

Corpus-Based Study on The Translation of Farming Tools in The Book of Songs

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Abstract

As the earliest collection of poems in China, *The Book of Songs* contains rich agricultural cultural information, among which the records of farming tools are of great significance for studying the agricultural development in the Zhou Dynasty. With the overseas dissemination of *The Book of Songs*, the translation of the names of its farming tools has become an important subject in cross-cultural research. Based on the established corpus of *The Book of Songs*, this paper conducts a specific analysis of the translations of farming tools in multiple vernacular Chinese versions and English versions. The study finds that existing translations have problems such as confusion in the evolution of tool ages, neglect of differences in utensil shapes, and lack of culturally specific connotations. To address these issues, this paper proposes that vernacular Chinese translations can adopt the method of “original character + annotation” or free translation that takes both function and shape into account; English translations can combine transliteration with functional description or use words that reflect their characteristics. These approaches aim to more accurately convey the cultural connotations of farming tools in *The Book of Songs*, providing a reference for the translation research and international dissemination of farming tools in *The Book of Songs*. The research provides empirical evidence for the accurate translation of farming tool names in *The Book of Songs*, promotes the cross-cultural communication of pre-Qin agricultural culture, and establishes a methodological reference for the translation practice of ancient Chinese scientific and technological terms.

Keywords

The Book of Songs; Farming tools; Vernacular translation; English translation; Corpus.

1. Introduction

As the earliest collection of poetry in China, *The Book of Songs* not only has literary value, but also contains rich agricultural cultural information, records the farming tools of the Zhou Dynasty, and has popular science value. With the overseas spread of *The Book of Songs*, how to accurately translate the names of farm tools has become an important issue in cross-cultural research. This paper reviews the research on the vernacular translation and English translation of farming tools in *The Book of Songs* in recent years, sorts out the problems existing in its translation, and puts forward solutions, in order to provide reference for the current translation research of farming tools.

2. Literature Overview

As an encyclopedia of ancient Chinese agricultural society, *The Book of Songs* contains farming culture, which is an important window to understand the agricultural development in the pre-Qin period. The purpose of this literature review is to sort out the achievements of predecessors in the study of farming tools in *The Book of Songs* in recent years, analyze the shortcomings of

existing research, and then clarify the research value and innovation points of the new paper in this field.

Xu Wenjing and Fang Ming analyzed the shape and function of farm tools in *The Book of Songs*, and interpreted farm tools from the perspective of agricultural culture, and explained the connotation of agricultural culture contained in them from two aspects of material culture and institutional culture [1]. Li Linying divided agricultural production tools into land preparation, harvesting, warehousing and transportation, and divided agricultural production behavior into three categories related to land preparation, planting and collection, and discussed its horizontal semantic relationship. Through the statistics of its occurrence in *The Book of Songs*, it is concluded that the agricultural production tools at that time reached a certain level, warehousing plays an important role in agricultural activities, and relatively complete agricultural production behavior promoted the development of agriculture [2]. Chen Chaoxian introduced the cutting tools, soil digging tools, weeding tools, harvesting tools, storage tools, agricultural transportation tools and labor protection tools in *The Book of Songs* one by one [3]. Starting from the differences of previous people, Li Xinyu analyzed the name, function, characteristics and application scope of agricultural tools [4]. Xia Tong found that the three methods of literal translation, free translation and transliteration with annotation are suitable for the English translation of agricultural tools [5]. Although these documents have played an indispensable role in the classification and summary of farming tools in *The Book of Songs*, and also provided strong literature support for the study of farming tools in the Zhou Dynasty, there is still a lack of research on the English translation and vernacular translation of farming tools in *The Book of Songs*.

Based on the 11 translations, this paper establishes a corpus of *The Book of Songs*, which helps later scholars to understand the English translation and vernacular translation of farming tools in *The Book of Songs* more comprehensively, clearly and concisely, and promotes the international exchange and dissemination of *The Book of Songs*. It also provides an important basis for the preservation and change of farming tools in the Zhou Dynasty.

3. A Specific Analysis of the Translation of Farming Tools in *The Book of Songs*

“耜” appeared five times in *The Book of Songs*, respectively, “三之日于耜，四之日举趾。”“以我覃耜，俶载南亩”“有略其耜，俶载南亩。”“良耜”“畎畎良耜，俶载南亩”。In the corpus, the vernacular and English translations are found as follows :

Table 1. Vernacular Chinese versions and English versions of 耜 Across Different Corpus

	陈小辉译	程俊英译	许渊冲译	凌天明	曲黎敏译
三之日于耜，四之日举趾	农具	农具	无对应译文	田具	农具
以我覃耜，俶载南亩	无对应译文	犁	犁	犁	无对应译文
良耜	无对应译文	良耜	良耜	良耜	无对应译文
畎畎良耜，俶载南亩	无对应译文	犁头	犁头	犁头	无对应译文
有略其耜，俶载南亩	无对应译文	犁头	犁头	农具	无对应译文

	Bernhard Karlgren	Arthur Waley	Stephen Owen	Legge	Zhao Yanchun	Xu Yuanchong
三之日于 耜，四之日 举趾	plough	plough	No corresponding translation	plough	farming tool	No corresponding translation
以我覃耜， 俶载南亩	plough- shares	plough	No corresponding translation	plough- share	plough- share	No corresponding translation
有略其耜， 俶载南亩	ploughs	shares	plowshares	plough- shares	plough	plough
良耜	Liang s	Very Sharp	No corresponding translation	L?ang sze	The Keen Plough	Hymn of Thanksgiving
耒耜良耜， 俶载南亩	ploughs	shares	No corresponding translation	shares	plough	plough-shares

It can be seen from the chart that, except for the untranslated part, “耜” is translated into “犁”“犁头”“农具” in the vernacular translation, and plow, share, plow-share and farming tool in the English translation. “耜” is an important agricultural production tool in ancient China during the Western Zhou Dynasty. It was first seen in *Shi Jing · Minor Odes · Da Tian (The Large Fields)* and other chapters. 以耜之上端曲木柄叫耒,以耒之下端锋刃叫耜 [6]. The original 耒 was a two-toothed earth-excavating agricultural tool and was made of tree weights, and later developed into a bronze 耒. There is a bronze 耒 of the Western Zhou Dynasty in the Shanghai Museum, which is 16.8 centimeters long and 6.8 centimeters in pitch. The shape is like a branch, a flat tooth, and a square hole [7]. According to the record of *Shuo Wen Jie Zi*: “耜，耒也。” [8]. It is a shovel-shaped device made of wood or bronze, which is installed at the front end of “耒”（手柄） for turning soil and sowing. It belongs to the human-operated Leisi composite tool system, which is essentially different from the “犁” in the later cattle farming era. In the Western Zhou Dynasty, there was no mature animal ploughing technology, so the core function of “耜” was manual ploughing, rather than “犁” relying on livestock traction. The ploughing technology of “犁” was popularized after the Spring and Autumn Period and the Warring States Period. In the Western Zhou Dynasty, “犁” was not a plough, which confused the evolution history of tools, so it was not advisable to translate it into “犁”. “犁头” has the same problem, and “犁头” is attached to the plow, while “耜” can be used independently as the soil-breaking part of “耒耜”. Although the definition of farm tools is accurate, it is too general and loses the cultural information of “耜” as a specific form of farm tools, which cannot reflect its historical uniqueness. Plough corresponds to the core tool of Western agricultural culture. Similar to the era error of “犁”, the animal traction mode of Western plough is completely different from the human operation of “耜”. Share refers to “犁铧” (the soil-breaking part of the 犁), which is still based on “犁”, and share is a metal ploughshare, which is significantly different from the material and shape of the wooden bronze 耜 in the Western Zhou Dynasty. “Plough-share” emphasizes the function of components, and its essence is still “犁铧”, which is not separated from the conceptual framework of “犁” and cannot correspond to the Leisi system. Farming tool, similar to the vernacular “农具”, lacks cultural specificity and is difficult to convey the characteristics of farming tools in *The Book of Songs* era.

Vernacular translation can be translated into 耒耜（或耜）+ annotation, directly retaining the word “耜” and adding annotations (such as ancient earth-moving agricultural tools, similar to shovels, installed on 耒 for use), which not only avoids translation errors, but also retains the original terminology. If free translation is necessary, it can be translated into “翻土铲”, taking into account both function and shape. The English translation can be translated as leisi （耒耜）+ a spade-like soil-turning tool in ancient China. Transliteration leisi is used to retain cultural symbols, supplemented by functional description (shovel-like earth-moving tool). If it needs to be integrated into the English farming tool system, it can be translated as a primitive spade for tilling, emphasizing its early stage with primitive, and spade is close to its shovel shape to avoid the misleading of the plough series.

Table 2. Vernacular Chinese versions and English versions of 钱耨 Across Different Corpus

	陈小辉译	程俊英译	许渊冲译	凌天明	曲黎敏译
命我众人，庤乃钱耨	无对应译文	锄	农具	农具	无对应译文
命我众人，庤乃钱耨	无对应译文	锹	农具	农具	无对应译文
其笠伊纠，其耨斯赵	无对应译文	锄	锄头	锄头	无对应译文

	Bernhard Karlgrén	Arthur Waley	Stephen Owen	Legge	Zhao Yanchun	Xu Yuanchong
命我众人， 庤乃钱耨	spade	spade	No corresponding translation	spud	spade, spud	spud
命我众人， 庤乃钱耨	hoe	hoe	No corresponding translation	hoe	spade, spud	hoe
其笠伊纠， 其耨斯赵	hoe	hoe	No corresponding translation	hoe	hoes	hoe

“钱” appeared once in *The Book of Songs*, that is “命我众人，庤乃钱耨，奄观铎艾”。“耨” appeared twice in *The Book of Songs*, namely, “命我众人，庤乃钱耨，奄观铎艾” and “其笠伊纠，其耨斯赵，以薅荼蓼”。

By looking up the corpus, it can be seen that “钱” is translated into “锄” and “农具” in vernacular Chinese. “耨” is translated into “锹”“锄”“锄头”“农具” in vernacular Chinese. In the English version, “钱” is translated as spade and spud. “耨” is translated as hoe , or “钱耨” is translated as spade, spud and so on. *Chen Gong (To the Officers of Agriculture)* said that “庤乃钱耨，奄观铎艾”。According to *Shuowen Jiezi*, “钱，铎也，古田器。[8]”“钱（铲）整个形状比较小，刃口较窄，轻小灵便，这方面要优于耨。至于耨（锄），比起钱来要大，刃口较宽。《吕氏春秋·任地》：“耨柄（柄）尺，耨六寸。”。Gao You note said : “blade width six inches”. The direction of force is different from that of 钱 钱 is forward force, that is, push ; 耨 is backward usage, namely pull. These determine the difference in the location of their attire. From the handed down and archaeological excavations of the bronze shovel, the shovel body is generally rectangular with shoulders and heads, and the handle kettle hole is at the head of the middle of the top of the shovel, with vertical down. The blade of the hoe is wide, the body is close to the square, and the upper plane of the hoe without shoulder is perforated to insert the hoe handle horizontally. There are also differences in the parts of the handle between the hoe handle and the hoe body, which is in line with their respective force directions.

钱 refers to the small shovel-type farm tools in the Western Zhou Dynasty, which are suitable for the inter-tillage of weeding in the furrow field. When used, the handles are held in both

hands and pushed horizontally from the inside of the Huai. *Erya Shi Qi: Explaining Utensils* recorded that “耨，鋤也。[9]” From the unearthed cultural relics, “耨” is a bronze flake tool with a slightly curved blade and a long handle, which is used for hoeing and crushing soil. The shape is closer to the later “鋤头”, but the blade of the early “耨” is narrower and more suitable for fine farming, forming a tool combination with the wide-edged shovel of “钱”. The “耨” was designed as a long-handled weeding tool after the Tang and Song Dynasties. The “耨” in the Western Zhou Dynasty was short-handled and focused on shoveling soil, with significant differences in shape. The “农具” cannot reflect the characteristics of the specific shovel-shaped farm tools in *The Book of Songs*. At the English translation level, spade corresponds to the Western shovel-like tool (wide blade). Spade usually refers to the long-handled shovel, which is suitable for digging soil, and does not fully match the short-handled weeding function of “钱”. Spud, especially a small digging tool, refers to potato diggers in English, with specific crop associations, which weakens the universality of “钱”. In the vernacular translation of “耨”, shovel emphasizes that the digging function of the tool is characterized by deep digging with straight edges, while the arc edge of “耨” is more suitable for digging and breaking soil. “耨/鋤头”, close to the tool cognition of later generations. Similarly, the long-handle shape of “耨” has not been popularized in the Western Zhou Dynasty, and there is an era error. The “农具” are safe, but lack of cultural specificity. Hoe, corresponding to Western hoe tools (curved blade). In English, hoe usually refers to a long-handled hoe, which is inconsistent with the possible short-handled shape of “耨” in the Western Zhou Dynasty (it needs to be restored in combination with the length of archaeological handle). The translation of “钱耨” into spade, spud, “钱” as shovel and “耨” as hoe is easy to cause ambiguity of tool type.

The reasonable translation of “钱” in vernacular Chinese is preferred to “钱（铲）” + annotation, and the original word is retained and the annotation “古代短柄铲状农具，用于除草松土” is added, which not only respects the original terminology, but also supplements the functional description. The second choice is “松土铲”, which is defined by function + shape to avoid the misleading of “耨”. The reasonable English translation of “钱” qian (transliteration) + “a short-handled spade for weeding” is preferred. Transliteration retains cultural symbols, and functional description (short-handled spade) corrects the long-handled deviation of spade. The second choice is weed-spade, and the compound word emphasizes the weeding function and is close to the use scenario of “钱”. In the reasonable translation of “耨”, the vernacular preferred “耨（鋤）” + annotation, retaining the original word and stating that “古代弧形刃耨类农具，用于碎土”, which is distinguished from the long handle hoe of later generations. The second selection was “碎土耨”, which was defined by function, highlighting its division of labor with “钱” (“钱” weeding, “耨” broken soil). English preferred bo耨 + a curved-blade hoe for soil-breaking, that is, transliteration + functional description (curved blade hoe), to correct the possible shape error of hoe. The second choice is soil-breaker, which weakens the form of tools and avoids the cognitive interference of Western farm tools system by functional translation.

When “钱耨” is mentioned together, it is suggested to translate it into jian钱 and bo耨 (ancient spade and hoe), emphasizing the times with ancient, and adding functional free translation in brackets, which not only reflects the combination of tools, but also retains their respective characteristics. When there is no fully corresponding ancient Chinese farm tools in the Western farm tool system, the principle of functional description and morphological correspondence is adopted. For example, “钱” does not pursue the complete consistency with the shape of spade, but emphasizes the functional matching of weeding.

Table 3. Vernacular Chinese versions and English versions of 耜艾 Across Different Corpus

	陈小辉译	程俊英译	许渊冲译	凌天明	曲黎敏译
奄观耜艾	无对应译文	镰	镰刀	收割	无对应译文

	Bernhard Karlgrén	Arthur Waley	Stephen Owen	Legge	Zhao Yanchun	Xu Yuanchong
奄观耜艾	sickle	sickle and scythe	No corresponding translation	sickle	sickle	Sickle

They only appeared once in *The Book of Songs*, that is, “命我众人，庤乃钱镈，奄观耜艾”. By consulting the corpus, it can be seen that “耜艾” is translated into “镰”“镰刀”, and the English translation is “sickle”, “sickle and scythe”. In *Shuowen Jiezi*, “耜，获禾短镰也。[8]”. “耜” is a tool used to harvest crop ears. In the early stage, “耜” was not perforated. Later, in order to facilitate the use of grip, two-hole tethering was worn on Zhi. After the development of the bronze smelting industry, a variety of forms of Zhi have been developed, such as double-hole stone knife-shaped copper Zhi, double-hole shell-shaped copper Zhi, wood-backed copper Zhi, and bone-backed copper Zhi. There are also differences in their morphological use. For example, in 1953, a copper nephew of the Western Zhou Dynasty was unearthed in Hong 'an County, Hubei Province. The original double-hole copper knife was flat and slightly rectangular, with a long side as a blade and a long side as a back slightly thick. There are two holes in the middle of the back, with a length of 6 and a width of 3.5 cm [10]. “艾” as a noun in *The Book of Songs*, meaning “刈”, , refers to the harvesting tool. *Erya Shi Qi (Explaining Utensils)*: “刈，镰也。[11]”. The pre-Qin bronze sickles that have been unearthed are mainly divided into two categories: non-porous sickles and porous sickles [10]. The “艾” should be a long-handled sickle with a long blade, which is used to harvest the stem of the crop. The shape is closer to the common sickle of later generations, which is complementary to the short-blade picking function of “耜”. In the Western Zhou Dynasty, “艾” may be stone or bronze, with a stem length of about 1.5 meters, which is convenient for standing and harvesting. “耜艾” is translated as “镰/镰刀”, which confuses tool differences. “耜” is a short-blade snapping tool, and “艾” is a long-stem cutting tool. The combined translation of sickle blurs the division of labor between the two in the harvesting process. Sickle corresponds to a short stalk (such as Zhi), but ignores the long stalk feature of “艾”. Sickle usually refers to a short stalk (stalk length less than 30cm), which conflicts with the long stalk (1.5m) of “艾”. Sickle and scythe distinguishes between short sickle and long sickle, but scythe specifically refers to the long-stalked big sickle in English.

The preferred scheme for the vernacular translation of “耜艾” is “耜（摘穗刀）艾（长柄镰）” + annotation, retaining the original word and attaching a functional description: Zhi is a short-edged ear picking tool, Ai is a long handle cutting stem sickle, which is used in combination with agriculture in the Western Zhou Dynasty, which not only respects the literature terminology, but also clarifies the division of labor through the definition of brackets. The second option is “摘穗镰与割茎镰”, which is translated in function + form, highlighting the picking ear characteristics of “耜” (different from the cutting stem of ordinary sickle), and strengthening the details of agricultural technology. The preferred scheme for English translation optimization is “zhi 耜 (ear-picking sickle) and ai 艾 (long-handled reaper)”. Transliteration retains the cultural symbols of the original words, and functional translation is added in brackets: ear-picking sickle accurately corresponds to the ear picking function of “耜”, which is different from the stem cutting function of ordinary sickle. Long-handled reaper emphasizes the grain harvesting scene with reaper and corrects the forage harvesting association of scythe.

The second option is “the zhi-ai 耜艾 set : short sickle for ears and long blade for stems”. Treating “耜艾” as a tool combination and explaining the division of labor with a colon clause is suitable for the context of emphasizing the agricultural technology system. When “耜艾” needs to be translated in parallel with “钱镈”, such as the parallelism of the original agricultural tools, it is recommended to use “zhi耜ai艾(ancient ear-picker and reaper)”, use “ancient” to emphasize the times, and form a tool chain corresponding to “spade and hoe” of “钱镈” through “ear-picker” and “reaper”, so as to maintain the systematic translation of the terminology of agricultural tools in *The Book of Songs*.

Table 4. Vernacular Chinese versions and English versions of 斧 Across Different Corpus

	陈小辉译	程俊英译	许渊冲译	凌天明	曲黎敏译
析薪如之何？匪斧不克	斧头	斧头	无对应译文	斧头	无对应译文
墓门有棘，斧以斯之	斧头	斧头	斧子	斧	无对应译文
蚕月条桑，取彼斧斨	斧头	斧头	无对应译文	斧头	斧
破斧（标题）	斧	斧	无对应译文	斧	无对应译文
既破我斧，又缺我斨	战斧	斧头	无对应译文	战斧	无对应译文
既破我斧，又缺我锜	战斧	斧头	无对应译文	战斧	无对应译文
既破我斧，又缺我鍬	战斧	斧头	无对应译文	战斧	无对应译文
伐柯如何？匪斧不克	斧头	斧头	斧子	斧头	斧子

	Bernhard Karlgren	Arthur Waley	Stephen Owen	Legge	Zhao Yanchun	Xu Yuanchong
析薪如之何？ 匪斧不克	axe	axe	No corresponding translation	axe	axe	No corresponding translation
墓门有棘，斧 以斯之	axe	axe	No corresponding translation	axe	axe	axe
蚕月条桑，取 彼斧斨	axe	chopper	No corresponding translation	axe	Cut and chop	No corresponding translation
破斧（标题）	fu	axe	No corresponding translation	foo	axe	No corresponding translation
既破我斧，又 缺我斨	axe	No corresponding translation	axe	axe	No corresponding translation	axe
既破我斧，又 缺我锜	axe	axe	No corresponding translation	axe	axe	No corresponding translation
既破我斧，又 缺我鍬	axe	axe	No corresponding translation	axe	axe	No corresponding translation
伐柯如何？匪 斧不克	axe	axe	ax	axe	axe	No corresponding translation

“斧” appeared 8 times in *The Book of Songs*. According to the corpus, “斧” is translated into “斧头/斧子/斧/战斧” in vernacular Chinese ; it is translated into English as “axe / chopper” or “fu / foo” according to Pinyin. In *The Book of Songs*, “斧” is more used for farming and logging, so

“斧/斧头/斧子” is semantic, simple and clear ; it was translated as “战斧” when used in war, which is also in line with the original meaning. “axe” corresponds to the general name of “斧头”, which is in line with the positioning of most “斧头” in *The Book of Songs* as production tools (such as cutting mulberry branches and wood), and the reader's understanding cost is low. However, it is impossible to distinguish the shape differences between the “斧” and the “斨”(square hole axe), and it lacks the cultural specificity of the details of ancient Chinese artifacts. “chopper” focuses on the action attribute of cutting tools, which is more in line with the main functions of “斧” in *The Book of Songs* (cutting branches and logging). For example, in the scene of “lop the far boughs”(cutting far branches), “chopper” emphasizes the practicability of tools more than “axe”.

In an English context, “chopper” refers more specifically to a short-handled chopping axe or machete, which differs from the form of long-handled axes (such as “斧斨”) that may have existed in *The Book of Songs*. “fu/foo” fully retains the Chinese phonetic symbols, in accordance with the “alienation translation” strategy. When taken out of context, English readers cannot associate the specific form of an “斧头” with its pronunciation. In a vernacular translation, it can be rendered directly as “斧”. This single-character, literal translation maintains the morphological correspondence with the original text and aligns with the faithfulness principle of the Faithfulness, Elegance, and Clarity criteria for translating classical texts, making it suitable for both academic and popular translations. If it is necessary to distinguish the type of tool, a footnote can be added stating, “It refers to a logging axe” or “Its form is similar to that of a qiang”. In English, it can be translated as “axe” followed by a contextual qualifier, such as “felling axe” or “battle-axe”. “斨” is translated as “qiang (square-hole axes)”, which uses the general translation “axe” while annotating the specific design with the pinyin “qiang”, balancing readability with cultural fidelity.

4. Conclusion

In summary, by establishing a corpus comprising 11 translations, this study systematically examined the current state of vernacular Chinese and English translations for the names of core agricultural tools in *The Book of Songs*, including “耜”, “钱”, “耨”, “铎”, “艾”, and “斧”. The analysis reveals common issues found in current translations. This study not only provides specific correction proposals for the accurate translation of agricultural tool names in *The Book of Songs*, thereby promoting the cross-cultural dissemination of their agricultural cultural connotations, but also offers methodological insights for the translation of proper nouns in the history of ancient Chinese science and technology, as well as practical correction proposals for the translation of agricultural tools in *The Book of Songs*. Future research could further integrate new archaeological discoveries to deepen the examination of the tools’ design details and expand to comparative analyses of translations in more languages, with the aim of establishing a more comprehensive translation system for ancient Chinese agricultural tool terminology.

References

- [1] Xu Wenjing and Fang Ming: Description of Agricultural Implements in The Book of Songs and Its Agricultural Cultural Connotations, Journal of Jingdezhen University, Vol. 31 (2016) No. 01, p.71-76.
- [2] Li, L. (2013). A study of vocabulary of agricultural production tools and vocabulary of agricultural production behaviors in The Book of Songs. Modern Chinese, 4, 24-27.
- [3] Chen, C. (2008). A study of agricultural implements in The Book of Songs. Agricultural Archaeology, 4, 146-150.
- [4] Li, X. (2014). A study of agricultural implements in The Book of Songs-Zhou Song-Chen Gong (Master's thesis). Shanxi University.

- [5] Xia, T. (2023). A probe into the English translation of Chinese agricultural implement terms. *Writer's World*, 14, 91–93.
- [6] Wang, H. (1988). A brief discussion on the Zhou Si. *Agricultural Archaeology*, 1, 159–161.
- [7] Ma, C. (1982). *Ancient Chinese bronzes*. Shanghai People's Publishing House.
- [8] Duan, Y. (1981). *Annotations to Shuowen Jiezi*. Shanghai Ancient Books Publishing House.
- [9] Zhu, S., & Sun, Y. (1983). A tentative criticism of the view that "Bu" is a spade-shaped coin—With a discussion on the original forms of Qian and Bo. *Jiangxi Social Sciences*, 1, 103.
- [10] Chen, Z. (1993). The bronze agricultural implements Zhi and Ai. *Chinese Economic History Studies*, 2, 53–70.
- [11] Guan, X. (2014). *Erya*. Zhonghua Book Company.