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INVESTIGATING THE CONSEQUENCES OF THE COLUMBIAN EXCHANGE

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A HISTORIAN'S JOURNAL ENTRY / BY ANITA RAVI

In 1492, Christopher Columbus sailed the ocean blue. His voyage connected Europe and the Americas. It began a new era in human history. We now had a global network.



Plants and animals could now move back and forth across the Atlantic Ocean. Historians call this the Columbian Exchange (after Columbus).

I want to understand the consequences of the Columbian Exchange. I want to see how plants, animals, and people moved across the Atlantic between 1492 and 1850. My goal is to see what impact these movements had.

Humans were creating new global networks. What effect did these networks have on people around the world?

WHAT WAS EXCHANGED BETWEEN 1492 AND 1850?

First, I want to answer some basic questions. What was exchanged between Europe and the Americas? What moved east? What moved west?

To answer these questions, I'll need to gather information from some history and science books. I used two sources to create the map and chart below. Both books are by Alfred W. Crosby.

The Columbian Exchange



Plants and Animals that Moved Across the Atlantic, 1500 – 1650

Things that moved east: From the Americas to Afro-Eurasia

Maize (corn)
Potatoes
Sweet potatoes
Cassava (manioc)
Vanilla
Peanuts
Tobacco
Beans (several types)
Squash
Tomatoes
Chili peppers
Cocoa
Pineapple
Turkeys

Things that moved west: From Afro-Eurasia to the Americas

Wheat
Barley, oats
Rice
Sugarcane
Olives
Peaches, pears, grapes
Okra, cabbage, spinach, turnips
Cabbage
Spinach
Turnips
Mustard
Coffee
Cattle
Pigs
Sheep
Horses
Goats
Chickens
Dogs (bigger and fiercer than American)
Honeybees
Earthworms
Smallpox
Measles
Influenza
Malaria

The first is *The Columbian Exchange: Biological and Cultural Consequences of 1492*. The second is *Ecological Imperialism: The Biological Expansion of Europe, 900 – 1900*. The map and chart show what items moved back and forth across the Atlantic in the Columbian Exchange.

PLANT AND ANIMAL EXCHANGE: SURPRISES

The Europeans who came to the Americas brought many things with them. They were completely new to the American continents.

Some of them surprised me: horses, sheep, honeybees, earthworms, sugarcane, wheat, fruits, coffee plants, and diseases.

These things have been common in the Americas for a long time. I thought they had always been here! Can you imagine North America without horses, cattle, honeybees, earthworms, or coffee?

Many items made the reverse trip from the Americas to Europe after 1492. They included corn, potatoes, turkeys, tomatoes, chili peppers, and cocoa.

Before that, none of these items were found in Europe, Africa, or Asia. Today, I can't imagine Italian food without tomatoes or food from India without chili peppers.

Some of the exchanges happened on purpose. Europeans planned to introduce some new plants and animals into the Americas. For example, Spanish explorers brought olive trees over on their ships so they could plant them in the New World.

Europeans also brought over crops such as sugar, coffee, cotton, and ginger. They hoped these would grow well in the Americas. Then they could be sold for a profit back in Europe.

Those crops did grow very well in Brazil, the Caribbean, and North America. Sugar, coffee and many spices became important products that Europeans traded around the world.

In their book *The Human Web*, historians J.R. McNeill and William McNeill explain that people were able to make money bringing plants to new places.

Moving certain plants was often organized by the kings and queens of Europe, the McNeills said. The royals wanted to make large profits or increase scientific knowledge. (208)

However, some exchange happened by accident. Seeds sometimes traveled as “secret passengers” in foods. Historian Luis Martin tells a story from 1535 about how wheat was introduced to Peru in this way.

Ines Munoz was related to the famous explorer and conqueror Francisco Pizarro. She was one of the few European women who lived in Lima, Peru, at the time.

Munoz received a barrel of rice from Spain. In the barrel, she found a few grains of wheat. She wondered if the wheat would grow in Peru. She planted the grains of wheat in a flowerpot, and soon wheat plants appeared. Munoz began to replant the wheat in the soil of Peru. According to Martin, the wheat crop grew so well that within three or four years, people were able to make bread in Peru. (39 – 40, 42)

The Europeans didn't just introduce new plants to the Americas. They brought animals, too. Horses, pigs, goats, sheep, and cattle were shipped across the Atlantic.

Some historians believe the animals were more important to the Native Americans than the new plants.

Horses must have been important for transportation and working. Riding a horse would make it easier to herd cattle or sheep.

New diseases also traveled to America. Europeans unintentionally carried smallpox, measles, and malaria with them. The natives had never been exposed to the diseases.

I learned that the spread of these new diseases was terrible for the native peoples. The diseases caused many, many deaths.

Now we know what crossed back and forth between Europe and America. We can begin to look at the consequences of these new plants, animals, and diseases on people in different parts of the world.

ANALYZING THE EXCHANGES

Many plants from the Americas grew well in Europe, Asia, and Africa. Maize (corn), cassava (manioc) and potatoes improved people's diets all over the world.

These crops grew fast. They survived droughts — times with no rain. They were easy to store, and provided a large number of calories. People in Europe, Africa, and Asia benefited from these plants. They now had more foods to choose from.

Maize, cassava, potatoes, and other American plants such as peanuts, tomatoes, and beans, soon spread throughout the world.

WORLD POPULATION AND THE COLUMBIAN EXCHANGE

I expected that better diets would lead to larger populations. I wondered: Did populations grow equally everywhere?

Did indigenous peoples — the original people in an area — see their populations grow? How did new diseases coming to the Americas affect them?

Remember, before 1492 America was home to highly successful civilizations. There were cities, complex architecture, specialized jobs, and large populations.

How did a small number of Europeans conquer and control these developed civilizations?

In the Big History Project video *Re-creating Pangaea*, historian Charles Mann says there are two main reasons.

The first, Mann argues, is called “the great dying.”

Local people were exposed to new diseases that killed many, many people. How many people actually died? What sources can we use to answer this question?

To begin this part of my research, I found two different estimates for population: The first was published in 1954 (M.K. Bennett’s *The World’s Food: A Study of the Interrelations of World Populations, National Diets, and Food Potentials*). The second was published in 1979 (J.R. Biraben’s “*Essai sur l’évolution du nombre des hommes*,” which David Christian quotes in *Maps of Time: An Introduction to Big History*).

I used information from both sources to make the chart below:

Ignore the differences in number between 1954 and 1979 for now. Instead, look at the trends in each region.

What happened to the population in the Americas between 1400 and 1700? What happened to the population in Africa between 1400 and 1700? What about Europe, India, and China?

Were there any major increases or decreases in population in any of the regions?

I saw a huge change in the Americas between 1500 and 1700. This region lost about 30 million people over that time.

Estimates of Changes in Population in Selected Regions

1400 — 1700 (population in millions)

	Year of Study/ Year	1400	1500	1600	1700
Americas	1954	30 million	41 million	15 million	10 million
	1979	39 million	42 million	13 million	12 million
Africa	1954	74 million	82 million	90 million	90 million
	1979	68 million	87 million	113 million	107 million
Europe	1954	45 million	69 million	89 million	115 million
	1979	52 million	67 million	89 million	95 million
China	1954	112 million	125 million	140 million	205 million
	1979	70 million	84 million	110 million	150 million
India	1954	46 million	54 million	68 million	100 million
	1979	74 million	95 million	145 million	175 million

No other region in the world lost that many people. China, India, and Europe added more people. Africa had small growth, or maybe even a small decline.

I have two questions about these numbers: Why did two historians come up with different numbers? What explains the loss of population in the Americas?

ANALYZING THE NUMBERS

Why did historians from 1954 and 1979 come up with different numbers for historical populations? They were probably looking at different sources of evidence.

The Europeans and the Chinese kept track of their own population numbers through census data — counting the population. I'm guessing they did this mainly for financial reasons. They had to keep track of who needed to pay taxes to the government. This type of tracking may have spread to the areas they traded with, such as India and Africa.

I've already learned about the "great dying" that happened among the native people of the Americas after they were exposed to European diseases.

Native American peoples did experience a disaster, historian Robert McCaa says. He agrees that disease was a major reason. However, he says there were other reasons as well.

The first is harsh treatment. The Europeans forced the natives to move, made them slaves, forced them to work, and demanded their money and food.

The second is ecological damage. The Europeans introduced new plants and animals to the Americas — including weeds, diseases and rats — which wrecked local species of plants and animals. Many animals were also killed in the widespread fur trade.

It was probably a combination. Disease, harsh treatment, and the destruction of food sources led to an almost 55 percent decline among the native people living in Mexico.

Historians are studying events that happened long, long ago. They always have some evidence, but it is not complete. They must make educated guesses based on the evidence they have. We don't know exactly how many Native Americans died during those 200 years. Still, two things are clear:

First, many, many people died. This must have seriously hurt the civilizations that had been successful in the Americas.

Second, the diseases that Europeans brought with them must have helped them to conquer these civilizations.

CONCLUSION

So, what were the consequences of the Columbian Exchange?

Let's look at the charts above. We can see that the world's separate regions were truly connected for the first time in history. This happened because goods were being exchanged across the oceans.

The historians J.R. and William McNeill believe these are some of the main consequences of the exchange:

- It made the world slightly richer overall. There were more goods being traded. More money was changing hands.
- More crops were spread over larger areas of the globe.
- More and more people were exposed to the same diseases and developed new resistance to them.
- It made the world more unequal. Some populations were better able to take advantage of the new connections than others.

Still, change happened slowly. It took a month to cross the Atlantic Ocean by ship. It took over a year for people, goods, and information to spread over the Earth. The networks were global, but things were still moving slowly.

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Cover image: Mandan villagers die of smallpox during an 1837 epidemic. Courtesy of W. Langdon Kihn/National Geographic Society/Corbis.

This short journal entry is an example of how historians go about exploring important questions and looking at new information. They use a mixture of historical documents and the writings of other historians to inform their thinking. All sources are listed in the working bibliography.