CHAPTER 5

WALLS AND WELLS

THE FIRST CITIES OF THE INDUS

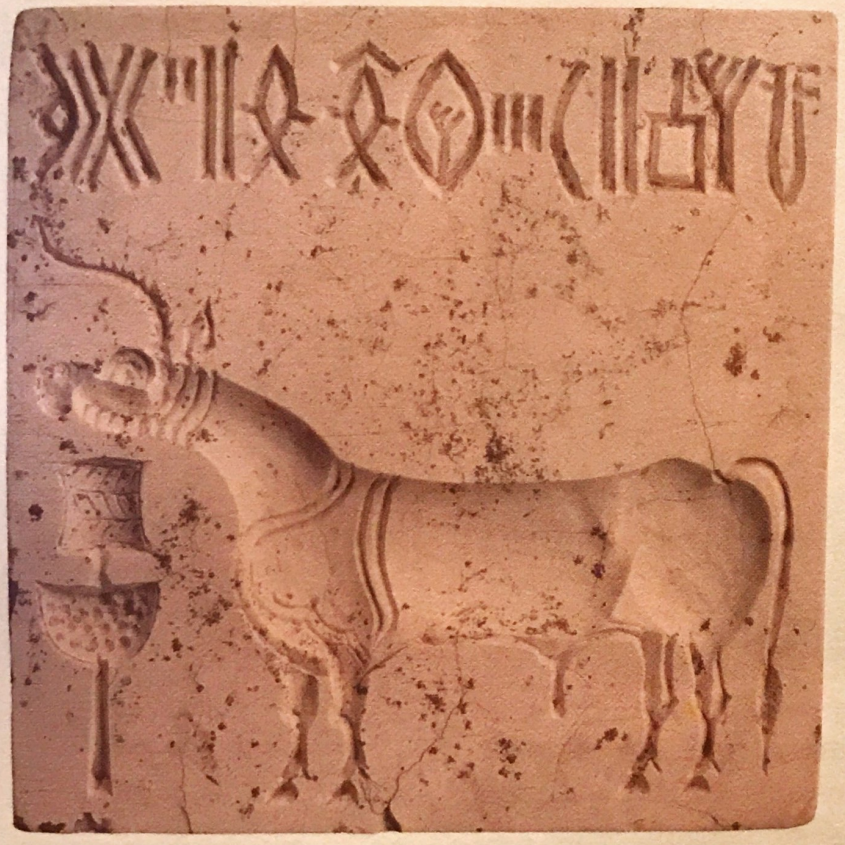
❝ CARVED STONE SEAL AND ANCIENT CITY OF HARAPPA IN PAKISTAN

Here and there, mysterious mounds 50 feet tall lie scattered across the countryside like a giant's abandoned game of checkers. Even though some of the mounds are huge—as big as hundreds of football fields—there's not much to see. Some crumbling mud bricks. A few tumbled brick walls and some blocks of stone. We are in the Punjab, a quarter of a million square miles of mostly flat, dry farmland. There's nothing worth paying attention to here, unless of course you are an archaeologist, or an engineer who needs some gravel to build a railway.

In the early 1850s, British engineers began to build a railroad through the Punjab. They usually laid the rails on a foundation of crushed rock, but there's not much rock in the Punjab. So the engineers decided to use the old bricks that littered the mounds. An archaeologist named Alexander Cunningham who had been digging in the area tried to stop them. He knew that the mounds covered the remains of ancient civilizations. He was hoping to find evidence of Buddhist times, which began about 500 BCE. But even he couldn't find anything in the ruins that seemed important—just some broken pottery and a few stone tools. And one other thing: a small carved stone seal.

This drawing shows how the ancient gateway at Harappa would have looked 4,500 years ago. Offices for tax collectors and guards were located along the right side. A wooden bridge would have covered the large drain in the center of the gateway to allow traffic to move into the city.

Carved stone seals were common in the ancient world. Merchants and government officials stamped them into soft clay instead of writing a signature. The seals were usually decorated with pictures of animals and sometimes a few signs or symbols. Cunningham's seal had an animal and some lines that could have been letters. Except that the



Carved stone seal, Harappa, Pakistan, 2200–2000 BCE

This two-inch (five-centimeter) square unicorn seal belonged to a powerful leader of Harappa. He may have used it to stamp clay seals that were attached to bundles of traded goods.

creature on his seal was not the usual bull or tiger, but something that looked like a one-horned bull—a unicorn. And if the lines were the letters or symbols of a language, it was not a script anyone had ever seen before.

Alexander Cunningham spent the rest of his life thinking that his dig at Harappa in the Punjab had been a failure. He never realized that the seal he had found was a key to an unknown civilization, a civilization that no one ever suspected had existed. Before the seal was found at Harappa, archaeologists had believed that the oldest cities in India and Pakistan dated from about 700 BCE. They were wrong. The crumbling bricks that the engineers had used to raise the railroad out of the mud were 5,000 years old. They were what was left of an ancient civilization as large and well organized as those of Egypt and Mesopotamia. Historians call it the Indus civilization.

The Indus civilization peaked with 1,500 settlements and several large cities, some with populations of up to 80,000 people. Its artisans were among the most skilled in the world, and its people traded with Mesopotamia and Central Asia. But in some ways, it was an easy civilization to overlook. Its people didn't build great pyramids or fancy tombs, as the Egyptians did. They didn't fight great battles and leave a great written legacy, like the Mesopotamians.

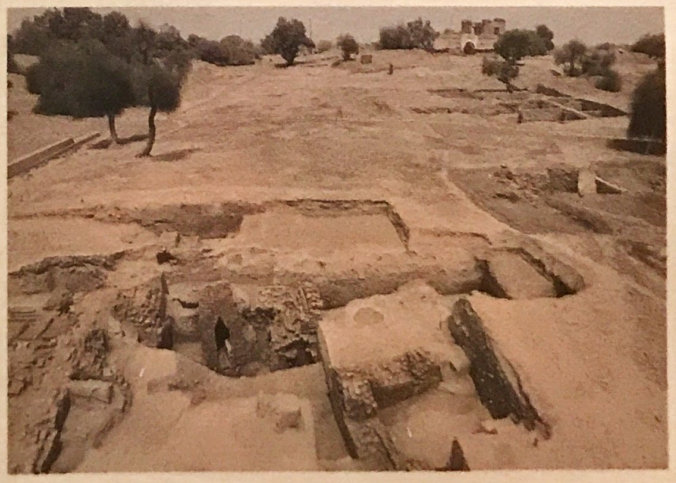
Have you ever met someone who looks totally ordinary, but turns out to have a really interesting life? Maybe she plays in a rock band. Or he designs theme park rides. The people of the Indus civilization left no great monuments behind. But that's because they were too busy making a good life for themselves, lives whose richness was in the living, not the stuff they left behind. It wasn't until the early

1920s that archaeologists realized that there might be more in the mounds of crumbling brick than met the eye. And so, 30 years after Sir Alexander Cunningham's death in 1893, archaeologists finally rediscovered the great city of Harappa.

Harappa was built on a low ridge between the Ravi and Satluj Rivers. It was a good location for a city. The land was fertile and villagers could hunt for animals and gather wood for fuel in the nearby forests. The rivers kept the fields around the city well watered, and the mud from floods made the land fertile. Lakes full of fish sparkled in the distance. Traveling merchants liked to stop in Harappa, where they could get a good meal and a snug bed safe behind the mud-brick city walls.

As it happens, Harappa's city walls are as mysterious as its script, the signs and symbols Cunningham found on the stone seal. Building and taking care of town walls must have been expensive and complicated. The earliest city wall at Harappa was 8 feet wide (2.5 meters) and may have stood more than 13 feet (4 meters) high. Archaeologists have added up the work hours required to dig the clay, shape and dry the mud bricks, mix the mortar that joined the bricks together, bring materials to the site by oxcart, and then actually build the wall. They estimate that it would have taken more than 500 people a full three months to construct a city wall when Harappa was still a small city. The city walls must have been very important—but why?

Most cities build walls to keep enemies out. But Harappa didn't seem to have enemies, at least any that were willing to attack it. Archaeologists have not found many weapons or pictures of warfare in Harappa. The city walls show no sign of attack and don't seem to have been designed for defense. If an enemy got past the massive gateway, the orderly streets and open courtyards



More than 150 years ago, local workers removed most of the bricks of the gateway and walls at Harappa to help build the foundation for the nearby railway tracks.

TOO MUCH SALT!

Four hundred miles to the south of Harappa, the city of Mohenjo Daro lies baking under the hot Pakistani sun. Archaeologists began excavating Mohenjo Daro in the 1920s and 1930s, at the same time as Harappa, but they stopped in 1965. The bricks that make up Mohenjo Daro's buildings are crumbling. Minerals and salts from centuries of irrigation water have built up in the soil and soaked into the bricks. As the bricks dry in the hot summer, the salts crystallize and make the bricks crumble. Today archaeologists are trying to figure out the best way to preserve the exposed buildings.

Public well and bathing platforms, Harappa, about 2500 BCE

An ancient well at Mohenjo Daro, made with wedge-shaped bricks, still draws the curious tourists. The upper layers of the walls and buildings have been covered with modern mud bricks to protect the original ancient bricks.

inside the city would have been hard to defend.

If the city wall wasn't meant to protect against war, maybe it was meant to keep out thieves. But most thieves probably would have preferred to rob travelers or traders when they were alone in the desert or forest. The city walls *did* help protect against another kind of threat—the floodwaters of the nearby Ravi River. But perhaps the most important function of the walls was to help the city collect the taxes needed in order to maintain its walls, clean its streets, and protect its people.

By 2600 BCE, Harappa had two major walled sections, each with gateways that could control who entered the city. Walls also surrounded the suburbs next to these large sections. In one suburb, archaeologists found a massive gateway with several small rooms alongside the entryway. In the litter filling the rooms, they found seals, broken clay impressions or sealings, and stone weights, the ancient world's version of pens, stamps, and weight registers. Those rooms were offices, probably for inspectors who taxed all goods coming into and going out of the city.

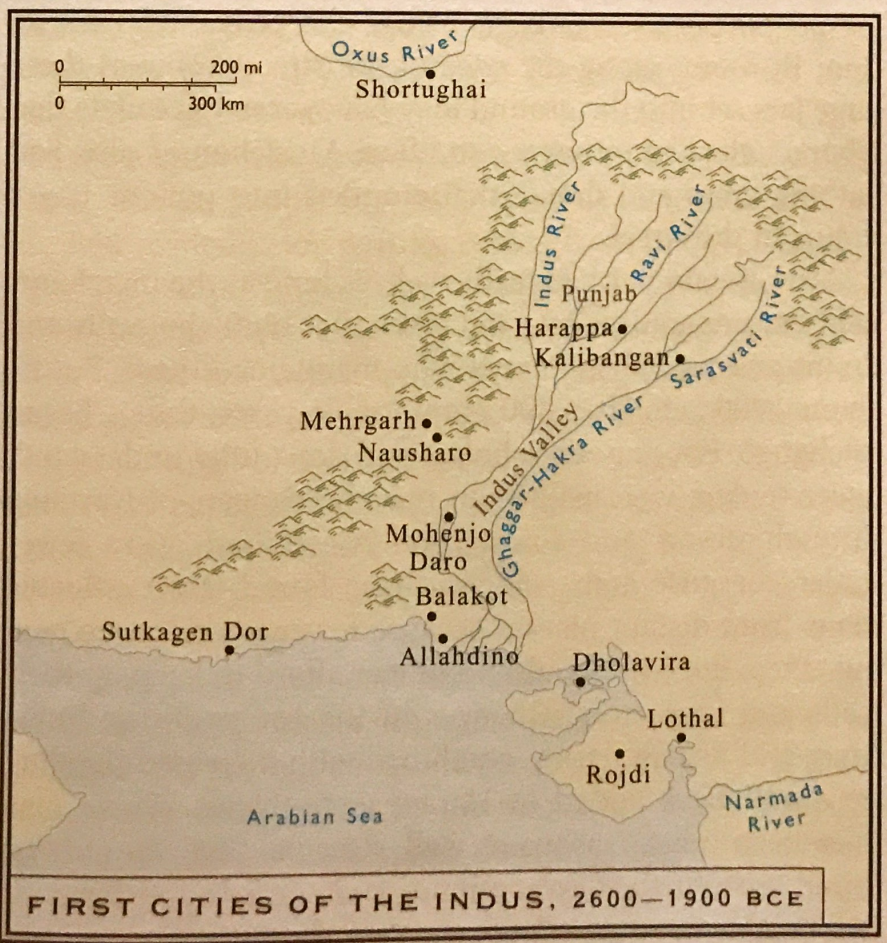
caravan + *serai* = "group of merchants" + "inn"
Caravanserai comes from Persian.

When traders arrived at a city, they parked their oxcarts outside the city gates at a place that was part-hotel, part-warehouse called a ***caravanserai***. Staying outside the city meant that the merchants could come and go from the caravanserai as they pleased without worrying about the city gates, which were probably only open between morning and evening. They could also leave things locked in their rooms that they didn't intend to sell, so that they wouldn't have to pay taxes on them.

When the merchants entered the city, inspectors stationed at the gates broke open the sealed bundles of trade

goods to examine what the merchants had brought to sell. The merchants probably had to pay a tax for the right to sell their goods in the city. After the inspectors had decided how much tax to charge and the merchants had paid, they were free to take their goods to the market. When inspectors broke the clay sealing on a bundle of goods, they would throw it into the street, where it would dissolve with the rains. But sometimes the clay sealing was swept into the trash and burned. Archaeologists later found these hardened sealings.

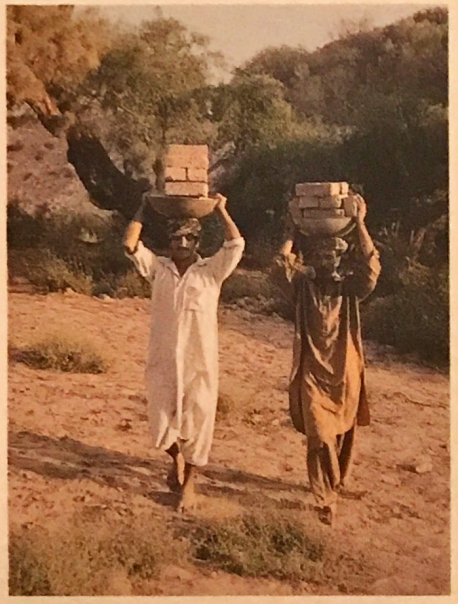
Customers bought things with grain and finished goods such as stone beads or textiles (cloth), which the merchant could trade somewhere else. When the day's trading was done, the merchant took his pay to the gateway. After the inspectors had examined and weighed the grain and finished goods, they may have sealed each bundle with a small lump of clay stamped with the city official's mark to show



FIRST CITIES OF THE INDUS, 2600—1900 BCE

WHERE DID YOU SAY YOU WERE FROM?

Villagers who lived near the city probably shaped clay into bricks not far from where they dug it up, and then brought the bricks to ancient Harappa by oxcart. Archaeologists have been able to identify several different colors of clay that would have come from different areas up to 6 miles (10 kilometers) from the city. The different colors of bricks are built into the wall in groups of four or five, probably since that's how many a person can carry at a time by balancing them on his or her head. Laborers might have picked up bricks from different piles and carried them to the wall for the builders.



A modern worker can carry about 7 small bricks weighing a total of 150 pounds on his head. This would be the equivalent of 5 of the 30-pound mud bricks used at ancient Harappa to build the city wall.

that the merchant had paid his exit taxes. Then the merchant could leave.

By 2600 BCE, baked-brick houses filled Harappa and drains removed dirty water from the city. Each walled neighborhood had its own market and craft workshops. Potters and metalsmiths built their workshops at the edges of the settlement, so that the cinders from their furnaces and kilns would not land on nearby houses. Copper craftsmen worked along the southern edge of the city. The winds usually came from the north and would blow the smoke and cinders away from the city.

People built houses with small rooms, some of which were used for storing food. Households opened onto courtyards that served as kitchens and workshops. Some houses had two stories with stairs along one wall. Almost every house had a flat roof that people used for sleeping in the summer and as extra work space.

People put their garbage in large clay pots stuck into the floor in rooms along the edge of the street. Some of these large jars set into the ground may have served as toilets that laborers cleaned out every so often. Most houses also had bathing areas and drains that emptied into pots or larger drains in the street.

The system worked really well, as long as the merchants kept coming and paying the taxes that built the walls and drains and paid the laborers who maintained them. But by about 1900 BCE, after 700 comfortable years, things began to change. For reasons scholars still don't fully understand, fewer traders were willing to risk the dangers of traveling through desert and forest. We know there were fewer traders because archaeologists have found fewer valuable items from distant places. Because fewer traders were paying taxes, the cities could no longer afford to keep up their walls and inspectors. Changes in the course of the Indus River and its tributaries, combined with increased flooding may well have added to Harappa's problems. There may have been other reasons as well. Reasons that can only be found with further excavations. And someday, perhaps we will be able to read the Indus script.