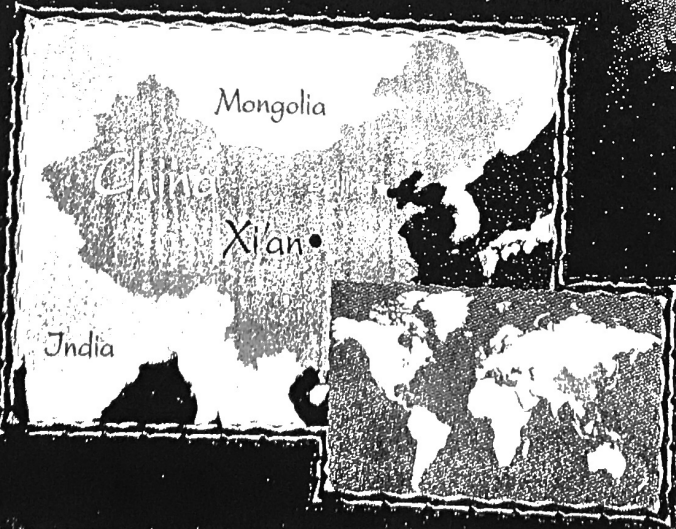


March of the Terra-Cotta

An amazing army of artifacts created more than 2,000

SPECTACULAR SITE: More than 7,000 terra-cotta soldiers and other stupendous statues were found 25 years ago in an emperor's tomb in Xi'an, China.





By Victoria C. Nesnick

ta Soldiers

years ago is one of the world's archaeological wonders.

The moment I stepped inside the massive tomb of Emperor Shihuangdi in central China, I felt as though I was facing a humongous firing squad. My body shook as I imagined one of the emperor's generals shouting, "Ready, Aim, Fire!" before a storm of arrows pierced the air on their way to my body.

But then I remembered that these soldiers that seemed so terrifyingly real were made of terra cotta, a baked clay also used through the centuries to make pottery. Secretly buried for 2,200 years until it was found in 1974, the awesome army of artifacts is part of the burial complex of Qin Shihuangdi (Chin Shee-wang-dee), who was China's first emperor (221-206 B.C.). As I looked at this amazing



HISTORICAL HORSES: In 1980, archaeologists found two horse-drawn bronze chariots in a side tomb. Among the nearly 3,500 parts, about 2,000 are made of gold and silver.

drought. One of the shovels pulled up the head of a clay warrior. "We all thought he was a ghost who drank all the water meant for the crops," recalls Yang Jungeng.

site filled with lifelike soldiers and horses, I could understand why it has been called "The Greatest Archaeological Find of Our Time" and "The Eighth Wonder of the World."

Yang and his fellow farmers thought they had unleashed an evil spirit that would cause a terrible catastrophe. But when they found more sculpted warriors, they called in experts to investigate. Once excavations began, the site stretched to the size of four football fields.

Just 25 years ago, these tremendous troops were a company of crumbled clay. Ever since they were accidentally found in the tomb at the foot of Mount Li, east of the city of Xi'an (she-AHN), archaeologists in China have been putting the pieces together as if they were working on a huge three-dimensional jigsaw puzzle. Think connecting 1,000 pieces of pictured cardboard is tough? Try putting together little bits of more than 7,000 life-size warriors and horses.

DIG DATA: The two-sided swords found at the terra-cotta-soldiers site still sparkle and are razor sharp. They had been coated with a layer of chromium, a material used to rustproof metals.

The swords prove that China used chrome plating more than 2,000 years before it was developed in Europe in 1819.

"If on a given day we find one piece that fits, that's a lucky day," says Song Yun, a member of the team that's been mending the broken soldiers for more than 20 years.

How Were They Found?

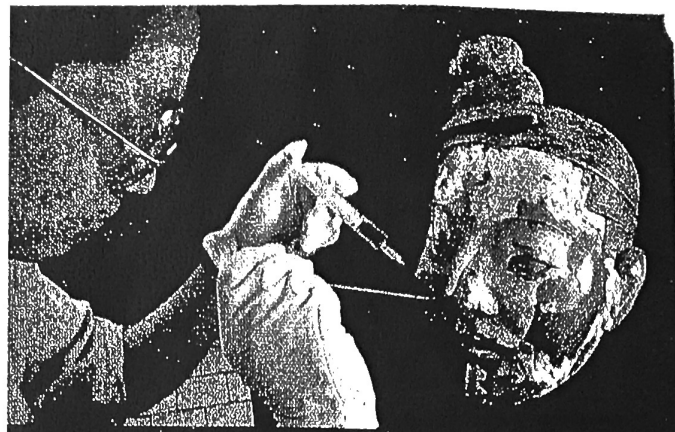
The soldiers were accidentally discovered when a group of local farmers was digging a well during a

pit held the military headquarters, where 68 officers, four horses, and one chariot were stationed. A fourth pit, excavated in 1977, was empty. Many scholars believe the emperor died before it was completed.

Why Were They Made?

Shihuangdi didn't build his terra-cotta army simply because he wanted to play with very large toy soldiers. Some scholars say he built it to protect his tomb and escort him into the afterlife. Others say the emperor wanted the army as a memorial to celebrate his military victories. Whatever the reason, it took more than 700,000 people, working for 40 years, to build the emperor's burial complex. Archaeologists believe that since all the warriors' faces are different, the sculptors must have come from many different places throughout Shihuangdi's empire.

Many of the emperor's loyal workers, however, were not rewarded for their hard work. Hundreds of nearby gravesites contained skeletons of tomb builders, ministers, and nobles. According to the *Shiji*, an ancient Chinese history book, anyone who knew



THIS WON'T HURT A BIT: Only a few soldiers were found with their original paint. Here, a technician injects a glue made from sharks to keep the remaining paint from peeling off the face.

about the burial complex was locked in and buried alive so they could not reveal its secret location.

To make the tube-shaped bodies of the huge statues, the sculptors looped together coils of wet clay. Heads and hands were cast from molds. Then

10 Things You Should Know About

Qin Shihuangdi

1. Born as Ying Zheng to a royal Chinese family in 259 B.C.
2. Inherited the throne at age 13 after the death of his father.
3. Declared himself First Emperor, Qin Shihuangdi, to show his superiority to neighboring kings.
4. In nine years, between 230 and 221 B.C., he defeated six other Chinese states that had been at war with each other for 254 years.
5. Combined six states into one and created one system of writing, money, transportation, and weights and measures for the entire country.
6. Joined China's many small defense walls together, then extended them into what became the Great Wall of China.
7. Forced his people to pay unfair taxes and tortured those who broke the law or disobeyed him. Arrested his own mother and sentenced one of his sons to death.
8. Buried alive 460 scholars who followed the teachings of Confucius, an ancient Chinese philosopher, because he suspected they disagreed with him.
9. Burned all books except those that flattered him or dealt with his favorite topics.
10. Searched for a magic potion that would enable him to live forever.



What the Terra-Cotta Soldier Is Wearing

How can you tell a terra-cotta general from one of his archers or infantrymen? While the more than 7,000 warriors had different facial features, the officers, archers, and infantrymen wore a particular style of uniform and headgear.

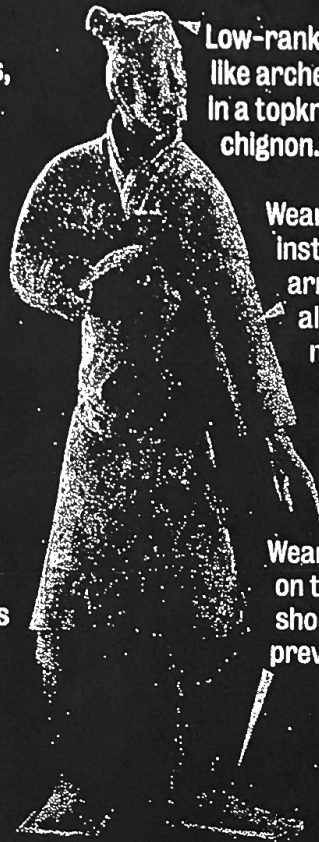


The highest-ranking warriors, like generals, wear some form of double-tailed headgear.

Wear longer tunics with a small amount of armor.

Wear boots with upturned toes.

General



Low-ranking warriors, like archers, wear hair in a topknot called a chignon.

Wear robes, instead of armor, to allow freer movement and accurate marksmanship.

Wear studs on their shoes to prevent slipping.

Archer



The lowest-ranking warriors wear very simple headgear tied under their chin to prevent blowing off while riding.

Wear sleeveless armored jackets made of plates that seem riveted together.

Wear the lightest and smallest shoes.

Infantryman

an outer layer of clay was applied and individual details sculpted. The moist statues were placed in low-temperature kilns to dry. Then they were fired at high temperatures for several days, until they actually glowed red-hot. Modern artisans are copying such methods to learn more about the sculpting techniques used during the emperor's time. They are also creating reproductions for display purposes and selling replicas as souvenirs to tourists to help raise money for the conservation effort.

Some of the smallest pieces provide the

largest clues. From tiny paint chips, archaeologists have determined that the warriors were originally painted in 13 different colors. The paint was made from vegetable dyes and minerals mixed with binders such as animal blood or egg white. But fire, floods, time, and recent exposure to air erased most of the ancient hues.



SOLDIER SIMULATION: Technicians used flecks of actual paint from the soldiers, added information from historical sources, and created this computer-generated image of what a kneeling terra-cotta soldier might have looked like in all its colorful glory.

The Last Puzzle Piece?

The biggest puzzle of all may be Shihuangdi's tomb, located under Mount Li. If it hasn't been looted, the tomb is expected to contain all the possessions the emperor wanted to have in

ms avenue. Sima Qian, the author of the *Shiji*, wrote in about 100 B.C. that Shihuangdi's tomb is "filled with models of palaces, precious stones, and rarities." The walls and roof are said to be made of copper and studded with diamonds and pearls to represent the heavenly sky. Miniature silver and gold ducks and geese float along quicksilver (mercury) streams and lakes. The landscape is adorned with foliage and trees made of precious jade.

Some people doubt the accuracy of Sima Qian, but Robert Murowchick, an expert on East Asian archaeology, says, "Sima Qian is one of the best historians. The things he wrote, that we've been able to check, have all turned out very much as he described them."

Although China's archaeologists are anxious to open Shihuangdi's tomb, there is a chance they may find an empty pit. If they do find one huge treasure chest, they will be faced with an enormous conservation job.


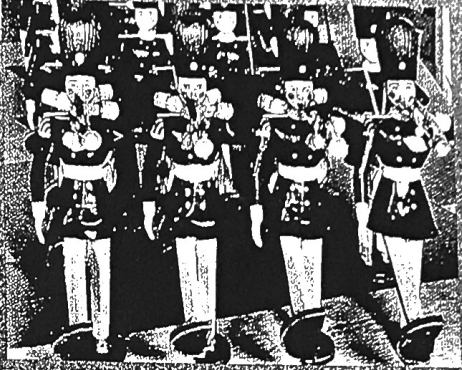
"The Chinese have learned from excavating other tombs that items like silk and paper will disintegrate in a matter of days once exposed to air," says Murowchick. "They realize the importance of not opening the emperor's tomb until they are ready to take care of the things inside it." Lack of money may also delay excavations. "It might take between five and 10 years before the problems surrounding the tomb will

be solved," says Murowchick.

Then, of course, there are the booby traps to worry about. Booby traps? The *Shiji* warns about crossbows that are mechanically triggered at the tomb's entrance "so that any thief breaking in would be shot." Sounds like this excavation may be a job for Indiana Jones. ■

Battle of the Make-Believe Soldiers

As we all know, at this time of year giving gifts is much more fun than receiving them (although receiving comes in a very close second). Suppose you had a friend who loved toy soldiers. Which group below would you give to that friend as a gift? Check out the chart comparing the famous Chinese soldiers you read about here with the soldiers from a famous old Hollywood movie, and then decide.

CHINA'S TERRA-COTTA SOLDIERS	HOLLYWOOD'S WOODEN SOLDIERS
	
CREATED BY	CREATED BY
Shihuangdi, Chinese Emperor	MGM Studios, Film Company
PLACE FOUND	PLACE FOUND
Near Mount Li, Xi'an, China	Scene in 1954 movie <i>March of the Wooden Soldiers</i>
SIGNIFICANT DATE	SIGNIFICANT DATE
Found in 1974	Remade by Disney in 1961
NUMBER	NUMBER
About 7,000	About 100
PERSONALITY	PERSONALITY
Almost lifeless	Very robotic
MAIN JOB	MAIN JOB
Protect emperor from invaders	Save Toyland from bogey monsters
CONSERVATION PROCESS	CONSERVATION PROCESS
Restoration by archaeologists	Colorized by filmmakers
BEST VIEWING TIME	BEST VIEWING TIME
Year-round	Christmas season
COST	COST
Pricedless	About \$20 per video