The Impact of Long-Distance Trade

Essential Questions

- How did new technologies such as yokes, saddles, and stirrups allow domesticated animals to transport goods?
- What were innovations in maritime technologies?
- How did the spread of crops from South Asia to the Middle East encourage changes in farming and irrigation?
- What were the effects of the spread of disease pathogens?
- How were the trade systems connected to the spread of belief systems?
- How were cultural traditions in China, Christianity, and Hinduism transformed as the Roman, Indian, and Chinese cultures spread?
Set the Stage

A traveling missionary enters a Buddhist temple for worship. He prepares himself in the traditional manner before settling down to pray. He could be anywhere in Asia. Buddhist temples were prominent all along the Silk Road. Outside the temple, a region would quickly reveal its provenance. Faces and crops would provide hints about the region. Yet inside the temple, a missionary might feel like he had not left home at all; the religion of his homeland would be practiced with the same fervor in districts far away.

Inventions in Transportation

People of the Classical era did not suddenly begin to exchange goods more often and more easily for no reason. New techniques for land and sea transportation made travelling greater distances and carrying more goods easier. In particular, people began to harness powerful forces whether those forces were horses, camels, and other four-legged beasts or the winds that traveled so erratically over the eastern seas.

Yokes, Saddles, and Stirrups

One of the first of these transportation innovations came when camels were first used as beasts of burden. People began traveling by camel in the 600s B.C.E. to cross the desert wasteland of the Sahara and other parts of Africa that had been difficult to traverse due to the lack of water in the region. Camels could travel longer and farther with less water than other animals could. As the Common Era drew near, two types of saddles were developed that made camels easier to ride and use as pack animals. The first type of saddle, from south Arabia, was designed primarily for transportation and security. It placed the rider directly behind the camel’s hump. The saddle safely harnessed belongings, but could not be used very well for combat. The second type of saddle, developed in north Arabia in response to the deficiencies of the first type of saddle, placed the rider further back on the camel, more akin to where one might sit on a horse. This second saddle enabled people to use camels for combat more effectively. Within 900 years of their introduction, camels became the primary animal used for transport in the region.

People’s reliance on saddles led to another innovation that made it easier to ride camels and other beasts: the stirrup. Stirrups appeared in Afghanistan, created by the Kushan folk, somewhere in the 400 years after 100 B.C.E. Stirrups had definitely fallen into regular use by 300 C.E. This stirrup is a piece of equipment that extends from a saddle on both sides, and the person sitting in the saddle can put his or her feet into the stirrups while riding to gain better control of the animal being ridden and to be more secure on the animal’s back. Over time, stirrups evolved from big, bulky cylinders to sleek pieces connected to saddles with leather. Most saddles that used stirrups, such as those that came to be used on horseback, also wrapped around the animals in several places and were reliable foundations for riders, especially warriors.
Stirrups also had a practical advantage for warriors: using stirrups, a warrior could continue riding an animal while also wielding weapons in combat. Warriors across the Classical world began using stirrups in fighting, including in China and Europe. In China, people began using stirrups made from iron during the 400s C.E., and warriors relied on them particularly during the time of the Tang Empire. Using these stirrups, warriors could ride at increased paces and also direct their horses in more specific ways—significant advantages on the combat field.

Another important innovation proved more useful domestically, especially to those folks who relied on agriculture for their livelihood. The yoke allowed more than one ox at a time to plow fields. The yoke would link two oxen together and attach them to something heavy, such as a tool used for plowing or turning the earth. The oxen could then work in tandem, and the people using the yoke would benefit from double the strength of a single ox, wielded with the same precision as using just one ox.

**Developing Sails and Taming Winds**

People developed even more techniques to tame the winds of the Indian Ocean and surrounding seas than they did to tame beasts like camels and oxen. The Indian Ocean had long been a foreboding area for sailors to navigate—in some ways, the problems it posed were similar to the perils of the Sahara Desert, as travelers attempting to cross each had to determine how to combat its barriers whether they were too many winds from different directions or the lack of fresh water. The Indian Ocean is known for the many monsoons that pass through it. According to the time of year, the winds that stir up these monsoons blow in a variety of directions.

Only in the time of the Mauryans did people begin to calculate the ways these winds blew with some assurance. Seafarers discovered that in the warmer seasons, the winds pushed across the water from the west and south; in the colder seasons, the path was reversed. Because of their proximity to the Indian Ocean, Indian peoples benefited from the increase of trade to their region, especially because it was their sailing industry that had discovered how to navigate that ocean so smoothly. Soon, Indian ships voyaged as far away as Rome itself. In doing so, the sailors transported commerce of every kind, from the basic foodstuffs to exotic and limited gems.

People in other cultures soon discovered this information about the monsoons. Egyptians under the reign of the Ptolemies first conquered these winds, and in the 100s B.C.E. the Hellenes followed suit. Thus, peoples from all around the world—India, Arabia, Africa, and the Hellenic lands—could use the Indian Ocean effectively and safely for travel and trade. People could exchange more at a greater speed through sea travel, and the financial systems of all participating regions benefited. In particular, Hellenic peoples (individuals of Greek descent or from areas colonized by the Greeks) grew wealthier from sea trading.

People began to understand wind systems around other bodies of water, especially the Arabian Sea and the Persian Gulf. There, sailors began using three more innovations that aided them in seafaring. First was the lateen sail. These sails, shaped with three sides and crafted from cloth such as cotton or plant fabrics, could make ships even more dexterous. Second was the astrolabe, which helped
sailors calculate where they were on the water according to the stars in the sky. Third was the compass, originally from China, which sailors used to determine the direction they were traveling. The compass especially impacted Chinese sailors, who had not traveled very far by sea until the years of the Tang dynasty. The Chinese developed the compass and better-equipped, long-lasting ships to travel greater distances for the sole purpose of acquiring goods that people at home in China so desperately desired.

The Chinese did not remain alone in their quest for better-equipped, long-lasting ships. The Indians began to craft larger and improved boats called dhows, a term used by the Swahili. Dhows, which were originally crafted upon India’s Malabar Coast and used during the second millennium C.E., could carry hundreds of tons at a time. The more petite dhows were staffed by about a dozen sailors, while the more robust dhows might have more than double that number, or up to thirty sailors staffing the ship. The dhows, built of teak linked by stitches of fibrous plants rather than nails, would take almost a full year to make a circuit from India to Africa and back. At some point after 1200 C.E. but prior to 1500 C.E., people augmented the way they guided the dhows by moving an object called the rudder to the very back of the dhow and guiding it from there.

During the Song dynasty, people traveling the Indian Ocean also used tremendous boats called junks, which could hold double the weight of the dhows. People probably started calling these boats junks in derivation of a similar Malay-Javanese term, “jung.” “Jung” may be related to the word that sounds the same in Chinese for a home that hovers on water. To craft the junks, people used huge pieces of wood and nails. Both types of ships could be used to ferry many people or many types of goods—sometimes both. The largest junks could take on up to 1,000 voyagers. Despite the dhows and junks’ size and sophistication, the sailors still had to plot their courses across the Indian Ocean carefully to take advantage of the winds rather than attempting to manipulate them. Frequently, people would voyage across specific portions of the Indian Ocean. The sea pathways divided into at least two parts, both stretching out from India and traversing either the Bay of Bengal or the Arabian Sea. Despite the great amount of time that had to be invested in these voyages, the Chinese had no problem crossing great distances early on: their junks traveled as far as Indonesia and India as early as the 300s C.E.

Across the seas to the west, the people of the Mediterranean had smaller ships that could only travel smaller distances when compared to the rigs built by the Chinese and Indians. The Hellenic peoples still relied on manpower to move their ships, and did not have special lateen sails like the Indian Ocean sailors did. The Mediterranean people’s ships also did not seem as hardy as those of their counterparts to the east. As a result, the people of the Mediterranean sent settlers to areas closer to their homeland, and traded continuously with these homelike outposts. The people of the Indian Ocean sent settlers to far-ranging parts of the globe and traded with them less frequently.

Despite their differences, the people of the Mediterranean and China shared a love for stories about fantastic sea travel. In Greece, people crafted stories about great Phoenician travelers. The Greeks also loved a tale about Hippalus, a man of
commerce and discovery by trade, and they granted him credit for figuring out the winds across the Indian Ocean. In contrast, the Chinese believed a man named General Zhang Jian made this discovery, and told tales about him to prove it.

Positive and Negative: Spreading Crops and Disease

The great ships like junk and dhows and the caravans that relied on camels, horses, and associated equipment did not merely transport exotic goods. The traders also transported necessities of life like foodstuffs. This exchange of foodstuffs also had the positive ramification of diversifying food around the world. Frequently, when one group was introduced to a food only grown on the other side of the world (for example, rice or artichokes), the newly introduced people decided to grow it too. Usually, these products would come through India on their way to disparate regions in South and Central Asia, Africa, and the Mediterranean basin. In particular, traders brought many foodstuffs from Asia to the Middle East and encouraged the cultivation of new crops in hot desert lands. As well as exchanging and fostering new kinds of grains and produce, people traded plants that could be cultivated to produce materials for fabrics and dyes, such as cotton and henna.

By cross-pollinating their food supply, traders helped people in a variety of regions, especially where people practiced Islam, to begin eating a wider variety of nutrients and to change the way they planned their diets over the course of a year. People could grow different plants for varying amounts of time and thus have more types of food growing ripe at different times of the year. Previously, Islamic farmers were inactive in summer months, because nothing native to the area grew well in extreme heat. This practice changed when foodstuffs from other areas, such as sugarcane, were introduced. To maintain and foster these new products, people in the Islamic part of the world redoubled their efforts to learn more about agriculture and nurture their growing supplies. As a result, the people of Islamic regions prospered, cultivating more food both for themselves and for trading.

Unbeknownst to the traders, at least originally, the ships and caravans also brought diseases from one part of the world to another whenever they engaged in trade. Unfortunately, locals from one area usually did not realize that on their persons or belongings they carried miniscule germs to which they might have a tolerance, but to which foreigners would not. As the germs traveled from one side of the world to the other, they became more dangerous. Both the Han Empire and the Roman Empire, tremendous trade destinations, had immense problems with disease in the 100s and 200s C.E.: most likely these people experienced bubonic plague, smallpox, and measles. One of these diseases alone would have been bad enough; the combination of all three was extremely detrimental to both the Chinese and the Romans. In fact, 400 years after the diseases first started to ravage China and imperial Rome, the amount of people living in each region sharply declined. For example, in the 100s C.E., about 45 million people lived in the Roman Empire, but in the 400s C.E. the population had dropped at least 5 million; likewise, the population in China dropped by 10 million in the 200 years following 200 C.E., sinking to 50 million. While
less information is available to describe the effects of disease in other parts of the Classical world, like India and Persia, it seems reasonable that their people too would have been affected by the spread of disease, and that their populations would have decreased as well.

The death rate in both China’s and Rome’s empires, and in other parts of the world significantly affected international commerce. Fewer citizens meant a lack of imports and exports: fewer people could produce goods to sell, and fewer people remained to purchase those goods. People focused more on trading with local neighbors than far-away empires.

**Trading in Beliefs and Transforming Cultures**

While many diseases and germs were shared across borders, so too were religious and philosophical ideas. In particular, Zoroastrianism, Manichaeism, Buddhism, and Christianity all traveled along the roads that connected empires.

Many religions flourished in the Sassanid Empire in Iran, which stood from 224 to 640 C.E. and posed a serious threat to the Roman Empire. In particular, two religions developed there: Zoroastrianism and Manichaeism. Zoroastrianism was the most popular religion in Iran at that time, and people who believed in Zoroastrianism received state privileges compared to those who practiced other religions. When times became difficult in the Sassanid Empire, the people with the most protection and safety were the Zoroastrians. However, other belief systems, including Buddhism, Christianity, and Judaism, all had their adherents in the region. In particular, many Jewish people were drawn to the region because there they could practice their beliefs in peace. Even though they did not have the same privileges as the Zoroastrians, the Jews had more liberty to practice their own beliefs than people of other religions did. The Jews resided in three main areas: Babylon, Khorasan, and Isfahan. In addition, the Jews had some liberty to govern themselves, and turned for guidance to authorities in Mesopotamia. The Jews would only begin to depart this area when the movement to re-create a Jewish state in Israel emerged.

These religions flourished on the Silk Road because their practitioners in the Sassanid area controlled an important part of the Silk Road once it passed the Euphrates River. Originally, the Sassanid people recognized Zoroastrianism as their official religion, and so traders from the region would have practiced it, while traders passing through the region would have been introduced to it. The Sassanids strongly discouraged other religious practices within their empire. While some continued to bravely attempt to retain their Jewish and Christian beliefs, many others were punished for their faiths. For example, Christians had a difficult time financially when the Roman-Persian Wars began. The Sassanids made Christians contribute additional money to their side of the conflict.

During the 400s C.E., one group of Christians called Nestorians actually relied on the Sassanids for protection. The Nestorians had come under fire in their native Byzantine by thinking about Christ’s person rather than his divinity; in the Byzantine Empire, the majority of Christians thought Christ’s divinity should be celebrated and he should not be analyzed as a mere mortal. As a result, the
A Piece of History

St. Cyprian

Without the transportation and innovations people developed to further trade and commerce, religious beliefs would not have traveled so quickly, nor would diseases have passed between separate genetic groups at such great speeds. Yet what connection might people have seen not with trade, but between disease and religion at a time when they had suddenly been introduced to the two simultaneously? St. Cyprian, who lived in the Roman Empire in the 200s C.E., saw disease spring up and strike his fellows in 251, and he responded by sharing his ideas about Christianity and how religion could conquer illness and death. St. Cyprian, who had significant religious and political power through his position as Carthage’s bishop, writes in a text called On Morality,

It serves as validation of the [Christian] faith when the bowels loosen and drain the body’s strength, when fever generated in bone marrow causes sores to break out in the throat, when continuous vomiting roils the intestines, when blood-shot eyes burn, when the feet or other bodily parts are amputated because of infection by putrefying disease, when through weakness caused by injuries to the body either mobility is impeded, or hearing is impaired, or sight is obscured. It requires enormous greatness of heart to struggle with resolute mind against so many onslaughts of destruction and death.

In the 200s C.E., people did not have the scientific knowledge or resources to determine what was actually causing the terrible diseases decimating the population, nor could they cure these diseases. People died brutal, difficult deaths. In the above passage, St. Cyprian spares no detail when describing the graphic elements of these diseases: “When continuous vomiting roils the intestines, when blood-shot eyes burn, when the feet or other bodily parts are amputated because of infection by putrefying disease…” This description reveals a most unpleasant state of being, in which infected people had no choice but to suffer before meeting an unpleasant death. St. Cyprian is writing in response to non-Christian believers in the Roman government, who blamed Christianity for these illnesses rather than what historians today know to be the exchange of ordinary germs across trading routes. St. Cyprian passionately defends Christianity, writing that the religion, far from being the cause of such disease, is the only thing that can possibly provide comfort in a time of disease. For St. Cyprian, becoming ill is a moment that provides potential for validation of faith, and shows their “enormous greatness of heart.” Illness provides good Christians with a chance to show their loyalty to their god and their faith in a purpose they do not understand. Without their religious belief, he asserts, they would have nothing with which to meet these terrible physical ailments. However, St. Cyprian’s declaration, while certainly kinder to his fellow Christians than the opinions of his opponents, could not save the lives of those vulnerable to diseases from abroad, and sadly, far too many of the Romans possessed such vulnerability.
While this portion of the Khocho Ruins in China may look unassuming and run-down, this area was once an important stop along the great Silk Road. People of the Han dynasty built Khocho in the last years B.C.E. and settled there for more than a millennium.
they settled, in China the nomads acted and behaved like Chinese people too; over time, the nomads intermarried with Chinese people and their descendents became Chinese.

When the Han tradition of rule disappeared, another previously important tradition within China also ran into trouble: the practice of Confucianism, based in philosophy and traditional behavior, no longer appealed to the Chinese folk consumed by civil unrest. This disinterest in Confucianism allowed new eastern religions like Buddhism and Daoism to take root in China. While Daoism started out as an intellectual approach to the world, much like Confucianism, in the 400s Daoism began to be treated increasingly as a type of faith. In turn, while many people within China had practiced Buddhism during the Han dynasty, most of those people were non-native citizens. Starting in the 300s C.E., more and more Chinese citizens began practicing Buddhism too, as did the nomads who came to settle alongside them.

By this point, Buddhism had spread throughout Asia and through other parts of the world. Buddhism’s popularity began to accelerate between the 200s B.C.E. and 100s C.E., when rulers in Afghanistan and India encouraged their subjects to practice the religion. Missionaries and other serious worshippers of the religion took its ideas with them as they traveled along routes set up by traders, using the Silk Road and sea lanes across the Indian Ocean. Buddhist practitioners may have traveled as far as Sri Lanka and Tibet during this time. Later, Buddhism would shift into two schools of practice according to geographical boundaries. One school, Theravada, would develop in Sri Lanka, while Buddhists outside of Sri Lanka would practice Mahayana Buddhism. Theravada Buddhism, which is also sometimes called the Lesser Vehicle and is the smaller school, is more traditional and observant of original ideas promoted by the Buddha. In Theravada Buddhism, people do not worship the Buddha like a god. In contrast, Mahayana Buddhism, which is also sometimes called the Greater Vehicle and is the larger school, is more modern and places more emphasis on the state of nirvana, which is like Westerners’ idea of heaven. In Mahayana Buddhism, people do worship the Buddha like a god.

While Buddhism gained a foothold, so did Hinduism. Both Buddhism and Hinduism had grown strong in India, and because so many trading pathways passed through the Indian Ocean, even more people became exposed to these religious ideas. In particular, people who lived on the southern and eastern portions of the Asian continent were drawn to these two religions. Often, these two religions coexisted harmoniously in Asian countries such as Vietnam, Sumatra, and Cambodia.

As the Sassanid people had focused on Zoroastrianism, the Romans and Byzantines focused on Christianity. Christianity had been unpopular in the Roman Empire at the start of the Common Era, which meant Christians had traveled widely away from Rome and shared their ideas as they went. This departure changed during the rule of Constantine in the early 300s C.E.: Constantine saw the political and imperial potential of Christianity and officially endorsed it in 313. One of Constantine’s successors, Theodosius, installed Christianity as the Roman Empire’s official religion just decades later in 380. From that point
forward, the Romans practiced Christianity with increasing interest. First, the common people began to practice Christianity because of the hope it offered them; later, people from the upper classes also became interested when they realized that sharing a religion with the government would be an advantage at court. Respected scholarly figures such as St. Augustine legitimized Christianity and helped define its appeal to the changing population of Rome's empire. St. Augustine, who had previously believed in Neoplatonism and Manichaeism, encouraged people to consider their capacity for free will; he also introduced ideas of original sin and God’s grace.

Early on, many different interpretations of Christianity coexisted. However, particularly during Constantine’s time, people began to seek out fewer interpretations that would be shared by many. This interest in fewer, more overarching interpretations led to the development and composition of the New Testament. The Christian church also began to recognize specific leaders who had say over practitioners of the religion throughout the world. While five important men called bishops took on leadership roles in different regions, the bishop who dictated terms in Rome’s region had the most power and soon received the special title of “pope.” When the Roman Empire split in two, Christianity’s popularity continued in the new Byzantine Empire where the Eastern Orthodox Church formed. Meanwhile in the west, where another empire did not immediately emerge, the pope took on even more power and influence.

Meanwhile, Christianity traveled along trade routes to the east and south, finding new devotees in Armenia and Ethiopia. The Armenians often found themselves caught between two larger regions, Iran and the Mediterranean. Originally, the Armenians had been more interested in the Zoroastrian region, but Christianity replaced it as the primary religion after 400 C.E. In Ethiopia, Christianity arrived along a crueler path. Tradition reveals that in the 300s C.E. people from Aksum, which is a part of Ethiopia, attacked a Roman ship voyaging to India.

Everyone on the ship died except for two young and learned men, Frumentius and Aedisius. These men joined the Aksum court as privileged courtiers and over time became interested in Christianity. However, the rest of the court were polytheistic and interested in many types of divinities. Many of the Aksumites also had a passionate regard for education. The men eventually coaxed the next Aksum king, King Ezana, to take up the religion in approximately 330 C.E., and the two thus helped cement Christianity as an important religion in Ethiopia. King Ezana added to this stabilization of Christianity by setting it up as the authorized faith of the realm. Soon, people throughout Ethiopia became interested in Christianity, an interest stabilized by the presence of traveling monks in Aksum, who had voyaged there to share their religious understanding. As time passed, the other religious houses of worship in Aksum fell and were converted to Christian houses of worship. At that point, Christianity, Islam, and Buddhism had all traveled to the three continents of Asia, Africa, and Europe because of trade, and in the years that followed all three would battle for domination in each of those geographic areas.
This map reveals which early civilizations prospered on the African continent and where; the Aksum region is visible in the upper right-hand corner (shaded in red lines) between the Nubian Desert and the Somali Peninsula.
**Summary**

The desire to trade across vast distances with increased accuracy encouraged people to develop several innovations. On land, people used special saddles and stirrups to ride horses and camels. People also used yokes to harness oxen. By sea, people developed special sails and also relied on instruments like astrolabes and compasses. People discovered how to navigate the Indian Ocean using monsoon winds. Success in trading helped bring new crops to new areas, but it also fostered disease. Meanwhile, people used trading routes to share religious ideas, adding practitioners to the various worship of Zoroastrianism, Manichaeism, Hinduism, Buddhism, and Christianity. Religious practices shifted as the Roman and Han empires fell.

**Looking Ahead**

The increase in trade and technology enabled religions to travel far across the world and inspire new devotees in each country they passed. Unfortunately, these religions would not co-exist as peacefully in all regions as Daoism and Buddhism did in China. In particular, two religions would come head to head in their clash for dominance: Christianity and Islam. While Christianity had been founded earlier, Islam would rapidly increase in popularity. Each religion would pose a serious threat to the other.

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**SELF-CHECK ANSWERS**

1. The seafaring tools called compasses originated in China.

2. Bubonic plague, smallpox, and measles most likely affected both the Han and Roman empires during the 100s and 200s C.E.

3. The Nestorian Christians had the problem of focusing on Christ’s person, not his divinity, which was frowned upon by other practitioners of Christianity.

4. The two men who were the sole survivors of a ship attack by Ethiopians and who lived to bring Christianity to Aksum were Frumentius and Aedisius.
Unit 2, Lesson 18
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