THE WONDER OF CHINESE BRONZES

BY LI XUEQIN

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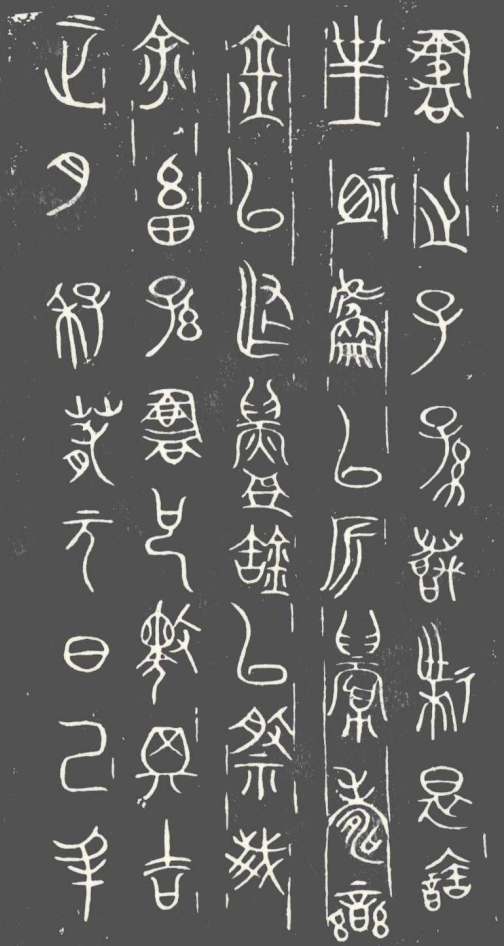

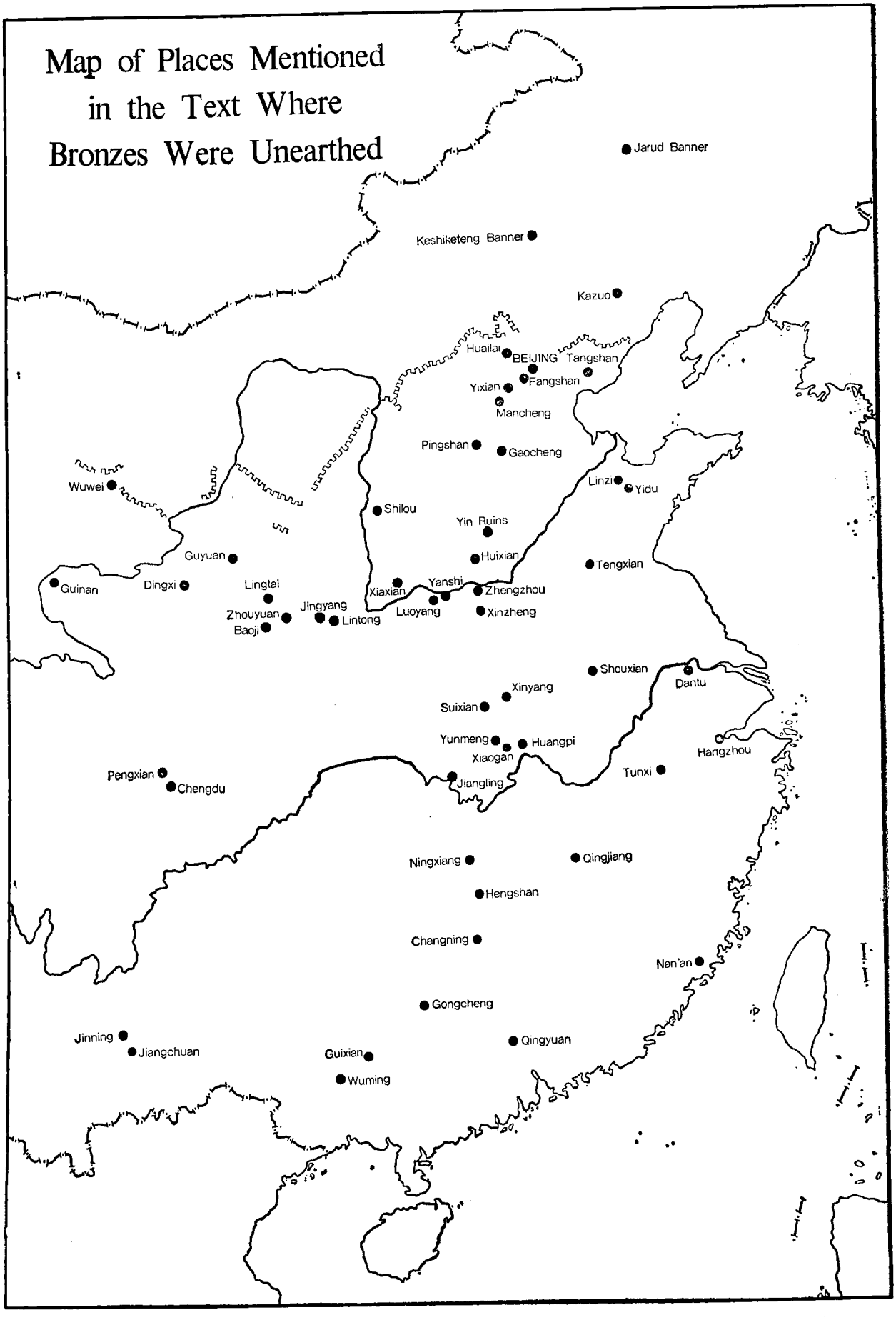
Map of Places Mentioned in the Text Where Bronzes Were Unearthed
Jarud Banner
Keshiketeng Banner
Kazuo
Huailai
BEIJING
Tangshan
Fangshan
Yixian
Mancheng
Pingshan
Gaocheng
Wuwei
Linzi
Yidu
Shilou
Yin Ruins
Guyuan
Huixian
Tengxian
Guinan
Dingxi
Lingtai
Xiaxian
Yanshi
Zhengzhou
Zhouyuan
Jingyang
Lintong
Luoyang
Xinzheng
Baoji
Shouxian
Dantu
Xinyang
Suixian
Yunmeng
Huangpi
Xiaogan
Hangzhou
Pengxian
Chengdu
Jiangling
Tunxi
Ningxiang
Qingjiang
Hengshan
Changning
Nan'an
Gongcheng
Jinning
Jiangchuan
Guixian
Qingyuan
Wuming

Preface

Bronzes are one of the most important cultural relics of ancient China. The study of Chinese bronze ware may be traced back to the Western Han Dynasty (206 B.C.-A.D. 24). Books dealing specifically with bronzes began to appear as far back as the Northern Song Dynasty (960-1127) and bronze works of art were treasured items of the imperial court and scholar-officials. Up to the founding of the People's Republic of China numerous bronzes of various kinds had been found, but the large majority was not from scientific excavations. Thus the study of bronzes was rather limited.

Since 1949, aided by the rapid progress of archaeological work, precious bronzes, unprecedented both in quality and quantity, have been discovered in different parts of China. The accumulation of a tremendous amount of data from diggings have accelerated research in this field to a new level. We can now conduct deeper investigations into the historical value, artistic merit and technology of the artifacts, so that the wonder of Chinese bronzes may be finally revealed.

The present work gives a brief resume of the results of the study and unearthing of bronzes in the last thirty years for the information of friends overseas who take an interest in Chinese culture. Over the decades, scholars abroad have produced admirable treatises on Chinese bronzes which serve us as invaluable reference material. We are happy to see that this study has become a bridge of mutual understanding of historical and cultural traditions between the peoples of China and the rest of the world.

It is hoped that this book will prove useful as a guide to our American friends who attend the exhibition of ancient Chinese bronzes in the various cities of the United States where it will be held.

Thanks are due first of all to the Foreign Languages Press for their immense help in publishing this book, and also to the Committee on the Exhibition of Historical Relics Unearthed in China, the Cultural Relics Publishing House and the Hubei Provincial Museum for their support. The pictures are drawn by Li Jinyun.

Li Xueqin

Beijing,
November, 1979

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The Origin of Chinese Bronzes

Our planet underwent aeons of geological evolution before it finally began to show, around 4,000-3,000 B.C., its first signs of civilization. Historical development in different parts of the world varied greatly: the more remote the age, the more limited the distribution of the first civilized regions. These were in the main concentrated along large rivers.

China is one of the few countries with an ancient civilization, which spread outward far and wide from the Huanghe (Yellow River) Basin, leaving behind a rich store of cultural relics. In the midst of these exists a huge range of bronzes of fine workmanship which gleam like a brilliant pearl among China's treasures.

These are the product of the skill and wisdom of the Chinese craftsmen of former ages. Their unfamiliar inscriptions are the forgotten records of experience of our ancestors. Ancient Chinese bronze is not only a widely-acclaimed work of art but is of important value to the understanding of the history, archaeology and development of science and technology of the world. The study of Chinese bronze usually spans an extensive period of time up to the end of the Han Dynasty, and is essential to the appreciation of China's ancient society and culture.

What is bronze?

One of the metals earliest known to and used by man was copper, which exists in the free metallic state in nature. It was probably this native copper that primitive man came across in his search for material to make implements, finding it different from other minerals in that it was more malleable and could be hammered into the shape of whatever tools he needed. He discovered too, that copper could also be melted under high temperature and cast into articles of various forms. Later, ancient man invented the method of smelting copper from its ores, thus enriching the source of copper. This was the earliest metallurgy. But the metal then used was, except for a few impurities, pure copper — light red in colour, supple and rather difficult to handle. It is not yet the bronze that we are concerned with here.

With his long experience in smelting copper, man gradually learned that its melting point could be reduced and its hardness raised by adding to it a fixed proportion of tin, thereby yielding better results in casting. This alloy of copper and tin is, in modern terms, called tin-bronze — the substance which researchers of ancient Chinese bronze ware refer to as bronze. This alloy was an important invention of the ancients. Some have said that primitive man could cast bronze directly from copper ore without going through the stage of using copper. Such a claim does not conform to the law of technological history and, therefore, cannot stand.

The appearance of bronze was an epoch-making event in the ancient history of China and other countries. In extensive areas it replaced stone implements which had been the principal tools of production of earliest man. This substitution raised the productive forces, thus accelerating the transition to a civilized society. China and a few other countries with an ancient civilization all underwent a protracted period when bronze was chiefly used to make tools and utensils. In archaeology, this is called the Bronze Age, an important historical age between the Stone and Iron ages.

Many ancient countries and nations have distinct recollections of their own Bronze Age as recorded in their historical annals or epics. China, too, has a considerable number of books recording the making of implements out of bronze in remote antiquity.

One of China's ancient books *Yue Jue Shu* (*Lost History of the State of Yue*) contains an article entitled "Precious Swords", which tells us about the Prince of Chu of the 5th century B.C. making iron swords of the greatest value. His minister, Feng Huzi, recounted to him the history of the development of weapons and implements since ancient times. He explained that in the time of the legendary emperors Xuan Yuan, Shen Nong and He Xu, stone was used to cut down trees and construct palaces and houses; under the rule of Emperor Huang Di, jade (considered to be fine stone) was utilized to cut wood, build houses and dig earth; in the reign of Yu of the Xia Dynasty, bronze was used to dredge and harness rivers and develop irrigation; finally, around the 5th century B.C., armies were overawed by weapons made of iron. The description of the changes from stone to bronze and then to iron complies with the historical process of development of implements fashioned from these materials. This concept of three continuous stages as recorded in *Yue Jue Shu* emerged more than two thousand years earlier than that of European archaeology.

Feng Huzi's account reveals that China's Bronze Age may well have begun from the Xia Dynasty. Other instances of making articles with bronze before the Xia are mentioned in a few ancient Chinese books such as *Shi Ben* (*Family Origins of Celebrities*), a work of the late Warring States Period, and a Han Dynasty book of annotations to Confucian classics, which describe Chi You, minister to Emperor Shen Nong, making five kinds of bronze weapons with which the reign spread its power and influence; and *Shi Ji* (*Historical Records*), in which the Chapter on Imperial Sacrifices to Heaven gives a rendering of how Tai Di (Tai Hao) made a divine cauldron, or *ding*[1], and how Huang Di, too, had collected copper from Shoushan Mountain to make a number of *ding* at the foot of Jingshan Mountain in Hubei Province. However, these are only stories that were spread by necromancers and cannot be relied upon for historical research.

Some credence may be given to the legends about the making of the nine bronze *ding* of the Xia Dynasty. It was said that these came into the possession of the Shang royal house after the fall of the Xia. At the end of the Shang 600 years later, they were taken over by the Zhou royal house. The "nine *ding*" were a symbol of central authority of ancient China. Whoever possessed them would have supreme power over the nation. According to *Zuo Zhuan* (*Annals of Zuo Qiuming*), in the Spring and Autumn Period Prince Zhuang of the then very powerful State of Chu harboured the ambitious design to seize power from the Zhou king. Once, on approaching Zhou territory during a northern military expedition against the Lu Hun tribe, he purposely inquired of the Zhou people about the weight of the "nine *ding*". In reply, a Zhou official by the name of Wangsun Man related their origin as outlined above.

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[1] 鼎

The chapter entitled "The Hereditary Princely House of Chu" in *Historical Records* describes the *ding* as possibly consisting of three hollow-legged round ones and six square ones. As to when they were made, some books state that it was in the reign of Yu of the Xia Dynasty. However, in *Mo Zi*, we are told that King Qi of the Xia ordered Fei Lian to procure copper ore from the mountains and rivers and make nine *ding* at Kunwu (now Puyang, Henan Province). Qi was the son of Yu, the second king of the Xia. Whether it was Yu or Qi, it is said that the nine *ding* were made in the early years of the Xia, that is, around the 21st century B.C.

In Chinese archaeology, the earliest material evidence of copper articles should be attributed to two pendants (Fig. 1) discovered in 1955 at Dachengshan in Tangshan City, Hebei Province. The two are much alike — plain, without decorative design. They each have a hole near the top probably for threading a string through, so that they could be worn as ornaments. Both were unearthed close to the opening of a pit pertaining to the stratum of the Longshan Culture of 4,000 years ago. After their discovery, some scholars raised doubts about their dating, in the belief that they might have belonged to the stratum of a later culture, but had been accidentally mixed into the pit of the Longshan Culture. However, we now know that the stratum covering the pit at Dachengshan belonged to the Xiajiadian Culture, and that the articles of this culture, as found in various places, could only be bronze. After scientific examination, the two pendants were proved to be of copper; they could not possibly have come from the stratum above the pit. So we can safely say that these copper pendants belonged to the Longshan Culture. In recent years, traces of copper smelting have been found in certain sites of the Longshan Culture in Henan Province.

The book *Xi Qing Gu Jian* (*Xi Qing Collection of Ancient Bronzes*), compiled during the

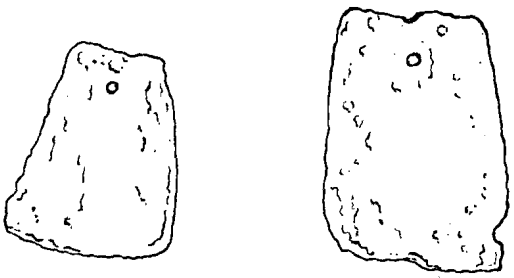

Fig. 1 Copper pendants of the Longshan Culture. From Dachengshan, Tangshan, Hebei Province.

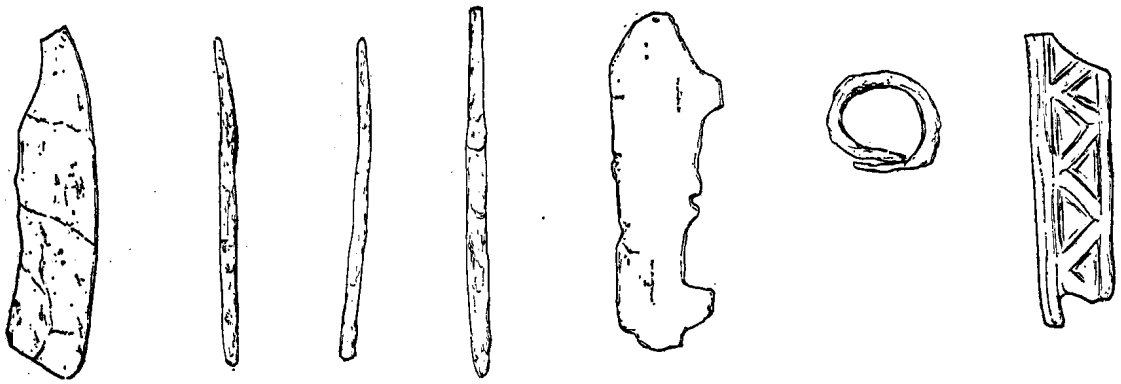

Fig. 2 Copper objects of the Qijia Culture.
From Huangniangniangtai, Wuwei, Gansu Province.

reign of Emperor Qianlong of the Qing Dynasty, has mention of a copper *gui*[1] (wine container), whose shape closely resembled Longshan earthenware *gui*. Similar earthenware *gui* existed in the Dawenkou Culture, which was still earlier than the Longshan Culture. From this, we can assume that fairly large copper articles were made during the Longshan Culture. Unfortunately, the whereabouts of the copper *gui* described in *Xi Qing Gu Qian* which was originally concealed in the Qing imperial palace is no longer known, so that it is impossible to conduct further research on it.

Corresponding roughly to the Longshan Culture both in time and structure is the Qijia Culture which was scattered over Gansu Province. Relatively small metal articles were found in its tombs. Most of them were tools — knife, awl and drill — which the person buried had used during his life, and ornaments, such as rings (Fig. 2). Tests show that Qijia objects were not all copper; the tin content of some articles exceeded the proportion of natural impurities. It must have been bronze that was used. Technologically, some were forged, while others were cast in single moulds.

It is worth noting that the handle of the Qijia knife (Fig. 2, far right), though only a fragment of it is left, shows that its shape was rather novel. On it is a strip of triangular patterns. Similar designs were often seen on later bronzes. With the discovery of the above objects, the Qijia Culture can be regarded as a transitional stage from copper to bronze.

The unearthing of the articles and vessels of the Longshan and Qijia cultures tells us one important fact, namely, that Chinese bronze had its own origin and development.

When bronze metallurgy appeared in China, other ancient nations of the world also began producing bronzes. For a long time, some scholars were of the opinion that China's bronze technology had come from ancient civilized nations of West Asia. Others over the past few years have suggested that China's bronze culture originated from Siberia. Recently, a site of a comparatively early bronze culture was discovered in Thailand, giving rise to the surmise that China's bronze technology was imported from Southern Asia. None of these arguments is convincing. According to Chinese archaeological facts, the areas where bronze made its first appearance were centred in the Huanghe Basin. There could have been no

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1 鬹

way of spreading bronze manufacturing technology between these areas and the remote regions of other ancient civilizations. Moreover, Chinese bronzes possess certain characteristics distinct from those of other ancient nations, which only prove that they emerged and developed independently.[1]

Positive results have been obtained by Chinese scholars in the last few years in the exploration of Xia Dynasty bronzes. In all probability, we shall not have to wait long before we have the answer to the origin of China's bronze technology.

As mentioned above, China's ancient literature contains references to the making of large bronze objects during the Xia Dynasty. The forefathers of the Chinese, being thus led to believe in the existence of such bronzes, attempted to trace them. Books of the Song Dynasty on the subject of bronzes mention "articles of the Xia" which were believed to allude to Xia bronze ware. But the belt clasps and dagger-axes recorded in *Bronze Inscriptions of Different Dynasties* by Xue Shanggong were in fact items of the Warring States Period. Luo Zhenyu's compilation *An Anthology of the Bronze Inscriptions of the Three Dynasties*, contrary to its title, actually covers only two dynasties, the Shang and the Zhou, but not the Xia. So it remained a problem as to whether any bronzes could be found belonging to the Xia. The discovery of the bronzes of the Erlitou Culture supplied valuable material in solving this puzzle.

The Erlitou Culture is an archaeological culture whose existence was ascertained in the 1950s. It was distributed mainly along both banks of the middle reaches of the Huanghe and also in western Henan and southern Shanxi provinces, all of which were regions inhabited by the Xia people according to ancient records. A typical site of this culture was excavated at Erlitou, in Yanshi County, Henan — hence its name. It was a development of the Longshan Culture in Henan, and had its site divided into an earlier stage and a later one. A number of bronzes were unearthed from the latter. Its radiocarbon dating corresponds to the interval between the Xia and early Shang. At the Dongxiafeng site of Xiaxian County in Shanxi, a number of bronzes and stone moulds were also discovered. According to ancient books, the location of the Erlitou site corresponds to the ruins of Di Ku and also Xibo, capital of the Shang established by Tang, the dynasty's first king, while the Dongxiafeng site is near Mingtiaogang, to which Jie, last king of the Xia, fled when he was defeated. The discovery of bronzes in these two places was, therefore, of great significance.

The Erlitou bronzes range widely from knives, awls, chisels arrow-heads, fish-hooks, bells and other small articles to containers and weapons. The most common type of container encountered was the bronze *jue*[2] (a wine goblet). Four of these were found around Erlitou:

(i) (Fig. 3, ①) unearthed in 1973; flat bottom with short legs, no pattern, height 12 cm.

(ii) unearthed in 1974; flat bottom with long legs, a pair of short capped pillars on the rim, no pattern.

(iii) unearthed in 1975; flat bottom with long legs, openwork on the handle, no pattern, height 13.3 cm.

(iv) (Colour Plate 1) unearthed in 1975; flat bottom with long legs, a pair of pillars, lip especially long and narrow, openwork on the handle, nipple design on the belly, height 25.6 cm.

All four *jue* have thin walls, but each is different in shape and design.

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[1] For further information, c.f. Noel Barnard: *Radiocarbon Dates and Their Significance in the Chinese Archaeological Scene*, 1979.

[2] 爵

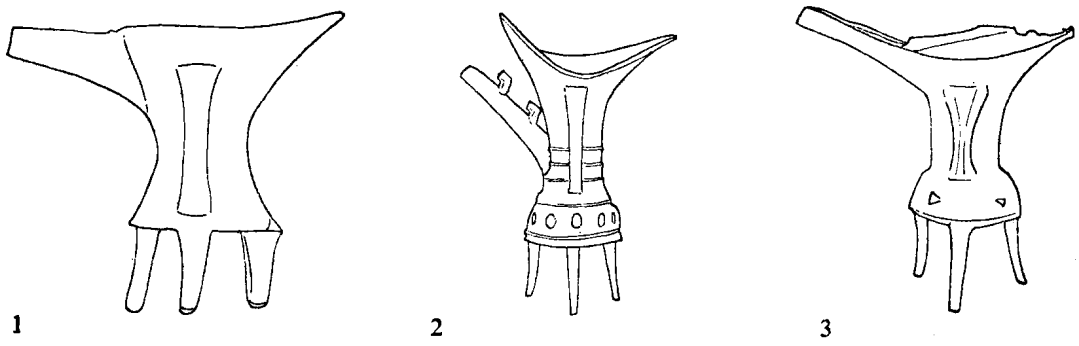

Fig. 3 Wine goblets of the Erlitou Culture:
(1) *Jue*. From Erlitou, Yanshi. (2) *Jiao*. In the Shanghai Museum. (3) *Jue*. Probably from Shangqiu.

In the Tianjin Museum there is a *jue* similar to those of Erlitou (Fig. 3,③). With a height of 19.7 cm, it has a flat base, from the rim of which extends a wall in the shape of an inverted bowl with openwork on it, supported by three short legs. The front part of the spout is like a fistula, while the rest is an open groove. Apart from the openwork handle, it has no decorative design. It is said to have been brought over from Shangqiu, the capital of the early Shang, in Henan.

On display in the Shanghai Museum is a bronze *jiao*[1] (wine goblet) (Fig. 3, ②), not quite intact, also with a flat base joined onto an openwork wall in the shape of an inverted bowl. A spout with two hooklike knurls protrudes from the belly, which is decorated with two rings of a nipple design. The height of the *jiao* as it stands is 20.6 cm. It closely resembles an earthenware one found at Erlitou and should belong to the same era.

The bronze weapons discovered at Erlitou include a *qi*,[2] or battle-axe, with a screen (Fig. 4, ②) and a *ge*,[3] or dagger-axe, without one. A *ge* could either have a curved tang decorated with a whirligig possibly inlaid with turquoise (Fig. 4, ①), or a straight tang with a pattern of horizontal lines like the teeth of a comb, made in imitation of a jade dagger-axe (Fig. 4, ③). A bronze disc inlaid with turquoise was also found at Erlitou (Fig. 5).

An analysis of this group of bronzes draws some interesting inferences:

First, bronzes were widely used at the time of the Erlitou Culture. Tools for production and wine vessels, such as the *jue* and *jiao*, were made. Weapons, too, were made, and the appearance of arrow-heads in particular shows that the production of bronzes had reached a certain quantity, since arrow-heads could not be easily recovered once they were shot out.

Secondly, casting technique had improved greatly. The *jue* and *jiao* mentioned above are not large but their shapes are complicated; to make them with moulds required a relatively advanced technique. The bronze dagger-axe with its cloud design is of fine workmanship. The perforated inverted bowl around the lower part of the *jue* and *jiao* was an ingenious idea. It was designed to absorb heat more easily so that, apart from being used as goblets to drink wine out of, the *jue* and *jiao* could also be used to warm wine.

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1 角 2 戚 3 戈

Thirdly, bronzes had become a work of art. The nipple and cloud designs, along with other complicated patterns, appeared. The technique of inlaying with turquoise appeared at the same time, which later became the traditional method of inlay on bronzes. The ancient Chinese were aware that the colour of turquoise brought out the brilliance of bronze. A fine example of this is the disc with its cruciform design found at Erlitou — a true masterpiece of ancient Chinese artistry.

To sum up, the Erlitou bronzes, as against the Qijia bronzes with their rudimentary nature, show remarkable progress in technique. We may expect more discoveries traceable to the people of the Erlitou Culture to be made of bronzes much larger and more complicated than the *jue* and *jiao*.

Some museums in China and in other countries house a number of bronzes of a very simple shape, such as the plain bronze cup mentioned by the American professor, Max Loehr.[1] Do articles of this kind belong to the same time as those of Erlitou? Were there any of an even earlier age? With the steady progress of archaeological work, we believe that this question will be answered before long. At present, we can at least say that, since the bronze age of the Erlitou Culture corresponds to the period between the Xia and Shang, there is good reason to believe that bronzes did indeed exist during the Xia.

[1] Max Loehr: *Ritual Vessels of Bronze Age China*, 1968, pl. 1.

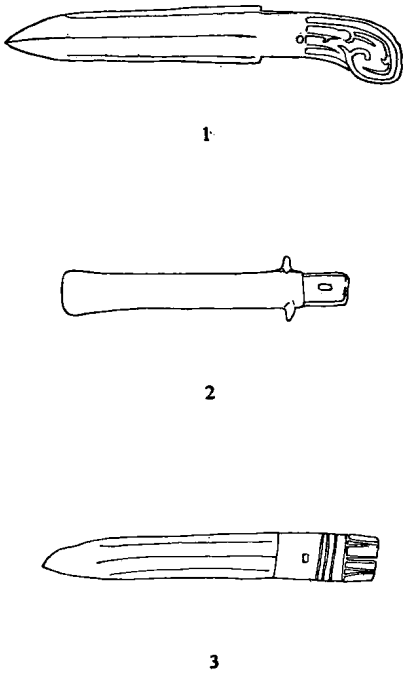

Fig. 4 Weapons from Erlitou, Yanshi:
(1) *ge* dagger-axe with curved tang
(2) *qi* battle-axe
(3) *ge* dagger-axe with straight tang

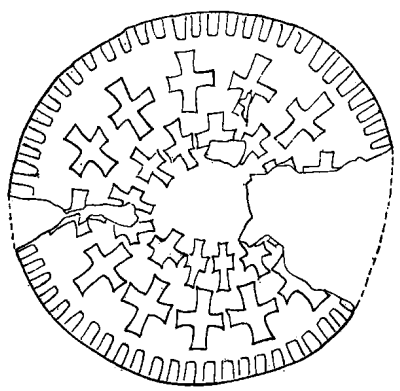

Fig. 5 Bronze disc. From Erlitou, Yanshi.

Classification of Bronzes

If we take the period from the Xia Dynasty to the early Shang as the dawning of China's Bronze Age, then we can consider the middle and late Shang to be its peak. Not only did bronze metallurgy emerge at a remote date, but it also prevailed for a protracted length of time. Even during the Warring States Period and the Qin and Han dynasties, when iron articles were widely used, bronzes were still popular and their technique continued to develop.

Innumerable discoveries of ancient bronzes have been made. The inscribed bronzes dealt with in *The Xiao Jiao Jing Ke Rubbings of Bronze Inscriptions*[1] compiled by Liu Tizhi alone amount to more than 6,000 pieces. This figure represents the collections merely of one author. Since 1949, over 1,200 pieces of bronzes with inscriptions unearthed in different parts of China have been made known. These are all pre-Qin articles, and do not include those of the Qin-Han era.

Chinese bronzes are not only vast in number, but also in variety and utility, featuring ritual vessels, weapons, tools for production and articles for daily use. Their appellations are difficult to recognize and remember because the original ancient names of the bronzes are used, and these have already disappeared from the vocabulary of modern Chinese. Below are a few principles for the nomenclature of the chief bronze articles and a brief description of their uses.

According to archaeological convention, an article should, as far as possible, be ascribed the name engraved on it. This is known as "self-naming". For example, a cooking vessel with a deep belly and three or four legs is called *ding* because this name has been found in the inscriptions of many such containers. For some articles no names have yet been attributed to them in any inscriptions, but on the basis of their descriptions in ancient books, names may be decided. For example, a wine vessel with a wide flared mouth, long body and circular legs, often found together with a *jue* and coinciding with the description in ancient books for *gu*,[1] is given the name *gu*. In the same way, the name *you*[2] is given to another kind of wine vessel.

A few bronze items were named wrongly to begin with, and these errors remained unchanged for a long time. The most obvious example is the *gui*.[3] This name, originally correct, was found on a bronze inscription during the Northern Song Dynasty, but was wrongly deciphered as *dui*.[4] It was not till the late Qing Dynasty that it was finally corrected to *gui*. Up to now,

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1 Liu Tizhi: *The Xiao Jiao Jing Ke Rubbings of Bronze Inscriptions*, published by Xiao Jiao Jing Ke, 1935.

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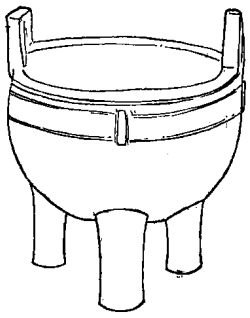

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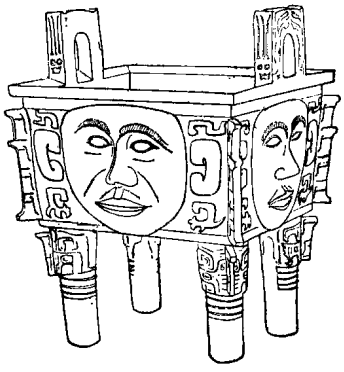

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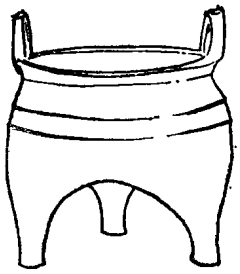
a few bronzes still have no proper names. In these cases, their forms are generally taken for names, for instance, "pitcher-shaped" or "vase-shaped".

Chinese bronzes are in the main divided into ten categories according to their uses: ritual vessels (including cooking vessels, food containers, wine vessels and water vessels), musical instruments, chariots and harnesses, weapons, tools, weights and measures, and miscellaneous articles.

RITUAL VESSELS Ritual vessels were used in complex ancient ceremonies. Some were exhibited in temples and ancestral halls, some were used at feasts for drinking or for ceremonial ablutions, while others were specifically made as burial objects. However, the ancients normally used lacquerware, earthenware or wooden receptacles for eating and drinking and very rarely used weighty bronzes, as these were regarded as sacred vessels, not to be used on ordinary occasions.

The first group of ritual vessels are cooking vessels — *ding, li*[1] and *yan*[2] (Fig. 6).

The *ding* is one of the most important types of bronzeware used for cooking meat. It may be three-legged and round or four-legged and



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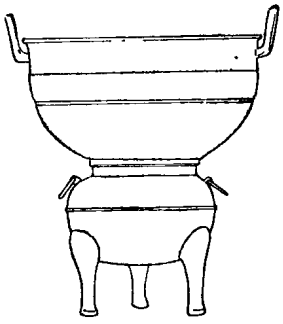

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Fig. 6 Cooking vessels:
(1) round *ding* (2) rectangular *ding*
(3) *li* (4) *yan*

[1] 鬲 [2] 甗