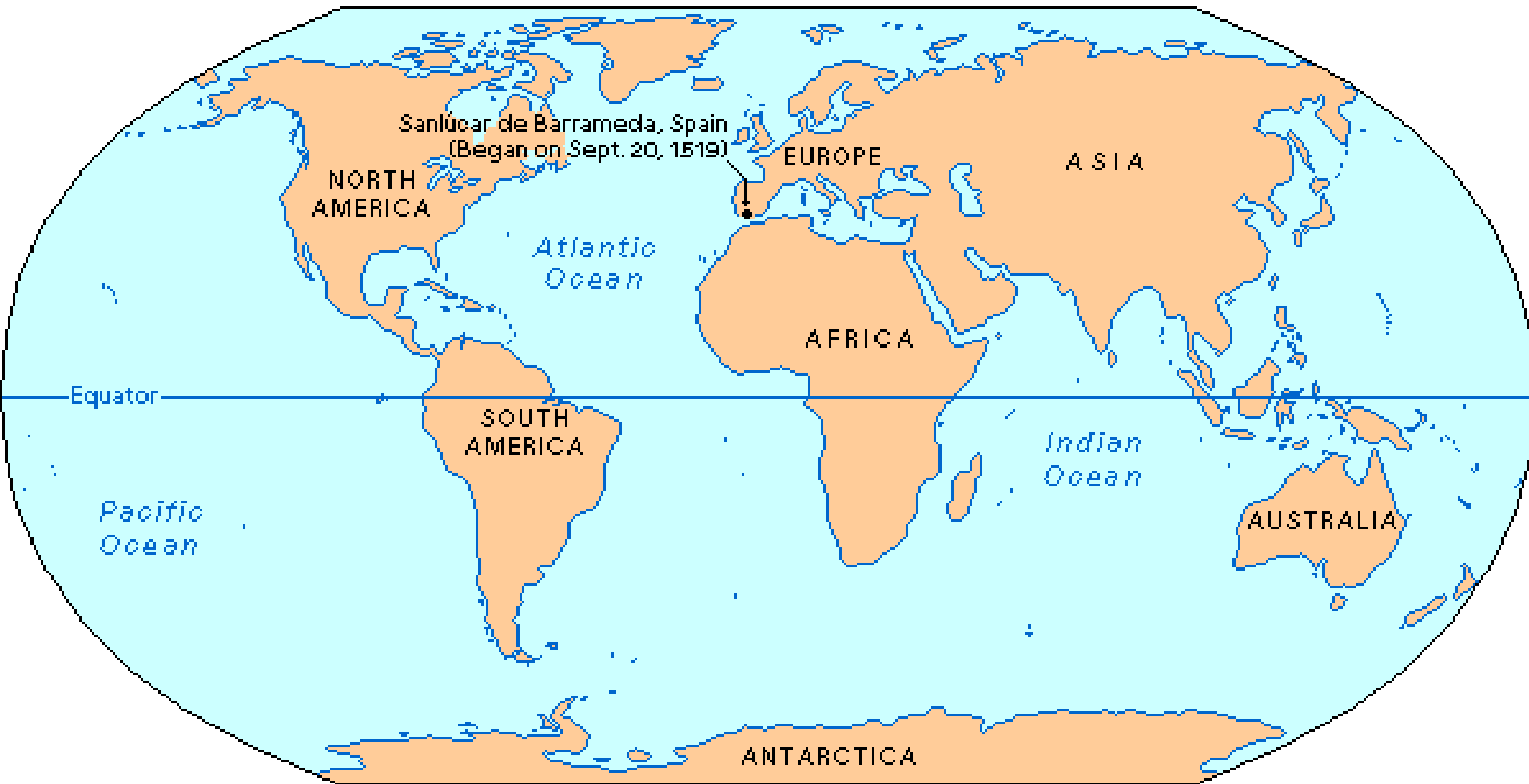


COLUMBUS' MOTHER



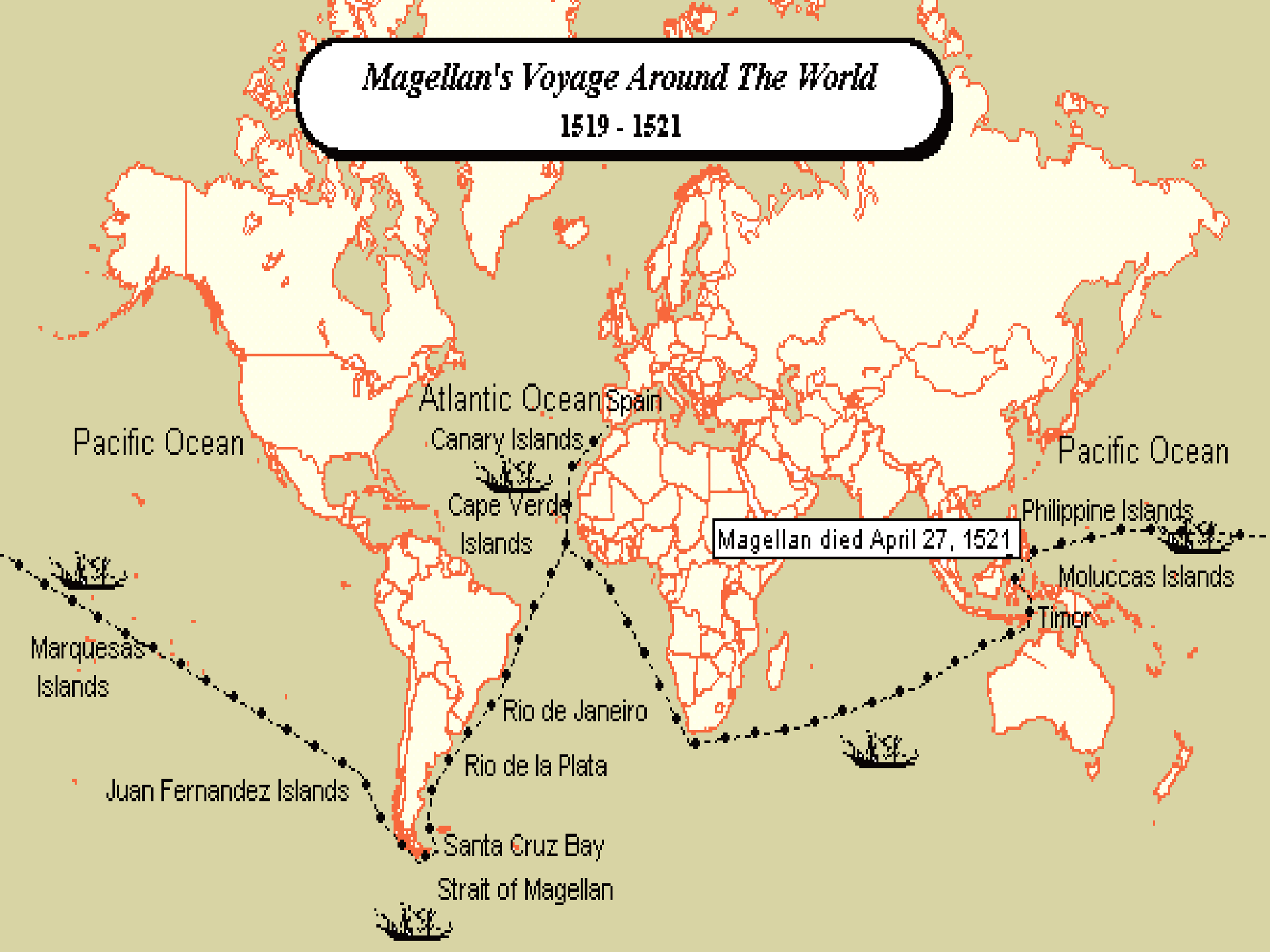
INDIA !?! GEE, NOT ONLY DID
YOU GET THE WRONG COUNTRY
BUT THE WRONG CONTINENT!
...I MEAN, A COUNTRY I CAN
UNDERSTAND, BUT A WHOLE
CONTINENT...!

Magellan's Journey— 42,000 miles



Magellan's Voyage Around The World

1519 - 1521





Navigator	Number of Ships	Number of Crew
Zheng He (1405 - 1433)	48 to 317	28,000
Columbus (1492)	3	90
Da Gama (1498)	4	ca. 160
Magellan (1521)	5	265

Before Magellan, Europeans believed that no people could possibly live on the other side of the earth, even if it was round. Forget about people falling off the bottom of the planet, this belief was religious.

If there were people on the other side of the earth, the intelligentsia reasoned, they wouldn't be able to see Jesus arrive at the Second Coming. Since God wanted everyone to witness that event at the same time, He wouldn't allow people to live out of sight of it.

Duh! The Stupid History of the Human Race

The Extent of the Spanish Empire in the Sixteenth Century

Spanish Territories

Mexico
Cuba
Venezuela
PERU
Chile
Rio de la Plata

Netherlands
Luxemburg
Burgundy
Charolais
Milan
Naples
Balearic Is.
Sardinia
Sicily

Philippines
Manila

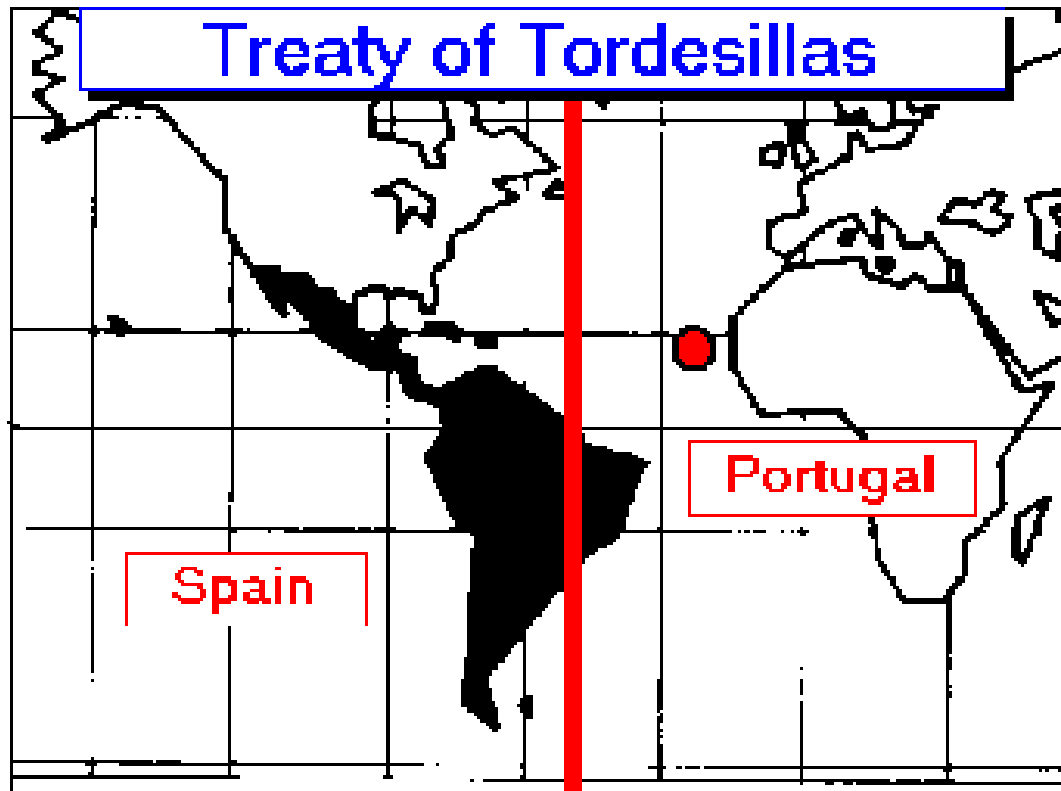


Mexico Surrenders to Cortez



Treaty of Tordesillas—1494

- **Pope Alexander VI settled claims between Spain and Portugal**
- **Pope's Line of Demarcation** = pope created a line through Atlantic dividing Spanish & Portuguese claims in new world



Columbian Exchange

- **Trade network that exchanged crops, livestock, & diseases between hemispheres**
- **Corn and potatoes increased population in Europe**



North America

France:

- **1534**—claimed **Canada**
- **1600s**—outposts in **Ohio & Mississippi River Valleys**

England:

- **1500s**—explore **Hudson Bay**
- **1600s**—colonies along **east coast** to provide raw materials & markets
- **1607—Jamestown**—**1st colony (70% died in environment)**

Netherlands:

- **Colonies in N.A. & Brazil**



Jamestown



"JUST HOW LONG DO YOU ILLEGAL ALIENS PLAN ON
STAYING IN OUR COUNTRY?"

Trading Companies

- **Governments of Spain, the Netherlands, England, and France formed trade companies**
- **Gave regional monopolies to these companies**
- **Two most prominent:**
 - **British East India Co.**
 - **Dutch East India Co.**
- **Encouraged increased consumption of eastern products: coffee, tea, sugar**
- **Growth of trade fostered growth of capitalism = economy based on private ownership of property & investment**



Mercantilism

- **Exported more than imported**
- **Promoted ideas of colonies**
- **Believed there was a limited amount of bullion in world**
- **Colonies were markets** for the manufactured goods produced by mother country
- **Proletariat—workers**
 - **Inflation & commercialization** created this group who didn't have access to the means of production



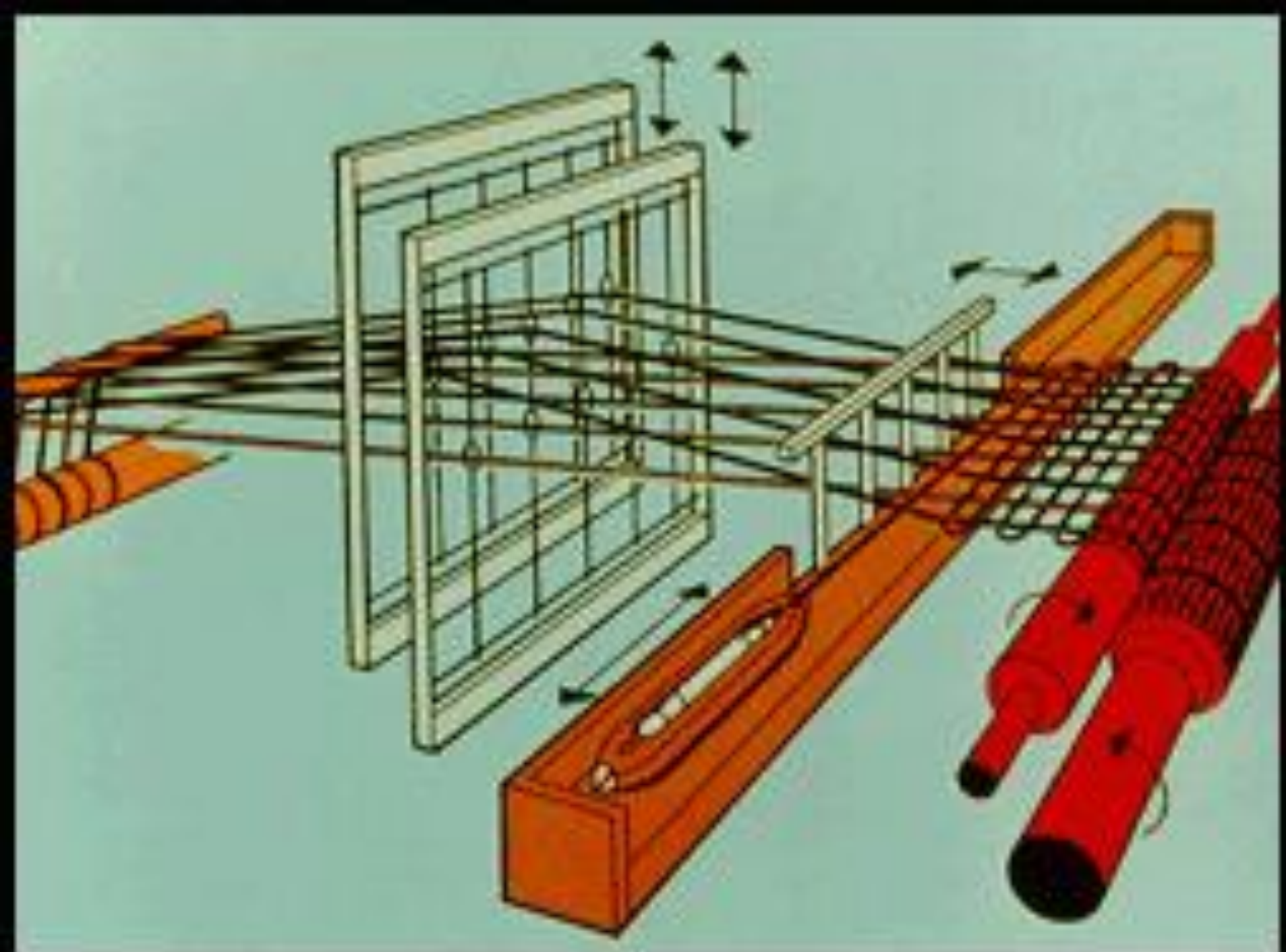
Outside the World Trade

- **China:**
 - relied on **regional trade**
 - **Disinterest in European products**
 - **Extensive gov. regulations to control European trade**
- **Tokugawa Japan:**
 - **prohibited foreign trade** except for limited activity w/ **Dutch & Chinese**
- **Russia:**
 - **Traded mainly w/ central Asian nomads**
 - **18th C. began trading with W. Europe**
- **Ottoman Empire:**
 - **Little interest in trade w/ West**
- **Mughal India:**
 - **Traded w/ West, but more interested in expansion**
- **Africa:**
 - **Ports along west coast, but not in continent**

Advancements in Business

- **Domestic System** = household production of **textiles & metal products** in which merchants distributed the supplies & the workers worked for pay
- 1733—**flying shuttle**—automatic crossing of threads on a loom (2xs faster)
- 1765—**Spinning Jenny**—at 1st spun 16 spindles at once—by 1800 120 spindles at once





Traditional Spinning Wheel



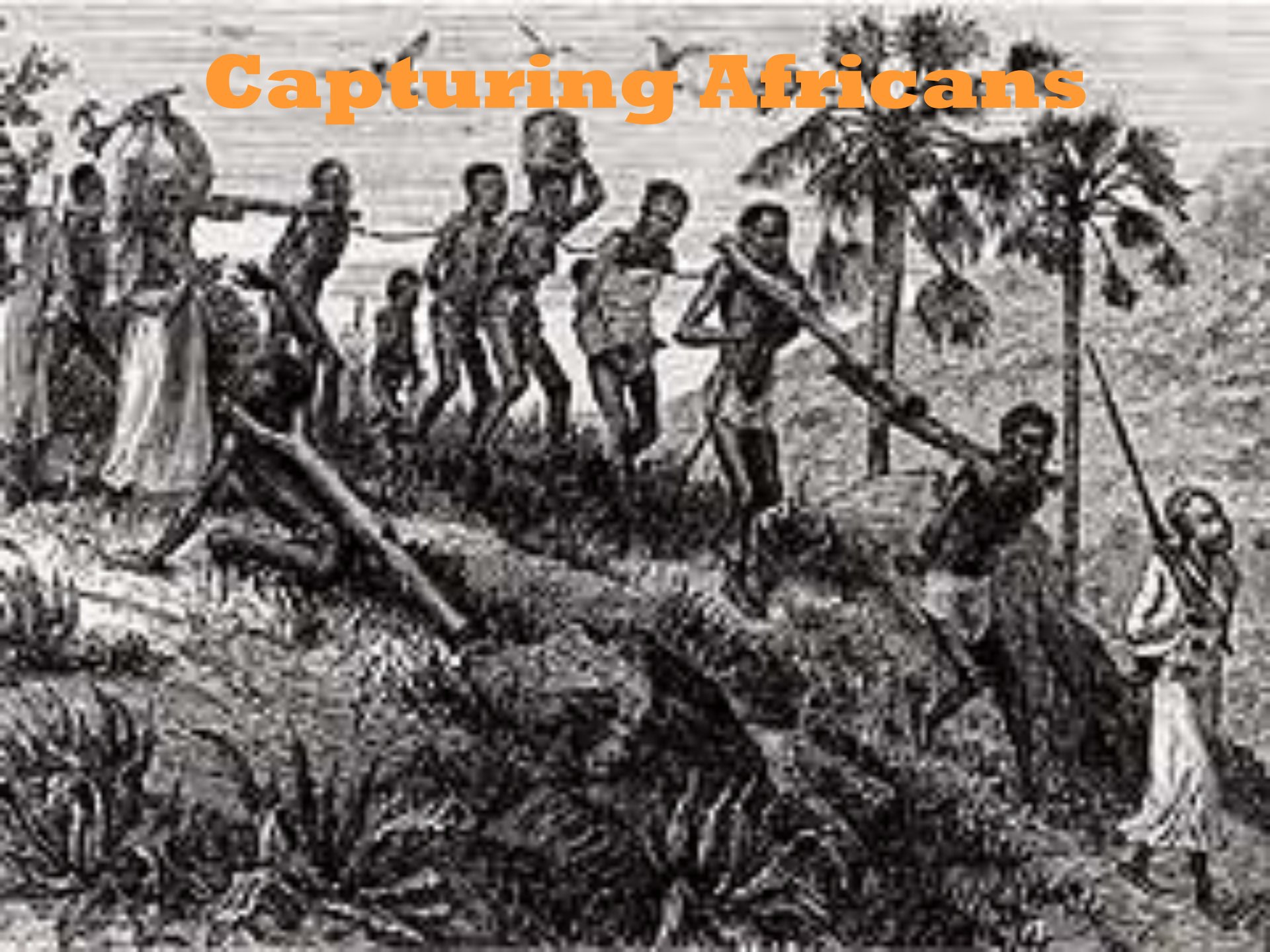
Spinning Jenny

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- A photograph of a Spinning Jenny, a multi-spindle spinning machine. The machine is made of wood and features a large wheel with many spokes. A long wooden handle is attached to the wheel. The machine is set up with many spindles, each with a spindle and a bobbin. The machine is displayed in a museum setting, with a wooden floor and a wooden wall in the background. A small white label is visible on the left side of the machine.
- 1700 one hour of weaving required the yarn from 15 hours of spinning
 - 1800 one spinner could keep two weavers fully occupied and produced as much yarn as 200 domestic spinners could have done before the invention of the jenny

Slave Trade

- **Slave trade already existed in Africa**
- **Portugal's quest for gold & pepper from Africa brought them into contact w/ slavery**
- **Women esp. valued as slaves for household servants or for harems**
 - **But more male slave to the Americas**
- **1450s Portugal in direct trade w/ sub-Saharan Africa**

Capturing Africans

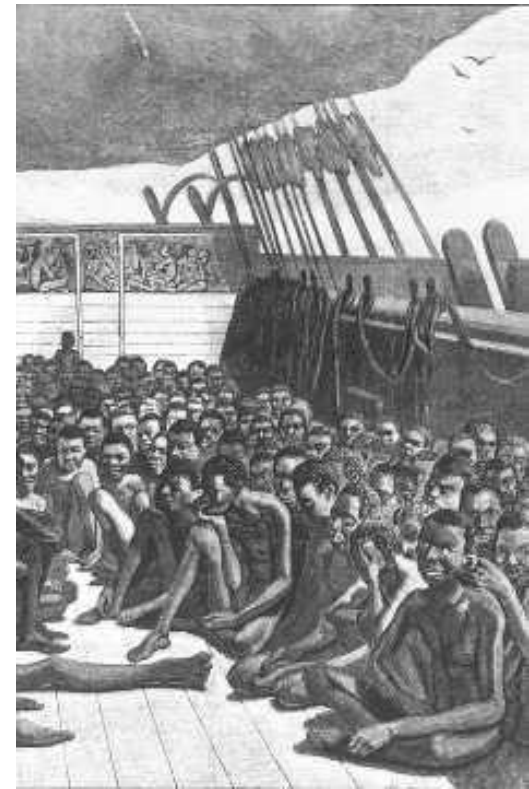


Auction



Necessity for Slaves in the “New World”

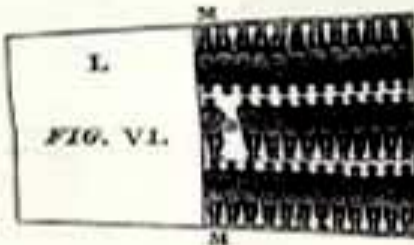
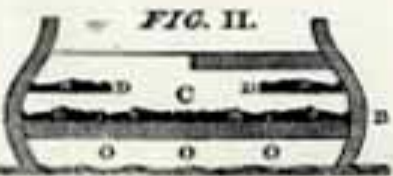
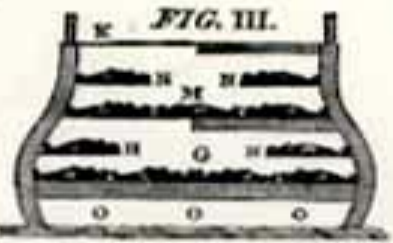
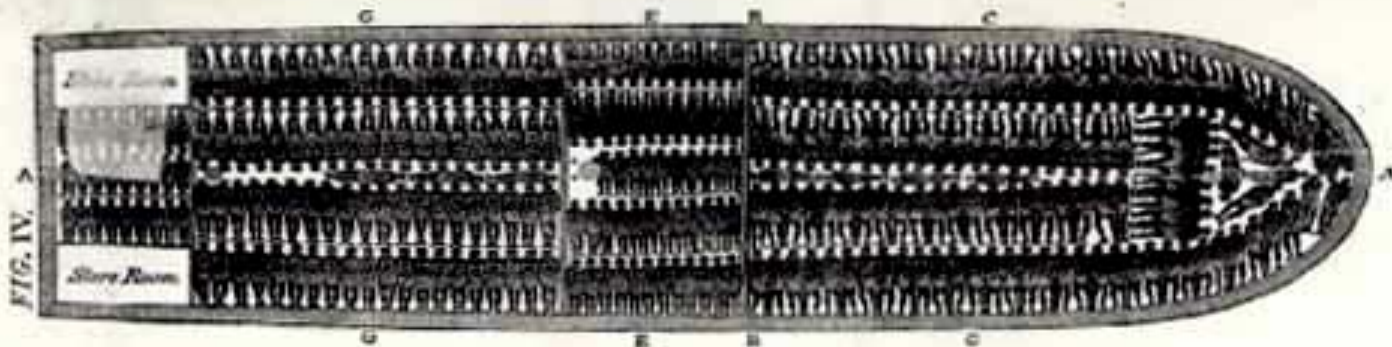
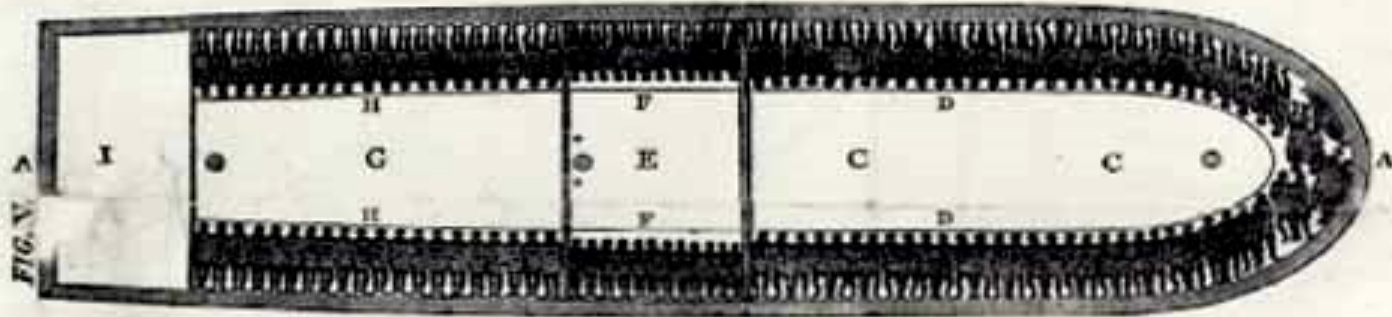
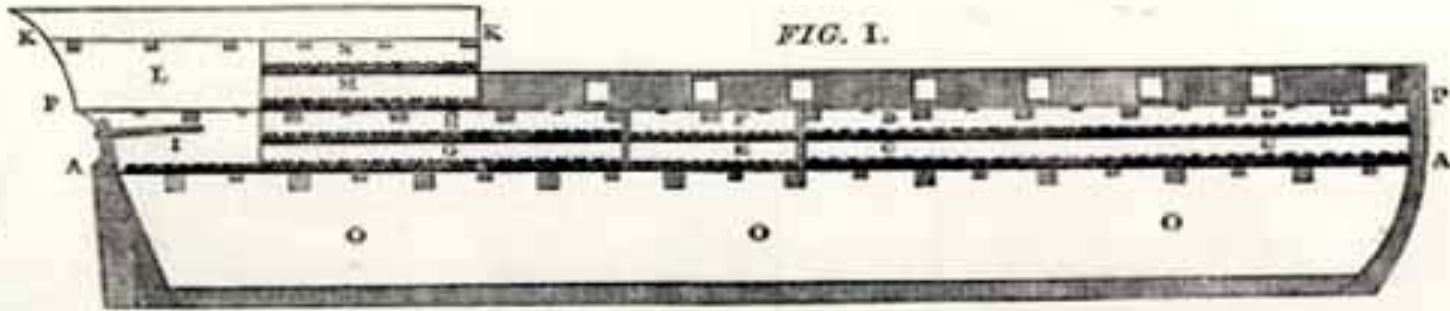
- **Native Am. died from European diseases (about 50%) so Europeans used Africans for forced labor**
- **Desired West Africans experienced in agriculture techniques**



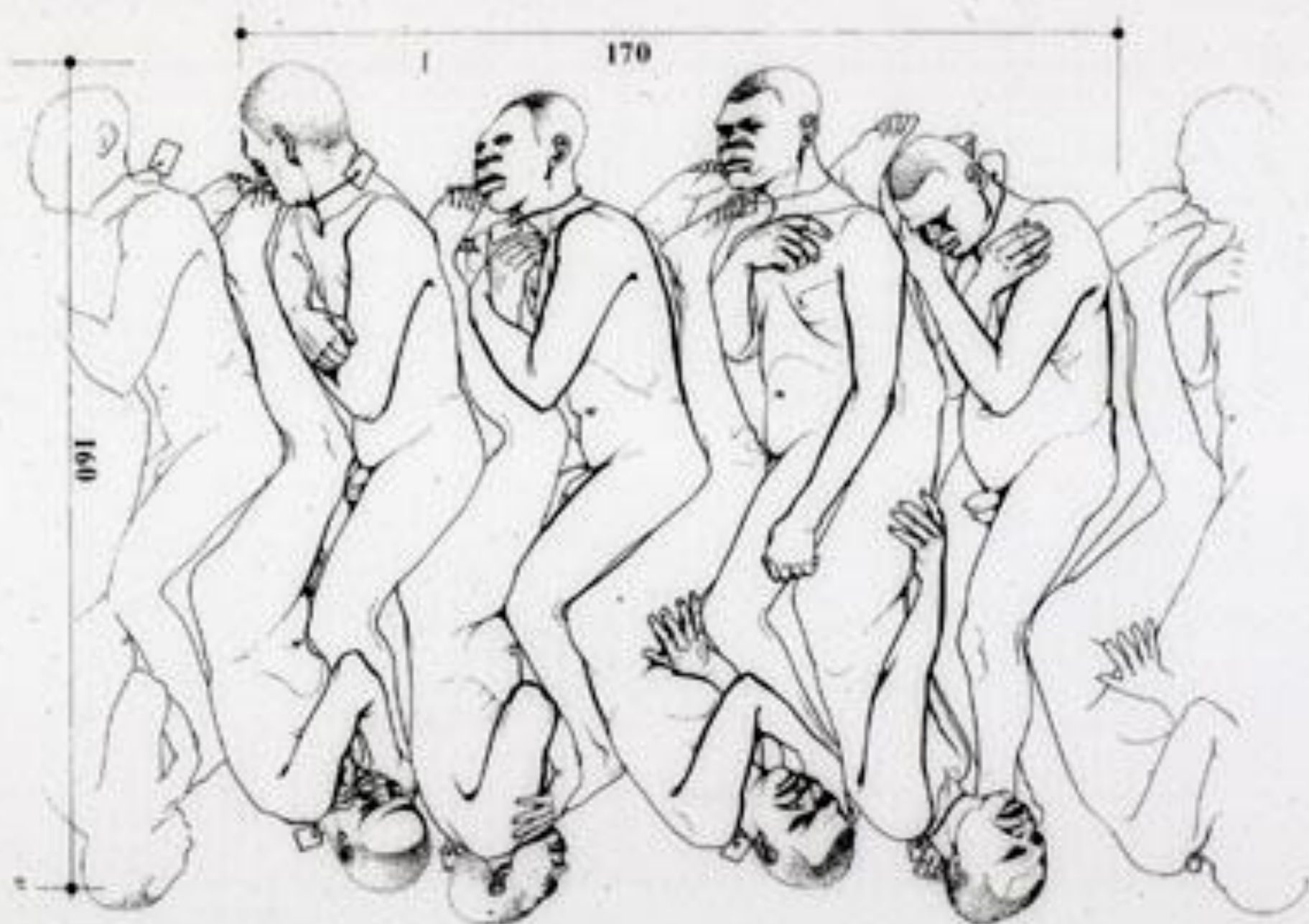
Slaves

- Usually **prisoners of war or captives** from **African slave raids**
- **Europeans** used slaves as **household servants**
- In **Americas** = used on **sugar plantations** (increased trade)
- **9-11 million** slaved crossed
- **5%** reached **British N. America**
- **Most slaves** who reached **N. America** came through **West Indies 1st**
 - **Sugar plantations in Caribbean** required large #s

DESCRIPTION OF A SLAVE SHIP.



"Middle Passage"





Sharks followed the slave ships!

Triangular Trade



- **Middle Passage = Slaves transported from Africa to S. America or West Indies**
 - **~25% died on march to the coast**
 - **~20% died on passage**

Effects of Slave Trade in Africa

- More males taken as slaves—so **family life altered**
- Some areas the population was **reduced by half**
- Increased **African dependency** on European technology