Knowledge of the World in Middle Ages

- People in Europe had very limited knowledge of many parts of the world
- Maps were often inaccurate and left out large parts of the planet which Europeans had not explored
1569

Typus orbis terrarum, ad imitatem universalis Gerhardi Mercatoris.

America sive India nova, quae est in partibus Americae, nostre temporis cognita.

Vid ei potest videi magnum in rebus humanis cui aeternitas omnis totiusque mundi nota sit magnitudine.

Cicero.
Motives for Exploration

- To explore & conquer new lands for curiosity or fame
- To make money (gold, slaves, food etc...)
- To spread Christianity
- To find a new (safer/easier) trade route to East (for silk, spices, jewels etc...)
- Easier to travel & explore because of improvements in ships and navigation
Motives for Exploration

- Silk and spices
- Money
- More territory, land
- Slaves, gold, diamonds, food, wood, raw materials
- Spread christianity (missionaries)
- Curiosity, knowledge
- To make better maps
- Fame, prestige
- To find an easier route to East than the silk road
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Travellers in Middle Ages

- Pilgrims: travelled to holy places eg Jerusalem
- Merchants: travelled to buy and sell goods eg Marco Polo from Venice went to Asia
- Crusaders: some christians from Europe travelled in Crusades to fight wars with Muslims
Problems faced by sailors/explorers

- Lack of good maps/charts
- Lack of instruments to measure speed, direction, distance travelled
- Ships small, difficult to manoeuvre, easily damaged
- Problems with food, water & disease on ships (eg Scurvy)
- Dangers encountered travelling
Imaginary fears of sailors & explorers

- strange creatures & sea monsters
- boiling seas
- falling of edge of world
Real fears of sailors & explorers

- Fear of attack by natives/rival powers
- Fear of getting lost
- Fear of storms/shipwreck
- Fear of dying because of problems with food, water and disease on ships (eg Scurvy)
Advances in navigation

- Direction: Compass (points to Magnetic North)
- Depth: measured by ‘swinging the lead’
- Speed: measured by log & line (knots)
- Distance from the Equator: measured using Astrolabe or Quadrant
- Better maps & charts produced
Compass
Log and Line

The Log-line in Use

The Log-line

Loops equal half-knots.

Knots indicate speed.

Lead weights

"Log"

Direction of travel

Log or chip
'Swinging the lead'
Quadrant and Astrolabe
Using an astrolabe
Portolan Chart
Improvements in Ships

- Square sails good for speed
- Triangular (lateen) sails good for manoeuvring
- Portuguese built CARAVELS
- Had both types of sails

- CLINKER BUILT hulls were stronger
Prince Henry (the Navigator)

- Son of King of Portugal
- Set up school for sailors at Sagres
- Astronomers, ship-builders, sea-captains, map makers all worked there
- Helped make improvements in maps, ships, navigation instruments
- Portolans (charts) showed coastlines, islands, winds, tides, currents, rocks etc...
Portuguese sailors explore the coast of Africa

- 1415 Canary Islands
- 1434 Cape Bojador
- 1460 Sierra Leone
- 1475 St. Catherine’s Point
- 1487 Bartolomew Diaz sails round Cape of Storms (later renamed Cape of Good Hope)
Vasco Da Gama sails to India

• In 1497 Vasco Da Gama took 4 ships around Cape of Good Hope
• Travelled up east coast of Africa
• Sailed across Indian Ocean to Calicut in India
Treaty of Tordesillas

- Fear that tensions between Portugal and Spain over exploring/conquering new lands could lead to war
- Pope Alexander VI drew line on map
- Spain to get land west of line
- Portugal to get land east of line
- Both countries accepted this dividing line in Treaty of Tordesillas (1494)
Christopher Colombus

- Born in Genoa, Italy
- Worked on ships from a young age
- Believed world was round
- Wanted to reach India & Spice Islands by sailing west across Atlantic
- He didn’t know there was unexplored continent (N/S America) in the way
Colombus prepares for 1\textsuperscript{st} voyage

- King of Portugal wouldn’t sponsor him
- Colombus asked King Ferdinand and Queen Isabella of Spain for help
- Given 3 ships (Nina, Pinta, Santa Maria)
- 87 crew between 3 ships
- Left Palos, Spain in 1492
Colombus’ 1st Voyage

- Travelled about 150 miles a day
- After 30 days sailors wanted to turn back as no land sighted but CC convinced them to go on
- 3 days later sighted land (an island they named San Salvador)
- Colombus thought he had reached India
- Discovered more islands (Cuba, Hispaniola)
- Santa Maria sank Colombus left men on Hispaniola and returned to Spain with native, plants etc…
Colombus’ later voyages

- CC made 3 more voyages
- 2\textsuperscript{nd} voyage had 1,200 men and 17 ships
- Discovered more Islands (Jamaica, Peurto Rico, Haiti, Trinidad, coast of South America)
- On 3\textsuperscript{rd} voyage reached mainland of North America
- CC was appointed Governor of ‘New World’
- Not very good ruler-treated natives cruelly
- Ordered back to Spain where he later died in 1506
Magellan (1480-1521) and the Circumnavigation of the World

- Ferdinand Magellan from Portugal
- Worked for King Charles V of Spain
- Wanted to reach Moluccas (Spice Islands) by sailing west
- Wanted to circumnavigate (sail around the world) to prove it was round
Seville to Patagonia

- Left Seville August 1519
- 5 ships and 284 crew
- Trinidad, Concepcion, Victoria, Santiago San Antonio
- Sailed across Atlantic to South America
- Sailed down coast looking for way through to Pacific
- Spent southern winter in Port Julian (Patagonia)
• Some crew mutinied because they wanted to turn back
• Revolt brutally put down by Magellan
• Santiago shipwrecked
• October 1519 began to sail through channel between Patagonia and Tierra del Fuego (called Straits of Magellan)
• San Antonio deserted
• 3 ships came out in Pacific after 38 days
This old map of Magellan shows only the Strait of Magellan and not the Beagle Channel. Cape Horn at bottom.
Straits of Magellan to Mactan

- 3 ships sailed west across Pacific
- No land for 96 days
- Problems with food & disease
- Landed in Guam in March 1521
- Sailed on to Philippines
- Magellan killed on Mactan Island
- Sebastian del Cano becomes commander
- Arrived in Moluccas in November 1521
Moluccas to Seville

- Concepcion abandoned
- Trinidad & Victoria continued across Indian Ocean
- Trinidad forced to return to Moluccas
- Victoria faced problems with food/disease and stopped in Cape Verde in July 1522
- Victorian reached Seville in Sep 1522 with cargo and 18 sailors
- 1st circumnavigation of the world
The Conquistadors

- Spanish explorers-soldiers who conquered territory and civilisations in South and Central America
Francisco Pisarro went to Peru where he encountered the Inca civilisation
• Hernan Cortes went to Mexico where he encountered the Aztec civilisation
Central Mexico in the Sixteenth Century

Route of Hernán Cortés to Tenochtitlan, August–November 1519
Route of Cortés Flight from Tenochtitlan to Tlaxcala.
Possible Route taken by Cortés to meet Narváez, April–May 1520

A. Karl B. Kennedy
The Aztecs in Mexico

- Emperor was called Montezuma
- Capital city: Tenochtitlan was built on islands in a lake
- Over 200,000 people lived there
• Aztecs built pyramid shaped temples
• Had human sacrifices in religious rituals
• Had a written language
• But hadn't discovered how to make iron tools or the wheel
• The Aztecs had never seen white people, horses or guns
• Cortes and his men were welcomed as Gods by the Aztecs
• Spanish then began to steal gold etc. from the Aztecs
• The Aztecs rebelled against the emperor and drove the Spanish out of the city
• Cortes made an alliance with enemies of the Aztecs and attacked Tenochtitlan

• Many Aztecs massacred in the fighting

• Cortes made governor of New Spain

• Tenochtitlan renamed Mexico city
Impact of the Explorations on Europe

- Some europeans got rich from: **trade** *(buying and selling products)*, **mining** *(gold, silver, etc...)*, **plantations** *(farms producing food, wood etc...)*

- New food/drinks were introduced to Europe *(potatoes, corn, chili, tea, coffee, chocolate, pineapples)*

- Millions left to settle in 'New World'

- Wars and skirmishes between European countries over colonies

- Knowledge of world, maps improved

- European countries *(Spain, Portugal, England, France, Holland)* gained empires
Impact on native populations

- Many natives killed, enslaved, treated cruelly, exploited by european settlers
- Many natives died as a result of diseases brought from europe (measles, flu, smallpox)
- Native population in North & South America decreased from 50m in 1492 to 4m in 1700
- Land taken from natives by european settlers
- Christianity introduced, many native religious beliefs, rituals, artefacts and books declined or destroyed
- New languages introduced (esp. English, Spanish, Portugese). Native languages declined or disappeared
- Millions of black Africans kidnapped and brought to North and South America as slaves