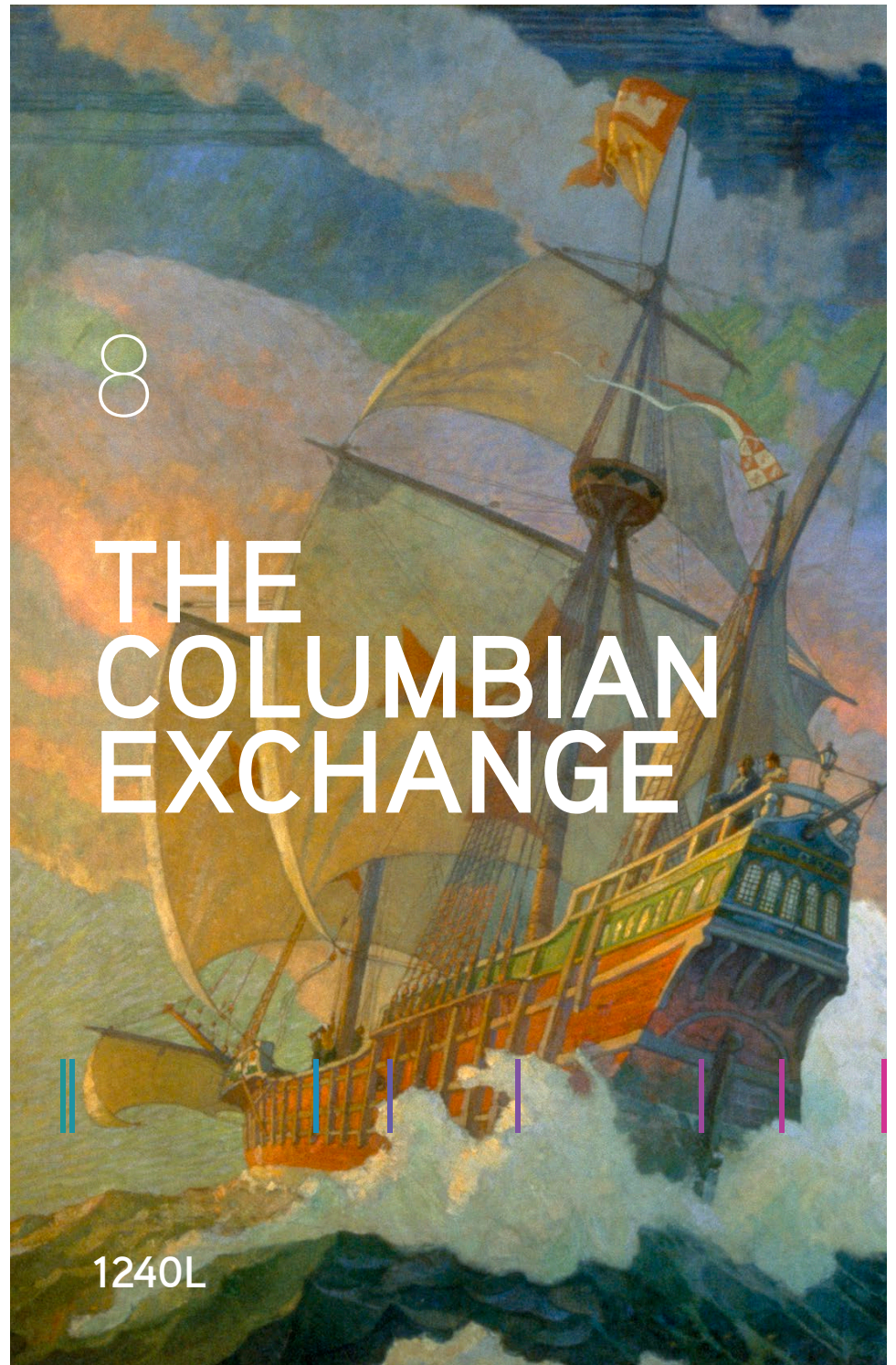


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# THE COLUMBIAN EXCHANGE



BIG HISTORY PROJECT

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# THE COLUMBIAN EXCHANGE

RE-CREATING PANGAEA

By David Christian

For centuries societies in Afro-Eurasia had interacted on some level and exchanged goods, ideas, people, and diseases. With the advent of world travel, these types of exchanges became more profound — and sometimes more perilous.

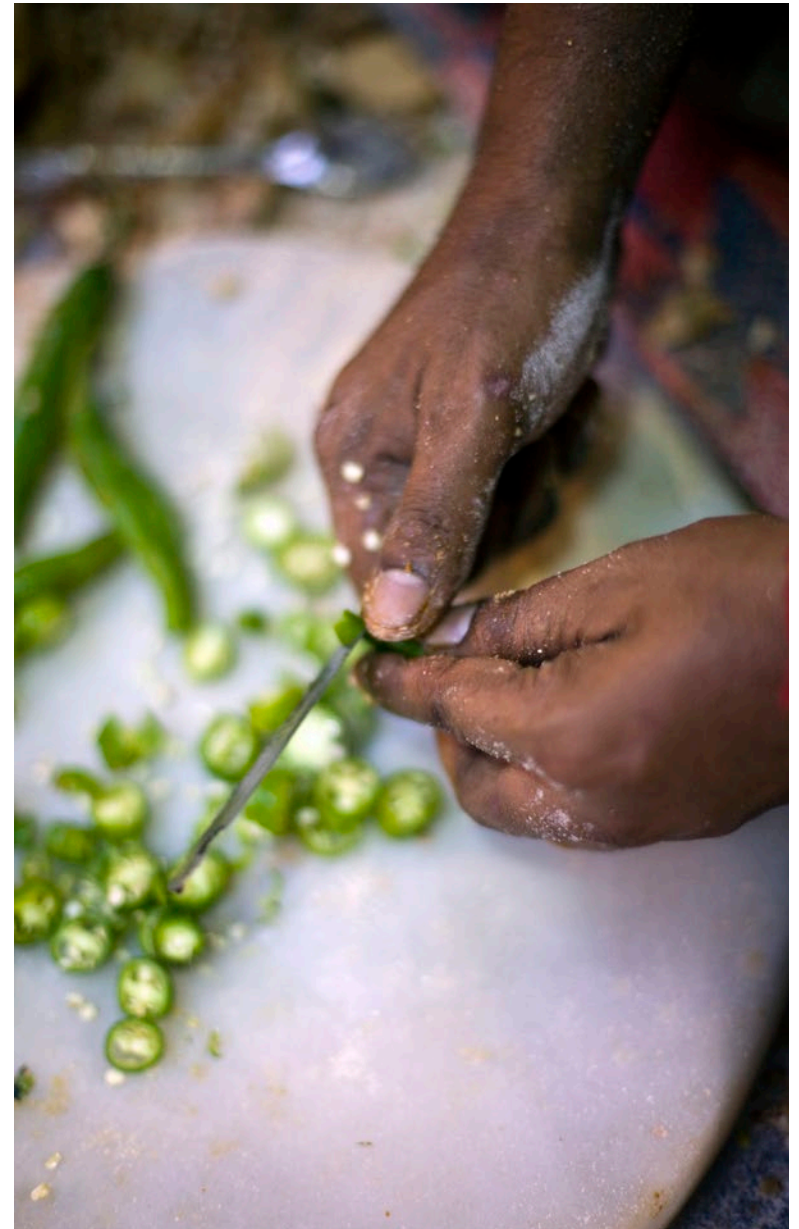
## Different kinds of travelers

In two books published in 1972 and 1986, American historian Alfred Crosby pointed out something quite astonishing about modern human history. It was the sort of thing that is hard to see if, like most historians, you just focus on human history. But it's easier to see if, like Crosby and anyone studying a Big History course, you are also interested in how human history fits into the history of our planet.

Crosby pointed out that since 1500 it is not just humans who started to travel around the world. So, too, have the plants and animals that humans use, as well as the viruses and bacteria that carry human diseases, and the hangers-on of human societies, such as rats and cockroaches, and fleas. After millions of years in which particular species of plants, animals, and bacteria have been confined to those parts of the world in which they evolved, suddenly many species began to appear in all parts of the world. Crosby called this remarkable phenomenon the "Columbian Exchange."

## Consequences and hypotheticals

The Columbian Exchange was an event of colossal significance for both human and planetary history. In a wonderful book on the traces that human societies will leave behind, geologist Jan Zalasiewicz argues that, 100 million years in the future, a competent alien paleontologist will be able to notice this sudden "McDonaldization" of the species on Earth. That observer will see it most easily studying fossilized pollen from crops such as maize and rice, but may also notice a strange globalization of species such as rats and cockroaches. Zalasiewicz writes, "The transfer of species globally has become a merry-go-round of living organisms without precedent in the Earth's four-and-a-half-billion-year history."



Chile peppers originated in the Americas but became an important part of Asian cuisine



Crosby noted that by shuttling so many other species around the globe in this way, humans were playing a role that had previously been performed by geology and climate. Remember Pangaea? Between about 300 and 200 million years ago, most of the planet's continents were joined together in a single huge continent, which geologists call Pangaea. On Pangaea, species could spread over large areas quite easily. So when, today, paleontologists see similar fossil remains across large areas of what was once Pangaea they are not that surprised. In fact, *Glossopteris* fossils found in similarly dated strata on different continents offer strong evidence for Pangaea, continental drift, and, ultimately, plate tectonics.

What would human history have been like if Pangaea endured, with just one "world zone"? We don't know of course (though it is an interesting exercise to try to guess). But Crosby pointed out that since 1500, we have, in effect, re-created such a world. Humans have unified the world biologically so that maize, rabbits, goats, tomatoes, and even some diseases can now be found everywhere.

## Some friendly passengers

Which species hitched a lift with their human patrons, and what was their impact on human history?

The list of plants that began to travel globally as a result of the Columbian Exchange is very long. It includes most of the major domesticated crops. The Americas contributed many of the crops farmed today in the rest of the world, including potatoes, maize (corn), manioc (cassava or tapioca), numerous varieties of squashes, avocado, chili, tobacco, and cocoa. Can you imagine Italian food without tomatoes? Korean food without chili? How about Ireland without potatoes, or a world without chocolate? Coffee, rice, oranges, and sugar traveled in the opposite direction.

New crops increased the choices available to local farmers, allowing them to adapt their crops to the soils, climates, and landscapes they farmed. Within 50 years of Columbus's voyages, maize — carried by Portuguese ships — was being farmed in parts of China that were unsuitable for rice cultivation. Today, a third of all the crops grown in China originated in the Americas. The Columbian Exchange represented an agricultural revolution, and it is no wonder that populations began to rise in many regions around this time.

Plenty of livestock made the trip as well. In the Americas, there appeared large domesticated animals such as cattle and horses. Cattle soon multiplied on the plains of South America and sheep on the grasslands of Mexico, transforming local landscapes as they ate their way across entire continents. The horse-riding cultures of the American Plains Indians evolved as communities that had largely depended on farming learned to tame horses and hunt in new ways. (Ironically, horses had evolved in the Americas only to vanish soon after the arrival of the first humans, so they survived only in Eurasia where their ancestors had probably migrated across the Bering land bridge during the Ice Age.)

## Dangerous trespassers

Bugs and diseases traveled too, and in regions unused to them the results were sometimes catastrophic. In Afro-Eurasia, where exchanges of goods, people, and diseases went back many centuries, populations had developed a wide range of immunities. When humans from Afro-Eurasia arrived in the Americas and, later, in the Australasian and Pacific world zones, they brought their diseases with them, with devastating results. According to some estimates, populations in the more densely settled regions of the Americas, namely Mesoamerica and the Andes, may have fallen by as much as 90 percent. For the Americas, this was a catastrophe much worse than the Black Death, which had devastated Afro-Eurasian societies in the fourteenth century. The destructive spread of Afro-Eurasian diseases helps explain the conquest of American societies by European invaders, the rapid decline of American empires, and the partial undermining of indigenous cultures and values.



English explorer Verney Cameron traveled to Africa in the 1860s and helped suppress the centuries-old East African slave trade

Indigenous Americans understood perfectly well the source of the debacle. An inhabitant of Mexico's Yucatan peninsula who witnessed the impact of the first Spaniards to arrive, wrote:

[before the Europeans came] there was then no sickness; they had no aching bones; they had then no high fever; they had then no smallpox; they had then no burning chest; they had then no abdominal pain; they had then no consumption; they had then no headache. At that time the course of humanity was orderly. The foreigners made it otherwise when they arrived here.

Thomas Hariot, an English colonist on the Roanoke Island settlement of 1587, wrote that the inhabitants of local towns and villages began to die very soon after their first contacts with European settlers:

...within a few dayes after our departure from everies such townes, that people began to die very fast, and many in short space; in some townes about twenties, in some fourtie, in some sixtie, and in one sixe score, which in truth was very manie in respect to their numbers.... The disease also was also so strange that they neither knew what it was, nor how to cure it; the like by report of the oldest men in the cuntry never happened before, time out of mind.

Here is a simplified version of the passage above:

A few days after we left each town, people there began to die very quickly. In some towns, 20 died. In others, 40 or 60. In one town 120 died, which was very many considering their numbers. The disease was strange to them. They didn't know what it was or how to cure it. The oldest men in the country had never seen it or heard of it before, for as long as anyone could remember.

Local populations would suffer in similar ways when European settlers arrived in Australasia and the Pacific. The death of local populations made it much easier for European invaders to build societies of a kind that they were familiar with. Crosby calls these societies, built in the Americas, South Africa, Australasia, and the Pacific, "neo-Europes."

With the Columbian Exchange, humans began to transform the world as a whole rather than just within particular regions or world zones. This is why it makes sense to see the great sea voyages that linked the world zones together from the end of the fifteenth century as one of the great turning points in human history. The rapid pace of globalization today is a continuation and acceleration of processes that began 500 years ago.

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