**The Age of Discovery**

I. Exploration of the New World

* The 15th century was an age of exploration and discovery, not only of the New World but of the Far East as well
	+ It's important to remember that in 1400, Europeans knew little more of the world's surface than had the ancient Romans
	+ In 1350, it took the same amount of time to sail from one end of the Mediterranean to the other as it had 1000 years before
	+ As late as 1325, there was still no regular sea traffic between northern and southern Europe by way of the Atlantic. By 1500, all this had changed
* Why did Europeans begin exploring at this time?
	+ Population not a factor
		- Europeans were not motivated by demographic pressures to leave Europe in the 15th century as they would be in the late 19th
		- The European population had not yet recovered from the Black Death, nor would it do so until at least 1500
	+ The role of national governments
		- The explorations were encouraged by national governments which were the only ones wealthy enough to finance such exploration
		- Countries that lacked such national governments, like Italy and Germany, were cut out
		- Some believe the Europeans might actually have reached the new world earlier had not they been held back by economic depression and political upheavals
		- After all, the Portuguese had found the Azores in 1350 and these islands were one-third of the way to the new world
	+ Scarce items
		- Europeans were encouraged to search the world because they were looking for the things they could not produce themselves
		- These included spices, silk, cotton cloth, and precious stones
			* The Venetian monopoly in spices set very high prices
			* Between 1495-99, the price of pepper doubled in Venice
			* Da Gama of Portugal found pepper costing 80 ducats in Venice could be had for a mere three in Calicut in India
		- John Cabot of England was looking for cod; cod from the Grand Banks off the coast of Newfoundland had bigger and fattier livers that produced more oil from which a huge profit could be made
	+ The Renaissance
		- During the Middle Ages, Europeans had no burning desire to look beyond the boundaries of Christendom
		- But with the Renaissance and the ideas of human improvement, people became curious as to what lay beyond their known world
		- They also looked back at the knowledge of the ancients and learned
			* One major reason for the explorations was the rediscovery of Ptolemy’s Geography recovered in 1409
				+ Ptolemy accepted the idea of the world as a sphere, but he exaggerated the size of known territory making continents seem closer together than they really were
				+ The result was that Ptolemy had underestimated the circumference of the globe by 5000 miles
				+ This misinformation is what led Columbus to sail west to get to China
		- New inventions
			* Exploration was made possible by new inventions
			* The sandglass was the basic timepiece of the period, good enough to measure the difference in four hour watches on a ship, but not nearly good enough to calculate longitude
				+ Not until the 18th century would there be chronometers accurate enough to calculate longitude
				+ Instead, the naval explorers of the 14th and 15th centuries used latitude sailing
				+ This meant they would find the right latitude by measuring the distance of the sun from the horizon, sail so many days on that course, change to another, etc. until they reached their destination
			* The magnetic compass first developed around 1300 helped sailors determine their position at sea, and the astrolabe permitted the plotting of latitude
			* Better maps also aided seamen
* The Beginnings of Exploration
	+ Portuguese take the lead
		- The Portuguese took the lead in exploration, feeling their way along Africa, hoping that the two known oceans, the Atlantic and Indian, were connected somehow
		- This was done under the influence of Prince Henry the Navigator (1394-1460)
		- Portuguese ships found the Gold Coast of Africa
			* By 1500, Portugal controlled the flow of gold into Europe
			* The Golden Age of Portugal had begun
		- As they worked their way around Africa searching for a passage, the Portuguese also founded the slave trade which they also soon controlled
		- In 1487, Bartholomeu Dias rounded the Cape of Good Hope in Africa, but storms and a threatened mutiny obliged him to turn back
			* But before the Portuguese could venture around Africa and on to India, further information would be required about conditions in eastern Africa
			* To that end, Pero da Cavilha was sent overland to India to find ports in India and Africa hospitable to the Portuguese
			* He identified a sultan in Malindi who would be willing to provide the Portuguese with pilots across the treacherous Indian Ocean
		- The Portuguese then concerned themselves with their other main rival, Spain
			* The Treaty of Tordesillas in 1494, divided the world between Spain and Portugal, giving most of the new world as it turned out to the Spanish, except for Brazil, but preserving the Portuguese monopoly over the African coast
		- Vasco Da Gama in 1497 set sail and eventually reached India
			* He found the pilot promised him and made the 2300 mile trip across the Indian Ocean in only 27 days, with the wind at his back and a skilled pilot who maneuvered around the islands and reefs
			* But, having reached India and taken on his goods, Da Gama was obliged to leave in a hurry
			* Worse, his pilot was killed
			* The trip back to Africa took 3 months
			* By the time he returned to Portugal, he had lost two ships, and only 59 of the 170 men he had begun with were left
			* The cargo he carried, however, was worth 60 times the cost of the expedition
		- In time, the Portuguese set up trading posts in India to the discomfort of the Arabs there
			* Christianity spread as well with them, with missionaries reaching China in 1516
			* Jesuits reached Japan in 1549, delivering hundreds of converts in a few years
	+ The Spanish enter the race
		- The Spanish had not found anything that paid such dividends
		- Early Spanish explorations
			* Columbus
				+ Columbus was dispatched with the support of Ferdinand and Isabella in August, 1492, landing in October at San Salvador which he believed to be India

Columbus was not the first to discover the New World, but the **last**

Earlier European explorers to the New World

The Vikings in 982 under Eric the Red had found Greenland, and about 1000 under Leif Erickson had found the what we now know as Canada

Lacking stable political institutions in Scandinavia, they had no governmental forms to impose on these distant countries, and their settlements collapsed

Irish sailors led by a monk named Brendan most likely sailed across around the same (or even earlier time) in a boat made from leather

* + - * + Columbus ultimately located all the major islands in the Caribbean
				+ He also found new souls to win over to Catholicism, and of course, he found new land to settle the restless young hidalgos who had expected the Spanish crown to give them land and wealth following the fall of Granada when in fact the crown had none to give
				+ Columbus also found gold that was cultivated by placer mining, that is washed from gravel

The work was tedious and the Indians had no immunity to most European diseases

What with disease and overwork, the population of Hispaniola fell from one million in 1493 to 100,000 by 1510

Black slaves would be imported from Guinea to do the mining

But the amounts of gold found were tiny and still the voyages had not paid off

* + - * In 1513, Balboa sighted the Pacific Ocean after crossing the isthmus of Panama
			* Magellan
				+ Following Balboa's discovery, Spain dispatched Ferdinand Magellan to find a sea route to the new ocean
				+ He found the straits at the bottom of South America which still bear his name
				+ Sailing between huge mountains and through narrow passages, it took 38 terrifying days to make it through
				+ The ocean he found on the other side was so calm, he named it the Pacific
				+ Still thinking Ptolemy’s calculations were correct, and the victim of extraordinary bad luck, Magellan crossed the Pacific, missing Tahiti, the Marquesas, and every other major island group, arriving finally in the Philippines
				+ There he was killed and the rest of his expedition finally returned to Spain in 1518 after running the gauntlet of hostile Portuguese settlements in Africa and India
				+ Magellan's crew had proven the earth was indeed round and considerably larger than Ptolemy thought it was, but they had not yet found the wealth the Portuguese had enjoyed for decades
		- The Conquistadors
			* Thus the conquistadors were sent inland looking for treasure
			* Cortes in 1519 captured the Aztec empire and Pizarro captured Peru between 1531 and 36, finding the richest silver mines in the new world
			* Finally, the Spanish exploration had paid off, and the Spanish began exploiting this new found wealth
			* But this money did not stay in Spain: she had destroyed her own middle class made up of Jews and Muslims when the latter were expelled in 1492
			* Thus, the wealth passed through Spain to create raging inflation in the rest of Europe.

II. Social Results of Imperialism

* Technology
	+ Technology aided imperialism that in turn had a major impact on European social life, primarily through new developments in ship building
		- Before the Renaissance, the ships that plied the Mediterranean were narrow open boats called galleys
		- Such ships were frequently rowed and sometimes used a small mast which did not catch the wind efficiently
		- Such delicate, slow-moving craft were acceptable for the relative calm of the Mediterranean Sea which was well mapped, but they would have sunk quickly in the rough seas of the Atlantic, most of which remained unexplored
		- It was the Portuguese who developed the caravel in the 15th century, a three mast ship which, though physically smaller than a galley, could actually hold more cargo, and could be sailed by as few as 12 men if need be
		- This more efficient use of manpower was absolutely necessary following the massive population loss caused by the Black Death
	+ While technology made Renaissance imperialism possible, especially the caravel and new cannons, this imperialism itself had a huge economic impact on Europe
	+ Almost unimaginable amounts of gold and silver came in from the Spanish possessions
	+ This influx of bullion led to major price increases
		- Between 1503 and 1650, 16 million kilograms of silver and 185 thousand of gold reached Europe
		- But since artisans could not rapidly increase the production of their goods since such goods were still handmade, a classic inflationary cycle began, with large amounts of money chasing very few consumer goods, leading to major price hikes
		- Between 1519 and 1547, in Wittenberg, where Luther nailed his 95 theses to the church door, prices increased 100%.
		- In this inflationary period, merchants profited and prospered because they owed fixed sums that cost less to repay with inflated currency, and because they could rapidly raise the prices they charged for their wares
		- By contrast, the nobility were hurt because they were paid a fixed sum by their tenants over a long term lease
			* They were in fact living on a fixed income
		- Wages of workers lagged behind the inflation rate
			* By 1620, a common laborer's income could buy only one-half of what it could in 1500
	+ The price of food rose sharply
		- By 1600, wheat cost five times what in had in the late 1400s
		- This meant that agriculture became a lucrative field for investment, just as long distance shipping had been
		- Increasingly, merchants, having made their profits in trade, bought land to diversify their operations and increase their profits
		- When they began managing farms, they brought the same "bottom line" mentality they had used in trade to agriculture, resulting in the Second Agricultural Revolution
	+ Many articles, such as sugar, coffee, and rice, stopped being luxuries because they were available in larger quantities
	+ Industry thrived as well, especially glassmaking
		- Cheaper glass made possible glass windows that replaced the oiled paper of the Middle Ages
		- Glass windows allowed far more light into a room than the oiled paper ever had
			* With more light, houses could be split into smaller rooms for more privacy, without turning rooms into dark cells
			* With more (if smaller) rooms available in houses for the first time, people of modest means could physically separate themselves from their children, keeping children away from adult pursuits
			* For the first time in history, a concept of childish innocence developed because children could be kept innocent for the first time by keeping them away from the procreation of their siblings
		- Improved glassmaking also allowed finer glass to be produced
			* This in turn allowed it to be ground more efficiently
			* In the 17th century, better glass allowed microscopes and telescopes to be developed with clearer lenses which allowed scientists to see the heavens and microscopic life better
			* These new developments helped bring forth the Scientific Revolution of Galileo and Newton
* Slavery
	+ The slave trade underwent a Renaissance as well
	+ Portugal dominated the slave trade because of her conquest of African ports
		- Only in the 17th century would the Dutch and English begin trading slaves on the Guinea coast
	+ The chief market for these slaves was Spanish South America; native Americans in that area were rarely successfully enslaved since they were unaccustomed to the labor required and had no immunity to European diseases
		- The importation of large numbers of slaves caused a huge demographic shift against the native Americans
		- In Brazil in 1798, for example, there were two million blacks out of a total population of 3.25 million
	+ It is important to note that slavery was widespread in Africa and Europe, and that Europeans almost always contracted with other African tribes to provide them with slaves for sale in the Americas
	+ This worked because Africans were already familiar with slavery, having practiced the system against one another for centuries--very different though from slavery as it emerged in the Americas
		- Who was involved (mostly kings of larger African countries and those smaller kings who wanted to become large kings--also an outflow trade to the Muslims)
		- Why slavery existed--form of punishing criminals, prisoners of war, unpaid debts
		- Conditions of slavery--for a limited period, slaves had legal protections, slaves usually treated as part of the household
	+ That said, the pace at which slaves were taken increased, leading to the disintegration of the African social system
		- As young men and women were captured in vast numbers, it was impossible for African tribes to reproduce themselves or their cultural patterns from one generation to the next
	+ Controversy surrounded slavery almost at once
		- Some considered it inhumane while others saw the system as an economic necessity
		- By the late 17th century, there were abolition movements in both north and south America
* The Columbian Exchange
	+ The "Columbian exchange" is a term developed by historian Alfred W. Crosby
		- Describes the transfer (both intentional and unintentional) of biological materials between Europe and the Americas
		- This transfer was both devastating and beneficial at the same time
	+ Perhaps the most important import from the New World after its wealth was its food
		- The potato, for example, could grow where nothing else could, and its culture eventually spread to England and Germany where wet soils and short growing seasons made wheat cultivation difficult
			* By the 19th century, it had become the most important crop in all of Europe
			* But Protestant, northern Europeans remained suspicious of the potato in spite of its many virtues because it was not mentioned in the Bible, and they sometimes blamed it for causing disease, especially leprosy
		- Fish from the Grand Banks off the coast of Newfoundland entered the European diet
			* The tomato first appeared in Europe in a yellow form, hence the term for it in Italian, pomodoro (golden apple)
			* The tomato was a valuable source of vitamin C as was the potato, provided the latter was not overcooked and the skin was eaten
		- But the miracle crop at first was surely corn
			* Instead of getting back 5 grains for every one sown as one did in wheat cultivation, one got back 70 or more
			* Corn filled the granaries of Europe
	+ The Sugar trade
		- Sugar was especially prized for its high profits; the main center of production was Brazil, although Cuba and Hispaniola also contributed some sugar
		- Sugar from the New World became available just as the supply of the traditional European sweetener, honey, dwindled
			* Honey had been a bi-product of beehives which monks cultivated for the beeswax used in candles in Catholic services
			* As monasteries were closed in Protestant countries, honey disappeared to be replaced by sugar as the main sweetening agent
		- Sugar was so important the Dutch eagerly yielded up what became New York City to the English in exchange for the captured sugar lands of Surinam
	+ New beverages from colonies in Asia and the New World, like coffee, chocolate, and tea, also came from imperialism
		- All these drinks are high in caffeine, meaning such liquids were non-intoxicating
		- Chocolate, tea and especially coffee became the approved drinks of the middle class in Protestant countries, who wished to distinguish themselves from the aristocracy, addicted in their view to overconsumption of alcohol
		- The close association between coffee and the middle class merchant can be seen by noting that Lloyd's of London, still a major insurance company, was formed originally in Lloyd's coffee house
		- In fact, so much did the middle class adopt coffee as their own that money began flowing out of Germany at such a rate that a public relations campaign was begun to convince Germans their national drink was beer!
	+ Not only did new foods and beverages arrive from the New World but new cooking techniques reached Europe as well
		- The barbecue was adapted from a cooking technique of natives on the northern coast of Hispaniola
			* Those Carib Indians who escaped the genocide of the Spanish smoked meat over a latticework of green wood built over a fire of hides and bones
			* The Carib Indians called the technique boucan which passed into French as boucanier which became in English buccaneer, because both English and French regarded such Indians as social deviants
			* The Spanish called the greenwood frame barbacoe which became in English barbecue
		- African slaves brought to British islands in the Caribbean brought their ways of cooking with them, particularly the idea of using spices and frying (instead of boiling) meats--fried chicken for example.
		- These new foods and ways to cook them meant that fewer people in Europe died of starvation
	+ The population of the continent soared, freeing up labor first for the industrial revolution and then for the emigration of excess Europeans back to the New World in the 18th and 19th centuries
	+ The Columbian Exchange also made it easier for later generations of Europeans to settle in the Americas
		- Disease from the Europeans struck the native populations very hard--Native Americans had no built-in immunity to diseases that most Europeans saw as irritating, but not necessarily life-threatening
		- Diseases such as the measles, smallpox, the mumps, and pneumonia were devastating
		- In some areas, the native populations suffered a 90% or higher mortality rate within a decade of first contact with Europeans
		- Most historians of early America estimate that the total Indian population of the Americas dropped from around 25-30 million people to less than 5 million people in the 150 years following Columbus