

# HOW WORDS CHANGED THE WORLD

## THE INVENTION OF WRITING

In November 1989, astronaut Sonny Carter took a clay tablet with him on the space shuttle *Discovery*. Written in Mesopotamia in 2040 BCE, this tablet is the oldest human artifact ever to have traveled in space. It lists what six ancient travelers took as they began a long journey:

For Bama, Baza the servant, Lugal-shazu, and Mash (each): 5 quarts of beer; 5 quarts of bread; 5 portions of onions; 3 portions of oil; and 2 portions of alkali.

For Shu-Eshdar: 10 quarts of beer; 10 quarts of bread; 5 portions of onions; 3 portions of oil; and 2 portions of alkali.

For Ubarum: 3 quarts of beer; 2 quarts of bread; 5 portions of onions, 3 portions of oil, 2 portions of alkali.

Month: cutting of the grain, 24th day, in the year that Huhnuri was raided.

Shu-Eshdar must have been the leader of the group. His rations of bread and beer were double those for Bama, Baza, Lugal-shazu, and Mash. Poor Ubarum must have been considered the least important. His rations included only three quarts of beer and two quarts of bread. The date on the tablet tells us that the travelers made their journey in the month when the grain is cut and in the year when the city of Huhnuri was raided. That's how the ancient Mesopotamians recorded years: pinning the time to an event. People still do that sometimes. You might say, for example, that your cousin was born on the same day and year that Saddam Hussein was captured in Iraq, which would mean December 15, 2003.

### 66 A MESSENGER TABLET AND A PERSONAL LETTER

66 Messenger tablet, Iraq,  
2040 BCE

Alkalis are mineral salts found in soil, including desert sands. Dissolved in water, they can be used as soap.



Astronaut Sonny Carter made history when he took a 4,000-year-old clay tablet from Mesopotamia into outer space in 1989.

The ancient words on the tablet that traveled with the astronauts were written more than four thousand years ago, but writing had already been in use for more than one thousand years by then. People had begun to speak long, long before writing was invented, though it's impossible to say exactly when or why. We do know, though, about the origins of writing in the Near East.

Imagine a primitive farmer living in a village in the green hills of northern Mesopotamia, around 8000 BCE. Each morning he leads his herd of 15 sheep to graze beneath shady oak and pistachio trees. One day, this farmer decides to send six of his sheep to his brother in a neighboring village, hoping for one of his brother's oxen in exchange. He sends a neighbor boy as his messenger. What if this boy delivers the sheep but forgets to ask for the ox? What if one of the sheep wanders off and is lost? Or what if the boy steals a sheep and sells it? Who would know? The brothers couldn't send written messages to each other to arrange the exchange because writing hadn't been invented yet.

People *had* figured out some ways of keeping records, though. The earliest farmers in the Near East kept track of business using tokens, which were small objects made of baked clay. Archaeologists have found thousands of tokens—red, brown, and gray ones, and round, oval, square, and even pot-shaped ones. One shape might represent a bushel of barley. Another might represent a pitcher of oil or a certain kind of animal. Some were only one centimeter across, while others were twice that size.

Suppose that the farmer used 15 tokens to stand for the 15 animals in his herd. He probably kept the tokens in a pottery jar. When a lamb was born, the farmer would drop another token into the jar. When he sent sheep to his brother, he'd throw away the same number of tokens. Or perhaps he'd send them along with the messenger.

For more than four thousand years, the token system



The Mesopotamians used small clay tokens to keep track of various goods, such as animals or jars of oil. The circular token with a cross on it (top) represented one sheep.

**THE  
WRITING  
REVOLUTION**

**8000 BCE**

Tokens first used for accounts

**3350 BCE**

Accounting tokens enclosed in clay balls

**3200 BCE**

Picture-based writing invented

**3000 BCE**

Cuneiform writing begins to be used; writing used for administration

**2600 BCE**

Mebaragesi writes first-known royal inscription

**2400 BCE**

First personal letters written

worked in this very simple way. But around 3350 BCE, about the same time that the first cities were growing in Mesopotamia, people devised a new system. Imagine another farmer now, living much later than the first one. Suppose that he, too, wanted to send six sheep to his brother in another village. This second farmer took six circular tokens with crosses on them and put them into a hollow ball of clay—an ancient envelope. Then he sealed the clay container with his cylinder seal—a tube of carved stone that created a unique design in the clay—and baked the whole thing in the sun. After the envelope hardened, he gave it to a messenger to take to his brother, along with the sheep.

When the messenger arrived, the brother would break open the clay ball. If he found six tokens, but counted only four sheep at his front door, he would demand to know about the missing sheep. The messenger still had to remember to ask for the ox. That kind of message couldn't be recorded yet, but communication had taken a giant step forward. Messages were traveling long-distance for the first time. And the idea spread. Clay balls with tokens still tucked inside have been found all over the ancient Near East.

People were communicating with one another through the clay envelopes, but they weren't writing yet. Their messages became clearer and more permanent when some clever person pressed one token onto a soft clay ball six times before baking it. Now there were no tokens to lose, and the message couldn't be changed easily. In time, the envelope balls were replaced by flat rectangular or pillow-shaped tablets that listed the numbers and amounts of various things. Now the farmer's brother could "read" the message that came along with the sheep. Better still, he could keep the tablet as a reminder to thank his brother when he saw him next.

After a while, someone realized that it was easier and quicker to draw the shape of the token. In keeping with Mesopotamian tradition, this person used what nature offered. Clay became his paper, and sharpened reeds from the riverbank became his pens. A farmer could write the symbols for six, sheep, one, and ox on his clay tablet. He still

The sign made of two wavy lines in the first row of this tablet is a pictogram that means "water."

couldn't write the words for *send*, *brother*, or *please*. But he was making progress.

Eventually people began to draw pictures of all sorts of things, such as a man, a tree, a star, or a foot. These drawings, called pictograms, mark the beginning of writing in Mesopotamia.

In time, the Mesopotamians found more and more words that they wanted to write. So they invented more and more pictures. At first, all the pictures represented *things*—nouns. But in time they came up with pictures for other parts of speech, such as verbs and adjectives. For example, if you were writing English with pictograms and drew a hand, it could represent the thing at the end of your arm. But it could also be used as a verb: *Hand* me the ball. Or it could be the first half of the word *handball*.

By 3200 BCE, the Mesopotamians were using hundreds of pictures in their writing. It must have been hard to remember them all. But the thrill of communicating in writing for the first time must have been like the excitement people felt when the telephone was invented in the mid-1870s and, for the first time, they were able to hear distant voices through the receiver.

Before long, simple words weren't enough. Ancient writers figured out a clever new "trick." Instead of having one sign that stood for one thing, such as the sun or a goat, they began to use pictures to represent the *sound* of a spoken word. This worked well because most Sumerian words were only one syllable long. A simple drawing could stand for a simple sound, such as *ga* (milk) or *lu* (man).

It also helped that the language had lots of homonyms—words that sound alike but have different meanings. The Sumerian word *ti*, for example, had three meanings: "life," "take," and "arrow." One of these words, *arrow*, is easy to



**NOT-SO-DEAD  
DEAD LANGUAGES**

Sumerian has not been spoken for four thousand years. But scholars of language have discovered its secrets by studying clay tablets and inscriptions written in ancient times. Sumerian is not related to any modern language. Akkadian, the other major language once spoken in Mesopotamia, is in the Semitic language family. This means that it is related to Hebrew, the language of ancient Jews and modern Israelis, and to Arabic, which is widely spoken in the Middle East today.



### MEANWHILE IN EGYPT...

The Mesopotamians weren't the only ones who invented writing. At about the same time, 3200 BCE, the Egyptians were inventing their own writing system, a collection of signs called "hieroglyphs." At first, each picture represented one word. Later, pictures came to represent sounds. Mesopotamia and Egypt were trading partners at that time, so it's possible that the Mesopotamians influenced the Egyptians. Or was it the other way around?

Writing also developed in South Asia and in China around this same time, but the dates are uncertain. Scholars of language are debating the issue now. Four lands—Iraq, Egypt, China, and the Indus Valley of South Asia—all claim to be the home of the earliest writing on earth.

draw. So the Mesopotamians drew an arrow for all three words and let its use show the meaning. They also used the sign just for the sound "ti" when it appeared in any word. With this new method, the Mesopotamians could write almost anything: verbs, names, adjectives, even ideas such as love or fear.

About this same time, the signs became less like pictures and more like designs. Instead of drawing pictures in the clay, the writers began to create images by pressing the sharp ends of their reeds into the clay. Now all the lines in a sign were straight, made from the tip of the reed. Because the reeds were cut at an angle, the marks were wedge-shaped. We call this cuneiform writing, from the Latin word *cuneus*, which means "wedge." (The tablet that Sonny Carter took into space was written with cuneiform signs.)

Many ancient languages used the cuneiform script that the Sumerians invented, just as English, German, French, Spanish, Italian, and many other languages use the same alphabet. Each sign in the cuneiform script represented a syllable, so the script is known as a syllabary, not an alphabet. The Sumerians didn't think of representing each consonant with a single sign, as we do in our alphabet. So they needed many more than 26 phonetic signs.

Writing was a wonderful new tool, but it was still very complicated, with about six hundred cuneiform signs in regular use. Only a few people in each community actually learned to read and write. These were the scribes who did the writing for the whole community. Later some professionals such as judges and priests also learned to write.

It took hundreds of years for people to realize how helpful writing could be. At first, city leaders used it only for making lists: keeping track of taxes and trade. But scribes gradually found more and more uses for cuneiform. They began to write legal contracts, lists of words, hymns, prayers, and inscriptions for kings who wanted their names and deeds to be known by the gods and by people in future generations. But scribes never wrote diaries, biographies, news stories, or histories, which is a shame. We could have learned so much about their lives if they had.

Educated Mesopotamians finally began to write letters around 2400 BCE, and several hundred years later, ordinary people began to hire scribes to write special letters for them. Like most Mesopotamian letters, this letter found in Iraq begins with a wish for good health from the gods: "Tell Luga: Sin-putram sends the following message: May the gods... keep you in good health." Sin-putram wrote "tell Luga" because he knew Luga couldn't read and would have hired a scribe to read the message to him.

Finally, after thousands of years, by about 1700 BCE, a farmer could explain clearly to his brother that he was sending him six sheep and that he would like an ox in exchange. This was quite an accomplishment, but it would

66 Personal letter, Iraq, 18th or 17th century BCE

### FROM PICTURES TO CUNEIFORM WRITING

ENGLISH WORD	AROUND 3100 BCE	AROUND 3000 BCE	AROUND 2500 BCE	AROUND 2100 BCE	AROUND 700 BCE
bread					
carp					
cow					
eat					
head					
plow					

Pictograms sometimes are recognizable as pictures of things, such as a face, a bowl, or a fish. But, over time, the symbols became simpler and could no longer be recognized as objects.

## CUNEICODE

Each cuneiform sign represents at least one syllable, and most could be read in more than one way. The system worked well for writing Akkadian, since most Akkadian words include many vowels but not many clusters of consonants. It's hard to write English words using this syllabary, though. Akkadian had no *th*, *f*, *j*, *o*, *v*, or *y* sounds, and it never put more than two consonants together. To use cuneiform to write words in English, you need to add letters, insert vowels, and change some consonants. For example, it's easy to write the name Emily (e-mi-li) or Michael (mi-ka-el) but much harder to write Joseph (perhaps i-u-se-ip) or Stephanie (se-te-ip-ha-ni). The English word "sixths," with four consonants in a row, would have completely stumped an Akkadian scribe.

be a long time before an ordinary person could read or write. These skills were still in the hands of the lucky few.

Think about your day so far. How many times have you used your ability to read and write? Maybe you woke up to your alarm and read the time on a digital clock. At breakfast you may have read the words on the cereal box. Perhaps you read the headlines in the newspaper. Words and numbers cover our world—on street signs, on your computer screen, on buses and trains, and in books such as this one. We take writing so much for granted in our daily lives that we barely notice how much we read.

Writing, like the wheel or the plow, was once a new technology, an invention that allowed people to do things that hadn't been possible before. It allowed them to remember events without having to memorize them and to communicate over long distances. Once writing was invented—not just in Mesopotamia but also in Egypt, China, South Asia, and Mesoamerica—it was a revolution.

## SOME CUNEIFORM SOUNDS AND SIGNS

SOUND	SIGN	SOUND	SIGN
e		li	
el		mi	
ha		ni	
i		se	
ik		si	
ip		te	
is		ti	
ka		u	