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New Research on the Origin of Cowries in Ancient China

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1. Introduction

For long periods in ancient China, large numbers of cowry shells were used as money and ornamentation. However, the origin of Chinese cowries has been ignored until the present. This paper will attempt to correct a fundamental misunderstanding in the origin of Chinese cowries by collecting and analyzing all previous cowry data in the archaeological literature.

The cowries discussed here have various names throughout the literature such as: "marine shell" 海貝, "dentalium shell" 齒貝, "*zi'an* shell" 子安貝, "monetary cowry " 貨貝, "treasure cowry" 寶貝, or "cowry " 貝. They mainly represent the two species, *Monetaria annulus (Cypraea annulus)* and *Monetaria moneta (Cypraea moneta)*. Since their shapes and living areas, as well as their same functions, all basically correspond, they will all be referred to here as "cowries".

The phrase "ancient China," used here, refers to Chinese history and pre-history from the Neolithic era through the Han Dynasty. After the Han Dynasty, only a few cowries have been found. Although cowries were used again in Yunnan province from the Tang Dynasty (618-907 AD) to the Qing Dynasty (1644-1911 AD), there was no relationship between the cowry uses of the two periods. The latter period of cowry use will not be discussed here.

2. Natural Distribution of the Cowries

Monetaria annulus and *Monetaria moneta* are distributed over the Indian Ocean and Pacific Ocean, including the South China Sea (Nanhai 南海).

In the South China Sea, the water temperature of cowry tolerance ranges between 20 degrees Celsius in winter and 29 degree Celsius in Summer. The salt concentration in surfacial water is not lower than 33 part per thousand. To the contrary, along the Chinese coastal seas, the highest water temperature in winter is about 16 degree Celsius in the Guangdong province coastal sea and the highest salt concentration in surfacial water is about 30 parts per thousand in the south Chinese coastal sea. Therefore, no cowry is distributed over all the Chinese coastal seas.

Average temperatures have changed in the cowry-use period. During the Yangshao 仰韶 warm period, from 8000 to 3000 years ago, the average temperature in East China was two or three degrees above the present. During the Zhou-Han cold period, from 3000 to 1500 years ago, the average temperature was one degree below the present. Considering the temperature increase on the mainland and the surfacial temperature isotherm of the contemporary Yangshao warm period, the surfacial temperature in winter in the Bohai 渤海 Sea was about 5 degrees Celsius; in the Huanghai 黃海 Sea, about 8 degrees; in the Donghai 東海 Sea, about 7 or 9 degrees and in the South China Sea, about 19 or 20 degrees. Considering the higher precipitation and lower evaporation in the Yangshao warm period, salt concentration in surfacial water must have been lower than it is now. Therefore, it is highly unlikely that cowries were distributed along all of the Chinese coastal seas during the Yangshao warm period. Likewise, cowries may not have been distributed during the Zhou-Han cold period, either.

Our conclusion is supported by Burgess' recent study of living cowries. The contemporary distributions of *Cypraea annulus* and *Cypraea moneta* he gave in 1985 are quite far away from Chinese coastal seas and even do not include Taiwan (Burgess, 1985:227-228). But in his earlier publication, *The living Cowries*, the distributions do include Chinese coastal seas (Burgess, 1970:342-343), and this old result has been quoted broadly (Chang,1980:154; Hogendorn and Johnson, 1986:8). However, even according to the old result, the Chinese coast still could not have been the origin of ancient Chinese cowry-use, because, as K. C. Chang has noticed, "*C. annulus* may be found today on the eastern seacoast of China south of the Yangtze delta, but *C. moneta* is not seen on mainland Chinese coasts at all" (Chang,1980:155).

3. Review of Past Research

On the origin of cowries used in ancient China, Chinese scholars have given three places. One is the north Chinese coastal sea (Zheng, 1959:65-66); another is the east and southeast Chinese coastal sea (Zhu, 1984:17); and another is the South China sea. The last was given by a well-known Chinese scholar, Guo Moruo 郭沫若. He has argued that " Cowries are living in the South China Sea but not the Chinese coastal area. The cowries which had been used in the Shang Dynasty must come from the southeast coastal area because even in the present the natives of Southeast Asia still call the cowries 'Bia'. This pronunciation is most similar to the ancient Chinese one" (Guo, 1954:17).

The hypothesis of the Chinese south sea origin was first put forward by the famous Japanese scholar Egami Namio 江上波夫 in 1930's. He again developed the hypothesis in great detail in his article "Migration of the Cowries-shell Culture in East Asia" in 1974. He

analyzed three legends quoted in *Shangshu dazhuan* 尚書大傳, which is believed to have been compiled by Fu Sheng 伏勝 in the early Han Dynasty. Egami Namio pointed out that in ancient China there were three stages representing the beliefs of ancient Chinese considering the origin of cowries. According to him, during the Western Zhou Dynasty (1100-771 BC), the first stage, the Chinese believed that cowries could be found along the banks and beaches of the Changjiang (Yangtze) and Huaihe Rivers. It is evident that at that time, the Chinese still thought that cowries were limnetic, unaware that they were purely marine products, although they knew that cowries came from those southern districts.

During the Spring and Autumn and Warring States periods (770-221 BC), the second stage, corresponding with the historical facts that the northern state of Lu 魯 invaded the Changjiang and Huaihe districts, and the southern states of Wu 吳 and Yue 越 arose in the area near the mouth of the Changjiang River and came to have contact with the states in the Central Plains, the people of north China came to acquire a clear knowledge that cowries were marine products and were found in the islands inhabited by barbarians who were in Yangzhou 楊州, the districts of Changjiang and Huaihe Rivers.

By the third stage, the Qin Dynasty (221-206 BC) and the western Han Dynasty (206 BC-AD 24), corresponding with the historical fact that the Qin had considerably expanded their rule southward by establishing new administrative districts, north Chinese people finally acquired the correct cognizance of the fact that cowries came from the southern seas, where cowries are produced in abundance even today (Egami, 1974:22-26).

While each of the three viewpoints described above all has some supporting evidence, they are limited by the lack of the archaeological data on cowries; consequently none of them has a solid basis for further research into the origin of the cowries. By collecting and

analyzing all of the archaeological data on the cowries in all of the archaeological literature since 1949, it has been found that none of the above viewpoints is correct.

4. Collection and Analysis of the Cowry Data

a. Principle of data collection, adoption and analysis

Because the research into the exact period and district of the cowries used in China is ignored, and the archaeological methods to obtain the cowries varies, it is necessary to discriminate closely between reports when collecting cowry data. The data adopted is mostly derived from the formal excavations of tombs and sites because the excavated cowries usually accompany stylistically datable artifacts or come from definite stratums by which an approximate date can be discerned. The data which has not been adopted but only collected for reference in this paper is derived from the archaeological surveys and is collected from the ground surface which does not provide reliable cowry dates.

Archaeological data referring to cowries by the various names, such as "cowry", "cowry money", "marine cowry", "monetary cowry" or "treasured cowry", have all been adopted even though some of them lack illustrations and photographs. Data that use the names "clam shell" 蚌貝, "shell" 貝殼 or "shell ornament" 貝飾, which can be identified as a cowry via an illustration or photograph, have also been collected and adopted; otherwise, they have not been collected.

b. Collection and analysis of cowry data

In analyzing all of the cowry data, five phases of cowry-use have been identified. The chief criterion for differentiation is based on the Central Plains cultural traits. Cowries used

in the border areas or the archaeological cultures of the minority nationalities have been included in the five phases depending on whether or not they meet this criterion.

Phase 1. Beginning of cowry-use

---Neolithic era (3300-2000 BC)

Cowries which date to this phase and for which there is undoubted archaeological evidence have been excavated at the Liuwan 柳灣 cemetery in Ledu 樂都 county, Qinghai province (Qinghai archaeological team, 1976:71); the Shangsunjiazhai 上孫家寨 cemetery in Datong 大通 county, Qinghai province (Qinghai archaeological team, 1978:49); and the Kanuo 卡諾 site in Changdu 昌都 county, Xizang autonomous region (Tibet) (Xizang Cultural Relics' Management Committee, 1985:147-148). Of the three, Liuwan and Shangsunjiazhai cemeteries belong to the Majiayao 馬家窯 culture, which dates from 3300 to 2000 B.C.

In addition to the above three cases, the Jianshanzhai 建山寨 site, in Lixian 理縣 county, Sichuan province, is the fourth (Sichuan University, 1965:616). Although the cowry in the Jianshanzhai site was collected in a survey, it was dug from a definite stratum in association with Majiayao cultural artifacts. Considering that cowries were excavated at the Majiayao sites of Liuwan and Shangsunjiazhai, the cowry from Jianshanzhai is also adopted for this study (Map 1).

The following data have been proven to be indefinite, though much of them have been quoted by numismatists and even by some archaeologists as cowry-use information of the Neolithic era.

In the book of *Children of the Yellow Earth*, J. G. Andersson mentioned that "in the graves of the Yang-shao age we sometimes found cowries, as for example at Yang-shao Tsun 仰韶村, in which the genuine cowrie shell occurred in association with a skeleton," and gave an illustration which depicted a cowry from the later stone age dwellings at Buzhaozhai 不召寨 (Andersson, 1973:323). However, in his formal reports on Yangshaocun and Buzhaozhai, included in his report, "Prehistoric Sites in Honan" (Andersson, 1947:1-124), and in another report, "Researches into the Prehistory of the Chinese" (Andersson, 1943:244-247). Andersson never mentioned his cowry findings, even when he described the burial customs in Yangshaocun. Therefore, the cowry data of Yangshaocun and Buzhaozhai is indefinite.

The cowry data quoted by numismatists since 1949 are from the Lijiaocun 禮教村 site in Ruicheng 芮城 county, Shanxi province (Jiu, 1954:115) and the Jixingxiang 吉興鄉 site in Shuangliao 雙遼 county, Jilin province (Li, 1958:79). The reporters of the surveys at the two sites, however, only mentioned collecting some "shells" from the field surface and they did not show any illustrations or photographs of those shells. Therefore, the cowry data from Lijiaocun and Jixingxiang is indefinite.

New cowry data of the Yangshao culture is from the Jiangzhai 姜寨 cemetery in Lintong 臨潼 county of Shaanxi province (Banpo Museum, 1988:149, 410). In the formal report *Jiangzhai*, the reporters mentioned that in two tombs, M275 and M268, forty perforated shell ornaments were excavated. In M275, three shells were found in the occupant's mouth; likewise, in M268, all ten shells were located in the occupant's mouth. Although no illustrations or photographs of these shells are provided in the report, positive identification as cowries was ascertained by us. Unfortunately, there is no stratum relevant to the two

tombs due to the serious state of destruction and there were no other burial accessories accompanying these cowries. In addition, with the exception of the Jiangzhai site, there are no other cowries in all of the excavations of the Yangshao culture to which Jiangzhai tombs belong. Also, with the exception of Jiangzhai, the burial custom of putting cowries in occupants' mouth is only found in the excavations of the Chinese bronze culture from the hypothetical Xia Dynasty (2000-1600 BC) through the Zhou Dynasty (1100-221 BC). Because of the above facts, the cowry data of Jiangzhai are indefinite.

The other cowry data which were reported as relics of Neolithic age are indefinite because the cowries were collected from the field surface during surveys. They are from the Bulagemanghe 布拉格芒和 site in Erlianhaote 二連浩特 county, Inner Mongolian Autonomous Region (Inner Mongolian Geological Bureau, 1982:9); the Wulinji 烏林磯 site in Honghu 洪湖 county, Hubei province (Honghu Museum, 1987:409); and Kangpingzhen 康平鎮 in Kangping county, Liaoning province.

It can be concluded that during the Neolithic era, cowries were first used in the Chinese northwest area, which included east Qinghai province, east Tibet and northwest Sichuan province, but not the other areas, such as the Central Plains and the Chinese coastal area.

Phase 2. Development of cowry-use

---from the hypothetical Xia to early Shang Dynasties (2000-1600 BC)

The northwest area of China still remained a center of cowry-use in this phase. Cowries which date to this phase have been excavated at Ledu county and Guinan 貴南 county in Qinghai province; the Huoshaogou 火燒溝 site, in Yumen 玉門 city, Gansu province.

The area of cowry-use began to extend widely toward the east. In the Central Plains, cowries have been excavated at Yanshi 偃師 county and Yingyang 滎陽 county in Henan province. In the northeast area, they have been excavated at Aohan banner 敖漢旗 in Inner Mongolia and Fengxia 豐下 county in Liaoning province (Map 2).

Although they remain few, the sites of phase 2 firmly construct the framework around the area of cowry-use in the next peak phase.

Phase 3. Peak of cowry-use

---from middle Shang Dynasty to early Spring and Autumn Period (1600-650 BC)

In the middle and late Shang Dynasty (1600-1100 BC), the places of cowry-use were mainly concentrated in and around the area that the Shang culture developed. Cowries have been excavated in Anyang 安陽 city, Mengxian 孟縣 county and Zhengzhou 鄭州 city in Henan province; Cixian 磁縣 county, Handan 邯鄲 city, Xingtai 邢台 county and Gaocheng藁 城 county in Hebei province; Shilou 石樓 county, Lingshi 靈石 county, Liulin 柳林 county and Baode 保德 county in Shanxi province and Yidu 益都 city in Shandong province. Still in the northwest, they have been excavated in Guide county, Xunhua 循化 county, Xining 西寧 city and Huangyuan 湟源 county in Qinghai province. In the southwest, they have been excavated in Guanghan 廣漢 county in Sichuan province and Yuanmou 元謀 city in Yunnan province. Although no cowries have been found at the Beiyinyangying 北陰陽營 site in Nanjing city, Jiangsu province, a pottery sherd with cowry-impressed decoration on its surface was excavated. Therefore, Nanjing has been adopted as another place of cowry-use (Map 2).

During the Western Zhou Dynasty (1100-770 BC), in addition to the continued frequency of cowry-use in and around the Shang cultural area, another prosperous center developed in the central Shaanxi Plain, where the Zhou culture thrived. Cowries have been excavated in Baoji 寶雞 city, Fengxiang 鳳翔 county, Fufeng 扶風 county, Qishan 岐山 county, Wugong 武功 county, Chang'an 長安 city, Lintong 臨潼 county, Weinan 渭南 county, Chunhua 淳化 county, Tongchuan 銅川 city and Xunyi 旬邑 county, in Shaanxi province; Lingtai 靈台 county, Jingchuan 涇川 county, Chongxin 崇信 county, and Qingyang 慶陽 county in Gansu province; and Guyuan 固原 county in Ningxia Hui autonomous region.

Cowries which date to the period of high frequency usage have also been excavated in Sanmenxia 三門峽 city, Luoyang 洛陽 city, Xinzheng 新鄭 county, Junxian 浚縣 county and Tangyin 湯陰 county in Henan province; Changzi 長子 county, Yicheng 翼城 county and Hongdong 洪洞 county in Shanxi province; Cixian 磁縣 county and Pingquan 平泉 county in Hebei province; Fangshan 房山 county and Changping 昌平 county in Beijing; Jiyang 濟陽 county and Qufu 曲阜 city in Shandong province; Xinyi 新沂 county in Jiangsu province; Yongjing 永靖 county in Gansu province; Datong 大通 county and Sixin 四新 county in Qinghai province; and Hami 哈密 city in Xinjiang Uygur autonomous region (Map 2).

Dated to the early Spring and Autumn Period (770-650 BC), cowries have been found in Baoji city and Fengxiang county in Shaanxi province; Pingshan 平山 county in Hebei province; Ningcheng 寧城 county in Inner Mongolia; Dantu 丹徒 county in Jiangsu province; and Deqin 德欽 county in Yunnan province.

Because the Zhou cultural stratum was discovered at the Wulin Ji site in Honghu, Hubei province, which was mentioned before, the collected cowry can be considered in association with that stratum and datable to the Zhou Dynasty. Therefore, Honghu has been adopted as a place of cowry-use in this phase (Map 2).

During phase 3, the cowry-use area extended westward as far as Hami, southwest as far as Yuanmou and Deqin, and southward as far as the Changjiang River.

Phase 4. Waning of cowry-use

---from the middle Spring and Autumn Period to the Warring States (650-221 BC)

Due to the introduction of bronze coins, the discovery of cowries decreased in this phase. The sum of excavated cowries also decreased. However, most of the cowries were usually concentrated in only a few tombs which mere scattered widely in the area of previous cowry florescence. Cowries have been found in Luoyang city, Zhengzhou city, Xinzheng county, Huaiyang 淮陽 county, Xichuan 淅川 county, Jixian 汲縣 county, and Huixian 輝縣 county in Henan province; Lucheng 潞城 county, Changzhi 長治 city, Changzi county and Houma 侯馬 city in Shanxi province; Qufu city and Linzi 臨淄 city in Shandong province; Handan 邯鄲 city, Xuanhua 宣化 county, Huailai 懷來 county and Luanping 灤平 county in Hebei province; Shouxian 壽縣 county in Anhui province; Liangcheng 涼城 county in Inner Mongolia; Mulei 木壘 county and Urumqi city in Xinjiang; Yajiang 雅江 county in Sichuan province; Jianchuan 劍川 county in Yunnan province; and Hexian 賀縣 county in Guangxi Zhuang autonomous region (Map 3).

Phase 5. Disappearance of cowry-use

--from the Qin Dynasty to the Han Dynasty (221 BC-AD 220)

Up to now, in the Han cultural area, cowries have been excavated from only six places. They are Xi'an 西安 city in Shaanxi province; Yixian 易縣 county and Dingxian 定縣 county in Hebei province; Zibo 淄博 city and Qufu city in Shandong province; and the Xuzhou 徐州 city in Jiangsu province.

In the southwest area, cultures of minority nationalities developed. Dating from the Warring States (475-221 BC) to the Western Han Dynasty (206 BC-AD 24), cowries have been excavated in Maowen 茂汶 county and Zhaojue 昭覺 county in Sichuan province and Jinning 晉寧 county and Jiangchuan 江川 county in Yunnan province. Dating to the Eastern Han Dynasty (AD 25-220), cowries have been excavated in the Daguan 大關 county in Yunnan province, Qianxi 黔西 county in Guizhou province; and Baoxing 寶興 county in Sichuan province.

In the northern Chinese area, where cultures of minority nationalities developed, cowries have been excavated in Chenbaerhu banner 陳巴爾虎旗 in Inner Mongolia; Tongyu 通榆 county in Jilin province; Tongxin 同心 county in Ningxia Hui autonomous region; and Shanshan 鄯善 county in Xinjiang (Map 4).

In contrast to the other areas, from the Warring States through the Western Han Dynasty, a new prosperous center of cowry-use was developed around Dianchi 滇池 Lake in the Dian cultural area. In Jinning and Jiangchun, more than ten thousand cowries have been excavated. However, in the Eastern Han period, the cowry-use of the Dian culture also came to an end.

c. Summary

Using all of the data given above, it can be concluded that cowrie-use began in the far western inland of China during the Neolithic era, boomed in the Shang and Zhou Dynasties, and terminated in the Qin and Han Dynasties. The area of cowry-use is almost exclusively north of the Changjiang (Yangtze) River, with only a few discoveries of cowries on or near the south bank. There has been no discovery of cowry-use in the two southern provinces, Hunan and Jiangxi; nor in the three southeastern coastal provinces, Guangdong, Fujian and Zhejiang. In Guangxi, only one cowry discovery has been reported recently from an excavation of a cave tomb of the Warring States period.

The complete lack of cowries south of the Changjiang River, in contrast to the proliferation of cowries north of the Chang-jiang River, clearly shows that the cowries used in ancient China could not have been disseminated from southeast to northwest. Quite the opposite, they must have been disseminated from northwest to southeast. Therefore, the South China Sea is not the origin of ancient Chinese cowries. Considering the studies of natural distribution of cowries, it can be said that all the Chinese coastal seas are not the origin, either.

5. Demonstration of Relevant Data

a. Collateral evidence of imitation cowries

Imitation cowries are primarily carved from bone, clam shell or stone, or cast from bronze. These imitation cowries show the same five phases of development and termination as the genuine cowries. Likewise, the distribution patterns are the same

throughout the five phases. In addition, imitation cowries have not been excavated in the four southeastern coastal provinces. Therefore, as collateral evidence, the existence of the imitation cowries further supports the conclusion that the cowries used in ancient China did not originate in the South China Sea nor in the southeast coastal area.

Otherwise, a few imitation cowries were made of gold, silver, ivory, clay and wood.

b. Collateral negative evidence of shell mound sites

There are lots of shell mound sites along the Liaodong peninsula, Shandong peninsula, and southeast coastal area from the Neolithic era to the early Western Han Dynasty. In all of the shell mound excavation reports, and in all of the archaeological publications about them, no cowries have identified up to now. In shell mound sites, the excavated shells mainly belong to the four species of mollusk: *Arca, sp.; Auricula, sp.; Corbicula, sp.* and *Ostrea, sp.*. Therefore, as collateral negative evidence, the lack of cowries in the shell mound sites can be cited to support the conclusion that the cowries used in ancient China did not originate in the South China Sea nor in the southeast coastal area.

6 Further Research on the Origin of the Cowries

If the origin of the cowries used in ancient China is not the South China Sea nor the Chinese southeast coastal area, the cowries must have originated in the coastal area of the Indian Ocean, because the cowries discussed here only live in the tropical water area in the Indian and Pacific Oceans. But was it possible that the cowries were brought from the coastal Indian Ocean to China as early as 3000 B.C.? Hypothetically, it was possible.

Around the earliest Chinese cowry-use area, to the east, south and west, lies the Central Plain, Yunnan province, Gansu Corridor and Xinjiang. Via these areas, cowries could not

have been brought to the earliest area, because cowries were used later in these areas. To the north of the earliest area lies the Mongolian Steppe. Although the expected cowry data have not been found there, the Mongolian Steppe is still considered the road of cowry transfer. Steppes are less than optimal for yielding cultural relics because the nomadic inhabitants refrain from developing permanent residences. Hence, if cowries were present as early as 3000 B.C., they would be extremely difficult to discover.

However, linguistic studies support the Steppe Road hypothesis. Because steppes offer much greater convenience for traveling and transporting than cultivated lands, Turkic languages are disseminated over the vast border regions of the Eurasian Steppe, from the east bank of the Caspian Sea to Lop Nor and from the north Iranian Plateau to the western Altai Mountains. The earliest Chinese cowry-use area, the eastern Qinghai province, is just within the border regions of the Eurasian Steppe. Mainly distributed over the eastern part of Qinghai province, the Salar language also belongs to Turkic. Although these languages were distributed over these border regions in a much later period, they demonstrate the possibility of a link between different cultures over such a wide area in a much earlier period.

By crossing the nomadic steppes of Mongolia and Eurasia, but staying within the realm of the Turkic languages and the border regions of the Eurasian Steppe, further research in the origin of the ancient Chinese cowries may be done. At Ashkhabad, the capital city of modern Turkmenia, Russian Central Asia, many cowries have been excavated in the Djeitun cultural sites. Dating from 7000 to 6000 B.C., Djeitun Culture is one of the earliest Neolithic cultures in Central Asia. Recent excavations at Mehrgarh in Pakistan show that the Djeitun culture had certain relations with the Neolithic culture in Baluchistan (Sharif

and Thapar, 1992:132). If so, the cowries of Djeitun may have come from Baluchistan and the Indus Valley. However, according to Durante's comprehensive study of worked marine shells excavated from protohistoric sites in the Indus Valley, cowry shells found there do not include *C. moneta* and *C. annulus* (Durante, 1977:331-341). So, the cowry shells found in ancient China may not have come from the eastern part of Arabian Sea. In contrast, according to Wilfrid Jackson, cowries appear to have been appreciated and used as amulets at a very early period in Egypt. Both *Cypraea moneta* and *Cypraea annulus* have been discovered, along with other cowries, in Pre-dynastic burials, and both forms have been found repeatedly in later graves in Egypt and Nubia. In a tomb (D114) at Abydos, of XVIIIth dynasty date, large numbers of *Cypraea annulus* were discovered (Jackson, 1917:128). Cowry shells have been excavated from prehistoric sites in the Near East, too. At the Jericho site, Jordan, in the second Neolithic Stage, dating from 7000 to 6000 B.C., two cowries were found as eyes on a portrait head modeled in plaster over a human skull; in the Proto Urban Period, dating from 3400 to 3100 B.C., one cowry was excavated in tomb A114; in the Earlier Bronze Period, dating from 3100 to 2900 B.C., one cowry was excavated in tomb A127 (Kenyon, 1960:47, 91). It has been established beyond any doubt that the people of the Djeitun culture maintained connections with the early agriculturists of the Near East (Masson and Sarianidi, 1972:45-46). So, the cowry shells found in Djeitun may have been from the Near East. Because *C. moneta* and *C. annulus* occur today in the Red Sea, the findings in Egypt and the Near East must have come from there.

Like many other Neolithic cultures distributed over the border regions of the Eurasian Steppe, the Djeitun culture includes microlithics. Microlithics have been found from the Caspian Sea to the Mongolian Steppe via the Aral Sea, the whole land of Kazakhstan and

Lake Baikal. In addition, microliths are included in the Majiayao culture, as well as at the Kanuo site. Besides the microlithics, other cultural relics can indicate the relationships of cultures in this region. The lower Xiajiadian culture was a cowry-use culture during phase 2 and distributed around the Yanshan Mountains and in eastern Inner Mongolia. "Bronzes of the lower Xiajiadian culture are limited to earrings, finger rings, and some small tools. Among them, the most typical bronze objects are trumpet-shaped earrings (Fig. 1:1). Such earrings have been found from Xiaoguanzhuang 小官庄 in Tangshan 唐山 city, Hebei province and Liulidian 劉李店 in Liulihe 琉璃河, Xueshan 雪山 in Changping 昌平 county, and Liujiahe 劉家河 in Pinggu 平谷 county, Beijing. In the relics of the Andronovo culture in the Minusinsk Basin, Southern Siberia, the same type of earrings were also found (Fig. 1 :2)" (Wu, 1985:149). The Andronovo culture even reaches to northern Turkmenia, and such earrings were excavated there too (Fig. 1:3). (Masson and Sarianidi, 1972:149). By the way, it is worth mentioning that, like Salar, the language of the Turkmen that is distributed over Turkmenia also belongs to Turkic.

Although we have identified some connecting cultural elements here, it can not necessarily be said that the cowries included in the Majiayao culture were brought from Turkmenia directly. Yet it is highly probable that Turkmenia must have been one of the cowry roads to ancient China. Therefore, by way of the Near East, Turkmenia, the Russian Central Asia Steppes, Lake Baikal and Mongolian Steppe, one of the cowry roads from the Red Sea to ancient eastern Qinghai has been briefly outlined here.

Of course, other cowry roads to ancient China must have existed because cowries were used by many ancient cultures. *C. moneta* has been found at the famous cemetery of Koban,

upon the northern slope of the Caucasus (Jackson, 1917:130). So, another cowry road can be from the Near East and the Caucasus to China.

7. Conclusion

The identification of the origin of the cowries used in ancient China is very significant for research in the origin of Chinese bronze technology and even bronze culture and civilization.

Coincidentally, like cowries, Chinese bronze objects first appeared in eastern Qinghai province, in the earliest cowry-use culture, the Majiayao culture. Afterward, many bronze objects have been discovered from the Qijia culture. Dating about 2000 B.C., the Qijia culture directly succeeded the Majiayao culture and spread over the same area. Approximately at the late period of the Qijia culture and the same period of the Erlitou culture, many bronzes have been excavated at the Huoshaogou site in Yumen, Gansu Corridor. Dating from 1900 to 1625 B.C. and belonging to the period of the hypothetical Xia Dynasty and early Shang Dynasty, the Erlitou culture is the earliest bronze culture in the Central Plains. Because the earliest bronzes in what subsequently became the territory of China were found in the Majiayao culture, the basic bronze technique of Qijia and Huoshaogou could not have disseminated from the Central Plains. Also, it is highly possible that the basic bronze technique could not have been invented in eastern Qinghai and the Gansu Corridor themselves, since they lacked the essential cultural conditions for such a high level technology.

To research the origin of basic bronze technology in northwest China, it should be noticed that cowries are included not only within the three earliest bronze cultures (Qijia,

Huoshaogou and Erlitou), but also within all the other early bronze cultures in China except the bronze cultures in the two southern provinces (Hunan and Jiangxi) and the three southeast coastal provinces (Zhejiang, Fujian and Guangdong). Cowries accompany bronzes so closely that if bronzes are discovered in an area, cowries will also normally be found; conversely if cowries are discovered in an area, bronzes will normally be found, too. From bronze inscriptions, it is known that the most frequently awarded gifts from the kings of the Shang and early Western Zhou dynasties were bronze and cowries. It was so frequent that the word *xi* 易, to award, has two forms from the middle Western Zhou. One form is *xi* 錫,with a signific of metal being added. The other is *ci* 賜, with a cowry signific being added. Cowries and bronze metal must equally have been most highly valued during the Shang and Zhou periods. Thus, it would appear that the origin of cowry-use in China possibly correlates with the origin of bronze culture and its identification is a very important indicator for research in the origin of Chinese bronze culture, as well as of Chinese civilization.

Due to a large number of cowries used in ancient China, there must have been a trade road across the Eurasian Steppe. This trade road must have been as important to the development of Chinese culture and history as the later Silk Road. However, compared with the Silk Road, a lot of questions still remain to be answered about the Cowry Road.

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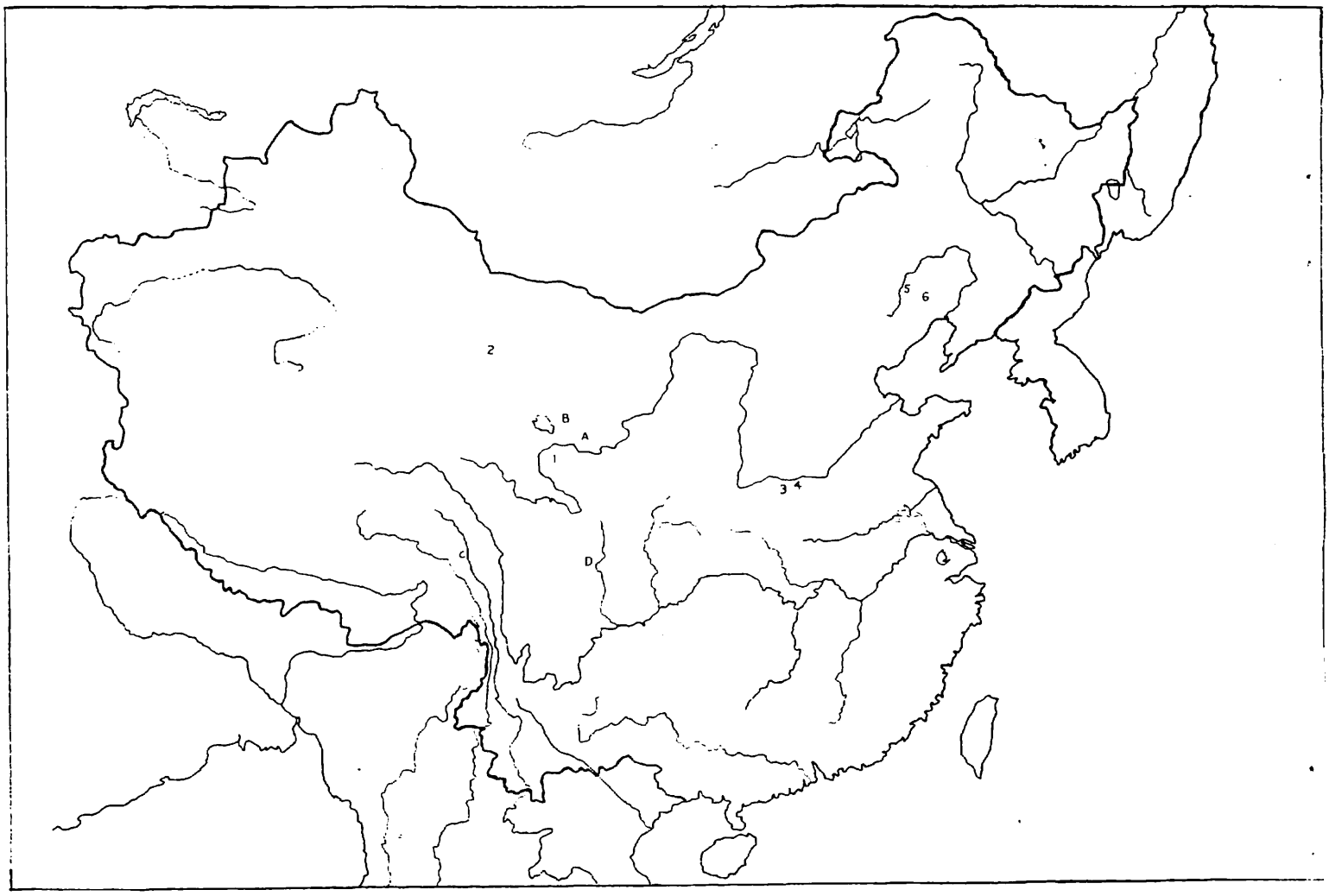


Map 1. Area of cowry-use in Phase 1 and Phase 2

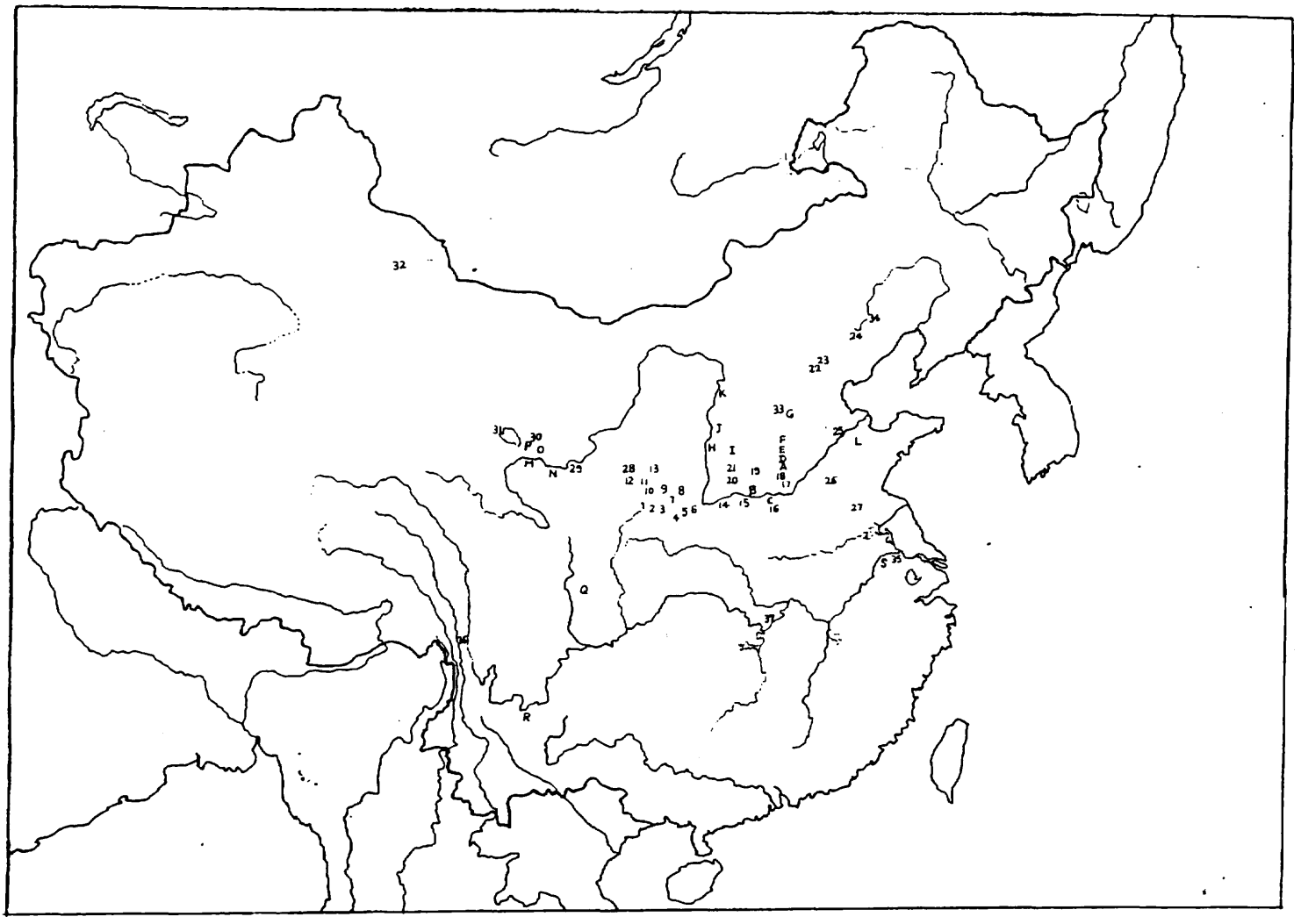
Phase1: Neolithic Era

A. Ledu B. Datong C. Changdu D. Lixian

Phase 2: Hypothetical Xia dynasty and the early Shang Dynasty

A. Ledu 1. Guinan 2. Yumen 3. Yanshi 4. Yingyang

5. Aohan banner 6. Beipiao



Map 2. Area of cowry-use in Phase 3

The middle and late Shang dynasty

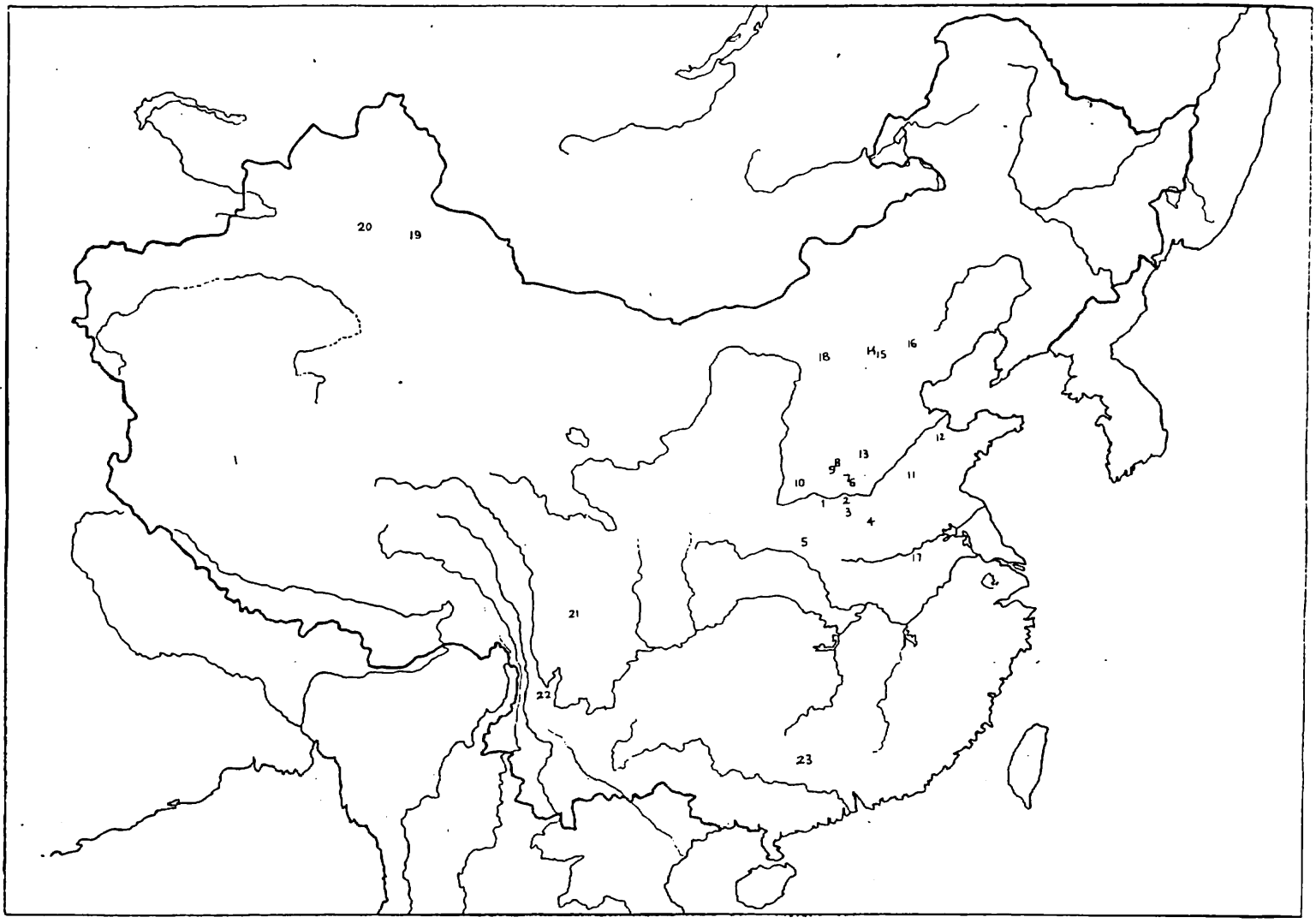
A. Anyang B. Mengxian C. Zhengzhou D. Cixian E. Handan F. Xingtai
G. Gaocheng H. Shilou I. Lingshi J. Liulin K. Baode L. Yidu M. Guide
N. Xunhua O. Xining P. Huangyuan Q. Guanghan R. Yuanmou S. Nanjing

Western Zhou dynasty

D. Cixian 1. Baoji and Fengxiang 2. Fufeng and Qishan 3. Wugong
4. Chang'an 5. Lintong 6. Weinan 7. Chunhua 8. Tongchuan 9. Xunyi
10. Lingtai 11. Jingchuan 12. Chongxin 13. Qingyang 14. Sanmenxia
15. Luoyang 16. Xinzheng 17. Junxian 18. Tangyin 19. Changzi 20. Yicheng
21. Hongtong 22. Fangshan 23. Changping 24. Pingquan 25. Jiyang 26.Qufu
27. Xinyi 28. Guyuan 29. Yongjing 30. Datong 31. Sixin 32. Hami

The early Spring and Autumn period

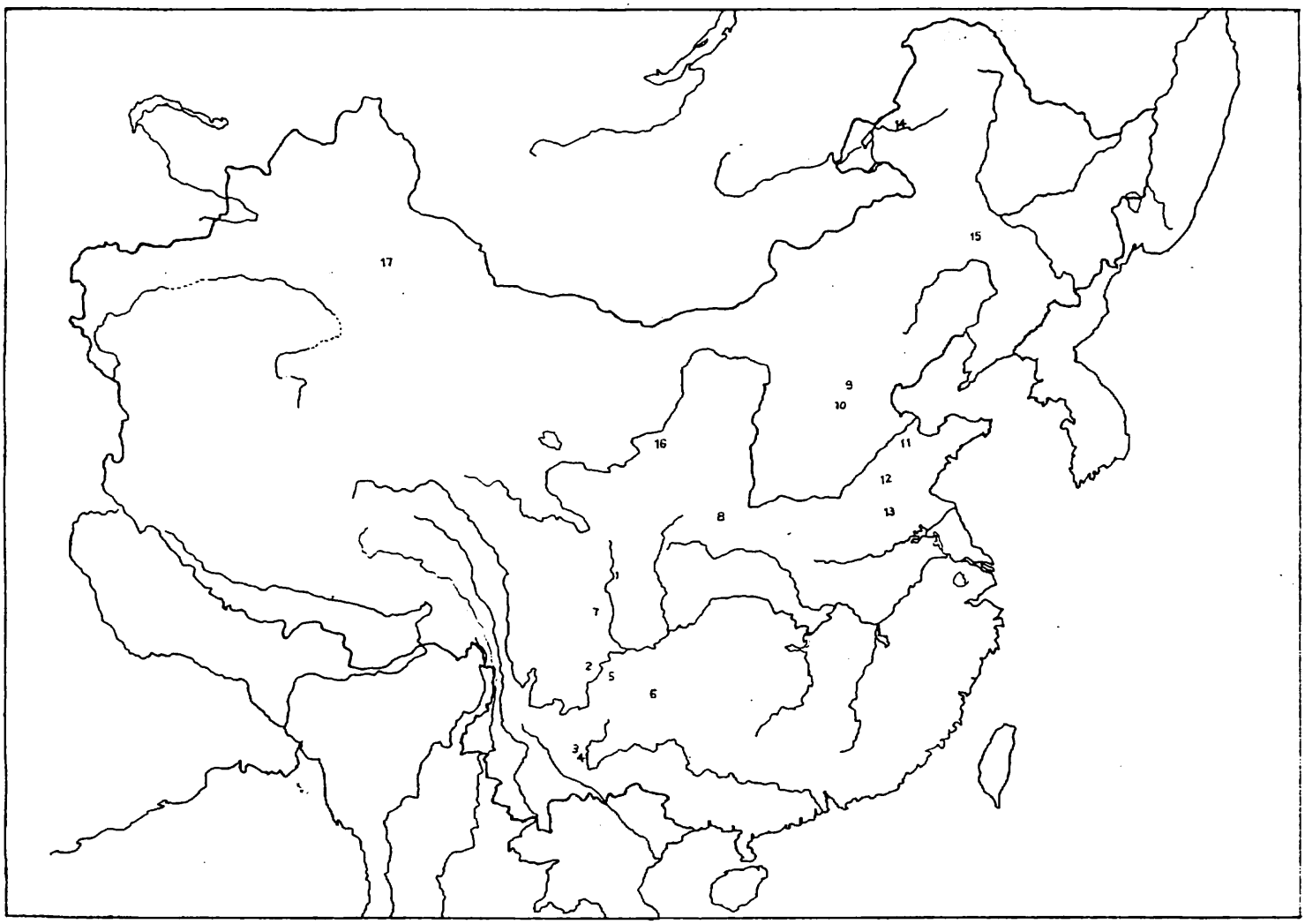
1. Baoji and Fengxiang 33. Pingshan 34. Ningcheng 35. Dantu 36. Deqin 37. Honghu



Map 3. Area of cowry-use in Phase 4

From the middle Spring and Autumn to the Warring States periods

1. Luoyang 2. Zhengzhou 3. Xinzheng 4. Huaiyang
5. Xichuan 6. Jixian 7. Huixian 8. Lucheng
9. Changzhi and Changzi 10. Houma 11. Qufu 12. Linzi
13. Handan 14. Xuanhua 15. Huailai 16. Luanping
17. Shouxian 18. Liangcheng 19. Mulei 20. Ürümqi
21. Yajiang 22. Jiangchuan 23. Hexian



Map 4. Area of cowry-use in Phase 5

From Qin to Han dynasties

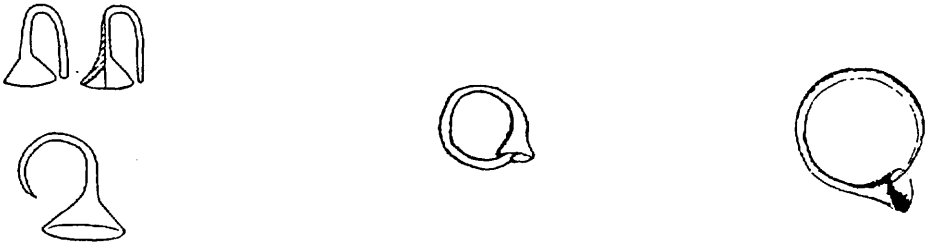
1. Maowen 2. Zhaojue 3. Jinning 4. Jiangchuan

5. Daguan 6. Qianxi 7. Baoxing 8. Xi'an 9. Yixian

10. Dingxian 11. Zibo 12. Qufu 13. Xuzhou

14. Chenbaerhu banner 15. Tongyu 16. Tongxin

17. Shanshan



1 2 3

Figure 1. Trumpet-shaped earrings

1. Earrings from Lower Xiajiadian culture (from Wu, 1985:140)
2. Earring from the Andronovo culture in the Minusinsk Basin (from Wu, 1985:142)
3. Earring from the Andronovo culture in northern Turkmenia (from Masson and Sarianidi, 1972:149)

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