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THE PROBLEM OF TYPOLOGY IN CHINESE ARCHAEOLOGY

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Abstract

Chinese and Western archaeologists (especially those of the anthropologically-oriented tradition) often seem to be talking past each other, not only because they are publishing in different languages, but also because of differences in theory and method. While most of the major theoretical works in Western languages are by now available in Chinese translations, hardly any English-language publications exist that explain Chinese approaches to archaeological method and theory. This article helps to bridge the gap by introducing the history of debates on archaeological method in China to a Western audience, focusing particularly on issues of typology and classification. Discussing in detail the merits—and issues—of approaches suggested by four of the most influential Chinese archaeologists (Li Chi, Xia Nai, Su Bingqi, and K. C. Chang), this article provides a deeper understanding of the preconditions of archaeological research in China. It also suggests future directions for archaeological work by local and foreign archaeologists, including but also going beyond the classification of the rich body of artifacts coming to light in Chinese excavations.

Introduction

Recent decades have seen an increasing internationalization of debates in archaeology. Nevertheless, Chinese and Western archaeologists often seem to be talking past each other, not merely because of language

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issues, but mostly because of differences in method and theoretical approach. Scholars of the Anglo-American, anthropologically-oriented tradition tend to be theory-focused, discussing questions of social complexity, sustainability, or identity, to name only a few recent trends. Even though major theoretical works in Western languages are by now available in Chinese translations, only very few Chinese publications enter into direct discourse with such theories. Furthermore, there are hardly any English-language publications explaining Chinese approaches to archaeological method and theory, leading to an even greater gap between what seems to be two rather different worlds.

This article helps to bridge the gap by introducing the history of debates on archaeological methods in China to a Western audience, focusing particularly on issues of typology and classification, which are of major concern to Chinese archaeologists. Discussing the approaches to typology of three of the most influential Chinese archaeologists, Li Chi (Li Ji 李濟; 1886–1979),[1] Xia Nai (formerly romanized as Hsia Nai or Shiah Nae 夏鼐, 1910–1985), Su Bingqi 蘇秉琦 (1909–1997), and K. C. Chang (Zhang Guangzhi 張光直; 1931–2001), this article shows that—contrary to the general impression—debates on methodological issues of classification have already taken place in China since the 1950s. Nevertheless, these discussions do not seem to have had a lasting impact on the local archaeological practice.

Based on a short overview of the history of Chinese archaeology and a detailed discussion of the work of these three scholars and various responses to their work, this article explores the reasons for this state of affairs. In this fashion, the article provides a deeper understanding of the preconditions of archaeological research in China and suggests future directions for archaeological work by Chinese and foreign archaeologists.

Historical Background: Development of Archaeological Research in China

As pointedly stated by Lothar von Falkenhausen, one of the main characteristics of Chinese archaeology is its strong historiographic

1. "Li Ji" would be the correct transcription of this scholar's name in Pinyin, the transcription system now generally used for Chinese; however, as he himself used the Wade-Giles transcription "Li Chi" for his name when publishing in English, I have decided to use this transliteration of his name throughout the text. The same holds true for Zhang Guangzhi, who in the West became known as K. C. Chang. Translations of Xia Nai's articles were published under three different romanizations: Hsia Nai, Shiah Nae, and Xia Nai, but his only original work in English, his dissertation, was published under "Xia Nai," which is the current established Pinyin romanization, so throughout this article, he is referred to as "Xia Nai."

orientation based on a long tradition of textual criticism and an antiquarian approach to ancient artifacts combined with a likewise long-standing preoccupation with writing national history.[2] I argue that Chinese archaeology has an equally strong typological orientation that is based both on local traditions of historiography and antiquarianism and the nature of early Western archaeological endeavors in China, and has strongly political determinants as well.

When Western methods of archaeology were introduced to China at the beginning of the twentieth century, they encountered an antiquarian tradition of scholars collecting and classifying mainly ancient bronze vessels and to a lesser extent weapons and jade objects. This tradition began in the Song Dynasty (960–1279 C.E.), when writings about ancient objects became a prevalent genre as scholars searched for the culture and rituals of the lost Golden Age in the hope of finding guidelines for the present. In their inventory-type catalogues, Song scholars not only documented the physical characteristics of the objects, but also named object types based on textual descriptions and inscriptions on the objects themselves. They categorized the artifacts primarily by their supposed former function as suggested in these texts.[3]

The focus of this antiquarian tradition on chronology and classification harmonized fairly well with the approach of early Western scholars conducting archaeological work in China. These scholars were not trained archaeologists, but geologists and palaeontologists like the Swedish scholar Johan Gunnar Andersson (1874–1960) and the American scholar Amadeus William Grabau (1870–1946).[4] In the early twentieth century, they conducted geological surveys aimed at locating mineral deposits, but they also collected archaeological data.[5] In this fashion these foreign scholars introduced basic concepts of geology and paleontology to the budding discipline of archaeology in China.

2. Lothar von Falkenhausen, "On the Historiographic Orientation of Chinese Archaeology," *Antiquity* 67 (1993), 839–49.

3. The main catalogues that are still extant today include: Lü Dalin 呂大臨 (1046–1092), *Kaogutu: 10 juan* 考古圖: 10卷 (Jinan: Qi Lu Shushe, 1997), and Wang Fu 王黼, *Xuanhe bogu tu* 宣和博古圖 [1123] (Shanghai: Siku yishu congshu, 1991).

4. For further details on Andersson's life and work in China, consult Magnus Fiskesjö and Chen Xingcan, *China before China: Johan Gunnar Andersson, Ding Wenjiang, and the Discovery of China's Prehistory* (Stockholm: Museum of Far Eastern Antiquities, 2004); Magnus Fiskesjö, "Science across Borders: Johan Gunnar Andersson and Ding Wenjiang," in *Explorers and Scientists in China's Borderlands, 1880–1950*, ed. D. M. Glover, S. Harrell, C. F. McKhann, and M. B. Swain (Seattle: University of Washington Press, 2011), 240–66; Magnus Fiskesjö, "Johan Gunnar Andersson," in *The Encyclopedia of Archaeology*, ed. C. Smith (New York: Springer, 2014), 222–25.

5. Li Chi, *Anyang* (Seattle: University of Washington Press, 1977), 35–48.

Most importantly, they brought with them the method of assigning relative dates based on stratigraphy and "index fossils,"[6] and they reinforced the emphasis on classification already prevalent in China.

Interestingly, both principles—which also belong to the building blocks of archaeology as practiced in Europe at the time—had their origin in geology. It was a geologist with a keen interest in paleontology, Charles Lyell (1797–1875), who connected fossils in various strata with extant species, showing a chronological development from lesser to increasingly greater numbers of remains of extant species in younger layers.[7] Grabau, who is often referred to as the father of Chinese geology, did not see any major difference between archaeological work and geology as he held that "all forms of matter, both land and marine, which have existed since time immemorial" and "all degrees of the evolution of life-forms" belonged to the realm of geological study.[8]

Both in China and in Europe, the emergence of archaeology as a discipline was therefore closely connected with advances in the fields of geology and paleontology. Consequently, until today many Chinese archaeologists saw geology and paleontology as the sister fields of archaeology. Su Bingqi, for example, argued that all three disciplines belong to the category of historical science in the broad sense and that their main subjects are problems of periodization, characteristic identification, distribution and regionalization within their respective parameters.[9] He and most of his colleagues therefore saw and still see stratigraphy and typology as the principal research methods of all three fields. It also has to be kept in mind that the almost unmanageably large amounts of archaeological data that come to light on a daily basis in all parts of China have to be organized in some way; the strong focus on issues of classification in Chinese archaeology is therefore very understandable.

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6. In geology, index fossils are fossils seen as typical for a specific geological period. When found, they are used to date the stratigraphic layers in which they occur. In archaeology, short-lived, easy-to-identify object forms are used in a similar fashion.

7. Charles Lyell, *Principles of geology, being an attempt to explain the former changes of the earth's surface by reference to causes now in operation*, 3 vols. (1840, rept. New York: Johnson Reprint Corp., 1969).

8. Danny Wyann Ye Kwok, *Scientism in Chinese Thought, 1900–1950* (New Haven: Yale University Press, 1965), 110–11. For information on the early development of geology in China, consult Grace Yen Shen, *Unearthing the Nation: Modern Geology and Nationalism in Republican China* (Chicago: University of Chicago Press, 2014).

9. Su Bingqi 蘇秉琦, "Kaogu leixingxue de xin keti—gei beida kaogu zhuanye qiqi, qiba ji tongxue jiangke de tixiang" 考古類型學的新課題——給北大考古專業七七、七八級同學講課的提綱, 1981, in *Su Bingqi kaogu xue lunshu xuanji* 蘇秉琦考古學論述選集 (Beijing: Wenwu, 1984), 235–37.

Furthermore, this preoccupation with questions of chronology has a marked political dimension—and many Chinese archaeologists are very well aware of this fact. According to Su Bingqi, the major tasks of Chinese archaeology encompass three parts: 1) writing national history; 2) extending it to periods which have no written record; and 3) establishing a Chinese archaeological school, i.e., in essence to establish China's place in the world, historically, politically, and also academically.[10] The involvement of politics, nationalism, and ideologies in archaeological work is of course a worldwide phenomenon, for, as Cheng Te'kun 鄭德坤 put it: "It is generally accepted that the writing of history is more or less a political act. As a handmaiden of history, archaeology cannot help but be involved in politics."[11]

Also the Swedish explorations in China may not have been driven by scholarly curiosity alone, as can be seen from Oscar Montelius's (1843–1921) words. He wrote to Andersson: "Few words are needed to convince us here in Sweden for us to realize of what great importance it would have for our small people if Swedish scientists were to be recognized for spreading light over the oldest history of the ancient cultural country of China."[12] Sweden, however, was not in as dire a situation as China, and the energies spent on establishing Sweden as the initiator of Chinese archaeology remained limited. China, on the other hand, was facing tremendous political challenges, both internally and on the international platform. Furthermore, Chinese scholars had always relied on their long tradition of historiography and considerable number of transmitted historical texts that now had to be reconciled with the finds that the modern Western science of archaeology suddenly brought to light.

At the time when Western methods of archaeological work were introduced to China, the country and its intellectuals were in a crisis, trying to revolutionize China while still holding their own against the West. This required a redefinition of what China was, and in this rewriting of national history, archaeology naturally played an important part. Some scholars—most prominently Hu Shi 胡適 (1891–1962) and his student Gu Jiegang 顧頡剛 (1893–1980)—were throwing doubt on the early Chinese texts, suggesting that the stories of the early emperors were false and that the first dynasties Xia and Shang might have been

10. Su Bingqi, "A New Age of Chinese Archaeology," in *Exploring China's Past: New Discoveries and Studies in Archaeology and Art*, ed. Roderick Whitfield and Wang Tao (London: Saffron Publishing House, 1999), 17–25.

11. Cheng Tekun, "Archaeology in Communist China," *The China Quarterly* 23 (Jul.–Sept. 1965), 73.

12. Chen Xingcan and Magnus Fiskesjö, "Oscar Montelius and Chinese Archaeology," *Bulletin of the History of Archaeology* 24.10 (2014), 3.

inventions as well.[13] When excavations at the late Shang Dynasty site of Yinxu in Anyang, Henan, brought to light oracle bones confirming the historicity of the Shang, however, the classics seemed reinstituted, opening the floodgates to an unending stream of research projects searching for the material remains of places and people mentioned in historical texts.[14] This trend continues well into the present; in 1996, for instance, the Chinese government commissioned the Xia-Shang-Zhou Chronology Project which was aimed at attaining a more accurate chronological and spatial framework for the three dynasties and thus at the same time reconfirming the early origins of the modern Chinese nation state.[15]

This ultimate political goal of research into the prehistory of China (i.e., contributing to the reordering of Chinese national history) induced scholars to restrict themselves to typological and classificatory issues instead of conducting open-ended research into various parts of prehistory. This may also be one of the reasons why—until very recently—Chinese archaeologists hardly ever conducted field research outside of China.[16] It was after all research on the prehistory of China and its connections with the later nation state that would be funded, featured prominently in publications, and bring rank and prestige to the researcher. Since

13. One of the most influential books connected with this *yigupai* 疑古派, the "School of Doubting Antiquity," was Gu Jiegang's (1962–63) *Gushibian* 古史辨. For discussions on this tradition, consult Laurence A. Schneider, *Ku Chieh-Kang and China's New History; Nationalism and the Quest for Alternative Traditions* (Berkeley: University of California Press, 1971).

14. For details of the Anyang excavation and its results, consult Li Chi, *Anyang*. For further discussions on the emergence and development of Chinese archaeology and its links with politics and nationalism, consult also Chen Xingcan 陳星燦, *Zhongguo shiqian kaoguxue yanjiu 1895–1949* 中國史前考古學研究 1895–1949 (Beijing: Shenghuo, Dushu, Xinzhi Sanlian Shudian: Jingxiao Xinhua Shudian, 1997); Chen Xingcan and Fiskesjö, "Oscar Montelius and Chinese Archaeology," 1–10; Lothar von Falkenhausen, "On the Historiographic Orientation of Chinese Archaeology"; F.-T. Fan, "How Did the Chinese Become Native? Science and the Search for National Origins in the May Fourth Era," in *Beyond the May Fourth Paradigm: In Search of Chinese Modernity*, ed. K.-W. Chow et al. (Lanham, MD: Lexington Books, 2008), 183–208; Magnus Fiskesjö, "Science across Borders: Johan Gunnar Andersson and Ding Wenjiang," and Lai Guolong, "Digging up China: Nationalism, Politics, and the Yinxu Excavation, 1928–1937," paper presented at the panel "Sciences of the Human: Classicism, Modernism, and Nationalism in Chinese Social Sciences, 1899–1937," Association for Asian Studies annual meeting 1999, Boston. https://www.asian-studies.org/absts/1999abst/china/c-105.htm (accessed April 29, 2015).

15. Li Xueqin, "The Xia-Shang-Zhou Chronology Project: Methodology and Results," *Journal of East Asian Archaeology* 4.1–4 (2002), 321–33.

16. This is changing now. Last year, archaeologists from the Academy of Social Sciences launched a fieldwork project in Honduras, Middle America, and further projects in the Americas are supposed to follow (personal communication Li Xinwei, CASS).

their introduction to China, the principles or typology and classification have therefore been applied over and over again to every excavation report and most subsequent studies. Archaeologists all over the world do, of course, compile typologies as a means for organizing and interpreting excavated artifacts, but the details of the process of classification and the explanatory power of the results for questions of cultural development and past human behavior are much contested—at least among scholars in the Anglo-American tradition of archaeology.

It is generally agreed that classification is the organizing of a complete set of phenomena into groups or categories according to their similarities and dissimilarities.[17] A typology is a special kind of systematic classification that divides a group of phenomena into discrete types according to their common characteristics. Although the necessity for typologies and classification in archaeology is widely accepted, there are major disagreements on their nature and significance. While some scholars hold that typologies are arbitrarily imposed by the researcher and only a means of ordering the material,[18] others believe that we can discover culturally-salient types that tell us about the underlying conceptual system of the artisans.[19] The most famous proponents of these opposing positions are Albert Spaulding and James Ford, who discussed the issue heatedly in the 1950s but the general debate continues until today.[20] Another point of discussion is the appropriate method for ordering the material at hand and the usefulness of quantitative vs. qualitative approaches. And then, of course, there is a variety of debates that are regionally or locally confined, discussing extant

17. Consult, for example, Robert R. Sokal, "Classification: Purposes, Principles, Progress, Prospects," *Science* (New York, NY) 185.4157 (1974), 1115–23; William Y. Adams and Ernest W. Adams, *Archaeological Typology and Practical Reality: A Dialectical Approach to Artifact Classification and Sorting* (Cambridge: Cambridge University Press, 1991), esp. 55 and 333; and Dwight W. Read, *Artifact Classification —A Conceptual and Methodological Approach* (Walnut Creek, CA: Left Coast Press, 2007), 19ff. for discussions on the definition of the terms typology and classification.

18. For example, John Otis Brew, "The Use and Abuse of Taxonomy," in *Archaeology of Alkali Ridge, Southeastern Utah. Papers of the Peabody Museum of American Archaeology and Ethnology 21* (Cambridge, MA: Harvard University, 1946), 44–66; Robert C. Dunnell, "Methodological Issues in Contemporary Americanist Archaeology," *PSA: Proceedings of the Biennial Meeting of the Philosophy of Science Association* (1984), 717–44.

19. For example, Irving Rouse, "The Classification of Artifacts in Archaeology," *American Antiquity* 25.3 (1960), 313–23; Dwight W. Read, *Artifact Classification*.

20. Albert C. Spaulding, "Statistical Techniques for the Discovery of Artifact Types," *American Antiquity* 18.4 (1953), 305–13; James Alfred Ford and Julian Haynes Steward, "On the Concept of Types," *American Anthropologist* 56.1 (1954), 42–57.

typologies, modifying them with the help of new finds, and proposing new ways of ordering the known material.

The latter type of scholarly debate—weighing one scholar's typology against another's and proposing new typologies—is very prevalent throughout the history of Chinese archaeology up to the present. Discussions on the theoretical and methodological issues of classificatory work, however, have stayed largely confined to a small circle of scholars, most importantly Li Chi, Su Bingqi, and K. C. Chang, and to a lesser extent Xia Nai. Xia Nai did not actually publish any papers on typology per se, but his handbooks on archaeological work—which naturally contained instructions on how to classify archaeological finds—came to be the study guides for many generations of archaeologists. His stance on the matter will therefore be mentioned as well. In the following sections, I discuss the approaches to classification taken by these four scholars, evaluating their merits and suggesting possible reasons for the limited impact of their insights on archaeological practice in China.

Typology and Classification in China: A Limited Debate

Li Chi and the Morphological Method

In the 1950s and 1960s, Li Chi—being dissatisfied with impressionistic and text-bound traditional classification systems—advocated classifying archaeological objects on the basis of quantifiable physical properties. Li was inspired by the work of Liang Siyong, the first Chinese scholar to develop morphological classifications of Yangshao pottery in the 1930s.[21] Liang proposed a method of assigning ceramic vessels four-digit numbers according to morphological characteristics such as rim diameter and foot shape. Based on Liang's suggestions, and starting with the bronze and pottery vessels from Yinxu 殷墟, Anyang 安陽, Li Chi was the first to suggest a complex systematic procedure for developing detailed typologies.[22] In this system, the primary classes are based

21. During the 1920s, Ture Arne and other scholars working under Andersson had already worked on a classification of the Yangshao pottery, but Liang Siyong was the first Chinese scholar to propose his own typological scheme. See Liang Siyong 梁思永, *Liang Siyong kaogu lunwenji* 梁思永考古論文集 (Beijing: Kexue, 1959).

22. Zhang Guangzhi 張光直 and Li Guangmou 李光謀 ed., *Li Ji kaoguxue lunwen xuanji* 李濟考古學論文選集 (Beijing: Wenwu, 1990); Li Ji 李濟, *Gu qiwu yanjiu zhuankan* 古器物研究專刊, vols. 1–4. Zhongguo kaogu baogaoji xinbian 中國考古報告集新編 (Nan'gang: Zhongyang yanjiuyuan lishi yuyan yanjiusuo, 1964–1970); Li Ji 李濟, "Yinxu chu de qingtong liqi zhe zong jiantao" 殷墟出土的青銅禮器之總檢討, *Bulletin of the Institute of History and Philology, Academia Sinica* 47 (1976), 783–811.

exclusively on vessel forms. Under each primary class, the specific types are then named using established terms to allow for ease of communication with other archaeologists.

To make his system applicable to material from other sites and time periods, Li Chi developed a "type formula, [i.e.,] a formula for revealing pottery types" consisting of four words connected by hyphens: the first word representing color; the second, material; the third, manufacture; and the fourth, decoration. Each of the terms has a fixed meaning and is rendered even more specific by several numbers in superscript referring to different varieties, for example, of specific clay material or color, resulting in terms such as "gray^{15}-clay^{8}-hand^{3}-scored^{5}."

Li Chi furthermore developed a classification system aimed at assigning vessel function without the help of textual evidence. He distinguished between primary vessel parts (mouth, belly, bottom) and supplementary vessel parts (feet, base, plate, stem, handle, cover, spout, lug, etc.), assigning numbers to the various specifications of each.[23] The final classification system consisted of three-digit numbers, each of them representing a specific style.[24] Li Chi also developed similarly formalistic systems for the classification of tools and weapons made of stone, bone, or metal; however, he never took the next step of using his fine-grained typologies to make inferences on temporal, cultural, or social developments. In fact, Li Chi himself never wanted his classification system to be anything more than a scientific device for ordering excavated material; for other purposes, separate classification systems would have to be developed.[25] This recognition of the need for several classification systems depending on the questions asked is a point that has been made by Western scholars as well.[26] Although not explicitly stated, Li Chi's acknowledgment that an archaeologist might propose multiple different typologies that would be equally valid, indirectly suggests that the typology he had in mind was not one that re-created a typology that the creators of the objects in question had in mind, but rather a heuristic tool used by the archaeologist. Li Chi never discussed this matter—at least not in writing—and his

23. For bottoms, for example, he distinguishes between 1) flat bottom, 2) concave bottom, 3) convex bottom.

24. The first digit referred to the group, 1) container, 2) non-container, 2a) utilitarian implements, 2b) miniatures; the second referred to the mouth size, 1) mouth diameter larger than maximum diameter of the body, 2) mouth diameter equals maximum body diameter, 3) maximum diameter of the body larger than mouth diameter); and the third referred to the feet, 1) support, 2) two feet, 3) three feet, 4) four feet, 5) multipodal.

25. Yu Weichao, "New Trends in Archaeological Thought," in *Exploring China's Past: New Discoveries and Studies in Archaeology and Art*, ed. Roderick Whitfield and Wang Tao (London: Saffron Publishing House, 1999), 27–32.

26. For example, Brew, "The Use and Abuse of Taxonomy," 46.

classification system has become a popular method of coping with the masses of material that have come to light in excavations since the 1950s. What the resultant typologies meant in terms of interpreting the data has generally not been discussed; ordering the data at hand at least in some way seemed to be enough.

Xia Nai and Chronology

For Xia Nai, who came to be the most powerful Chinese archaeologist of his time,[27] ordering the material was an important point, but even more crucial was the usefulness of typology for dating the finds. Interestingly, Xia Nai never published any extensive discussions on the issues of typological work in spite of concluding his training at University College London (UCL) with a dissertation proposing a new classification system for Egyptian beads.[28] This dissertation was written in English in 1946 but only published last year, likewise in English, so Xia Nai's thoughts on the subject never reached the Chinese audience. Nevertheless, his work shall be reviewed here to provide an impression of his methodological background and ideas.

Working with 1,760 excavated and thus provenienced beads collected by Sir Flinders Petrie, Xia Nai catalogued and presented all objects in what he called a "corpus," a reference arranged according to material types and chronological order for easy identification, i.e., a mere practical tool for ordering the data at hand and comparing it to future finds. At the same time, Xia Nai also proposed a classification aimed at assigning a date to the objects in question. He largely built on the work of Horace C. Beck[29] but also criticized him for trying to propose a classification that was applicable to all countries and periods, leaving out "most features which are peculiar to a certain place at a certain period alone" and thus producing a classification that was "almost useless for dating purpose."[30] Xia argued that any classification must be "suggested by the objects themselves" and that we "must pay attention, not to the imaginary geometrical form, but to the feature which is expressive of the activity of hands or brain of men."[31]

27. For a discussion of Xia Nai's role in the development of the field of archaeology in China, consult Lothar von Falkenhausen, "Xia Nai (1910–1985)," in *Encyclopedia of Archaeology: The Great Archaeologists*, ed. Tim Murray (Santa Barbara, CA: ABC CLIO Press, 1999), vol. 2, 598–614.

28. Xia Nai, *Ancient Egyptian Beads* (Heidelberg: Springer, 2014), 54.

29. Horace C. Beck, *Classification and Nomenclature of Beads and Pendants* (York, PA: Liberty Cap Books, 1973).

30. Xia Nai, *Ancient Egyptian Beads*, 54.

31. Xia Nai, *Ancient Egyptian Beads*, 54.

Therefore, he approached the beads from the technical point of view, considering material and form "only in so far as they will either limit or reflect the exercises of human hand or brain" because a "classification of beads according to the imaginary geometrical form alone is too artificial to have any chronological value."[32] The first step of his classification is based on production techniques and material, in as far as material influences those techniques; the beads then are further subdivided by presence/absence and nature of decoration and technical details. Only after that did Xia Nai consider variations in form, shape, and size, which—according to the author—are important for identification but bear no chronological significance, at least in the case of beads. Similar to Li Chi, Xia Nai developed a code consisting not only of letters and numbers reflecting the raw material, production technique, presence/absence of decoration, but also the date of the bead in question.[33]

Unfortunately, these early ideas were never translated into Chinese and therefore did not come to be reflected in discussions on typology in China. In his own Chinese-language publications from the mid- to late 1950s onward, Xia Nai was more concerned with practical matters of establishing a system of institutions and standardized working procedures for archaeological work. For this purpose, he compiled a manual for a new generation of archaeologists educated exclusively in China, at first in short three-month courses to fill the dire need for trained archaeologists (i.e., between 1952 and 1955), and later in multi-year courses of study at various universities. In the first archaeological manual from 1958, for example, Xia Nai emphasized the importance of first ordering the material evidence, then classifying it initially by material or function (for practical purposes, rather the former), and subdividing the objects further still into broad subcategories, avoiding too fine a subdivision that would end in each object occupying its own subcategory.[34] Where possible, one should follow established chronologies to enable cross-regional comparison.

In the interest of practical concerns, Xia Nai thus deviated from his earlier thoughts on the prime importance of technology, but instructed the students that the objects may be classified according to form *or*

32. Xia Nai, *Ancient Egyptian Beads*, 54.

33. The first two letters indicate the raw material and technique used as well as the presence/absence of decoration, followed by an Arabic number showing further technical details, and a Roman number showing the chronological position. GN5xiii, for example, would stand for glass segmental beads made by the wire-winding method without decoration dating to a specific period.

34. Here and in the following: Xia Nai 夏鼐, "Tianye kaogu fangfa" 田野考古方法, *Kaoguxue jichu* 考古學基礎, ed. Zhongguo Kexueyuan Kaogu Yanjiusuo 中國科學院考古研究所 (Beijing: Kexue, 1958), 293–319.

similarities in technology/function; in a second step, they should be arranged in a developmental sequence to reach what he sees as the main aim of archaeological work: the dating of objects and features. These instructions are clearly meant to streamline the process of archaeological work and counteract the emergence of a multitude of different classifications, at the same time inhibiting emergent discussions on method and theory. As Lothar von Falkenhausen has pointed out, criticizing Xia Nai for his strong stance against such discussions would be "anachronoistic" because "under the ideological climate of the time, averting theoreticians' interest was the only prudent strategy to ensure that archaeological work could go on."[35]

According to Xia Nai's description, typology is interestingly only the third method for dating in a series of four textual sources, with stratigraphic evidence occupying the first two places and archaeometric methods coming in fourth place. Soon, Xia Nai became more and more interested in new methods of dating and went to great lengths to promote radiocarbon dating in China; this great interest in such technical advances may be one of the reasons why Xia Nai did not continue his explorations into methods of typology and classification much beyond basic fieldwork instructions.

Only in the 1980s did Xia Nai turn again to issues of classification, in this case focusing on the nomenclature of Neolithic jades.[36] He criticized the common approach of naming Neolithic jades from collections based on terms mentioned in transmitted texts of uneven date; then, however, he went on to date excavated jades in a very similar fashion, albeit accompanied by a critical discussion on the date of the texts in question. Nevertheless, Xia Nai made a few important observations, remarking that the actual usage of the so-called ritual jades was likely rather different than what later texts indicate—at least judging by archaeological evidence—and that there may have been less fine a distinction between different jade rings than historical or archaeological classifications suggest. As far as terminology is concerned, Xia holds that it is impossible to know what the early jades were called during the Shang. Where an ancient name was available, it should of course be used; otherwise a new, easy-to-use name shall be used for the convenience of research and discussion. Overall, even in his later publications, Xia Nai's main concern was thus on the practicalities of making archaeological work progress smoothly and managing the large amounts of data found in the wake of excavation.

35. Von Falkenhausen, "Xia Nai (1910–1985)," 609.

36. Xia Nai 夏鼐, "Shangdai yuqi de fenlei, dingming he yongchu" 商代玉器的分類、定名和用處, *Kaogu* 1982.5, 455–67.

Su Bingqi and the Montelian Typology

Simply managing data, however, was not enough for Su Bingqi, who described the aims of archaeological work as analyzing "the mutual relationships among different coexisting communities" and restoring "the true face of our country's history."[37] After the ground-breaking book on typology by the Swedish scholar Oscar Montelius, *Die Methode*, the first volume of his *Die älteren Kulturperioden im Orient und in Europa*, was first translated into Chinese in the late 1930s, this method soon became highly influential in Chinese archaeology and Su Bingqi was one of the first to apply it to Chinese material.[38] Based on previous work by the Danish archaeologists Christian Jürgensen Thomsen (1788–1865) and Jens Jacob Asmussen Worsaae (1821–1885), who pioneered the application of stratigraphic principles to cultural layers, Montelius, in his book, had developed basic principles of stratigraphy and typology and explained how they could be applied to infer cultural developments and establish relative and absolute chronologies.[39] His method of seriation was based on the assumption that material culture and biological life develop through the same kind of evolutionary process, which could be reconstructed from the morphological features of the specimens. To provide relative dates for museum artifacts, Montelius arranged the material remains in an order that showed consistent development, using features such as typological rudiments (parts of the object that used to have a practical function that was gradually lost) to determine the direction of development. Through a complex system of cross-dating, along with the help of written sources, he was able to suggest absolute dates for various archaeological phenomena in Europe, which lacked direct absolute dates before the advent of fourteenth-century dating. This approach with its focus on object forms and chronology that furthermore incorporated information from written sources was naturally very attractive to Chinese archaeologists.[40]

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37. Su Bingqi, "Kaogu leixingxue de xin keti—gei beida kaogu zhuanye qiqi, qiba ji tongxue jiangke de tixiang," 237.

38. Oscar Montelius, *Die älteren Kulturperioden im Orient und in Europa 1: Die Methode* (Stockholm: Asher & Co Berlin, 1903); Oscar Montelius 蒙德留斯, *Xianshi kaoguxue fangfa lun* 先史考古學方法論 (Shanghai: Shangwu yinshuguan, 1937).

39. For a detailed discussion of the principles of stratigraphy as applied to archaeology, consult Edward C. Harris, *Principles of Archaeological Stratigraphy* (London: Academic Press, 1979). For further information on the development of the field of archaeology in Europe, see Manfred K. H. Eggert, *Archäologie, Grundzüge einer historischen Kulturwissenschaft* (Tübingen: Francke, 2006).

40. Interestingly, as has recently been shown by Chen Xingcan and Magnus Fiskesjö, Montelius did not only influence Chinese archaeology indirectly through his publications, but also very directly by supporting Andersson's archaeological explorations in China.

Following Montelius's method, in the 1940s Su Bingqi developed a typology for the three-legged ceramic *li* 鬲 vessel that is ubiquitous in the Central Plains of China and beyond.[41] Unlike Li Chi, he developed a typological sequence that was meant not only to arrange the material systematically, but also to identify trajectories of cultural development and provide a chronological sequence.[42] Drawing on Montelius, who had pointed out that a single form may lead to two or more lines of evolutionary development, Su distinguished different types based on "basic form features," each of which underwent its own course of development.[43] Su Bingqi argued that identical or similar types were probably the product of one culture, while specimens belonging to different types were the product of different cultures, especially if they had been produced with the help of different techniques.

Based on his analysis of the *li*, Su suggested the existence of four regional types that had split off from a common "ancestor." Resemblances between later types from different regions were signs of contact between the regions. During the following decades, Su Bingqi applied the same method of typological analysis to a broader variety of material. Su was planning to eventually enlarge the range of his research to cover all of China and identify various regional Neolithic cultures and their particular developmental trajectories. His model of various independent regional developments diverged significantly from the traditional notion of a single center of development of the Chinese civilization in the Central Plains. This ambitious project was never finished—partially due to war and political and social unrest, including the Second World War and the Cultural Revolution,[44] partially due to the sheer enormity of the task—but by the 1990s he finally

41. Su Bingqi 蘇秉琦, *Doujitai Goudongqu muzang* 鬥雞臺溝東墓葬 (Beijing: Guoli Beiping Yanjiuyuan Shixue Yanjiusuo 國立北平研究院史學研究所, 1948).

42. Su Bingqi 蘇秉琦, *Kaoguxue wenhua lunji* 考古學文化論集 (Beijing: Wenwu, 1987).

43. In his study of the *li*, Su Bingqi began from common traits (i.e., measurements of shape such as height, depth, height of the foot, proportions foot/vessel, width/height, width of mouth, foot, handles, etc.) whose changes he analyzed through seriation. He then divided each of the resulting groups (A–D) into "small groups" or varieties by assigning the letters a to e to them.

44. The Great Proletarian Cultural Revolution (*Wuchan Jieji Wenhua Dageming*, 1966–76) was a social-political movement set into motion by Mao Zedong. To enforce communism throughout China, so it was claimed, traditional, bourgeois, and capitalist elements had to be removed; therefore, scholars and other intellectuals were persecuted and could largely not continue their work, leading to a hiatus in research in many fields—not to speak of personal tragedies and trauma caused by the persecution. For further discussions on the topic, consult Paul Clark, *The Chinese*

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proposed a multi-regional model of cultural development with six main culture areas that each had separate origins and developed along different trajectories. In his analysis, he moved from the local types to regional types and finally to whole cultural areas, arguing that the six culture areas were independent but showed a trend of increasing inter-regional interaction over time.[45] The overall model—labeled *quxi leixing* 區系類型 [typology of local developments]—is based nearly exclusively on ceramic assemblages. Unfortunately, Su Bingqi only presented his inferences in a short article, while the chronological schemes he must have developed for various regions are only partially published.[46]

Although it has been criticized for its vagueness, the *quxi leixing* concept has become widely accepted as a general model for the emergence and early development of Chinese civilization.[47] Furthermore, the aim of constructing a fixed typological and chronological framework for Chinese prehistory—very much akin to a genealogical tree in biology, as Su Bingqi himself pointed out—is shared by most Chinese archaeologists. Su Bingqi's model also resonates closely with the current depiction of China as single entity with multiple components (*duoyuan yiti* 多元一體) that is used on the political front to bring China's multi-ethnic population into a coherent and stable political unit.[48] The Xia-Shang-Zhou chronology project conducted from 1996 to 2000 likewise made use of Su's idea: in the scheme of regional comparison used in this case, researchers assumed the historicity of the Xia mentioned in transmitted texts and tried to establish China as one of the earliest—if not *the* earliest—civilization on earth and bolster China's present position in the world. For this endeavor, exact chronologies were of immense importance—one more reason for archaeologists

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Cultural Revolution: A History (Cambridge: Cambridge University Press, 2009); Anne F. Thurston, *Enemies of the People: The Ordeal of the Intellectuals in China's Great Cultural Revolution* (Cambridge: Harvard University Press, 1988).

45. Lothar von Falkenhausen, "Su Bingqi October 4, 1909–June 30, 1997," *Artibus Asiae* 57.3–4 (1997), 365–66; Liu Li and Chen Xingcan, *The Archaeology of China: From the Late Paleolithic to the Early Bronze Age* (Cambridge: Cambridge University Press, 2012), 16f.; Wang Tao, "Establishing the Chinese Archaeological School: Su Bingqi and Contemporary Chinese Archaeology," *Antiquity* 71 (1997), 31–39.

46. Su Bingqi 蘇秉琦, "Guanyu kaoguxue wenhua de quxi leixing wenti" 關於考古学文化的區系類型問題 *Wenwu* 1981.5, 10–17; Su Bingqi 蘇秉琦, *Su Bingqi wenji* 蘇秉琦文集, 2 vols. (Beijing: Wenwu, 2009–10).

47. For example, An Zhimin 安志敏, "Shilun Zhongguo de xinshiqi shidai" 試論中國的新石器時代, *Kaogu* 1993.3, 252–60.

48. Fei Xiaotong 費孝通, "Zhonghua minzu de duoyuan yiti geju" 中華民族的多元一體格局, in *Zhonghua minzu duoyuan yiti geju* 中華民族多元一體格局, ed. Fei Xiaotong (Beijing: Zhongyang Minzu Xueyuan Press, 1989), 1–36.

to concentrate on the development of increasingly fine-grained typologies.[49]

Su Bingqi, however, wanted to go much further. During the early 1990s, he published various articles discussing general processes of cultural development such as the emergence of cities, larger polities, and finally states that he observed in various parts of China.[50] Su Bingqi therefore was by no way "stuck" in the process of classification itself but tried to go far beyond it. Nevertheless, his thoughts on state development were not much cited in later research, while the present-day approach to the chronology of the early dynasties still follows the concept of archaeological typology as proposed by Su Bingqi over thirty years ago.[51] The focus areas of these typologies include:

1. The species, types, shapes, and forms of typical artifacts and objects.
2. The developmental sequence of typical artifacts and objects.
3. Cogenerative or parallel relationships among the developmental sequences and diverse types of artifacts and objects.
4. Combinative relationships among diverse types of typical artifacts and objects.

Su himself demanded that it was necessary to move beyond localized developmental sequences toward comparative analyses of the relationships among artifacts from a large number of sites. Thus, Su's basic idea is very similar to the aims of classification put forth by K. C. Chang, a scholar of Chinese origin who studied and taught in Yale and Harvard, trying to build a bridge between Western and Chinese traditions of archaeological research. Most of his scholarly contributions were published both in English and Chinese and are part of the standard reading material for students of archaeology in present-day China. In spite of his teaching abroad all of his life, K. C. Chang's work therefore needs to be taken into account in this context.

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49. Li Xueqin, "Walking out of the 'Doubting of Antiquity' Era," *Contemporary Chinese Thought* 34.2 (2002), 26–49.

50. Su Bingqi, "New Issues in Archaeological Typology," *Anthropology in China: Defining the Discipline*, ed. G. E. Guldin (New York: M.E. Sharpe, 1990), 68–72; Su Bingqi 蘇秉琦, "Guanyu chongjian Zhongguo shiqianshi de sikao" 關於重建中國史前史的思考, *Kaogu* 1991.12, 1109–18; Su Bingqi 蘇秉琦, "Chongjian Zhongguo gushi yuangu shidai" 重建中國古時遠古時代, *Shixueshi yanjiu* 史學時研究 3 (1991), 1–9; Su Bingqi 蘇秉琦, "Chongjianzhong de Zhongguo shiqianshi" 重建中的中國史前史, *Baike zhishi* 百科知識 3 (1992).

51. Su Bingqi, "Kaogu leixingxue de xin keti—gei beida kaogu zhuanye qiqi, qiba ji tongxue jiangke de tixiang," 236.

K. C. Chang and the Question of Cultural Salience

The aims of classification as outlined by K. C. Chang are the following:

1. to summarize the data and make it manageable by translating quantity into quality, expressed economically, effectively, and meaningfully;
2. to delineate units of archaeological facts according to their mutual relations within a culturally-meaningful system and in order to reveal them;
3. to locate cross-cultural boundaries of the attributes of archaeological facts in order to obtain categories that are comparable across cultural systems, which in turn are indispensable for the discovery and/or formulation of cross-cultural patterns and regularities.[52]

While Su Bingqi described a rather mechanical procedure that relied solely on the criteria of form and measurement of objects, K. C. Chang emphasized that "The first aim [of summarizing the data] can be an end in itself and can be done without regard to the cultural context, but the second and the third must be related to cultural systems."[53] Reflecting on American scholars such as Walter W. Taylor, Alex D. Krieger, James Alfred Ford and Julian Haynes Steward, Irving Rouse, and Clyde Kluckhohn, Chang discussed the nature of archaeological typologies and their relationship to categories relevant to past people.[54] According to his point of view, one of the main aims of archaeological work is to understand ancient life through a classification that should be the same as the one past people made. Chang held that it was possible to arrive at culturally-meaningful typologies based on physically-observable object features, simply because their makers likewise classified them on the basis of physically-observable features. Nevertheless, there are many possible ways of arranging artifactual material; so how can we decide which of them is the one that was actually used in the past? To illustrate the problem, K. C. Chang developed several possible classification schemes for US coins and compared them with the actual,

52. K. C. Chang, *Rethinking Archaeology* (New York: Random House, 1967), 71.

53. Chang, *Rethinking Archaeology*, 71.

54. Walter W. Taylor, *A Study of Archeology* (Carbondale: Southern Illinois University Press, 1967); Alex D. Krieger, "The Typological Concept," *American Antiquity* 9.3 (1944), 271–88; James Alfred Ford and Julian Haynes Steward, "On the Concept of Types," *American Anthropologist* 56.1 (1954), 42–57; Rouse, "The Classification of Artifacts in Archaeology"; and Clyde Kluckhohn, *Culture and Behavior: Collected Essays* (New York: Free Press of Glencoe, 1962).

popular classification system, finding that the latter was identical with one of the classifications that he had suggested. If there are no historical or ethnographic sources available, however, then the problem remains of how we can identify the "right" classification among the many perceivable ones.

According to K. C. Chang, the "right" categories are those reflecting or approximating the "natives'" own thinking about how their physical world is to be classified.[55] He pointed out that such a "real" classification must be independent from the investigator and should have "comparative significance", i.e., be "experimentally verifiable by investigators according to consistent principles with reference to more than a single situation."[56] For Chang, a type was "a class of objects or phenomena that share common attributes but contrast with other types in not sharing their characteristic attributes," and the correct method to delineate a type was to locate the area of discontinuity to other types.[57] To demonstrate the cultural significance of a specific type or typology, he continued, we therefore have to enlarge the area of research beyond the single settlement. The process Chang delineated is the following:

1. Group the data according to physically-observable attributes into provisional categories.
2. Arrange these provisional categories into significant units within the assemblage by statistical and other means.
3. Enlarge the sphere of analysis from a single assemblage to a multitude of assemblages, comparing the patterns of occurrence of attributes, categories, and units in the respective assemblages and formulate types that are historically meaningful.
4. Place these types into hierarchical models within the specific site context.

On the whole, K. C. Chang thus emphasized the close connection between typology and human behavior, arguing that the former allowed us to infer from the latter. He held that artifacts were "endproducts or by-products of human behavior. A study of human behavior and human history, therefore, cannot operate by using typologies designed on the basis of artifacts themselves. The category selected for such study must be a unit that is both meaningful in terms of socio-cultural behavior and practical for archaeological

55. Chang, *Rethinking Archaeology*, 78.
56. Chang, *Rethinking Archaeology*, 78.
57. Chang, *Rethinking Archaeology*, 79.

application."[58] To Chang, the "difference between a typology designed on the basis of individual artifacts […] and one designed according to their attributes recognized and treated in relation to their settlement contexts is not a fine conceptual point" but a crucial one.[59] Chang's approach is firmly grounded in Western archaeological theories, trying to reconcile them with traditional Chinese approaches and questions. With regard to research on Neolithic ceramics of China and their typological ordering, his aim is similar to that of Su Bingqi: to trace the ancient roots of what would later become China from the interplay of various regional developments. The results of this research—a model of a multi-regional Chinese interaction sphere that he developed independently from Su Bingqi's *quxi leixing* model—is still widely used to describe early developments in the heartland of China, at least by Western scholars.[60] Chinese scholars, on the other hand, tend to cite Su Bingqi both for his model and his approach to typology, while K. C. Chang seems to have had relatively little impact on archaeological work in China as far as ceramic typology is concerned. Of much greater influence were his thoughts on the classification and nomenclature of ancient Chinese bronzes, a topic that is of considerable concern both to Chinese archaeologists and Western scholars, albeit mostly scholars with an art-historical background. Interestingly, research on ritual bronzes is the main area where discussions on typology in China and the West developed along similar paths and even entered a dialogue.

Chinese and Western Approaches to the Classification and Nomenclature of Ancient Chinese Bronzes

Bronze Age materials from the Central Plains can serve as a special case study for assessing various approaches to typology and classification. These artifacts provide both archaeological evidence and texts that mention names and functions of vessels, some of them transmitted in historical sources and some of them inscribed on the objects themselves. As K. C. Chang pointed out, there are many contradictions between transmitted texts and bronze inscriptions, and inscriptions on different bronzes may even use different terms for the same form.[61] By contrast,

58. Chang, *Settlement Archaeology* (Palo Alto, CA: National Press Books, 1968), 14.
59. Chang, *Settlement Archaeology*, 15.
60. K. C. Chang, *The Archaeology of Ancient China* (New Haven, CT: Yale University Press, 1986), 239–94.
61. Zhang Guangzhi 張光直, "Kaogu fenlei" 考古分類, in *Kaoguxue zhuanti liujiang* 考古學專題六講. Beijing daxue kaoguxi zhuanti jiangzuo 1 北京大學考古系專題講座 1, ed. Zhang Guangzhi (Beijing: Wenwu, 1986), 62–73.

the archaeological classification for bronze vessels is very systematic and standardized. Chang therefore argued that the classification used by archaeologists was more adequate than the one employed by the creators and users of the vessels themselves.

But how does this statement fit with the aim of reaching archaeological classifications identical with the ones used in the past? The answer may lie in the presence of regional and chronological variations. Bronze vessels were used in the Central Plains of China and beyond for ritual purposes for nearly a millennium. Vessel forms and their usage changed over time, while the established terminology is applied to all periods. As Yu Weichao (1989: 16) pointed out, ancient vessel nomenclature changed over time, and fine-grained subdivisions are of a relatively late date. Furthermore, the established classification system for bronze vessels is based on the terminology developed by Chinese scholars during the Song Dynasty (C.E. 960–1279) on the basis of Zhou Dynasty (1046–256 B.C.E.) texts originating from the Central Plains. Even though most scholars are aware of this problem, the Zhou terms are applied to significantly earlier bronzes as well, and they are even used for pottery vessels of similar appearance.

Li Chi addressed this issue by using a combination of old and newly created terms, and suffixed each of them with the words "-shaped vessel (s)". He argued that he could never be sure if a specific vessel he categorized as a "*ding*-shaped vessel," for instance, had really been called a "*ding*" by its creators, but he could say with certainty that this was an artifact resembling objects that had usually been referred to as "*ding*."[62] The addition of the suffix was meant to alert scholars to the limited reliability of the terminology; however, in practice the names are often applied without the necessary caution. As Yu Weichao has additionally pointed out, Li Chi's classification is furthermore problematic in itself because it is not sensitive to changes over time.[63]

Additionally, none of these classifications addresses the influence of ideology on vessel nomenclature and typology, both in the past and in recent history up to the present. In the past, the ordering of objects was a reflection on the users themselves and allowed for an ordering of people. This becomes especially apparent from the use of bronze vessels in graves in which the number and kind of vessels could denote rank, with the meaning assigned to specific vessel forms as well as the vessel forms themselves changing over

62. Li Ji, "Yinxu chutu de qingtont liqi zhi zong jiantao."

63. Yu Weichao 俞偉超, "Guanyu 'kaogu li xingxue' wenti" 關於"考古類型學"問題, in *Kaogu leixingxue de lilun yu shijian* 考古類型學的理論與實踐, ed. Yu Weichao (Beijing: Wenwu, 1989), 16.

time.[64] When Song Dynasty scholars assigned types and names to ancient bronze vessels and jades, trying to re-create ancient ceremonies as well, the main aim was not scholarly but ideological. The hope was to reconnect with the Golden Age and legitimize the current rule through its connections with the past. Similarly, the re-creation or imitation of bronze and jade forms in ceramic material and their use first in official ceremonies and then in private life during the time of the Ming (1368–1644) and Qing Dynasties (1644–1912) were closely connected with claims to rank and power.[65] Also in present-day research, no excavation report on material from historic—or often even prehistoric periods—would be complete without a reference to people or objects mentioned in historical texts, the reference serving as an integration of the new material into the traditional story of Chinese history and at the same time proving the learnedness of the archaeologists, and the objects helping to corroborate the historical texts.

The issue of nomenclature and typology of Chinese ritual bronzes and their connection with vessel names mentioned in historical texts is a concern shared by both Chinese archaeologists and Western scholars, most of them coming from an art-historical background. They do usually not mention ideological concerns either, but are mainly focused on questions of style and chronology. In the interest of arriving at chronologically-sensitive types, Western scholars have traditionally relied on stylistic analyses of the décor while largely ignoring changes in vessel form. Robert L. Thorp tried to reconcile both approaches, although with equivocal success.[66] In a first step, he used criteria of

64. For a detailed discussion, consult Lothar von Falkenhausen, *Chinese Society in the Age of Confucius (1000–250 BC): The Archaeological Evidence, Ideas, Debates, and Perspectives* (Los Angeles, CA: Cotsen Institute of Archaeology, University of California, 2006).

65. For a discussion on the connection between bronzes and other antiquities and power, consult Lothar Ledderose, "Der politische und religiöse Charakter der Palastsammlungen im chinesischen Altertum," in *Zur Kunstgeschichte Asiens. 50 Jahre Lehre und Forschung an der Universität Köln*, ed. Roger Goepper, Dieter Kuhn, and Ulrich Wiesner (Wiesbaden: Steiner, 1977), 153–59; and Jessica Rawson, "Jades and Bronzes in Ritual," in *The British Museum Book of Chinese Art*, ed. Jessica Rawson (New York: Thames and Hudson, 1992), 44–83. For a discussion of the use of ceramic and metal replicas of bronzes and jades by scholars and officials during later periods, consult Craig Clunas, "The Art of Social Climbing in the Ming Dynasty," *The Burlington Magazine* 133.1059 (1991), 368–77; and Jessica Rawson "Art out of Art. The Case of the Chinese *Cong*," unpublished paper given on November 22, 2003 at the international symposium "Gelehrtes Treffen im Westlichen Garten—Art in China: Collections and Concepts" in Bonn (2003).

66. Robert L. Thorp, "The Growth of Early Shang Civilization: New Data from Ritual Vessels," *Harvard Journal of Asiatic Studies* 45.1 (1985), 5–75.

form to develop a vessel typology and identify usage types and regional differences in their distribution. Only then did he turn to the question of chronology, relying solely on stylistic changes in the décor to trace developments over time. Chinese scholars tend not to participate in this discussion on style and decoration, but Western art historians by now largely agree on a specific developmental sequence of the décor; the analysis of vessel forms and the names given to the different shapes, however, are much more problematic.

Similar to Li Chi, Thorp classified the vessel forms in a multi-step process, distinguishing first between different foot and body types and then considering secondary features, finally arriving at twelve types that "happened" to coincide with well-established conventional names. As these names and categories were known to the author beforehand, one does of course wonder if that knowledge influenced the forming of the types. Following in the footsteps of Li Chi, Thorp also tried to go beyond the traditional nomenclature by creating new composite type-names (for example, *lei-pou-zun*) in which he believed that multiple names actually referred to different varieties of the same type. Unfortunately, the resultant typology is not completely consistent either. Thorp did not distinguish clearly between the terms "type" and "variety," "typological trait" and "feature," or "kind," "group," and "assemblage." Furthermore, his descriptions of the various types are very impressionistic and unsystematic, and it is not clear what makes a feature secondary or primary and why an object might be a "specialized form" and not a "variety," i.e., an example of a type, as Irving Rouse would define it.[67]

There are several possible reasons for the inconsistencies of the typologies arrived at by Li Chi, Thorp, and other scholars, one of them being the long time span under observation and the relatively late date of the written sources that contain the names used to classify Chinese ritual bronzes. Another problem is the uneven state of publication of material from early Chinese excavations, and the fact that many of the bronzes were not obtained through scientific excavation at all but came from the antiquities market. Typologies based on such patchy data can therefore only be tentative at best. A further problem lies in the nature of the grave assemblages themselves: it was not uncommon to collect heirlooms from different periods in one grave, making it difficult to assign dates to specific types and styles unless the objects themselves carry inscriptions that date them securely. Furthermore, as Alain Thote pointed out, many of the scientifically excavated bronzes were retrieved

67. Rouse, "The Classification of Artifacts in Archaeology."

from particularly rich graves containing exceptional specimens that seem to defy any attempt at classification and typology.[68]

In an English-language publication aimed at bridging the Western and the Chinese debate, the sinologist Li Ling held that the archaeological record provided us with such a great variety of ritual vessels that they could not easily be subsumed under rigid formal categories. He pointed out that the "natural spoken and written language rarely classifies objects according to scientifically stringent criteria."[69] Consequently, systematic classification systems as developed by archaeologists never existed in the past. In his analysis of Chu bronzes, he did not attempt to provide a scientific taxonomy based on form. Instead, he relied on bronze inscriptions on the vessels themselves to try to establish the "correct" vessel-name, i.e., the name that was most likely in common use during the time of manufacture. He argued that "vessel names contain important cultural information: at a conceptual level, they help us to realize which of the numerous typological features the makers regarded as relevant. Proper lexical knowledge also informs us as to what sorts of vessels were to constitute one set, as well as providing us with some idea about their probable function."[70]

Li Ling did not claim that this epigraphic approach would allow him to provide a full coverage of all occurring types and subtypes. Instead, he used the vessel names merely as headings under which the various forms and functions could be discussed. This allowed him to incorporate changes over time as well as regional and social differences, pointing out the interplay between local trends and supra-regional cultural unification as reflected in the Chu bronzes. Instead of trying to appease the contradictions inherent in vessel nomenclature, Li Ling used these discrepancies to throw light on contradicting tendencies in past societies. With this approach, he came very close to fulfilling the aim of classification as formulated by K. C. Chang, namely to "understand ancient life through the classification past humans made."[71] Although this may be a solution in the case of objects accompanied by a sufficiently ample textual record, it does not address the basic archaeological concerns of how to approach the vast amounts of prehistoric material coming to

68. Alain Thote, "Continuities and Discontinuities: Chu Burials during the Eastern Zhou Period," in *Exploring China's Past: New Discoveries and Studies in Archaeology and Art*, ed. Roderick Whitfield and Wang Tao (London: Saffron Publishing House, 1999), 190.

69. Li Ling, "On the Typology of Chu Bronzes," *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 11 (1991), 67.

70. Li Ling, "On the Typology of Chu Bronzes," 68.

71. Zhang Guangzhi, "Kaogu fenlei," 64.

light in China on a daily basis, and how to connect them to past cultural and social developments. This issue requires further discussion.

Discussion

As K. C. Chang wrote in 1967, "It is reasonable to estimate that 80 or 90 percent of an archaeologist's time and energy is spent in classifying his material, the remaining 10 or 20 percent being consumed in doing something intelligent and useful with the resultant categories."[72] To Western eyes it seems as if Chinese archaeologists are often stuck in the process of classification itself. Absorbed in masses of data, one does indeed easily forget that classification is not an end in itself, but only the first step in a two-part process: it situates the material in time and space in order to provide a basis for inferences on past human behavior. To ensure that the time consumed in classificatory work is well spent, we must first clearly state the aim and underlying assumptions of our typologies and make clear their potential as well as their limitations. Only then does it become possible to arrange our material in a meaningful way.

On the issue of the aims of typology, Western archaeologists are basically split into two "camps." One camp believes that typologies are arbitrarily imposed by the researcher and only a means of ordering the material,[73] preferably in a chronologically meaningful way.[74] The other camp believes that we can discover culturally-salient types that tell us about the underlying conceptual system of the artisan.[75] This discussion on the "emic" vs. "etic" significance of typologies was the essence of the Ford–Spaulding debate in the 1950s, in which Albert Spaulding claimed that the aim of classification in archaeology should be the discovery of attributes relevant to the makers, while James Ford held that it was impossible to attain such an emic perspective.[76] Spaulding emphasized that each project needed its own classification system and that statistical techniques were the most useful tool to discover recurring combinations of attributes that had been important to the makers and users of the objects under analysis. Ford argued, in contrast, that archaeological cultures were an arbitrary construct and that statistical analysis could never reliably discover the patterns of

72. Chang, *Rethinking Archaeology*, 71.

73. For example, Brew, "The Use and Abuse of Taxonomy."

74. For example, Adams and Adams, *Archaeological Typology and Practical Reality.*

75. For example, Read, *Artifact Classification*; Rouse, "The Classification of Artifacts in Archaeology."

76. Spaulding, "Statistical Techniques for the Discovery of Artifact Types"; Ford and Haynes Steward, "On the Concept of Types."

thought in the minds of the ancients, as cultural change was not regular and gradual but prone to jumps and unpredictable factors. Spaulding replied that he had not claimed that statistical tests would automatically produce emic types but just significant clusters of attributes that then had to be interpreted by the archaeologist in a three-level scheme of types, only the last of which would finally show functional types. In reality, the two scholars were talking past each other because they had very different aims in mind: Spaulding wanted to discover patterns of co-variation of attributes that would help him to understand a particular past group, while Ford concentrated on continuous variation over space and time that would help him to establish a spatial-temporal framework for his area of research.[77] In pointing this out, Willey and Phillips argued that the two positions were not completely antagonistic. They held that all archaeological types were "likely to possess some degree of correspondence" to past norms of how to make a specific artifact, and that increasing the correspondence between etic and emic types "must be the constant aim of typology."[78]

Although not as fiercely discussed, Chinese archaeologists do not agree on the conceptual point of emic versus etic perspectives in classification either. While most assume that they can arrange the archaeological material in a meaningful way that naturally emerges from the material itself and reflects past cultural developments, Li Chi held that classification is only a systematic way of ordering the material by mechanically applying measurements and nothing more. If what Li Chi presented was really only an imposed typology, one would expect it to be completely schematic and free of contradictions. Instead, Li Chi had to contend with considerable inconsistencies. Thus he did not arbitrarily impose a classification system, but extracted it from the material itself, although in a rather impressionistic way. The same holds true for Su Bingqi, who did not specify why he categorized some form features as "basic" and thus type-defining and others as secondary.

While Li Chi did not venture to interpret his typologies in cultural terms, Su Bingqi held that his classification system helped distinguish between broad functional classes, types showing different trajectories of development, and varieties delineating chronological sequences. His scheme was able to trace regional differences as well as chronological developments, thus fulfilling one of the main goals of Chinese archaeology: to construct a fixed typological and chronological

77. Read, *Artifact Classification*, 7–62; Charles Robin Ewen, *Artifacts, Archaeologist's Toolkit* (Walnut Creek, CA: AltaMira Press, 2003), 69–71.

78. Gordon R. Willey and Philip Phillips, *Method and Theory in American Archaeology* (Chicago: University of Chicago Press, 1958), 13.

framework and reconstruct the ancient history of China. Considering the nearly unmanageable richness of the Chinese archaeological record, this focus on classification is very understandable but also bears with it a considerable danger. Absorbed in these masses of data, one can easily get lost in the classification work, forgetting that it is not an end in itself. An additional problem is the often insufficiently published data. Although typological analyses conducted during recent years can draw on increasingly better data sets, chronological problems are furthermore still largely unsolved for much of the archaeological material, especially for the so-called border regions of China.

So, how can we determine types if we do not even have well-defined cultural and temporal units to analyze? This is what Read labeled the double-bind problem characterizing analytical and especially quantitative approaches: these methods require a homogenous dataset that is already "dissected by precisely the dimensions our analysis is aimed at delineating."[79] The two most common solutions, which are often used in combination, are to start from single assemblages that can be assumed to be spatially, culturally, and temporarily less heterogeneous, and/or to start sorting according to the most obvious qualitative criteria in an impressionistic way to attain preliminary descriptive types, which can then be modified by statistical or other means and/or by the addition of new data. Su Bingqi chose the first alternative, starting from small, local developments, and then comparing the local typologies on the regional level to establish regional typologies related to temporal and spatial parameter. This is a very ambitious undertaking that can only be realized if the typological methods applied are adequate to furnish reliable results.

So what should such typological methods look like? Both Li Chi and Su Bingqi sorted their material in an impressionistic way, proposing to choose the most obvious qualitative criteria to attain preliminary descriptive types, which can then be modified by statistical or other means and/or by the addition of new data. According to Adams and Adams, this approach would be completely appropriate, as these initial types, "disclosed by intuitive gestalts … are usually unaffected by any conscious sense of purpose."[80] This claim, however, is rather problematic, because we are inevitably guided by the aims we have in mind as well as by other typologies we have knowledge of, including the "folk classifications" we employ in our own daily life and culture context.

79. Read, *Artifact Classification*, 304.
80. Adams and Adams, *Archaeological Typology and Practical Reality*, 58.

Being aware of this dilemma, how can we make the initial classification more deliberate and less intuitive? Taking into account all possible variables, as suggested by Sabloff and Smith, is intrinsically impossible, but even maximizing the number of variables will not necessarily lead to more clearly distinguished groups but may actually lead to greater fuzziness.[81] Creating a mathematical representation of the object outline is even less helpful, given the natural variation of handmade products as well as the fragmentary nature of many artifacts and the archaeological record as a whole.[82] A more reasonable goal is to compile a "nonredundant and sufficient list of variables whose measurement values completely characterize a given shape," as both Li Chi and Su Bingqi attempted to do.[83] The nature of these necessary measurements naturally varies widely between different assemblages, as well as between different kinds of raw material. Considering the physical restrictions of a given material type and the associated production process helps to understand which aspects would have been under the control of the artisan, thus allowing for the identification of the aspects of an object that had cultural salience to the maker.[84] By looking at different steps in the manufacturing process, Li Chi already applied a similar method to stone tool assemblages, which are particularly suited for such an approach; but his main aim was to identify half-products and reworked specimens, not to assess cultural salience.

More recently, Leng Jian and Charles L. Shannon applied a similar *châine opératoire* approach to Early Paleolithic material from China and India.[85] Jian and Shannon pointed out that in classification and nomenclature, morphological attributes and typologies are easily conflated with supposed functions. To meet this problem, they developed a set of rules for stone-tool manufacturing and then considered culturally-determined reduction techniques and specific sequences of stages in the production process. From this reduction sequence, they built a replicative system that addressed the interaction between the technological skills of the knapper, the knapping tools, the debitage, and the restrictions inherent in the raw material. In a next step, they built a dendrogram of production sequences that allowed them to identify the production stage reflected in

81. Jeremy A. Sabloff and Robert E. Smith. "The Importance of Both Analytic and Taxonomic Classification in the Type-Variety System," *American Antiquity* 34.3 (1969): 278–85; Read, *Artifact Classification*, 306–9.

82. Joan Gero and Jim Mazzullo, "Analysis of Artifact Shape Using Fourier Series in Closed Form," *Journal of Field Archaeology* 11.3 (1984), 315–22.

83. Read, *Artifact Classification*, 156.

84. Read, *Artifact Classification*, 197.

85. Jian Leng and Charles Shannon, "Rethinking Early Paleolithic Typologies in China and India," *Journal of East Asian Archaeology* 2.1–2 (2000), 9–35.

specific artifacts and assemblages in relation to raw-material quality. This provides them with a standard basis for comparison among various traditions of stone knapping, thus enabling them to evaluate the technological sophistication; this in turn throws light on more complex matters such as cognitive developments in early prehistory.

Lithic material is worked in a purely reductionist technique that is very much preconditioned by the material used and can be easily reconstructed in experimental archaeology. It is therefore especially suitable for developing general rules and working out the original production sequence. But the *châine opératoire* approach could also be helpful for other objects because, as Lothar von Falkenhausen has pointed out, every step taken in the production process of any object prefigures and at the same time limits the next.[86] At least rudimentarily, Li Chi has already made use of this approach in his evaluation of ceramic sherds starting from a decision-making tree similar to the one developed by Rouse (material –> shape –> decoration => several different types).[87] Chance, individual quirks of the artisan, his physical capacities, the environment, and elements of culture will influence the artisan's procedure.[88] According to Rouse's model, cultural and non-cultural factors alike influence the individual artisan at different points in the production process but do not completely determine his action, as there are also the elements of personal choice, individual interaction, and pure chance. Therefore, even for lithic material, there always remains a certain "noise" in the process that does not fit into a rigorous, explanatory scheme. Nevertheless, as Yu Weichao proposed, we should first try to systematize our ideas about the interplay the actual form of an artifact of a certain kind might have with raw material, production technique, intended usage, living or production environment, aesthetic or cultural concepts, and psychological factor.[89] This can help to filter out some of the "noise," or at least explain it.

How we proceed from here depends very much on the kind of information we wish to obtain. Read argued that if we simply want to "provide a classification of the material we recover as a way to organize a large corpus of materials, then an imposed order might be appropriate."[90] Similarly, K. C. Chang held that we could conduct classification merely for descriptive purposes and that this can be done without

86. Von Falkenhausen, "On the Historiographic Orientation of Chinese Archaeology," 845.

87. Rouse, "The Classification of Artifacts in Archaeology," 314, fig. 1.

88. Irving Rouse, *Prehistory in Haiti: A Study in Method* (New Haven, CT: Yale University Press, 1939), 18–19.

89. Yu Weichao, "Guanyu 'kaogu leixingxue' wenti," 7.

90. Read, *Artifact Classification*, 31.

regard to the cultural context.[91] However, as Li Chi's problems in making such imposed classifications have shown, the material is stubborn and cannot necessarily be bent in a way that would be most practical for the researcher. This leads back to the debate between the emic and etic interpretations of classification systems that at least among Western scholars continues today, partially because these terms are interpreted differently by different scholars. Adams and Adams, for example, define emic types as reflecting the "mind-set of makers and users," and criticize the search for such types as an unattainable goal.[92] Read, on the other hand, argues that emic means "culturally salient," i.e., reflecting "shared notions of what constituted appropriate morphological form."[93] K. C. Chang made a similar point when arguing that typologies should aim at trying to find those categories that "approximate the natives' own thinking about how the physical world is to be classified, *consciously or unconsciously*, explicitly or implicitly, within which framework they accordingly act," which is not the same as trying to replicate the classification system that past people may have used.[94] There is a subtle difference between the statements by Chang and Read quoted here: Chang refers to the natives' classification of objects, while Read and also Rouse discuss conceptualizations involved in the production of the objects. However, they both agree that the goal should not be to determine the classification system used in the past, but to find out about the kinds of distinctions they acted on, be it on existing objects or processes producing these objects.[95]

A good case in point is Chang's comparison of the standard archaeological classification for Chinese bronzes and the terminology used in the inscriptions on the vessels themselves. As described above, Chang showed the former to be very systematic and fine-grained, while the latter is much more coarse and self-contradictory. As research on so-called folk classifications has shown, the definition and nomenclature for different objects can vary from artisan to artisan and from user to user; even if recoverable, the classifications in use in a given society at any given time are therefore neither likely to be systematic nor necessarily helpful for research into any underlying social structures or behavioral patterns.[96] Trying to enter the heads of ancient people through the

91. Chang, *Rethinking Archaeology*, 71.
92. Adams and Adams, *Archaeological Typology and Practical Reality*, 283.
93. Read, *Artifact Classification*, 74 and 249.
94. Chang, *Rethinking Archaeology*, 78, emphasis added.
95. Personal communication, Dwight Read.
96. Willett Kempton, *The Folk Classification of Ceramics: A Study of Cognitive Prototypes* (New York: Academic Press, 1981).

classification of artifacts therefore seems to be neither an achievable nor a useful task. It does not follow, however, that all archaeological typologies are arbitrary. After all, objects have undeniable physical properties that are the basis as well as the control for any typology. Furthermore, as artifacts are the outcome of actions in the past, object forms and features should allow for inferences on past human behavior. K. C. Chang's claim that culturally-meaningful typologies can be constructed based on physically observable differences, simply because that was also how past humans discriminated among them, is therefore very reasonable.[97] Although we will never be able to know or understand the actual thoughts of ancient people, it is nevertheless possible to use typologies as "an organizational tool which will enable the investigator to group specimens into bodies which have demonstrable historical meaning in terms of behavior patterns," in the words of Krieger's definition of the purpose of classification in archaeology.[98] Thus, classifications are useful and necessary tools for ordering material remains and for conducting further analyses on them.

The problem remains that a large number of possible typologies are attainable solely from the physical properties of the entities under analysis. This perplexing phenomenon is largely due to the complex nature of artifacts, whose final form, function, and place of deposition are influenced by a large number of different factors ranging from material constraints and practical considerations of usability and labor expense to group-specific or culture-specific expectations as well as the personal abilities and decisions on the part of the artisan. To expect one single typology to reflect all of these aspects is not realistic. Depending on the aim of the analysis, the material can be arranged in different ways, each highlighting the morphological features relevant to a given study. A good case in point is K. C. Chang's comparison between various possible classifications of Chinese bronzes. They could be classified simply for descriptive purposes, or they could be arranged "into types and modes, which can be shown to be distributed in time and space for the purpose of tracing the histories of individual types of artifacts, both within a single cultural tradition and among diverse cultural traditions"; or, together with other archaeological material, they might be classed "into types that, when intercalculated, indicate the organization of the culture in question."[99] Brew therefore demanded that we should use a broad range of different classifications: "A group of

97. Chang, *Rethinking Archaeology*, 228.

98. Alex D. Krieger, "The Typological Concept," *American Antiquity* 9.3 (1944), 272.

99. K. C. Chang, *Shang Civilization* (New Haven, CT: Yale University Press, 1980), 26–27.

objects to be studied must be classified in a number of different ways depending upon the information the student wishes to obtain, and generally, the classes will not coincide."[100]

Here Li Ling's analogy to languages is very helpful: "Like speakers of a natural language, whose use of a terminology often lacks perfect precision, Bronze Age artisans, in fashioning vessels, did not allow themselves to be overly restricted by the prevalent canon of shapes."[101] Likewise, we should not feel too restricted by the classifications we develop but react with flexibility to any discrepancies or contradictions that necessarily will occur. As Li Ling points out, we should not assume that such a systematic classification system, as archaeologists like to "reconstruct" it from the material record, ever existed, even though we still do need one or several of them that help us order our material, assumptions, and conclusions. The outcome might not be one "right" nice and orderly classification but may require several of them, accompanied by outlines of *châines opératoires*, that together allow us to systematize our knowledge but simultaneously make us aware of the fact that no rigid formal categories can ever completely mirror the actual "fuzziness" of reality, nor should it, for ideally one is the reflection of the other.

中國考古學的類型學問題

安可

提要

中國與西方的考古學家—特別是那些以研究人類學為目標的學者—在他們的論著中, 經常出現各自表述的情況。除了使用不同的語言發表研究成果外, 更根本的原因在於, 中國與西方的考古學家有其各自獨特的理論框架與研究方法。時至今日, 儘管大部份以西文書寫的重要理論已被譯為中文, 然而, 以中文書寫的理論與方法卻鮮少有英文譯本。本文的目的, 是希望透過向西方的讀者介紹中國考古學研究方法的歷史, 尤其是類型學與分類學的爭辯與發展, 期待能在中西兩造學術傳統的鴻溝中, 搭建溝通的橋樑。本文介紹李濟、夏鼐、蘇秉琦, 與張光直等四位最具影響力的中國考古學家, 藉由回顧他們的研究取徑與問題意識, 深入檢視中國考古學的基本研究預設。在此基礎上, 本文也將提供建言, 指出中國及西方考古學家未來可能的工作方向。衷心期盼隨著愈來愈

100. Brew, "The Use and Abuse of Taxonomy," 46.
101. Li Ling, "On the Typology of Chu Bronzes," 71.

多重要考古遺存的發現, 中國考古學能超越分類學的傳統, 走出嶄新的道路。

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分類學, 類型學, 中國, 考古學史