

European Imperialism: 1800-1914

1

The New Imperialism

- Impetus for the **new imperialism**
 - Great Britain expanded into new regions to keep the French, Germans, and Russians from setting up bases that could harm British interests
 - Colonies were source of international prestige
 - Social Darwinism and racism factors: superior races dominated inferior races
 - Economic imperialism provided direct control of natural resources and products

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What is imperialism?

The takeover of a country, territory, or area by a stronger nation in order to dominate and control the government, resources, economy, and culture of the weaker nation.

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Key Terms

- ❖ Imperialism
- ❖ Mercantilism
- ❖ Colonies
- ❖ Protectorate
- ❖ Spheres of influence
- ❖ Social Darwinism

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What is imperialism?

The takeover of a country, territory, or area by a stronger nation in order to dominate and control the government, resources, economy, and culture of the weaker nation.

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Mercantilism

- 📖 Defined as the economic system practiced mainly during the 17th and 18th centuries by European nations.
- 📖 Based on the beliefs that there is a limited amount of wealth in the world, a nation should export more than it imports, and a nation's economic power can be strengthened by taking over territory beyond its borders.
- 📖 This economic system was designed solely to benefit the "Mother country". A conquered nation was made subservient to the economic goals of the colonizing country.
- 📖 For example, in North America Great Britain controlled the economy of the 13 colonies.

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How mercantilism worked between Great Britain and the 13 colonies

A map of the Atlantic Ocean region showing the flow of goods between Great Britain (labeled 'Mother country') and the 13 colonies. A red arrow labeled 'Raw materials' points from the colonies to the mother country. A blue arrow labeled 'Finished products' points from the mother country to the colonies.

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Forms of imperial rule

- o Colonies
- o Protectorates
- o Spheres of influence

A decorative map of the world with various territories highlighted in different colors, representing different forms of imperial rule.

8

There were two ways to govern a colony: direct and indirect rule

Direct Rule

- █ Officials and soldiers were sent from the conquering nation to rule in the colony. Locals were given no governmental power.
- █ The European nation imposed their culture on the colony.
- █ This was a practice commonly used by France.

The map above is of the French islands in the Caribbean, including Guadeloupe. Illustrations in the border show cotton bales, sugar crates, a windmill, and an earthquake.

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Indirect Rule

- █ Used local rulers to govern and encouraged children of local ruling class to be educated in the European country.
- █ Wanted to "westernize" future local leaders.
- █ This was a practice commonly used by Britain.

British colonies in North America, circa 1770.

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Protectorate

A protectorate is a territory or sovereign state where local rulers maintain control and govern, but they are under the control of another nation.

Though formally independent, the territory's policies are guided by an outside power.

Map showing British Protectorate of Bechuanaland and Crown Colony of Bechuanaland in southern Africa, 1887

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Sphere of influence

A sphere of influence is a territory in which another nation claims exclusive economic influence.


Competition for power and empire among European countries escalated in the 19th century, and the world was divided into colonial spheres of influence.

A painting depicting a woman sitting on a globe, surrounded by various animals and symbols, representing the concept of a sphere of influence.

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Social Darwinism


- ▣ The philosophy was developed by Herbert Spencer in the 1860s.
- ▣ The theory of evolution and survival of the fittest were applied to society and politics.
- ▣ It claimed that the wealthy are strong and therefore have the right to rule the poor who are weak.



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Social Darwinism emphasized competition between races rather than cooperation. It justified European expansion into Asia and Africa.

The theory was popular in Europe, particularly among German intellectuals, in the late 19th and early 20th centuries.



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The poem, *The White Man's Burden*, by Rudyard Kipling in 1899, supported the theory of Social Darwinism.



Take up the White Man's burden--
 Send forth the best ye breed--
 Go, bind your sons to exile
 To serve your captives' need;
 To wait, in heavy harness,
 On fluttered folk and wild--
 Your new-caught sullen peoples,
 Half devil and half child.
Take up the White Man's burden--
 In patience to abide,
 To veil the threat of terror
 And check the show of pride;
 By open speech and simple,
 An hundred times made plain,
 To seek another's profit
 And work another's gain.
Take up the White Man's burden--
 The savage wars of peace--
 Fill full the mouth of Famine,
 And bid the sickness cease;
 And when your goal is nearest
 (The end for others sought)
 Watch sloth and heathen folly
 Bring all your hope to nought...

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Berlin Conference 1884



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Berlin Conference

- ▣ Otto von Bismarck, Imperial Chancellor of the German Empire, convened the conference in 1884 to peacefully divide up Africa.
- ▣ 13 nations of Europe plus the United States were invited to participate in the talks.
- ▣ No African nations were invited
- ▣ France, Germany, Great Britain, and Portugal were the main European power brokers.
- ▣ The United States played a role, but its interests were in the Pacific realm, not Africa.





Count Otto von Bismarck

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The nations drafted the General Act in February 1885 which defined spheres of influence in Africa.

- Rules were established to claim control of African territories.
- To claim any part of Africa, a European country had to set up government offices there.
- European powers had power over the territory and would override any challenges made by local rulers and peoples.
- The doctrine of "effective occupation" was established to protect trade and travel on the Niger and Congo rivers for all. This meant the rivers would not be under any one country's control.
- The General Act established regulations to ensure the protection of missionaries, scientists, and explorers in Africa.
- Finally, the General Act also established Congo Basin as the Congo Free State to be under the sovereign power of Leopold II of Belgium.

Berlin Conference



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Europeans drew the political map of the African continent over the next 20 years with no regard for patterns of settlement or ethnic boundaries of Africans.

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Africa was "carved up" in the following fashion:

- French** West Africa
- British** East and Southern Africa
- Belgians** Congo/Central Africa
- Portuguese** colonies in West & Southern Africa
- Germans** one colony per region



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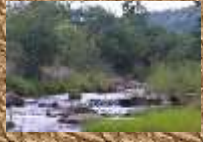
European interest in Africa

- ❖ Background on African trade networks
- ❖ Reasons for European interest
- ❖ Early European interactions with Africa
- ❖ Slave trade
- ❖ Natural resources
- ❖ Political
- ❖ Religious
- ❖ Science and exploration

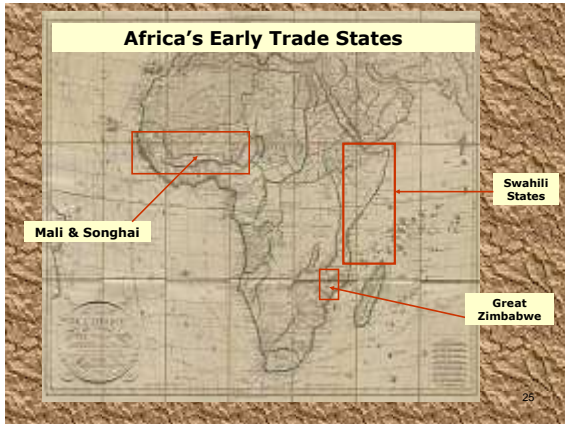
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Africa before colonization

- ❖ Hundreds of ethnic & linguistic (language) groups
- ❖ Many different religions
- ❖ Traded with Arabs and Europeans for centuries
- ❖ Powerful armies prevented invasion by Europeans
- ❖ Strong trade networks controlled gold & ivory
- ❖ Europeans could not get inside Africa because rivers too hard to navigate

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Trade connected the African Trade States to other parts of the known world, 1230-1591. These states included Mali and Songhai, the Swahili States, and the Great Zimbabwe.

- The kingdoms of Mali and Songhai were located in West Africa on the Niger River.
- The trade was known as the gold-for-salt exchange. Gold from south of the Sahara was traded for salt mined in the desert.
- In time, traders also exchanged ivory and slaves for textiles, jewels, and copper.
- The center of commerce, culture, and learning was the city of Timbuktu.

Timbuktu, Kingdom of Mali, a major center in the Trans-Saharan trade network.

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The Swahili States were located on coastal East Africa.

- Residents of the Swahili states spoke a language of African Bantu blended with Arabic and Persian influences.
- Swahili speakers were not of one ethnic group.
- Swahili speakers were bound by their common language and common trade network, not their culture.

The Arab and Swahili town on Mombasa Island, 1580. Mombasa island was settled by Arabs and Swahili by the 12th century.

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Swahili merchants acted as middlemen between eastern and central Africa and the outside world.

- They played a significant role in the trade of ivory and slaves through the 19th century.
- Their trade routes extended across Tanzania into modern day Zaire.
- Goods brought to the coasts were sold to Arab, Indian, and Portuguese traders.

King of Mali holding a golden nugget. The map, drawn in Spain, dates from 1375.

28

The Great Zimbabwe culture, located between the Zambezi and Limpopo rivers, was the commercial center of east Africa.

The people of the Great Zimbabwe traded slaves for gold, fur, beeswax, and ivory with the Swahili States and their Arabic merchants.

These ruins are part of the archaeological remains of the Zimbabwe culture.

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Reasons for European Interest in Africa

- Economic**
 - Access to precious metals, raw materials, and slaves
- Political**
 - Take territories for political gain
 - Prevent other European powers from having access to African raw materials and riches
- Religious**
 - Spread Christianity
- Science and Exploration**
 - Find rivers for expansion and control of trade
 - Learn of new materials that could be useful in manufacturing


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Portuguese and Dutch traded with Africa

Portuguese ships began exploring the African coast in the 1450s. They were interested in gold.

The Portuguese were the first Europeans to buy slaves from the Congo.

The Dutch sailed to Asia for spices and stopped along the way in Africa. They traded Asian fabrics with Africans and towards the end of the 18th century, began to trade in slaves.

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East Africa's slave trade was established before the Europeans arrived. It was driven by Muslim Sultans of the Middle East.

African slaves were taken to become sailors in Persia, pearl divers in the Gulf, soldiers in the Omani army and workers on the salt pans of Mesopotamia (modern Iraq).





Zanzibar, 1858

Indian Ocean Slave Trade

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Manufactured trade goods, like guns and textiles, were sent out of Europe and traded in Africa for slaves.

The African slaves were shipped across the Atlantic to provide forced labor for plantations in North and South America (including the islands of the Caribbean), which were growing cotton, sugar cane, and tobacco.




Europe being supported by Africa and America, 1806.

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By the end of the 19th century, slavery was officially abolished in the Americas.

The British ended slave trade from Zanzibar by 1873.





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Natural resources

Africa's wealth of natural resources was a major reason for European imperialism in the 19th century. Items of interest included gold, copper, ivory, and rubber.

Raw materials were transported to Europe and manufactured into goods for export to other countries. This favored the nation that controlled the raw materials.



An Ivory warehouse in London, early 1900s.



Loading rubber, French Congo, circa 1900

35

Africa proved to be an important source for the relatively new fuel—crude oil.



French oil well on Ivory Coast, circa 1900.

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Christian missionaries were active throughout the age of imperialism. Churches in Europe sent missionaries to convert Africans. Many missionaries did other work, as well. Those who were trained as doctors spread knowledge of medicine, too.



English mission, Zanzibar

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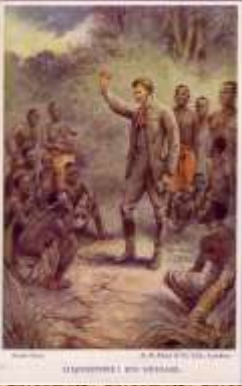
African Religions and Missions, 1913




The red dots shown on the map represent Christian Mission Stations. Most of them are found along rivers or are located along the coast.

The "Mohammedans" are called "Muslims" today. The Mohammedans were located in northern Africa. Heathens practiced tribal religions that included ancestor worship and animism.


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David Livingstone, Scottish missionary, doctor, and explorer traveled throughout sub-Saharan Africa converting Africans to Christianity. His travels covered one-third of the continent, from the Cape to near the Equator, and from the Atlantic to the Indian Ocean.



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In 1869, Henry Morton Stanley, a journalist, was hired by the New York Herald newspaper to find Livingstone. This quest made a great story for the Herald's readers and sold many newspapers. It also brought attention to the "dark continent".

Stanley located Livingstone on November 10, 1871 near Lake Tanganyika in present day Tanzania. According to his journal, Stanley famously greeted Livingstone by saying "Dr. Livingstone, I presume?" (This was a tongue-in-cheek remark because Livingstone was the only white person for hundreds of miles).

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Maps

- ❖ **British Empire 1897**
- ❖ **Africa 1885-1914**
- ❖ **Asia 1914**
- ❖ **World**

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Extent of the British Empire, 1897



42

German Colonialism

- Starting in 1884, Germany took over several small islands in the Pacific Ocean, including German New Guinea and the Marshall Islands.
- The Germans purchased the Caroline Islands and Mariana Islands from Spain in 1899.
- The Chinese were forced to give the Germans a 99-year lease for the city of Kiaochow in Shandong Province.
- Later Germany took over the rest of Shandong and built the port of Tsingtao.
- In 1884, Kaiser Wilhelm II expanded the German empire into Southwest Africa (Namibia), Cameroon, Togoland, and German East Africa (Tanzania).



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49

German Colonies and Settlements




50

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Italian Colonialism

- By 1914, Italy had colonies in north and east Africa.
- The African territory of Fezzan was claimed by both England and Italy.
- Italy had a small territory in Tianjin, a Chinese trading city shared by several European nations.



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51

France's Second Colonial Empire

- As part of the "race for Africa," France expanded its empire to include much of West Africa, Madagascar, and parts of Somalia.
- The French also controlled French Guyana in South America, Lebanon and Syria in the Middle East, Laos and Vietnam in Southeast Asia, and contested regions of Yunnan in China.



52

52

The French wanted to conquer parts of northern Africa. The Muslim Ottoman Empire had controlled this region for centuries.

The religious divide between the conquering European nations in the region and the native population led to several uprisings.



Prisoners taken by French Tunisia, North Africa, 1881

The city of Constantine, Algeria, 1840

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In the early 19th century, the nomadic Berber people known as the Tuareg resisted the French invasion of Central Sahara in Algeria. The Tuareg were defeated in 1905 and all of Algeria came under French control. The French set up a direct colony in Algeria, and more than a million French citizens settled there.



Tuareg fighters, 1903

54

54



The French installed a centralized federalist administration in Algeria, and established a system of direct rule.

The French went on to take over Tunisia and Morocco, by the beginning of the 20th century.

French Foreign Legion officer, Africa, 1912

55

European nations desired a shortcut for trading ships to get to Asia.

Prior to the completion of the Suez Canal, cargo ships either had to circumnavigate Africa, or unload cargo to be transported by land.

The land distance in Egypt between the Red Sea and the Mediterranean was approximately 100 miles.




56

In 1854 the Egyptian government allowed a French company to build a canal across the Suez isthmus.

Egypt was given over half the shares in the venture

Construction began in 1858

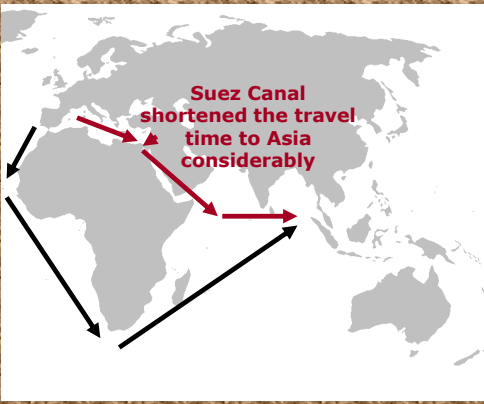
101 miles long

Built mostly by forced labor of poor Egyptians

Completed in 1869



57



Suez Canal shortened the travel time to Asia considerably

58

In an effort to get out of financial ruin, the Egyptian government sold its shares of the canal to Britain in 1875.

By 1882, Britain took control over the administration of Egypt and Sudan.




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French in West Africa

- Colonies were ruled directly and linked with the government in Paris
- Assimilated upper class Africans in French culture and language
- Difficult at first to acquire wealth from the region because it was either desert without any natural resources or covered with dense forest that was difficult to gain access

Sahara desert from space





60

Oil and rubber

As the automobile industry developed in the early 20th century, so did need for rubber and oil.

French export and sale of these raw materials from western and equatorial Africa brought more wealth to France.



Harvesting rubber in the French Congo, 1900


61



Oil drilling, Ivory Coast, 1904

62

IMPERIALISM IN ASIA 1914



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EXTENT OF IMPERIALISM IN THE 19TH AND EARLY 20TH CENTURIES



64

Central Africa

❖ Congo Free State

65

Henry Stanley, the journalist who found Dr. Livingstone in 1871, traveled back to Africa in 1879

- Stanley met with local leaders and signed treaties on behalf of the Belgian king
- The treaties gave King Leopold II of Belgium personal control over the lands in the Congo River valley
- Leopold announced that he would end the slave trade in the region



King Leopold II

66


The Congo Free State

Leopold promised that he would serve the Congo Free State well by:


- Protecting the native African population.
- Ending slavery.
- Guaranteeing free trade for European powers.

However, under Leopold's control, Congo became horrible for the African people because Leopold allowed companies that used:

- Slave labor.
- Rape and mutilation of native population.
- Torture against natives to force work and discourage resistance.




King Leopold II



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Congo Free State, 1894



Leopoldville was the capital of the Congo Free State (Etat Independent du Congo). It was located on the Congo River, which served as the transportation and communication line through the Congo Free State.

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The riches of the Congo, ivory, copper, and rubber, were exploited by Leopold and the companies he gave contracts.

Any land in Congo not lived on by Europeans was considered "vacant," regardless of village or tribal claims.

Many villages were cleared by the Belgian overseers to open land for plantation agriculture.

Once displaced from their homes, the Africans were required to work on the rubber plantations.



Africans worked in unbearable conditions.




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Those who refused to work were savagely beaten or mutilated or killed.

The development of Kodak's brownie camera allowed missionaries and members of the Congo Reform Association to provide photographic evidence of Africans who had been mutilated.





Many of those who did not die from infection after their hands were severed died of starvation since they were left with no hands to use to hunt or gather food.



Mutilated Africans in Leopold's Congo Free State

70

Mark Twain and Joseph Conrad brought the horror of the Congo Free State to the world's attention.

King Leopold's Soliloquy: A Defense of His Congo Rule
By Mark Twain
1905


The Heart of Darkness
By Joseph Conrad
1902

71

It is estimated that the death toll in the Congo was half of the entire population, anywhere from 3 to 10 million people during the 20 year reign of Leopold.

In response to pressure from Europe and the United States, the Congo Free State became an official colony of Belgium in 1908.

It was no longer under the control of one man who was accountable to no one.



King Leopold's strangle hold on the Congo Free State

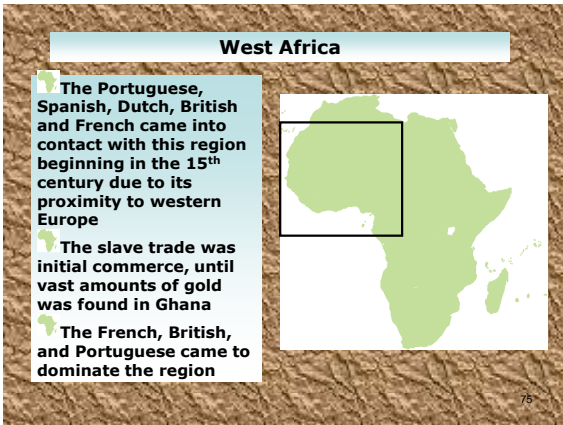
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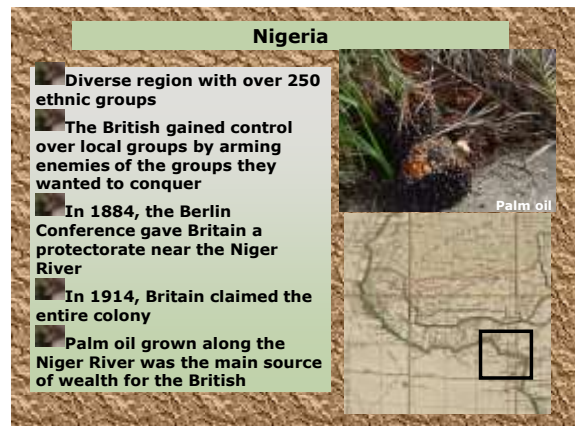
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Southern Africa

- ❖ Map of the region
- ❖ Zulus
- ❖ European settlers
- ❖ British claim Transvaal
- ❖ Gold
- ❖ Diamonds
- ❖ Boer Wars
- ❖ Cecil Rhodes

79

Map of the region

80

Zulus

- ❖ Originally a minor tribe that occupied the southeast portion of Africa
- ❖ In the first 3 decades of the 1800s, Shaka increased the power of the tribe through his military leadership
- ❖ After his death, his successors were overtaken by the British in 1887

81

In 1652 the Dutch East India Company established a settlement near Cape Town to provide supplies for passing ships.

Within a few decades there were also German and French settlers. They established farms and later were called Boers (Dutch for farmer).

The Dutch East India Company imported slaves and expanded their territory inland.

82

European settlement complicated an already diverse region

- ❖ Several African groups inhabited Southern Africa
- ❖ Many wars were fought between European settlers and Africans over territory through the 18th century
- ❖ The British seized the region from Dutch control in 1795
- ❖ British settlers clashed with the Boers especially over slavery, which the British outlawed in 1833

83

The Great Trek, 1835–1838

- ❖ Approximately 12,000 Boer frontier farmers, known as the Voortrekkers, migrated northeast to escape British authority
- ❖ The Boers fought several battles against various local groups, especially the Zulus
- ❖ They set up three colonies known as Natal, Orange Free State, and Transvaal

84

In the Battle of Isandlwana, part of the Anglo-Zulu War, a Zulu army defeated a British force, January 22, 1870.



85

Zulu Warrior, circa 1890

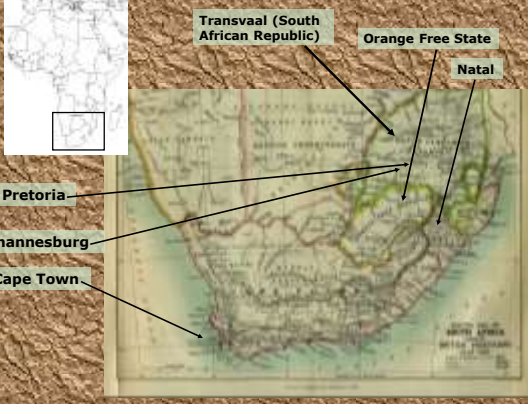



Zululand

When Britain annexed Transvaal in 1877, they were forced to deal with the border dispute between the Zulus and Boers.

In January 1879 a British force under Lieutenant General Frederick Augustus Thesiger invaded Zululand. After much bloodshed on both sides, the Zulu were defeated in April 1879.

86



87



Boers called themselves Afrikaners and did not see themselves as European. They were not subjects of the British crown and did not want to come under British control.

Warfare between the British and Afrikaners was caused by British expansion into Boer territory and Afrikaner fear of British domination.

The Great Boer War lasted from 1899-1902.

Boer Fighter in the war with Britain, circa 1900

88



Boer guerillas, 1900



Afrikaners fighting in the Boer War, 1900

The First Boer War was 1880-81 and the Second 1899-1902.

When the Boers surrendered in May 1902, the Boer homeland known as the Transvaal, became part of the British empire.

In 1910, the Transvaal became the Union of South Africa, a self-governing British dominion.

89

Mining mineral resources proved to be one sure way the colonial Europeans could gain wealth and power.



Placer-mining for diamonds were along the Orange River, near Kimberly, Orange Free State.



Mining for gold in southern Africa, circa 1900


90

In 1885 two itinerant workers discovered gold on a farm in what is now Johannesburg. Both men sold their claims for a few hundred dollars.

In 1886, the Witwatersrand gold field was discovered at that site, the largest gold field in the world.

In today's dollars, the gold fields in the region are now worth many billions.

This part of South Africa, which covers an area the size of West Virginia, contains almost as much gold as the rest of the Earth's surface combined.



Location of the Witwatersrand gold fields

91


A "pebble" found in 1867 near the Orange River was identified as a 21-carat diamond.

Placer diamonds (diamonds found exposed in river beds) were found between the Vaal and Orange Rivers later in the year.

In March 1869 an 83-carat diamond was found.

By the end of 1870 there was a diamond rush, and by the end of 1871 two well-defined areas were recognized as the source areas--called "pipes"--for the diamonds.

Four pipes were discovered all together at the town of Kimberley in the Orange Free State.




Kimberley and Orange Rivers


92

In 1872 these pipes had become giant open quarries worked by 2500 miners and 10,000 hired laborers.

The Kimberley workings were 190 feet deep by 1875, and miners were hauling material out of the hole on aerial ropeways which covered the pit like spider webs. Soon the hauling was driven by machinery on the edge of the pit, and in 1875 the first steam-engine was installed.




Kimberley mine today




Diamond Diggers in Southern Africa, circa 1900

93

British statesman Cecil Rhodes (1853-1902) helped secure British dominance of southern Africa. Rhodes arrived in the Cape Colony in 1870 and by 1890 he controlled the region's diamond production. His company, De Beers Mining Company, eventually controlled 90% of the world's diamond production.




Cecil Rhodes




De Beers Mining Company, Kimberley, 1893.

94

After he led the British economic push inland from Cape Colony, Rhodes moved farther north and organized a huge colony he named Rhodesia.




Rhodesia



Political cartoon of Rhodes spanning Africa

95

Rhodes encouraged the British Empire to invest in a road that would stretch from south to north, connecting the empire's African colonies: the Union of South Africa, South and North Rhodesia, Nyasland, Tanganyika, Kenya, and Egypt. The road was to link important cities such as Cape Town, Johannesburg, Pretoria, Nairobi, Khartoum, and Cairo. Though it was started in South Africa, the Cape to Cairo Road was never completed.



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Western Advantages

- ❖ Motives for imperialism
- ❖ New technologies
- ❖ Travel and emigration
- ❖ Improved medical knowledge

97

Europeans had been trading with African for about 400 years without colonizing. What changed in the 19th century?


- Advanced technology made Europeans superior: Maxim gun, steam engine, railroad
- Discovery of malaria protection: quinine
- Diversity of Africans made it hard for them to organize together against Europeans




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Why would a nation practice imperialism?

1. Desire for more wealth led European countries to seek raw materials, such as gold, iron, and coal
2. Desire to be powerful in the world; once the race for colonies began, there was pressure to control the most territory
3. Racism; the belief that European culture was superior to all others and should dominate the world
4. Desire to spread Christianity; missionaries went to countries to convert non-believers



99



100

The Second Industrial Revolution

The new technologies of the 19th and early 20th centuries introduced new kinds of energy, new machines, and new industries.

Industrialized European nations needed raw materials like cotton, copper, rubber, and oil. However, they did not want to depend on one another for these natural resources.

Consequently, each country tried to control regions that had the raw materials it needed. Many of these regions were located in Africa and Asia.



Bagging cotton for export, Nigeria



Drying rubber for export, Malaysia

101

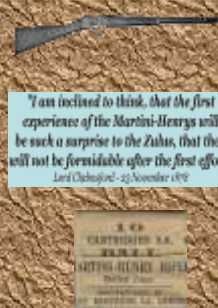
New weapons

Military weapons helped European armies subjugate local populations in Africa and Asia. The bolt-action rifle was one of the most important weapons used in the colonial wars.



Mechanism for bolt action rifle

102



"I am inclined to think, that the first experience of the Martini-Henrys will be such a surprise to the Zulus, that they will not be formidable after the first effort"
Lord Chelmsford - 25 November 1879

The Martini-Henry was the rifle of choice in the British Empire and her colonies for 30 years, from 1871-1901. The rifle was designed by Friedrich von Martini of Switzerland.

It was the first breech loading, metallic cartridge service rifle.

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104

After 1878, repeaters were used by Europeans in colonial wars.

The brass cartridges and smokeless explosives used by the repeaters survived long transportation distances and the humid tropical climates better than their predecessors, paper cartridges and gunpowder.




Private from The Queen's Royal West Surrey Regiment, armed with the Martini-Henry Rifle.

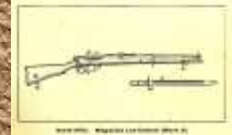
Private in Marching Order and Field Officer in Review Order, of The Queen's Royal West Surrey Regiment, 1899. Private is armed with a Martini-Henry Rifle.

105

In 1885, the French chemist Paul Vieille discovered the explosive properties of nitrocellulose, a relative of nitroglycerine. From nitrocellulose, he invented a smokeless gunpowder that burned with little smoke or ash. Smokeless powder replaced "black powder."




Smokeless gunpowder enabled soldiers to remain nearly invisible and reduced the time needed to clean barrels of guns.



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Before 1875, rifle barrels were made of wrought iron or mixed iron and steel. Henry Bessemer, an English engineer, patented the Bessemer Process in 1855. This was the first inexpensive industrial process used for the mass-production of steel from molten pig iron. This and other steel-making processes that followed in the last quarter of the century dropped the cost of steel by 75%. It became possible to produce high quality barrels cheaply for military use.




Henry Bessemer

The Bessemer converter

107

In 1882 Hiram Maxim (an American inventor living in London) developed the first recoil-operated machine gun.

- It had one barrel and used smokeless cartridges.
- Infantry could carry it into battle and set it quickly.
- The gun fired 11 bullets per second.



Maxim demonstrating his machine gun to the Prince of Wales, circa 1890.



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Paixhans gun

In 1823 Henri-Joseph Paixhans, a French artillery officer, invented the first shell guns.

Paixhans guns fired explosive shells that, once embedded and after a slight delay, would explode and ignite the wooden hulls of traditional ocean-going ships.

Paixhans guns brought an end to the era of wooden seagoing three deck gunboats and marked the start of the iron-hull boat building revolution.

Wooden battleships like the *HMS Victory* (above) became obsolete as naval weapons technology improved.

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New ships

Iron ships, known as "ironclads," came on the scene by the early 1840s. These ships could withstand battle better than ships made of wood. Iron battleships proved effective for fighting on the seas and on the rivers of Africa and Asia.




La Glorie, built in 1858 by the French




Warrior, built in 1860 by the British

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In this age of expansion, imperial navies eventually converted from ships of iron to steel. When powered by steam, these floating fortresses were invincible in Africa and Asia.





The HMS Iron Duke, 1914



111

Coaling stations

- European nations needed coaling stations for their steam-powered ships.
- Naval vessels as well as merchant steamships burned coal to generate steam for their engines.
- Dependence on coaling stations around the world motivated European nations to conquer strategically located nations.
- Captains of steamships had to plan their travel from one coaling station to the next.


112

Fuel was needed to drive the Industrial Revolution

Crude oil became an important source of energy.


Oil had a long history of use before it became important as an energy source. It was used to caulk boats and buildings, grease wheels and dress wounds.

The Chinese used oil for fuel as early as the 4th century. As early as the 8th century, the streets of Baghdad were paved with tar obtained from petroleum fields in Mesopotamia.




Early uses of crude oil

113

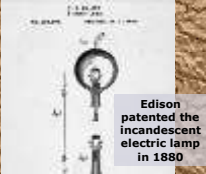


- The modern usage of oil began in 1853, when Ignacy Lukasiewicz, a Polish scientist, discovered the process of oil distillation.
- In 1854 the first rock oil (petroleum) mine was constructed in Poland.
- The first industrial refinery to distill oil was built in 1861 near the Caspian Sea.
- Crude oil could be distilled into kerosene. Kerosene began to replace whale oil in the 1880s.
- Internal combustion engines were designed to use gasoline from petroleum as fuel.

114



Thomas Alva Edison



Edison patented the incandescent electric lamp in 1880

In the early 1800s, electricity was used in manufacturing.
By the late 1800s, inventors were finding ways to make electricity practical by transmitting it from where it was generated to where it would be used.
Edison developed a system for sending electricity from a central powerhouse to various destinations.
In 1882, his transmission system was put into use in New York and London.

115

As economic and political opportunities opened in Asia and Africa, many Europeans traveled abroad, seeking adventure.

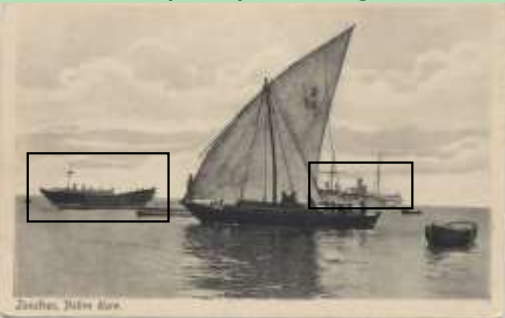


Ad for Europeans to go abroad



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Steamships (in background) like these moored at port in Zanzibar, circa 1900, transported visitors to Europe's imperial holdings.



Zanzibar, 1910s

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Travel networks for auto, rail, and steamers expanded, making it easier to access far away places. Europeans who had time and money to spare began to explore Asia and Africa for the sake of adventure and curiosity. Tourists brought stories of these distant continents to Europe.



Engraving from Edmund Spencer's *Travels in Circassia, Krim-tartary, &c.*, including a steam voyage down the Danube, from Vienna to Constantinople, and round the Black sea, 1839.

118

Steam engines improved land and sea transportation, reducing the time needed to travel

119

New forms of communication

The telegraph and telephone allowed rapid communication, connecting people across far distances.



British Telegraph battalion, 1891



First officer in the Indian Telegraph Department, 1903

120



As business and politics globalized, the need for global communication increased.

In response to this need, the English Channel telegraph cable and the Atlantic Cable were installed.

The English Channel Cable was laid by the Anglo-French Telegraph Company in November 1851.


Location of the English Channel Cable

121


Atlantic cable

In July 1866 the Atlantic cable connected 2,000 miles of the North Atlantic from Newfoundland to Ireland in July 1866.

The underwater copper cable allowed telegraph communication between the U.S. and Europe to take place in a few hours, where previously it had taken weeks.




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Many Europeans ventured to communities that were established as African and Asian colonial outposts.

In the image above, Mr. Chamberlain and other guests posed for a photo while visiting the English community at Zanzibar, 1903.




Island of Zanzibar

123

Many European countries were facing issues of high population density and social unrest associated with overpopulation.

New colonies in Asia and Africa opened opportunities to move citizens abroad, lessening population pressure problems at home.



"The necessity that is upon us [is] to provide for our ever-growing population—either by opening new fields for emigration, or by providing work and employment ...and to stimulate trade by finding new markets."

Lord Frederick Lugard, *The Rise of Our East African Empire* (1893)

124

As Europeans went into Africa and Asia—whether to colonize or to visit—they had to face an invisible killer in the tropics, malaria. Malaria was the name given to a fever associated with "bad air" in tropical regions.

The Greek scientist Hippocrates noted malaria's association with bad, stagnant water in the 5th century BCE.

Writers of the Roman Empire associated malaria with poisonous vapors from swamps or stagnant water on the ground. These associations with water led to the draining of marshes to eradicate malaria.



Hippocrates, circa 430 BCE

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European explorers and missionaries in South America learned that the Indians of the jungles used an infusion of Cinchona bark to treat fever.

In the 1600s, Spanish Jesuit missionaries introduced Cinchona bark to Europeans for the treatment of fever associated with malaria.

In 1820 quinine was isolated from the bark of the Cinchona tree.




Red areas on map are places where malaria is known to occur.



126

Quinine helped Europeans fight malaria in the humid tropical climates of Asia and Africa. Large scale preventive use of quinine to fight fever started in the mid 1800s.



Troops in Africa taking quinine.



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