

“NEW IDEAS” THAT AFFECTED EUROPE IN THE PERIOD 1500-1700?

RENAISSANCE: (Rebirth) – revival of learning. This movement started in the Italian City States during the 14th century much because of *their financial wealth* (due to the trade in the Mediterranean). The new ideas included:

- *Individualism*
- *Artistic creativity*
- *Free inquiry*

HUMANISM: Humanism was very much linked to a rebirth of interest of the classical writings of Greece and Rome. We can find authors like *Petrarch* and *Boccaccio* on the Italian peninsula. The broader more varied education gave room for famous an inventor/author/painter like *Leonardo da Vinci*. Within art we find artists like *Michelangelo*, *Raphael* (and *Donatello...*). The ideas of the Renaissance spread to other places in Europe:

- *through personal contacts*
- *through printed books (made with a movable type)*

Two famous humanitarians in Northern Europe were:

- *Erasmus of Rotterdam*
- *Sir Thomas More*

Painters like *Rembrandt*, *Holbein*, *Brueghel*, *Rubens* and *Dürer* established a specific style in northern Europe and in England we connect *William Shakespeare* to this period (Elizabethan Age) as well as *Cervantes* in Spain who wrote a story about a very special “knight” – *Don Quixote*

REFORMATION: The changes of the Church in the 16th century did not only divide the church but it also:

- *divided Europe*
- *reduced the power of the Catholic Church*

What were the causes of this division?

- *Corruption*
- *"Worldliness"*
- *Nationalism* (resented papal control)
- *Economy* (Merchants wanted to be free of religious restrictions on trade)

The reformation started in Germany when **Martin Luther** nailed the **95 theses** on the Church Door to the "*All Saint's Church*" in Wittenberg in **1517**. It spread quickly to Scandinavia and Switzerland. **Calvin - Calvinism**, the more strict form of the new ideas of "**Protestantism**" was established in:

- *France (French Huguenots)*
- *England (Puritans)*
- *Scotland (Presbyterians)*

...and his home country Switzerland

England broke with Rome after a quarrel between the pope and Henry VIII - the English Church was established.

Counter Reformation: Reformation was necessary within the Catholic Church. This was decided at the *Council of Trent*. Here the Catholic beliefs were reaffirmed and the *conformity* within the church should be kept by the:

- *Inquisition*
- *Issuing the Index*

Even if the split of the church led to problems the **Reformation** also:

- *aided Royal Power*
- *aided the "democratic spirit"*
- *encouraged business*
- *encouraged education*

As mentioned the split of the church led to problems - sometimes **wars**:

- *Dutch Revolt against Hapsburg Spain*
- *Spanish Armada defeated - which led to England becoming a sea power*
- *French Civil War*
- *Thirty Years' War (which was devastating for many German states)*

In the 1600's **France** emerged as the most powerful nation on the European continent

EXPLORATIONS AND DISCOVERIES: Travelling outside Europe was not uncommon during Roman times. **Roman merchants exchanged goods with both China and India.** This was interrupted because of:

- *The decline (and fall) of the West Roman Empire*
- *The Arab expansion and conquests 632-750*

During several hundred years travelling and trading outside Europe became sparse since the roads and the sea were unsafe (wolves, bandits and pirates). We only see a few exceptions in travelling:

- **Vikings** (Leif Eriksson “*discovered*” America around year 1000)
- **Crusades** (11th and 12th century – to “*retake*” the Christian heartland – Jerusalem)
- **Marco Polo** (went all the way to China in 1275 – to the court of the Mongol Emperor Kublai Khan)

EXPLORATION NOW – WHY? In the 15th century we can see an interest on taking up new trade routes. We have several reasons for why this interest comes at this time:

- **The goods that came from India and China were very expensive.** It had been transported over land and sea all the way to the Mediterranean coast. On the way it passed several hands and all of them wanted to make a profit. When it came to the coast Italian merchants stood ready to transport it to Europe (basically a monopoly of Venice and Genua). They made the largest profit...
- Due to the **growth of the middle class** there was a **new interest of trade** with the East from people. They wanted more and cheaper goods
- **A single voyage from one of the countries along the Atlantic coast could avoid all these middle hands.** This especially interested Portugal, Spain, England, France and the “Low Countries” (later called the Netherlands)
- **Improvements in shipbuilding and sail making** made longer trips possible
- **Inventions** like the **compass**, the **astrolabe** (measures the latitude – north-south) together with the use of **more advanced math** and **Portolan charts** made navigation easier

- **Cannons** – a Chinese invention made the trip a bit safer... and gave the travelling tradesmen to negotiate with “power”

EXPLORERS: 1450 – 1650 is often referred to as the “Age of Discovery”. It starts with Portugal. In **1415** the **Portuguese** took over the northern Moroccan town of Ceuta. This was done for two main reasons:

- *Christian crusade among the Arabs*
- *Control of the gold that came from the West African mines (in today’s Sudan)*

PORTUGAL: A Portuguese Prince (that never went to Sea), “**Henry the Navigator**” played a leading role when **he established a naval school** (and observatory) at Sagres (at the coast of Portugal) and **hired the best captains and map makers** he could find. This “school” sent ships every year to **explore the coast of Africa** and then bring in “annual reports”. The ships returned with lots of valuable goods. They established some trading forts along the coast (Ghana – the “**Gold Coast**”) and discovered the islands of *Madeira* and the *Azores*. All these Portuguese discoveries made the Pope grant Portugal all the lands from Cape Bojador (West Africa) to the East Indies (with the exception of the Canary Islands). This grant was part of the “**Treaty of Alcáçovas**” **1479** between Castile, Aragon (later Spain) and Portugal. In **1487 Bartholomeu Dias** reached the southern tip of Africa. He named it the “Cape of Storms”. Now the Portuguese got confirmed that you could sail around Africa to reach Asia (India, China...). The Portuguese king renamed the southern tip – he called it the “**Cape of Good Hope**”.

NOTE: The Treaty of Alcáçovas can be considered as a landmark in the history of **colonialism**. It is one of the first international documents formally outlining the principle that **European powers are empowered to divide the rest of the world into "spheres of influence"** and colonize the territories located within such spheres – without asking the people living in these areas for their consent.

SPAIN: As mentioned in previous chapters Spain was occupied with the “*reconquest*” of Spain from the Moors. It was not until **1492** when the last Moors had been forced to leave Spain that the Spanish part of the discoveries seriously began. This year **Christopher Columbus**, with the support and financial backing of the Spanish rulers Isabella and Ferdinand, sailed west in an attempt to reach India. On October 12th 1492 he landed at the **Watling Island** (one of the Bahama Islands). He also visited (“discovered”) **Cuba** and **Hispanola** (Haiti and the Dominican Republic). Columbus sailed three more times to the Americas and one of these times he is said to have reached the mainland. Still he seemed to be convinced that he had reached Asia.

After Columbus explorations Spain wanted a revision of the “Treaty of Alcáçovas”. In **1493** the Pope drew an imaginary north-south line, the “**Papal line of demarcation**” (“Inter Caetera”) 100 leagues (about 250 miles) west of the Azores and declared that the discoveries beyond that line belonged to Spain. Portugal protested and a new agreement was made the following year (**1494**) at the “**Treaty of Tordesillas**”. The demarcation line was moved to **370 leagues west of the Azores**. This made it possible for the Portuguese to later claim Brazil.

NEW DISCOVERIES: Portugal and Spain continued the explorations of trade routes to the Orient and the Americas. In **1497 Vasco da Gama (Portugal)** sailed from Lisbon reaching **Calicut in India** 10 months later (1498). He bought spices and jewels home to Lisbon and it was sold for **sixty times the cost of the whole expedition!** He had also lost two thirds of his men and two of the four ships. Still it was the **enormous profit** that made the difference for

most of the financiers. With this voyage Portugal had finally broken the monopoly of trade that the Italian city-states had.

The same year as Vasco da Gama sailed so did the Italian **Amerigo Vespucci**. He is said to have made four trips to the American mainland at the east coast of South America. What made him different than previous explorers like Columbus was the fact he was convinced that they had discovered a new continent. A **German geographer** therefore **named the new continent America** in his honor (a claim that has been disputed...) – still the name remains.

EXPLORERS: We have many famous explorers at the beginning of the “Period of Discovery”:

- **Pedro Cabral (Portugal):** Sailed a bit too far west 1500 when he was going to India and therefore “discovered” **Brazil**
- **Vasco da Balboa (Spain):** Established the first Spanish colony on the American mainland (**Panama**) 1510 and while he explored the land came to a “new ocean” 1513 – the “South Sea” – later named the **Pacific Ocean** (by Magellan)
- **Ferdinand Magellan (Portuguese that sailed for Spain):** In 1519 Magellan began his trip that would take 18 men (out of 243) and one ship (out of five) around the world. It took them three years and twelve days... Now everybody knew the world was round, that America was its own continent and that you could **sail around the world**
- **Juan Ponce de León (Spain):** He explored **Florida** 1513 trying to find the “Fountain of Youth”
- **Hernando Cortés (Spain):** A conquistador that explored **Mexico** 1521 (and managed to end the **Aztec civilization**)
- **Francisco Pizarro (Spain):** A conquistador that explored **Peru** 1531 and thereby put an end to the **Inca civilization**

NORTHWEST PASSAGE: In South and Central America Spanish and Portuguese explorers competed against each other over the land areas. A few Spanish explorers also went north but here we mostly find **French, English** and **Dutch explorers**:

- **John Cabot (England):** Claimed the territory of **Nova Scotia in Canada** 1497 for King Henry VII
- **Jacques Cartier (France):** Made his way up the **St. Lawrence River** 1534 and claimed this area together with the vast land around it for France (he called it “**New France**”)
- **Sir Francis Drake (England):** After seizing gold and silver from some Spanish ships he sailed up the North American west coast trying to find a way to sail east to avoid the Spanish ships in the Southern Americas that was waiting for him... He did not succeed and therefore sailed west. He reached England 1580 becoming the **first Englishman to sail around the world**. The profit of **his voyage was 4700%! He also showed that relatively small English ships were very well suited for this long voyage.**
- **Henry Hudson (Netherlands/England):** In 1609 he “discovered” the **Hudson River** and claiming it for the Netherlands. A year later exploring for the English he claimed the **Hudson Bay** area for some English private businessmen

OVERSEAS EMPIRES: The more important explorer states had different ways of establishing themselves outside their home countries:

PORTUGAL: Mostly established *trade stations* – not colonies. One of the few **exceptions** is **Brazil** where a Portuguese colony was established (**Africa** – Angola, Mozambique, Zanzibar; **Asia** – Malacca, Java, Sumatra, “Spice Islands”, Macao, Goa, Diu; **America** – Brazil). *Along with the explorers came missionaries – especially Jesuits*. When they tried to introduce the **Inquisition in India** they were met with strong opposition.

NOTE: In **1580 Spain conquered Portugal** and it was part of Spain until 1640. This seriously hindered the growth of the Portuguese trade and colonies. England and the Netherlands seized some territories and Portugal would be an “Empire” in **decline** after it regained its independence in 1640...

SPAIN: Established **colonies!** In **1575** Spain had founded **over 200 settlements** with more than **160 000 inhabitants** in the “New World”! (**Asia** – Philippines; **America** – West Indies: Hispanola, Cuba, Puerto Rico and Jamaica + most of South and Central America). The Spanish:

- *was stronger than Portugal*
- *were better on developing the natural resources*
- *could easier transplant the European way of living to the colonies*

but:

- *the centralized administration was not very flexible and they exercised strict control over the new areas*
- *they only let the catholic church establish itself in the colonies (no religious freedom – rather the opposite)*
- *they also transplanted the feudal system of Spain – large aristocratic landowners that treated their subjects poorly*

ENGLAND: Two events triggered the English participation in the exploration of the world:

- *Sir Francis Drake trip around the world 1577-1580*
- *The defeat of the Spanish Armada 1588*

In 1607 the first English settlers came to **Jamestown Virginia**. This was the start of the colonization of North America – “**New England**”. In 1620 the ship “**Mayflower**” arrived in Massachusetts (Cape Cod – at Plymouth). Around **60 000 people** had established themselves in New England around **1640**. The colonies:

- *allowed English minorities to settle*
- *had several private companies that arranged their travel and sold land to them They also allowed the settlers a certain degree of self-government*
- *therefore fostered colonists who both felt and received more independence than many settlers from other nations*

England or the Hudson Bay Company claimed a **large area around Hudson Bay** (in Canada) where they focused on the trade on fur. In the **West Indies** the English settled on the Bermudas and in 1655 England seized Jamaica from Spain. When Portugal was conquered by Spain, some English businessmen took the opportunity through their newly established company – the “**English East India Company**” (founded 1600) and gained control of the very valuable Portuguese trading posts of **Bombay, Calcutta and Madras in India**.

FRANCE: Traders and missionaries were sent out to the French **trading posts and colonies**. In 1608 France established its **first permanent colony in Quebec** (Canada). Quebec became the capital in this new region called “**New France**”. In Montreal another French fort was built. French fur traders explored the regions around the Great Lakes and later the Mississippi river. Robert de la Salle claimed for France **all the vast areas around the Mississippi river** and called it **Louisiana** in honor of King Louis XIV. **Fur was to France what gold was for Spain...** Still the French did not make very many real settlements and in 1660 Canada only had around 2500 French settlers. Maybe it would have been more if France had let the Huguenots to migrate but France had several ideas in common with Spain, they:

- *only allowed Catholics to migrate*

- *had a very rigid government control that did not allow any own initiatives*
- *had a feudal land system that discouraged ordinary independent French farmers*

In the West Indies more settlements were established; in Martinique, Guadeloupe, Tortuga and Haiti. In Africa French set up trading posts at the Senegal River and at Madagascar. In India they established the trading post Pondichéry.

NETHERLANDS: During its struggle for independence from Spain (between 1567-1648) the Netherlands built a **strong navy**. With the help of this navy the “**Dutch East India Company**” established themselves in the “**East Indies**” – **Batavia** (Djakarta) on **Java**, **Malacca** and the **Spice Islands** (seized from Portugal). They set up several “**way stations**” along the **African coast**. The most important one of these way stations was the little Dutch settlement of “**Cape of Good Hope**” founded in 1652. In the Americas the Dutch settled in the **West Indies** (Curaçao), in **South America** (Dutch Guiana) and along the **Hudson River** in “**New Netherland**”. Here they bought an island – **Manhattan** – from the Native Americans and built a sister town to Batavia called “**New Amsterdam**”.

NOTE: The third city that the Dutch built around this time was Gothenburg! The Dutch had some similarities with the Portuguese – they came from small nations and therefore they did not have a lot of people so they became traders not colonizers.

THE COMMERCIAL REVOLUTION: The big **supply of precious metals** (16 000 tons of silver + 185 tons of gold 1503-1650) led to changes in European business life. These changes – the **COMMERCIAL REVOLUTION** included:

- **Banking:** In the 1100’s – private families had established “exchange houses” that dealt with papal revenues (like the Medici and Fugger families) but it was not until the 16th century that checks, bank notes and bills of exchange came into widespread use. It was important that the banks could deal with much more money than the amount they had in their vaults = **Expansion of Credit Facilities**

- **Insurance:** Merchants went together and built up a common fund which could compensate the owners for losses due to fire, shipwreck and piracy (comes in the late 17th century – one of the first ones was Lloyd’s of London)

- **New business organizations:** More risks and bigger investments called for a change **Regulated companies** – An association of Merchants banded together for a common venture (Ex: Several private English companies that sold land and property in North America)

Joint-stock companies – Investors could buy a share in a company. This company did not have to be reorganized every time somebody withdrew or died. You just sold the shares. This kind of company could accumulate a lot of money when business was good. Together with the establishment of this kind of company came “Stock Exchanges” – a place where investors could buy and sell shares (Ex: Dutch East India Company)

Chartered companies – Companies that had a charter from the government who would grant them monopoly of trade to a certain location (Ex: English East India Company)

Increase in prices (Inflation!): The first big inflation in Europe came 1560:

1. **Influx of silver from Spain.** They paid all the creditors, their armies, imports etc... with silver which meant it circulated quickly
2. **Population increase.** In 1450 Europe had a population around 50 million people. Around 1600 it had increased to about 90 million people

3. **Constant food supply.** Lack of new agricultural technology meant that the food supply remained more or less constant. The price went up!

SOCIAL EFFECTS: The Upper Class (esp. big landowners), Merchants, Entrepreneurs gained. They had the silver and they adjusted the prices to the influx of wealth – not the standard of living for the majority of the population; workers and peasants. If a famine or a war hit – starvation and mass death. The Rich got richer and the Poor got poorer!

POLITICAL EFFECTS: Higher prices for the State meant higher taxes when the State needed money for reforms, wars, or just the rulers own spending...

Growth of modern capitalism: The book defines capitalism the following way: *The private control of the means of production for private profit.*

Another definition of capitalism: *A system of production, distribution and exchange, in which accumulated wealth is invested by private owners in order to make the private owners / the individuals rich. Their wealth is built up by the surplus – the profit* (The value of the production when you sell it minus the cost of production)

Development of an economic system called Mercantilism: Mercantilism is basically the same as capitalism except the “individual gains” is replaced by the gain of the State. They will control and regulate the finances in order to make as much profit as possible (State monopolies, protectionism against import, develop export and use colonies). It stressed as much self-sufficiency as possible. Business between countries was a kind of “economic war”

Change for the European trading centers from Genoa, Venice and Florence through Cadiz and Lisbon to Antwerp, Amsterdam, Bristol and London

Goods from Asia: Spices, gems, paper, ivory, porcelain, textiles, tea and coffee

Goods from Africa: Hardwoods, ivory, gold, ostrich feathers and SLAVES (20 million)

Goods from the West Indies: Sugar, molasses, rum and indigo

Goods from Americas: Potatoes, tobacco, cocoa and corn

Goods from Canada: Furs and cod fish

Goods from “New England”: Lye, ship timbers, pitch and turpentine

The growing trade also changed the habits of many Europeans:

From small poorly furnished houses to bigger houses built with “exotic” timber, window with glass, carpets, wallpaper, comfortable bedding – feather beds, pillows, etc...

New food, new drinks and tobacco were also introduced. *In London the Coffee Houses became important centers for the newly rich educated middle class...*



THE SCIENTIFIC REVOLUTION

If we look again at the Renaissance, the Reformation and the Exploration we find some ideas that lead to a “**Scientific Revolution**”.

1. RENAISSANCE: Traditional ideas were attacked and discarded. Renaissance stood for revival of learning / financial wealth (mostly through trade) / Individualism / Artistic creativity / Free inquiry / HUMANISM

2. REFORMATION: Traditional ideas were attacked and discarded. Reformation led to reduced power for the Catholic Church / a divided Europe / a national resentment of Papal Control / Merchants and businessmen who wanted to be free from religious restrictions / encouraged education / encouraged business / aided the “democratic spirit”

3. EXPLORATION: Added much to men’s knowledge – and some new discoveries contradicted previous knowledge... / Commercial Revolution: Banking / Insurance / New business organizations / Inflation / bigger differences between poor and rich / Modern capitalism with ideas of private profit / Mercantilism / Colonization...

SOME FAMOUS SCIENTISTS:

- **Nikolaus Copernicus** (Poland) – early 16th Century. 1543 “*On the Revolutions of the Heavenly Bodies*”
 1. Heliocentric view – Sun is in the center of the solar system
 2. 24 hours – Earth rotates around its axis
 3. 1 year – Earth makes a yearly trip around the sun
- **Johannes Kepler** (Germany) – early 17th Century
 1. A planet moves in an oval orbit (ellipse) around the sun
 2. The speed of a planet increases when it comes closer to the sun
 3. “Harmonic Law” – Defined a mathematical relationship between the time required for a planet to go around the sun and its distance from the sun
- **Galileo Galilei** (Italy) – late 16th Century. 1632 “*Dialogue on the Two Great Systems of the World*”
 1. Bodies of different weights fall at the same speed in the absence of air
 2. Explained the principle of the lever and the motion of projectiles
 3. Sound – wave length
 4. Developed his own telescope (magnified 30 times....) – discovered mountains on the moon / discovered spots on the sun / discovered stars of the Milky Way / discovered the satellites of Jupiter / discovered the rings around Saturn
 5. Had to appear in front of the Inquisition 1633 and deny the Copernican System (“but it does move”)
- **René Descartes** (France) – 17th Century. Inventor of “*Analytical Geometry*”
- **John Napier** (Scotland) – early 17th Century. Inventions of *logarithms* (slide rules + tables)
- **Evangelista Torricelli** (Italy) – 1645. Invented a **mercury barometer** for **weather forecast** – measured the atmospheric pressure

- **Gabriel Fahrenheit** (Germany) – after 1645. Made the first **mercury thermometer** (32° / 212°)
- **William Gilbert** (England) – 1600. “*On the Magnet*”. Worked with magnetism and electricity. Explained the action of the compass needle – where Earth itself acts like a large magnet. Investigated static electricity (Named electricity after the Greek word “*electron*” which means Amber)
- **Philippus Aureolus Paracelsus** (Switzerland) – early 16th Century. Applied chemistry to medicine. Urged experimentation with various **chemical drugs...**
- **Andreas Vesalius** (Habsburg Netherlands – Brussels) – 1543 “*On the Fabric of the Human Body*”. **Anatomy**. Gave the first accurate description of the anatomy of the human body
- **William Harvey** (England) – 1628 “*An Anatomical Exercise on the Motion of the Heart and Blood in Animals*”. Investigated how the **heart** worked and **blood circulation at animals** (fish, frogs, birds)
- **Zacharias Janssen** (Dutch) – 1590 – developed the **Microscope** (an eyeglass maker)

The new discoveries and inventions within natural science lead to questions about the social systems of Europe. If the scientific authorities of the past had been wrong, and the church had made some grave mistakes – could not the political and social systems also be wrong?