

Trade Networks and the Black Death

By Bennett Sherry

Disease has always plagued human communities. One of the biggest epidemics in world history was started by one of the smallest animals and spread by trade networks in the world's largest empire.

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Spread the Word, but Cover Your Mouth

We have a global Internet that connects billions of us through our devices.

We like to think that more connection is good. The more people talk to each other, the better the world will be. Today, though, computer viruses can hurt millions in minutes.

One of the worst computer viruses ever was the Conficker worm. In 2008, it infected up to 30 million computers. The worm disrupted governments and businesses everywhere.

The Internet of the fourteenth century was the Silk Road. It linked China to Europe. We should think of the Silk Road as less a road than a network—a bunch of merchants and cities, trading posts, ports and paths. All were connected to each other by trade. And like the networked Internet, ideas, information, goods, and money all traveled along the Silk Network. But these long-distance trade connections also allowed diseases to spread farther and faster than ever before. This is not unlike computer viruses of today, except more deadly. The worst of these was an outbreak of bubonic plague in the fourteenth century. This deadly disease was also known as the Black Death.



The people of Tournai (a city in present-day Belgium) bury plague victims, 1353. Pierart dou Tielt, public domain.

The Black Death was not the only plague to spread along trade routes. Plague and disease have accompanied humans since we started crowding into cities alongside farm animals and interacting with faraway peoples. But how did this particular plague get to be so bad? Interestingly, it began in a period of peace.

The Pax Mongolica

The Pax Mongolica happened from the mid-1200s to the mid-1300s. "Pax Mongolica" means "Mongol Peace" in Latin. By then the Mongol Empire had split into four areas. Each was ruled by a "khan." The Mongol Khans connected much of Eurasia's people.

The earlier Mongol conquests disrupted trade routes with their violence. But during "Pax Mongolica" there was little war. This was unusual. It allowed more trade connections to develop all across Africa, Europe, and Asia. This landmass is also known as Afro-Eurasia. The huge empire created by Mongol conquests connected more people than ever before.



A map showing the extent of the Mongol Empire. Having so much land controlled by one empire made overland trade much cheaper and safer. Public domain.

The Mongol Khans settled down and tried to rule over their huge empire. They grew increasingly concerned about earning tax money. Much of that came from trade. So, the Mongol Khans wanted to make trade easier and safer. For 100 years, the Mongol Empire ensured that trade networks grew and merchants prospered. But the flowering of trade connections also carried the seeds of disaster.

Yersinia pestis: The Black Death

The fourteenth-century spread of Black Death was caused by the *Yersinia pestis* bacterium. These bacteria sometimes spread to humans when they contact the fluids of an infected person. More commonly, though, it is spread by flea bites. The bacteria spread to humans when fleas vomit into our bloodstreams before feeding. The effects of the bubonic plague are just as gross as how it spreads. Soon after infection, the diseased person develops swelling in their lymph nodes, called *buboes*. (Lymph nodes normally protect us from disease.) Soon, bleeding inside the human body causes swellings of pus and blood to discolor the skin. It was a horrific disease that spread quickly and struck without warning. Most people who got the plague died.

Merchants of death: A trade plague

The Black Death spread along trade networks. Human interaction with animals and the environment also played a role in its spread. Take for example Central Asia, the region west of China and south of Russia. The fleas there that carried the bacteria lived on rodents known as great gerbils. Just a small temperature increase would boost the presence of the bacteria in the gerbils up to 50 percent. The climate also seemed to change in the middle of the fourteenth century. This too likely helped the disease to spread out from Central Asia.

Yersinia pestis got its start in the Central Asia grasslands. The disease spread through flea bites. The fleas escaped from Central Asia on the backs of both traders and camels traveling with trade caravans. From these hosts, the fleas spread to rodents traveling with the caravans. Then they jumped to rats that made homes in trading ships. Soon, ships carrying plague rats and merchants arrived in other trading ports.

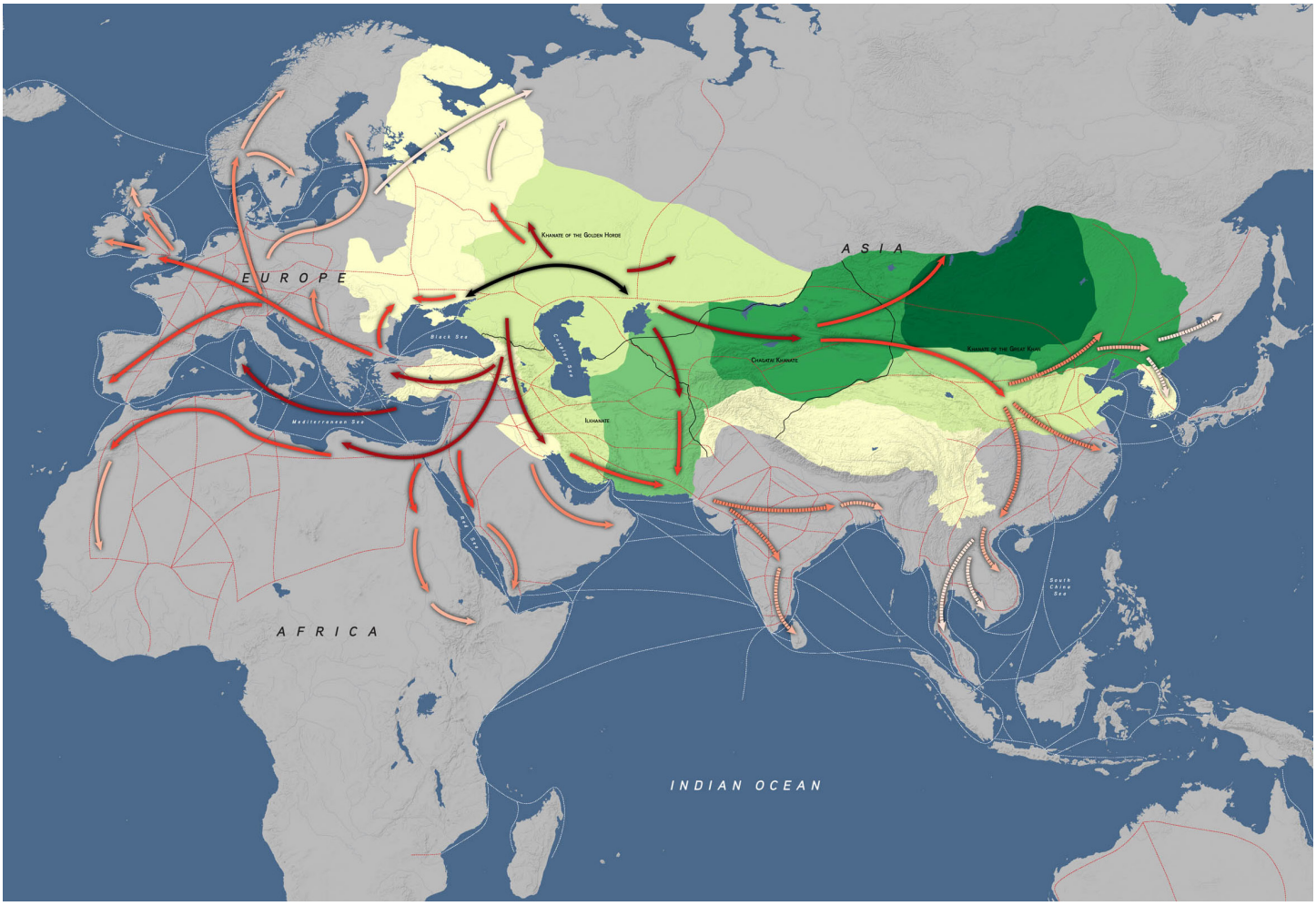
Then the plague spread like wildfire. It likely arrived in the Mediterranean onboard Italian merchant ships. The Pax Mongolica made the Italian city-states of Venice and Genoa super-wealthy and powerful. During this period Marco Polo, of Venice, traveled through the Mongol Empire. Italian merchants like him traveled east, buying luxuries in Indian ports like Calicut. The unifying rule of the Mongol Empire made these new kinds of interactions possible. But it also meant that, after people met, they brought their plague-infected rats back to new and distant lands. It is unlikely that the Black Death would have been so deadly or so widespread without the Mongol Empire's trade networks.



A flea infected by Yersinia pestis. By the National Institute of Allergies and Infectious Diseases, public domain.



The Rhombomys opimus, or great gerbil. More deadly than it looks. Yuriy Danilevsky, CC BY-SA 3.0.



A map showing the spread of the plague throughout Europe. You can see that the plague started in the ports of the Mediterranean and spread inland. By WHP, CC BY 4.0

A specter haunting Eurasia

As many as 100 million people across Afro-Eurasia might have died from the plague in the fourteenth century. A 21st-century disease on the scale of the Black Death would kill between 1 billion and 2 billion people.

The devastation it caused led to sharp declines in trade all over Afro-Eurasia. Even unaffected places saw their long-distance trade disrupted.

In general, the plague was the worst in Europe. There were crowded, damp, and dirty cities. The plague killed up to 25 million Europeans out of a population of 75 million, from 1347 to 1351. In some Italian cities and rural France, however, death rates approached 60 percent. Europeans tried to make sense of the death and destruction brought by the plague. Many thought that they were witnessing the end of the world. Others began to question the power of the Catholic Church and the social class system around them. Peasant revolts increased. In many places, angry mobs attacked Jewish communities. They wanted someone to blame for their troubles.

Death and labor: Plague reshapes European economies

Still, the horrors of Black Death were followed by some positive changes. The sudden deaths of millions of people completely changed social relationships. The transformations caused by the Black Death might have brought an end to feudalism and helped start the Renaissance in Europe.

Feudal lords ruled over peasant workers at the time. After the plague, fewer people meant fewer peasants to work the fields of feudal lords. Soon, workers everywhere who didn't die gained more power. They started to demand higher pay. Wages in England, for example, rose as much as 40 percent between 1340 and 1360. The result was a higher standard of living. Europeans who survived the plague lived longer. The rise in pay created a middle class in Europe. And with fewer workers in the fields, people had to get creative. Rather than rely on masses of peasant labor, landowners started to raise more livestock. Raising animals required less labor than growing wheat. It also inspired technological growth in farming. New plows forever changed European agriculture. They saved labor.

The rise of a middle class, especially in Northwest Europe, helped to revive business and reestablish trade networks. With higher wages, more workers could pay for goods that had once been considered luxuries. Slowly, European businesses recovered. But the cultural and social changes were there to stay.



The Fall of the Damned, by Dieric Bouts, 1450. Much of European art turned toward images of death after the plague. Scenes like this and representations of death became much more common. Public domain.

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Image credits

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The Fall of the Damned, by Dieric Bouts, 1450. Much of European art turned toward images of death after the plague. Scenes like this and representations of death became much more common. Public domain. https://commons.wikimedia.org/wiki/File:The_Fall_of_the_Damned.jpeg#/media/File:The_Fall_of_the_Damned.jpeg

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