

# FROM BRONZE TO PLASTIC

## CRAFTS IN EVERYDAY LIFE

66 TOMB OF THE  
MARQUIS OF ZENG IN  
HUBEI PROVINCE

What would you do with an empty box? If it's just something your shoes came in, you'd probably toss it in the recycling bin. But if it's a beautiful wooden box that your grandmother gave you for storing your treasures, you'd probably put it away someplace safe. If you forgot the box, it might stay hidden for a long time until somebody found it. If it was well made, it would survive the long years in your attic.

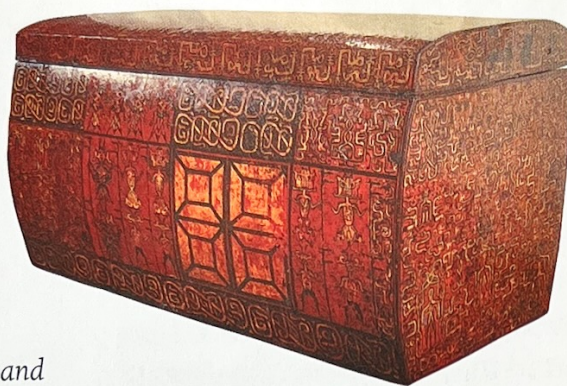
That's the situation with artifacts from ancient China. Because most of the artifacts that archaeologists have found are beautiful and well constructed, it would be easy for modern people admiring the ancient Chinese crafts in a museum to think that everything the ancient Chinese made and used was pretty to look at and well made. But the fact is that most of the more ordinary objects fell apart centuries ago. Common, everyday possessions of little value were often made of materials such as wood or animal hides, which wore out quickly and then disintegrated once people stopped taking care of them. This is why we see so few wooden spoons, work clothes, roughly made dishes, and similar objects from ancient China. People were more careful with their expensive possessions, which were also usually made of more durable materials.

Scholars know as little about the lives of ordinary people as they do about ordinary objects. Few details remain about the daily activities of the skilled artisans who produced the crafts that people relied on. But by looking at the items that remain and by reading the documents that have been discovered, historians can guess how someone who handled these crafts would have spent her day.

Imagine, for example, a maidservant in the house of the family of the Marquis Yi of Zeng (a marquis is a low-level

66 Coffin of the Marquis of Zeng, Hubei Province, 433 BCE

*The body of a powerful man such as Marquis Yi of Zeng would rest in several coffins, one inside the other. This inner coffin is made of lacquer and decorated with horned bird-men and fierce guards carrying weapons, who were intended to protect the body from evil spirits.*



noble). In Hubei Province in 1977, archaeologists found his tomb, containing more than 10,000 treasures that dated from around 433 BCE. The state of Zeng is mysterious—it isn't mentioned in any historical sources.

Our maidservant, whom we can call Shuwan, might have been very young, perhaps as young as 13. She woke early so that she could have everything ready for when her mistress rose for the day. Her mistress was one of the wives or concubines of the marquis. The bodies of eight young women ages 13 to 24 were found in his tomb, so it appears that he had many female companions. Nothing more is known about them, not even their names.

On a cold morning, Shuwan would light a fire in a small portable stove. Perhaps she would prepare breakfast on it as well. The stove found in the marquis's tomb is made of bronze. The Chinese developed several methods for making complex and detailed pieces of this metal. The earliest examples in China of bronze made with a technique called the "lost-wax method" come from the marquis's tomb. Using this technique, a worker formed a model of the finished piece, but he made it of wax, not clay, as in the earlier "piece-mold" process. He shaped the wax around a core of some material that didn't melt. The artisan pressed clay onto the outside of the wax model and left it there to dry. Once the clay was hard, a workman poured hot bronze between the clay outer mold and the inner core, melting the wax (this is where the wax was "lost") and replacing it with the bronze, which hardened as it cooled. The metal took on the shape formed by the clay mold, which in turn reproduced the shape of the now lost wax model.

A worker then shattered the outer clay mold and removed the bronze object. This technique ensured that no two pieces produced by the lost-wax process could ever be identical. Some of the more complicated pieces in the tomb

#### WIVES AND CONCUBINES

Powerful men in traditional China often had more than one wife, partly to show off that they were wealthy enough to support a large family, and partly to ensure that they would have a son to inherit their title and property. Unofficial wives were called concubines, and their sons could not inherit their father's title.

of the marquis were made from different pieces produced by the lost-wax process and joined together.

Bronze was valuable, and the workmanship that went into an intricate object was also costly. Each pot would have been worth a small fortune, and in the tomb of the Marquis of Zeng, archaeologists have found bronze objects weighing a total of over 22,000 pounds (10 metric tons)!

A maidservant would certainly have handled some of these fine objects in the course of her chores. Once her mistress was warmed and fed, Shuwan would help her to put on one of her fine silk gowns. Nobody knows exactly when silk was first produced in China, but by 1000 BCE the Chinese were already producing enough that they were trading it with other countries for their products.

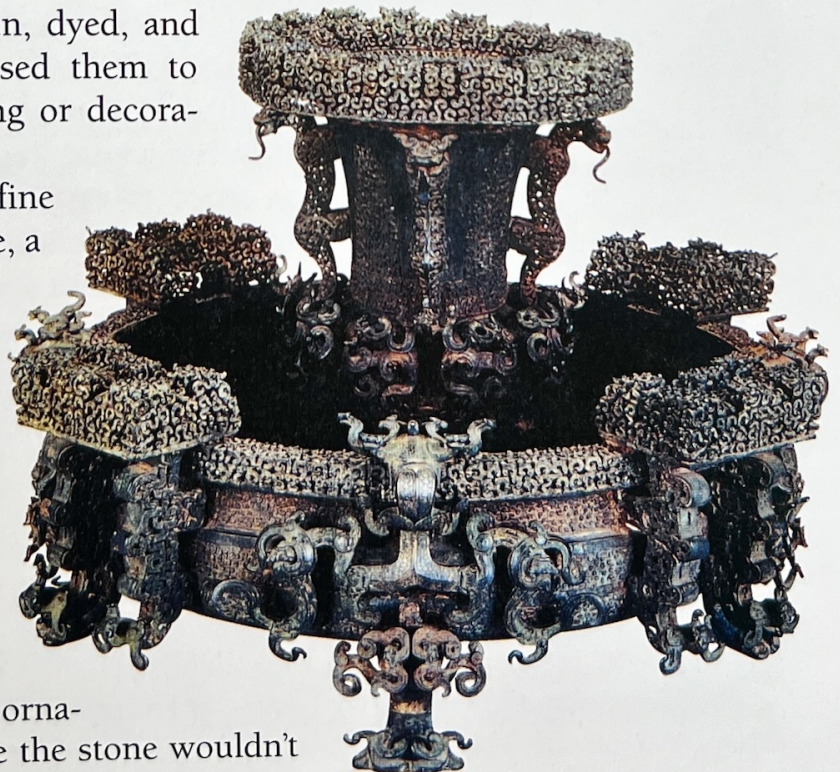
Silk is made from the cocoons of silkworms (actually the larvae of a moth). Today most silk production is automated, but in the fifth century BCE, making a silk garment took the combined work of many people with different skills and training. The silkworms were carefully raised until they spun their cocoons. Each tiny cocoon, when unwound, could produce about a half-mile of silk thread. Different craftspeople then spun, dyed, and wove the thin fibers into cloth or used them to embroider beautiful designs on clothing or decorative hangings.

The marquis's wife no doubt wore fine jewelry as well. The Chinese prized jade, a semiprecious stone, for its beauty and for the way its fine grain could be carved into highly detailed forms. Chinese artists of the Neolithic Period (5000 to 2000 BCE) were already carving jade. The wife of the marquis, 3,000 years later, might have worn a pendant showing a complicated scene of two mythological animals twining around each other. A jade dagger found in the marquis's tomb was probably an ornament too, and not a real weapon, since the stone wouldn't

### THE LOST LOST-WAX METHOD

For some reason, after a short time the Chinese forgot how to use the lost-wax method to create bronze objects and they didn't rediscover it for centuries.

*The decorations on this wine server are the earliest known examples of the lost-wax method of bronze casting in China. This method allows craftspeople to make intricate details that would have been impossible with other techniques.*





*It's hard to imagine that a squirming mass of silkworms would produce delicate and lustrous silk. Silk made comfortable and beautiful garments and was so precious that it was used as money.*



*This brilliantly painted suitcase was as much proof of the owner's wealth as the clothes stored inside. Four men were needed to carry it, proving the suitcase's owner could afford servants just to carry his or his wife's belongings.*

hold a sharp edge the way bronze or other metals could.

After her mistress was ready to start her day, Shuwan would have many duties to perform. Sometimes she would accompany her mistress on a journey. Perhaps the wife of the marquis was returning to her hometown to visit her parents. Maybe she was accompanying her husband on a diplomatic trip, or taking a trip to a sacred mountain to perform a sacrifice. In any case, the lady would have traveled with

servants. They would take care of her and her possessions, and also show her hosts that her husband was wealthy enough to afford many people to work for his family.

Shuwan would pack everything her mistress needed for the trip. No ordinary box would do to hold the precious garments and jewelry of a fine lady. These suitcases may not look similar to what people travel with today, but their shape was practical at a time when you couldn't just open the trunk of a car and toss in your luggage. Travel was difficult, and servants would make the journey on foot. The handles would rest on the shoulders of the two men assigned to carry the case along the road, up mountains, and across rivers to its destination.

The suitcase looks like painted wood, but in fact, it's made of lacquer—an early form of plastic. Most people think of plastic as a modern invention, but by definition, any material that can be molded into a shape that it keeps once dry is a plastic. Lacquer starts off as a milky resin that comes from the lac tree, which is native to China and related to poison ivy. As the liquid dries, it turns sticky. A craftsman then spreads the liquid into a thin layer that hardens in about a day. As many as 1,000 layers are built up to form a hard, solid object that can then be turned into a work of art, a piece of furniture, a musical instrument, armor, or a suitcase. Lacquer is lightweight, hard, and water-resistant.

The marquis's double coffin is made of lacquer, as is the coffin of a dog found in his tomb. (Nobody knows why the dog is there.) Lacquer could also be turned into a hard, long-lasting paint. The lacquer paint on this suitcase is still bright and colorful after almost 2,500 years.

Before the lady departed, she might attend a banquet. Shuwan may have had time to grab a hasty bite as other servants prepared food and served it to the marquis's family and guests, perhaps using gold utensils. Gold isn't as practical as bronze—it's soft, for one thing—but it is even more expensive. A visitor seeing a humble object such as a soup bowl made of gold would be impressed by the marquis's incredible wealth.

After the meal ended, the marquis's wife and Shuwan would have departed on their journey, along with other servants and family members. No doubt they traveled with armed guards, as the contents of their boxes—and even the boxes themselves—represented more wealth than most people would expect to see in a lifetime of hard work.

We may never know how the people who worked for these wealthy lords and ladies, and the talented and highly trained craftspeople who created the beautiful objects that the wealthy used, felt about the differences in their lives. The proper relations between people of different status was just one of the questions that the great thinkers of Ancient China discussed. In the sixth century BCE a great man was born in China whose ideas about human nature and what makes a person good or bad still influence the thinking of people in China and many in the rest of world. His name was Confucius.

#### ETERNAL ROCK

Jade is so durable that for the ancient Chinese it seemed eternal and stood for immortality. Sometimes a person—a very wealthy person—was buried in a jade suit. More commonly, a small piece of jade would be put in a dead person's mouth.

