

A STUDY OF REDUPLICATION IN OLD CHINESE
WITH REFERENCE TO THE ERYA

by

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ABSTRACT

The study of reduplication in Chinese has received more and more attention in recent years. With the development of modern linguistic theories, scholars have begun investigating Chinese reduplication as a phonological or morphological phenomenon instead of a pure rhetorical device. However, traditional epistemology and methodology still takes the dominant position in the study of OC (short for Old Chinese, the same hereafter). Therefore, it is necessary to examine OC reduplication from new perspectives with advanced theory and methodology, as an important part in the study of historical Chinese.

The system of reduplicative forms is usually divided into two categories, viz. total and partial reduplicative forms. Some scholars, such as Sun (1999), have also provided strong evidence showing that the latter originates from the former after some phonological modifications. This has been taken as part of the hypothesis for this study and will later be tested. Another assumption is that OC reduplication is a morphologically driven process, which is adopted in this study as the basis for further analysis.

Nonetheless, descriptions for total or partial reduplicated words differ among scholars, and the lack of specific definitions of certain terms has impinged upon the study of OC reduplication. Hence, a re-examination of these terms is also included in this study.

Overall, the dissertation is consisted of four parts as the following:

Chapter One gives a brief introduction of the aim and scope of the study, some useful information about the *Erya* 爾雅 and OC, a review of previous studies relevant to the topic, as well as the theory and methodology adopted in this study.

Chapter Two investigates several problems concerning the definition and classification of OC reduplication in terms of the phonological, syntactic and morphological constructions of the reduplicative forms. Major possible ways to categorize these reduplicated words have also been compared, with illustrations of the advantages and potential problems.

Chapter Three further investigates the structure of each reduplicative pattern appeared in the *Erya*, with the analysis of the semantic and morphological interpretations by means of the MDT (short for Morphological Doubling Theory) methodology.

The last chapter gives the concluding remarks for the study with the summary of main discussions and provides some suggestions for related topics that need further investigation in the future.

In all, the purpose of this study is to achieve a better understanding of the mechanism of OC reduplication, and hopefully to provide inspiration for those who are interested in this topic.

Keywords: OC Reduplication, MDT, Motivation, Affixation, the *Erya*

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LIST OF ABBREVIATIONS

BRCT: Base-Reduplicant Correspondence Theory

MC: Middle Chinese

MDT: Methodological Doubling Theory

OC: Old Chinese

CHAPTER 1 INTRODUCTION

1.1 Aim and Scope

Reduplication is an interesting linguistic phenomenon existing in a significant number of languages, whether partial reduplicative forms such as ‘itty-bitty’ and ‘tweeny-weenie’ in English, or partial reduplicative forms such as ‘tikitiki (a large melon)’ in Swahili¹. Notwithstanding similarities, there are clear differences among languages. For example, English is rich in onomatopoeic words about actions, while Japanese has a large number of reduplicated words expressing feelings (Kauffmann 2015). According to Kauffmann (2015), reduplication ‘reflects the uniqueness and innovation in language’:

Many colorful examples of reduplication reflect upon the richness and uniqueness of language... as expressed by those who use this form to create plurals, amplify meaning, change verb tenses or invent words to describe tangible or intangible parts of the world around us. (p.1)

One of the most important aspects of reduplication is that it is a morphological process triggered by distinctive motivations or with different implications. The study of this phenomenon, hence, originates in an attempt to solve some major questions raised by reduplication. What is the essence of reduplication? How to distinguish and categorize different types of reduplicative patterns? How does the process of reduplication take place? What is the initial motivation behind reduplication?

In addition, when compared with other methods, reduplication might be one of the common ways to form a new word on the basis of some already existing words or morphemes. Within all of the world’s languages, the Sinitic languages, especially Old Chinese (OC) are known to be isolating languages that lack morphological inflection, and according to Hsieh (2015) reduplication ‘may be regarded as the most well-represented morphological process’. One quality OC possesses in abundance is reduplication, which has been recorded or preserved in many classic works such as the *Shijing* 詩經, or *The Book of Odes*, the *Chuci* 楚辭², and other rhymed prose or poems. The *Erya* 爾雅 in particular, is an ideal material for such studies, for the reason that it includes a preponderance of reduplicative forms with organization, as I will explain in the next section.

With the vast development of Chinese linguistics in recent years, studying

¹ This example is borrowed from Kauffmann (2015).

² The *Chuci* is a collection of poems written by poets from the Chu Country such as Qu Yuan 屈原 and Song Yu 宋玉 during the pre-Qin period.

the language in formal, generative perspectives has become popular in academia³. Despite the bulk of work on the well-known *ba-* construction (disposal) and *bei-* construction (passive), research relating to more specific topics covering the fields of phonetics, semantics, and syntax such as classifiers, aspectual markers, light verbs, segmental phonology, as well as prosody have gained tremendous achievements over the last few decades. For example, the *Handbook of Chinese Linguistics* edited by Huang et. al. (2009), and the *Encyclopedia of Chinese Language and Linguistics* edited by Sybesma et al. (2015) are paradigmatic works of such achievements. However, there is still room in the study of reduplication or reduplicated words in Chinese. The study of OC has been taking shape for nearly three thousand years, but the history of treating reduplication as a morphological process is less than a century. Therefore, the study of reduplicated words in the classic work *Erya* would certainly provide a better understanding of reduplication in OC and shed light on relevant studies of modern Chinese.

One of the first issues confronting scholars has been defining, distinguishing, and categorizing different types of OC reduplication. An equally important problem is to analyze the motivations and morphological processes of the formation of each reduplicative form. In line with this, the aim of this study is to categorize and re-examine reduplicated words in the *Erya* systematically by an overall analysis from different aspects. Comparisons of reduplicative patterns with some modern Chinese dialects (including Mandarin) will also be incorporated for the purpose of obtaining an objective and more comprehensive understanding of OC reduplication.

This dissertation is divided into three parts. The first chapter gives an introduction about the historical background, a review of previous studies relevant to this topic, and the methodology applied in this study. The second and the third chapters focus on the categorization and detailed analysis of the reduplicated words collected in the *Erya* with examples from some other sources, as well as the discussion of the possible motivations. The last chapter gives concluding remarks of the study with discussions about the limitations and further questions.

1.2 The *Erya* and Old Chinese

1.2.1 A Brief Introduction of the *Erya*

The *Erya* is the oldest surviving glossary book and thesaurus of Chinese. The title *Erya* consists of two words: *er* 爾, a phonetic loan character⁴ from *er*

³ See Huang et. al. (2009), Foreword.

⁴ The phonetic loan character, also called *jiajiezi* 假借字 in Chinese, is a method of 'borrowing from phonetically identical or similar characters', which was very popular among scholars in the pre-Qin period, when the writing system had not been standardized.

邇, 'near, close', and *ya* 雅, 'proper, elegant'. The combination of the two words, i.e. *erya*, can be interpreted as 'approaching what is correct, proper or refined (for words or the language)', according to W. South Coblin (1993: 94). The title is also translated as 'The Semantic Approximator' by Needham et al. The author of this book remains unknown, though it was traditionally believed to be the Duke of Zhou (周公), or Confucius and his disciples. It had been used as the authoritative lexicographic guide to classical texts for a long time, beginning from the Western Han dynasty. Scholars today, such as Joseph Needham et al. (1986: 191)⁵ and some others⁶ believe that it was compiled and edited by someone or different people living between the late 4th and early 2nd centuries BCE.

The glosses collected in the *Erya* originate from commentaries to pre-Qin texts, especially the *Shijing*. Karlgren (1931: 49) points out that the *Erya* 'is not a dictionary in abstraction', but 'a collection of direct glosses to concrete passages in ancient texts'. According to Handel (2014: 578), 'the primary text associated with the Old Chinese period is the Confusion Classic *The Book of Odes (Shijing)*'. Ergo, the *Erya* is a paradigmatic work for the study of OC.

The *Erya* as we have it today consists of nineteen chapters, with a clear dividing line between the first three chapters and the following sixteen chapters⁷. Accordingly, these chapters can be divided into two groups. The first three focus on the language itself, while the combination of the other sixteen is closer to an encyclopedia explaining different taxonomy classifications. A total of 13,113 characters and 2,094 entries are included, covering about 4,300 words. The book can be divided into the following major sections:

1. The *Shi Gu*, 釋詁, 'explanations for old words', comprising interpretations of words used before the Spring and Autumn Period, including verbs, words that are commonly used as adjectives or adverbs, and a few grammatical particles.

2. The *Shi Yan*, 釋言, 'explanations for current words', comprising interpretations of words that were used at the time when it was compiled, primarily verbs, plus a few nouns.

3. The *Shi Xun*, 釋訓, 'use easy words to explain more complex or abstract words', comprising interpretations of words that were used at the time when it

⁵ J. Needham et al. (1986) also believe that some texts can be traced back to as early as the 6th century BCE, while some to be as late as the 1st century BEC.

⁶ The Japanese historian and sinologist Naitoo Torajiroo also believes that the *Erya* text was first compiled in the early Warring States period (around 325 BCE), and was later enlarged during the Qin and Western Han dynasties.

⁷ Coblin (1972) has argued that the first three chapters are the oldest, probably dating from the 3rd century BCE. The reason he gives for this is that after examining these Chapters, he found that some of the material in the *Erya* comes from commentaries on early classical texts such as the *Shijing* and the *Shangshu*. For the other chapters, there seem to be no such early source texts. Nevertheless, these chapters are assumed to be older than the 3rd century BCE but not later than the end of the Western Han period. According to Coblin, the text should have reached its final form by then. Karlgren (1931: 49) also points out that the major part of the glosses in the *Erya* 'must reasonably date from the 3rd century (BCE)'.

was compiled, primarily stative or descriptive words, many of which are reduplicative binoms.

4. The section that explains the names of other terms such as kinship, animals, plants, music, agriculture and geography, including chapters from the *Shi Qin* 釋親, 'explanations of kinship terms' to the *Shi Chu* 釋畜, 'explanations of domestic animals and poultry terms'.

Most of the total reduplicated words are collected in the *Shi Xun* chapter, whereas the partial reduplicative forms are distributed into different chapters, most of which are nouns or names for various objects.

An important part about the *Erya* that needs to be illustrated before further study is the how words are grouped and interpreted in the book.

The synonyms in the *Erya* can be classified into several groups according to the degree of similarity among their meanings. The first group includes words that are different names denoting the same object (一物異名). For example, 'ai, *bingtai* 艾, 冰臺, (wormwood)', where both *ai* 艾 and *bingtai* 冰臺 are the names of the same plant wormwood.

Another group includes words that have similar meanings but are not identical. For example, '*bing, gong, zhi ye* 秉, 拱, 執也'. Though *bing* 秉 and *gong* 拱 both have the mutual meaning as 'hold (執)', they have delicate shades of meaning respectively. The former usually indicates the object being held is long and thin while the latter emphasizes the action as using both hands to hold.

Another group includes words that belong to the same category. The explanations of these words either focus on their common feature or on their differences. One example of the first type is '*yi, you, lei, qi ye* 彝, 卣, 壘, 器也' which gives us the information that all these three words denote containers.

The *Erya* also gives explanation to single words without putting them in comparison with other synonyms or homologous words.

There are several advantages of using *Erya* as the main reference. For instance, there are abundant reduplicative forms listed in an organized way, which provides convenience for the study. Besides, using examples from the same material can provide a more consistent effect than randomly choosing examples from various sources. Also, the interpretations given at the end of each entry also provide hints for possible morphological implications.

Parenthetically, any reference book might fail to include all the important examples, or are restricted by their own scope and stylistic styles. On this account, although the main reference book for this study is the *Erya*, some other materials will also be used for demonstration. Unlike the *Shijing* or the *Chuci* which contains a large portion of contexts, the *Erya* is a glossary of words collected from other materials, especially the *Shijing*. Therefore, although most of the examples are selected from the *Erya*, some examples from the *Shijing*, the *Shangshu* 尚書, the *Mengzi* 孟子, the *Shiming* 釋名, (a book that provides information about the origin of the names), etc. will also be included in the

analysis. Apart from the primary sources, some examples from the secondary work by modern scholars are also used as reference for this dissertation.

1.2.2 The Periodization of Chinese

When it comes to the periodization of a language with a long history, the results usually vary according to individual scholars. Although the division of three major periods, viz. Old Chinese (OC, also called Archaic Chinese), Middle Chinese (MC, or Ancient Chinese), and Modern Chinese is widely acknowledged and accepted by historical phonologists, disagreement regarding the specific time ranges assigned to each period still exists among scholars. For example, Ting (1996) believes that there should be six periods: Proto-Chinese, Old Chinese, Archaic Chinese, Ancient Chinese, Medieval Chinese, and Modern Chinese,⁸ while Wang Li (1985) divides the history of Chinese into four periods: *Shanggu Hanyu* 上古漢語 (the language prior to 300 CE), *Zhonggu Hanyu* 中古漢語 (400-1200 CE), *Jindai Hanyu* 近代漢語 (1300-1919), and *Xiandai Hanyu* 現代漢語 (1919 onwards).⁹ After examining a number of diachronic studies, the periodization from Handel (2014) has been adopted in this study with slight adjustment. Based on the existent textual evidence for the pronunciation and some major phonological developments of Chinese in different eras, Handel has divided the language into four specific periods:

- Old Chinese: 1250 BCE-200 CE
- Middle Chinese: 420-1150
- Pre-Modern Chinese: 1150-1650
- Modern Chinese: 1650- present¹⁰

1.2.3 The Reconstruction of OC Sound System adopted in this study

Since OC reduplication is mainly investigated as a morphological process in this study, phonological examinations based on the reconstruction of OC sound system will not be a major concern in this dissertation. Nevertheless, phonological modifications resulted from the morphological process also plays

⁸ Handel (2014), p.587.

⁹ See James, Tai and Chan (1999).

¹⁰ Handel (2014), p.579. However, it should be noted that the smaller sub-periods are exempted from this periodization for the sake of the study of OC reduplication based on two reasons. First, according to Handel, the primary text associated with the OC period, i.e. the *Shijing* 詩經, or *The Book of Odes*, is believed to date to as early as the mid Zhou 周 Dynasty (around 800 BCE), which belongs to the Middle Old Chinese period (1100-200 BCE), but forward to as late as the Han 漢 or Wei 魏 Dynasty (200 BCE to 300 BCE), which overlaps with the Late Old Chinese period (200 BCE-200 CE). Since most of the words in the *Erya* are collected from the *Shijing*, the analysis of the reduplicated words would, therefore, become hard to proceed for not being able to apply just one united set of phonological reconstruction system to the study. Correspondingly, it would be difficult to identify which of the words are from the earlier period and which are not if such sub-periods are included in the study. However, this would not be a problem if only major periods are considered.

an important role in the formation of a partial reduplicated word, and thus the categorization of OC reduplication.

In short, the reconstruction of OC sound system adopted in this study is mainly based on Pulleyblank (1994) out of two considerations. First, compared with many other earlier reconstruction systems, such as Karlgren (1957), Li (1971), Pulleyblank's reconstruction provides a more systematic way for analyzing OC phonology. For example, he underlies the contrasts between low vowels and non-low vowels which corresponds better to the 'inner' and 'outer' syllable system in Middle Chinese (MC)¹¹. Second, the phonological analysis in this study mainly refers to Sun (1999) which is based on Pulleyblank's reconstruction.

In addition, tones are not included in this study mainly based on several considerations. First, most of the entries in the *Erya* are collected from the *Feng* (風) section of the *Shijing*, which is believed to be lyrics of folk songs in the archaic period, and thus tones would not affect the rhyming system¹². Second, some studies, such as Ho (2016) has specifically pointed out that only the identity of main vowels is the 'crucial condition' for rhyming. In other words, slight differences in the glide, coda, or tones are allowed in the rhyming system.

Last but not least, it is still an arguable issue whether OC is tonal or not. Thus, tones are set aside in this study although it might be influential to some extent.

1.3 Previous Studies

The term 'OC reduplication' has not been introduced to the study of such phenomenon until the end of the last century. The term itself contains information from two aspects, that is, reduplication in OC shares certain common properties with other languages, but also remains some unique features particular to OC at the same time.

Traditional studies of OC reduplication mainly concentrate on the semantic interpretation and the rhetorical usage or instruction in literary contexts. These studies share a great deal in common in that the analysis are all based on the semantic interpretation of traditional texts. Modern studies deal in essence with the process of forming a reduplicative form, and the possible motivations behind it. In addition, the former is directly related to OC reduplication, i.e. studies that mainly focus on the interpretation of reduplicative forms in the specific language, whereas the latter studies the general reduplication patterns cross-linguistically, and aims at solving the problem from a theoretical perspective.

Above all, the main objective of this section is to give an overall review of

¹¹ More details of this can be found in Sun (1999).

¹² Ho (2016) also mentions that the rhyming rules are "relatively loose" in folk songs.

previous works related to OC reduplication, with traditional and modern studies included.

1.3.1 Traditional Studies

Similar to the derivation of word-class in Chinese, studies on reduplication has never been a part of the traditional approach to the general grammar in the past. Rather, it has always been taken as a rhetorical device frequently applied in rhymed prose or poems. The earliest studies emerged after noticing the prosodic effects of reduplicative forms appearing in the written texts such as the *Shijing*. Such words have also been divided into two major categories as the *chongyan* 重言 which represents disyllabic words consisted of two identical forms, as well as the *lianmianzi* 聯綿字, ‘connective characters’ which resembles partial reduplicative forms, and can be further divided into *shuangsheng* 雙聲, ‘paired initials’ and *dieyun* 疊韻, ‘duplicated rimes’ according to the location of the reduplicated parts within the syllable. In addition, such studies only focus on Chinese, and the categorization is quite language specific.

Of the two major types mentioned above, total reduplicative forms, or *chongyan*, usually represented by two identical logographs indicating the exact sameness in articulation, appears to be the first type of reduplication that attracts scholars’ attention as early as two millennia ago. The *Shi Xun* chapter itself in the *Erya* can be regarded as one of these earliest studies to interpret total reduplicated words from a semantic and pragmatic point of view. More than one hundred items of this kind are collected, with further groupings showing the semantic relationship among them, and an explanation is given at the end of each entry as a common definition.

While this might seem like a rather systematic study of the semantic meanings of OC reduplication, it still contains a series of problems. One is that the so-called ‘definition’ is not a pure semantic interpretation of the words, but rather a mixture of semantic and pragmatic explanations. For instance, Li Jiancheng (2009) notices that the D part in many entries with the form ‘AA, BB, CC, D *ye* 也, (a positive particle)’, where the first three are taken as synonyms and the last one the common definition, should not be simply taken as the definition of the first three items. What D actually denotes, according to him, is the understanding (dissociated from the actual meanings) of the three words within a certain context in the *Shijing*. An illustration given by Li (2009) is the explanation for *wan* 腕, ‘wrist’ is ‘bendable’, which is a function of the wrist rather than its definition. Another problem is that some words might have more than one meaning, but have been interpreted as a single-meaning word for convenience. Such problems show up when comparing with the word’s actual usage in other contexts. These findings in Li (2009) signifies the importance of using the ‘explanations’ in the *Erya* carefully and critically. Other earlier

attempts similar to the *Erya* includes the *Guangya* 廣雅 written by Zhang Yi 張揖 from the Three Kingdoms period (220-256 BCE), the *Tongya* 通雅 by Fang Yizhi 方以智 (1579-1671), the *Dieya* 疊雅 by Shi Menglan 史夢蘭 (1813-1898), etc.¹³. These studies aimed at interpreting the semantic meanings of the reduplicative forms, which later shed light on further research on the semantic connections between the single and reduplicative forms.

Representatives of such studies include the *Erya Zhengyi* by Shao Jinhan 邵晉函 (1743-1796), the *Maoshi Chongyan* 毛詩重言 by Wang Yun 王筠 (1784-1854), and contemporary works such as Wang Xian 王顯 (1959) and Cao Xianzhuo 曹先擢 (1986). A major discovery is that most of these total reduplicative forms serve a descriptive purpose, and might not necessarily relate to its single form. Though what they have discovered might still be far away from the essence of reduplication, their attempts show that reduplication is a separate subject, and should be differentiated from other morphological constructions.

Another major type of the traditional studies with regard to OC reduplication apart from the *chongyan* cases is the research of the *lianmianzi*, which usually takes the binominal form but cannot be easily segmented into two semantic constituents. An illustration is given in the *Fugu Bian* 復古編 by Zhang You 張有 (1054-?), who points out that words like *xiangyang* 相羊 OC *sarŋaŋ ‘pace up and down’ or ‘hovering’ cannot be deconstructed into *xiang* and *yang*. This type of words can be subcategorized in terms of phonological constructions. Those of which both constituents have the same onsets are classified as *shuangsheng*, while those with the same rimes as *dieyun*. Studies related to this include the *Lianmianzi Pu* 聯綿字譜 by Wang Guowei 王國維 (1923), and the *Lianmianzi Dian* 聯綿字典 by Fu Dingyi 符定一 (1943). A more detailed and comprehensive description of these studies can be seen in Sun Jingtao (1999).

1.3.2 Modern Studies

Recent studies with regard to OC reduplication, as mentioned by Sun (1999), include Yu and Guo (1987), who conducted a research on all the disyllabic words included in the *Shuowen Jiezi*¹⁴, and Chen (1992) who studies a total of 916 sound-correlated disyllabic words in the *Guangyun*, which covers more than 500 items used in OC from a phonological point of view. Another study that focused on the reduplicative forms in the *Shi Xun* chapter of the *Erya*, was done by Li (2009). Li re-examines the interpretation device in the *Erya* and the semantic relationships between the ostensible synonyms in the same entry, then points out that sometimes the ‘definition’ we take for granted is actually an interpretation of the mutual meaning of the words summarized from the whole

¹³ See Sun (1999) for more detailed information.

¹⁴ The *Shuowen Jiezi* 說文解字 is a book or dictionary explaining the meaning of Chinese characters. It was written by Xu Shen 許慎 during the East Han dynasty.

sentence in the *Shijing*. Li mainly focuses on the *diezi* or full reduplication and the semantic connections between the single and duplicated forms. On the whole, Li's study basically follows the same path as the traditional ways of studies with some developments in the morphological analysis and comparison between the reduplicated construction and its sub-constituents. Another study with a similar approach is Gallagher and Wang (1993), who conducted a research on the reduplicative forms in the *Chuci*, and believe that the motivation for forming a reduplicated word is to fulfill the needs of the prosodic meter through a phonological process.

Foreign scholars have also shown an interest in the study of OC reduplication. Inspired by reduplication in English, Kennedy (1955) begins searching for the 'ding-dong' and 'pell-mell' formations in OC. His attempt soon shed light on other related studies, and scholars started to treat OC reduplication as a more complex phonological construction with some grammatical functions. Such studies can be seen in Kennedy (1959), Dobson (1959), and Zhou Fagao (1962), etc.

At the same time, detailed studies on the syllable structure of the reduplicative form have also been conducted by scholars such as Norman (1988), Bao (1995), Baxter and Sagart (1998), either as a specific topic or part of the OC reconstruction. An outstanding research among such studies is done by Sun (1999) with the use of modern generative phonological theories and methodologies. Compared with others, Sun (1999) provides a more comprehensive and systematic analysis of the phonological constructions of the reduplicative forms. Four major groups of reduplicative patterns, viz. progressive, retrogressive, fission, and total reduplications have been sorted out in terms of the syllable structure. Though mainly based on phonological properties, Sun reached the conclusion that OC reduplication is the result of interactions between phonology and morphology. However, Sun fails in making a clear distinction among morphological and phonological processes, and overlaps can be found in different patterns. Moreover, his analysis relies heavily on Kennedy's reconstruction of OC sound system, which might affect the result of categorization to some extent.

1.4 Methodology and Material

One of the preliminary issues confronting scholars is how to define reduplication in a language. Several theories and approaches to identify the key characteristics of the reduplication have been developed in the past few decades, falling into two major groups influenced by different perspectives.

Faced with the problem as whether reduplication is driven by phonological identity imperative or not, the first type of theory defines reduplication as the

result of phonological copying. This process, according to Inkelas and Zoll (2005), has been restricted to the 'closest eligible element' only. Some well-established phonological copying theories include the Copy and Association theory proposed by Marantz (1982) and the Full Copy theory by Steriade (1988). The core argument of these theories, according to Inkelas and Zoll (2005), is that phonological identification is the main motivation behind the formation of a reduplicated word, whereas the morphological alternation is just a side-effect.

On the contrary, the other type of theories believes that the morphological copying is the main force, and the phonological modifications are under the control of morphological rules. Representatives of this type include the Coercive Identity theories, such as the Identity Principle from Wilbur (1973), the Base-Reduplicant Correspondence Theory (BRCT) by McCarthy and Prince (1995), as well as the Native Identity theories such as Inkelas and Zoll's Morphological Doubling Theory (MDT). Both the Coercive and Native Identity theories insist that the phonological rules governing reduplication is not 'qualitatively different' from that of other words in the same language, but they disagree on the degree of identity.

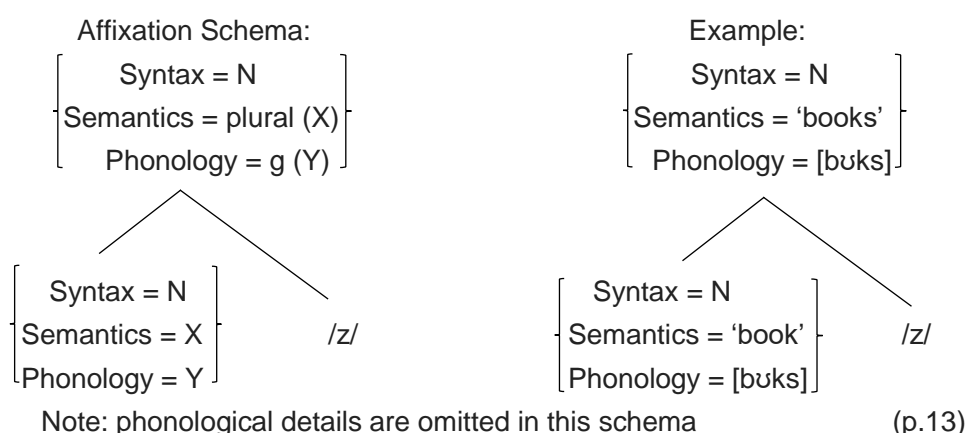
According to Inkelas and Zoll, MDT has a more precise and universal proposal for reduplicative constructions compared with other theories. For example, it can account for the reduplication in many different languages such as Turkish, Malaysian, French, and many African languages. In practice, Inkelas and Zoll have combined this theory with cophonology and used Mother-Daughter Construction¹⁵ for analysis. The biggest difference between phonology and cophonology is that the latter is constrained by pure morphology and can be applied to interpret language-internal variation without violating or contradicting with the general morphological rules, which guarantees an 'inside-out' effect and not the other way around¹⁶. Although this theory has been applied to the analysis of velar deletion in Turkish reduplication successfully, it is not the only suitable way to study reduplication. As also mentioned by Inkelas and Zoll (2005), Alderete (1999), Itô and Mester (1999), and Itô (2001) have proposed an alternative from the Optimality Theory which also admits the phonological rules of reduplication to be an indexed constraint. The approach differs from cophonology when interpreting the more complex partial reduplication in which the two sub-constituents are associated with distinctive phonological rules (Inkelas and Zoll 2005: 75). The Mother-Daughter theory associated with MDT provides an insightful method to analyze the inner structure of reduplication. The meanings of the 'mother' and 'daughter' are explained by Inkelas and Zoll (2005) as follows:

¹⁵ The Mother-Daughter Construction is a structure in which the reduplicated word takes the position of the node, and the constituents are situated in a lower position of each branch.

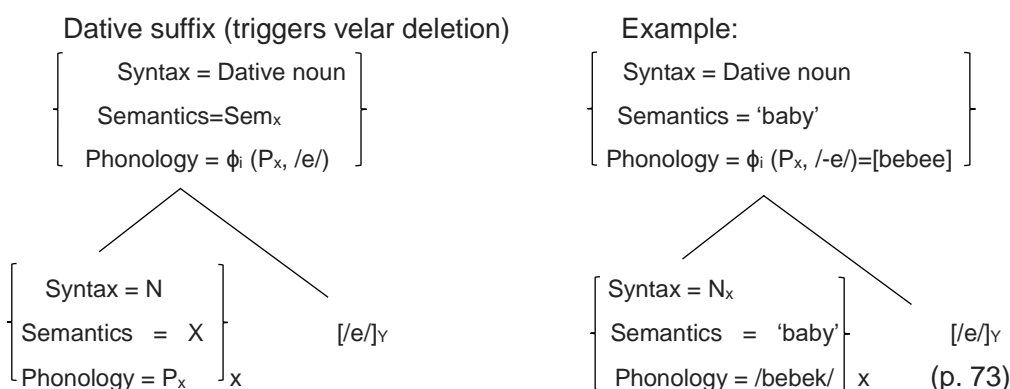
¹⁶ This means that only the output of cophonologies can serve as the input of the mother's, which is closer to the nature of the reduplication device. Such effect has also been proven by Kenstowicz (1996), Benua (1997), etc.

The daughters are the stem-forming constructions that independently generate the two semantically identical stems; the mother is the reduplication construction itself. (pp.75-76)

In line with the hypothesis of this study that OC reduplication is a morphologically driven process, particularly the construction of affixation¹⁷, Inkelas and Zoll’s schema for the analysis of affixational reduplicative construction is also adopted in this study to visualize the process and present a clear and direct analysis of OC reduplication patterns. The basic structure of the schema showing the affixation construction for English noun plural, with an example of the word ‘books’ can be seen in the following:



For a better understanding of how this schema is applied to reduplication, I will present here another example about the dative affix in Turkish reduplication, given by Inkelas and Zoll (2015):



This schema provides a clear demonstration of the morphological process and inner construction of the reduplicated word, and thus is adopted in this study for further analysis of various OC reduplicative forms in Chapter 3.

¹⁷ The reason why I believe that OC reduplication undergoes the process of affixation will be explained in Chapter 3.

CHAPTER 2 THE CATERGORIZATION OF OC REDUPLICATION

The last chapter introduces the background and methodology for this study, and traces the development of previous studies on the *shuangsheng* and *dieyun* phenomena, which draws our attention to the essence of OC reduplication. For this chapter, the main focus will be the definition and categorization of OC reduplication. In the following sections, I will define a set of terms relating to the study, introduce different types of categorization and evaluate the usefulness of them, and explain the classification system adopted in this study.

Before further analysis of the morphological construction of these reduplicative forms, defining them is the first and foremost priority. For this reason, the definition of OC reduplication is re-examined in section 2.1,

An equally important and challenging issue is the classification of the various OC reduplication forms. The categorization problem can be formulated as choosing or building the optimal framework within a number of linguistic domains, among which the most popular perspectives are phonology, syntax, and morphology. Concerned with forming the most suitable categorization of OC reduplication for this study, I will first examine the possible solutions from phonological and syntactic perspectives respectively, and explain why they should not be adopted in this study.

From the phonological perspective, reduplication is defined as a phonological process and is classified into four major subgroups according to the syllable structures. A sophisticated example of such categorization is the four-type classification conducted by Sun (1999).

The syntactic categorization, however, aims at highlighting only the syntactic property, which defines and classifies reduplicative forms in terms of the syntactic functions of the word, regardless of any other properties.

These two types of possible solutions for categorization of OC reduplication from phonological and syntactic aspects are introduced in sections 2.2 and 2.3, with discussions of the potential problems, before presenting the categorization of this study and the stipulations for classification in section 2.4. A brief summary of this chapter is given in 2.5.

2.1 The Definition of OC Reduplication

Any categorization that aims at achieving a comprehensive result must be based on a set of clear and distinctive definitions. Even though the study of reduplication in Chinese is no longer a new subject, opinions towards the definition of the term 'reduplication' still lack uniformity. Some even disagree with the use of 'reduplication', claiming that the term itself is confusing to some

extent, such as Kauffmann (2015):

In the world of linguistics, the term reduplication seems in itself to be 'redundantly reiterative,' for, after all, isn't duplication the act of doubling something? Why the prefix re- (to do again)? Why not use the term doubling or, simply, duplication? (p.1)

Despite the arguments against the term itself¹⁸, from the review of previous studies, a common understanding of 'reduplication' is the kind of disyllabic or multisyllabic words that can be decomposed into two or more identical components with the feature of phonological identity (both perfect and imperfect). While this definition seems to be able to cover most cases of reduplication in a language, it does leave a few problems that cannot be solved. For this reason, it seems necessary to re-examine the phenomenon and redefine the term for this study before further investigation.

Literally, the term 'reduplication' or *chongdie* 重疊 in Chinese refers to the act of creating something new by duplicating or copying something that already exists. In the linguistics field, it can be understood as the act of duplicating a word or morpheme to form a new word. In this sense, to have a single form or a monosyllabic word that serves as the base seems to be the condition that every reduplicated word must first satisfy (otherwise no act of 'duplication' can be realized). To take one step further, there must be a clear or explicit semantic relationship between the reduplicated word and its single form. To put it another way, the meaning of a reduplicated word can be traced back to its single form.

A word should not be regarded as the result of reduplication¹⁹ unless the condition is met. For reduplicative forms, the single form that undergoes the process of reduplication is relatively easy to find, compared with partial reduplication²⁰. As for the latter, however, the difficulty usually lies in the identification of the semantic base. Although this might not be a conundrum for most of the partial reduplicated words, for those of which both components appear to be closely related to each other in meaning and share some semantic similarities with the lexical meaning of the whole, how to determine the base for the word can be extremely complex. In view of this, it would be unrealistic to simply subsume that there is a 'base' in every reduplicative form. On the contrary, this implies the necessity of re-examining the definition and classification of partial reduplicative forms.

¹⁸ In Chinese, there is a rhetorical method called 'duplication (*fanfu* 反復)'. In order to avoid confusing the usage of the two terms, only 'reduplication' is used in this study. The word 'duplication' is only applied for the process of copying or duplicating, which has nothing to do with the rhetorical method.

¹⁹ The term 'reduplication' here means the process of reduplication, which is different in meanings from the term used by other scholars introduced before. In accordance, a reduplicative form or reduplicated word is the result of this process, the same hereafter.

²⁰ Similarly, 'partial reduplication' means the process of producing or forming a partial reduplicative form, the same hereafter.

Apart from these two issues, another important point is the categorization of ideophones or onomatopoeia. Strictly speaking, it should not be taken as reduplication for the reason that the phonological structure is fixed at the very beginning of the word-formation process, and there is no 'single forms' at all. In other words, a reduplicated word should result from the duplication of a monosyllabic word or a single form at the first place. The definition of onomatopoeia, as according to Kauffmann (2015), is 'the imitation of sounds in nature', and it is 'full of reduplication'.²¹ In spite of the fact that the process of reduplication can be found in the formation of most onomatopoeic words in many languages, there is scant evidence that it is the case of reduplication in OC²². Nevertheless, most onomatopoeic words show a consistency with the reduplicated ones in the form, which made them hard to be exempted from reduplication. For this reason, many scholars still treat it as reduplication today. Additionally, there are situations where onomatopoeia and other types of reduplication are intertwined, thus it is included in this study as a special type of reduplication. On this account, the term 'formal reduplication' is given for these 'seemingly reduplicative' forms, in contrast with 'substantial reduplication' that denotes words formed by the morphological process of duplication. Correspondingly, both total and partial reduplicative forms in this study consists of results from these two different morphological processes (further interpretations of these concepts are delivered in section 2.4). To recapitulate, the definitions of the pair of terms crucial to this study are listed below:

- a) Formal reduplication: words that possess a reduplicative form but do not undergo a process of reduplication, such as some onomatopoeic words.
- b) Substantial reduplication: words that are formed by duplicating a single word, of which the semantic meaning is usually related to the single form.

2.2 The Phonological Categorization

The phonological categorization, chiefly provided by Sun (1999), is a phonology-based classification (in line with BRCT) that also meets some morphological requirements. To put it another way, the phonological pattern and the semantic meanings both serve as the criteria when examining reduplicative forms, but with the initial motivation to be phonological. Among the various types from the classification result, four dominant types have been

²¹ Kauffmann (2015), p.3.

²² One might also argue that there are indeed some onomatopoeic words in which the base can be found. A possible situation is that some might turn out to be the case of homophones instead of real reduplicated words (further discussion can be found in Chapter 3).

sorted out, according to the features of the syllable structure.

In light of Sun (1999), a reduplicated binom in OC can be further divided into two parts based on the semantic relationship between the two components and the binominal form. Usually the component part that shares the same or similar meaning with the binom is called the 'base', while the other part is recognized as the 'reduplicant'. The base, as the one mentioned in section 2.1, is the semantic core of the reduplication which determines the basic meaning of the word. The reduplicant, on the other hand, is believed to be a copy of the base, regardless of being with or without secondary modifications.

2.2.1 The Four Types of Reduplicative Patterns

According to Sun (1999), four types of reduplication can be classified after a careful examination of the phonological and morphological relations between the base and the reduplicant, viz. the progressive reduplication, the retrogressive reduplication, the fission reduplication, and the total reduplication. The first two types of reduplication are also called 'directional reduplication', while the latter two 'non-directional' in terms of the distribution of the onset and rhyme of each syllable in comparison with the single form²³ (we will look at some examples soon).

Another constraint for distinguishing these four types of reduplication mentioned by Sun (1999) is the morphological implication induced from the semantic meanings of each phonological pattern. By observing hundreds of OC reduplicated words from the *Shijing*, Sun (1999) reached the conclusion that most of the words labelled as 'progressive reduplication' contain the meaning of either 'smallness' or 'vividness', and the retrogressive ones all share the meaning of 'repetition', while fission reduplication and total reduplication contain the meanings of 'specialization' and 'vivid impression' respectively²⁴. Each of these four types possesses a typical phonological pattern, which will be introduced respectively in the following paragraphs.

a) Progressive reduplication

The first type that belongs to partial reduplication is called progressive reduplication. Progressive reduplication is the case where the first constituent is the base while the second one the reduplicant. The prominent phonological structure of this type is that the onset of the second syllable is always a liquid or a variant of a liquid such as /n/, whereas the first one is not. This is in accordance with the discoveries of such phenomenon in modern Chinese such as *hulu* 呼噜, 'the sound of snoozing', *huala*, 嘩啦, 'the sound of pouring rain' as pointed out by Zhu Dexi (1982). Some examples of the progressive

²³ Many recent studies including Sun (1999) have shown that OC reduplicated binoms derive from the morphological process of reduplication, which means that there must be a single form for each reduplicated word in OC.

²⁴ Sun (1999) pp. 48-181.

reduplicative forms in OC provided by Sun (1999) include *dangnang* 螳螂, **tanŋaŋ*, ‘mantis’, and *fengrong* 丰茸, **pʰaŋʷnaŋʷ*, ‘lush’.

b) Retrogressive reduplication

The second type that belongs to partial reduplication is called retrogressive reduplication. As the term itself indicates, retrogressive reduplication is the case where the second constituent is the base while the first one the reduplicant. Also, a prominent feature of these words is that there is always a monosyllabic base and a semantically empty or not clear constituent in the construction. In other words, only one constituent can be used as an independent morpheme, while the other one does not have a specific meaning and never appears alone. A typical example of retrogressive reduplication in English is the word ‘crisscross’ in which the second part ‘cross’ is an actual morpheme while ‘criss’ is not.

The phonological pattern for retrogressive reduplication, according to Sun, has the feature [-round]/ [+round] distinction between the two rimes of the constituents, and the morphological implication is to denote the meaning of ‘repetition’.

An interesting phenomenon from Sun’s study is that most of the retrogressive words are verbs such as *zhanzhuan* 輾轉, OC **tranʔtrwanʔ*, ‘to toss and turn endlessly’ (*Shijing*); *sesuo* 瑟縮, **srəkisrəkʷ*, ‘continuously shrinking’ (*Lushi Chunqiu* 魯氏春秋); and *pufu* 匍匐, **baybək*, ‘to crawl’ (*Shijing*)²⁵. The abstract meaning of ‘repetition’ might be able to explain the common characteristic of these words, but for adjectives and nouns it is rather invalid. For words such as *maimu* 霖霖, **mrakiməkʷ*, ‘drizzle’ (*Erya*); *sixu* 斯須, **sajsay*, ‘a little while’ (*Mengzi* 孟子) that also accord with the phonological pattern of retrogressive reduplication, one can hardly generalize the meaning of ‘repetition’ from them. These exceptions reveal the problem of Sun’s analysis, in which the phonological rules are used as the sole stipulation for the reduplication, regardless of the actual morphological meaning of each constituent. Other counter examples that are classified into the same group based purely on the phonological structure by Sun include words such as *pifu* 蝼蛄, **bəjbəw*, ‘ant’, (*Erya*) and *dingdong* 葶藶, **taŋjʔtaŋʷjʔ*, ‘a kind of grass’ (*Erya*), where neither of these words contain the meaning of ‘repetition’ examined by morphological meanings.

c) Fission reduplication

The last type that also belongs to partial reduplication is the fission reduplication. Literally, the word ‘fission’ denotes a process of ‘splitting’, and the term is used for a special kind of reduplication formed by the splitting of the phonological construction.

²⁵ All the examples and translations refer to Sun (1999).

What should be cautioned against is that the process of dividing the onset and rhyme of the monosyllable (target syllable) in the fission reduplication in Sun (1999) is not the same as dimidiation, despite the fact that the linguistic theory behind the proposal of the fission reduplication he points out is the theory of dimidiation. The theory is introduced in Sun (1999) as below, on the basis of Boodberg (1937) and Boltz (1974):

A bisyllabification of a word originally having an initial consonant cluster C_1C_2 - such as when C_1 - becomes the initial of the first syllable and C_2 - the initial of the second.²⁶

However, the analysis of the examples in Sun (1999) on the basis of Pulleyblank's reconstruction system has nothing to do with the consonant clusters, but rather a process similar to the *Fanqie* 反切 method applied in the Middle Chinese rhyme books or rhyme tables for indication of pronunciation. The employment of this method begins with the process of decomposing the target syllable (as for example, the word /*toŋ*/) into two parts, i.e. an onset (or the initial consonant), and a rhyme (including the tone and the final), and then separate the two parts by replacing them with two separate syllables, each with either the same onset or rhyme part as the target syllable (monosyllable) respectively (as in this case, /*tɛ*/, and /*hoŋ*/). Additionally, the syllable with the same onset is always put before the other one in sequence. In other words, the combination of the onset from the first syllable (/t/) and the rhyme from the second one (/oŋ/) equals to the pronunciation of the target syllable (/toŋ/).

A classic example of this in modern Chinese is the word *jiling* 激靈 (/tɕiŋlɪŋ/, 'alert'), which is believed to be the fission reduplicated form of the monosyllabic word *jing* 驚 (/tɕiŋ/, 'shocked'), where the first syllable *ji* 激 still preserves the identical initial as *jing*, and the second syllable *ling* 靈 (/liŋ/, 'smart') has the same rhyme as the monosyllabic word.

An example of fission reduplication in OC provided by Sun (1999: 152) is the word *dulou* 鬮髑, **dak^urau*, 'head skull', which is believed to be derived from the dimidiation of the monosyllabic word *tou* 頭, **day*, 'the head', based on the reconstruction of the syllables.

As for the morphological implication of this type, Sun proposed the idea of 'specialization'. To put it another way, fission reduplication is 'a good way to create new forms for signaling specific things and activities in everyday life'²⁷.

d) Total reduplication

Phonologically, total reduplication represents disyllabic words consisted of two identical constituents. These words, according to Sun (1999), originate from

²⁶ Sun (1999), p.164.

²⁷ Sun (1999), p.132.

the monosyllabic form to meet different semantic requirements. One of the morphological implications for total reduplication is 'diminutive' or 'smallness'. An illustration is found in Karlgren (1950:16), where the word *yanyan* 燕燕, 'swallows' from the *Shijing* actually represents 'little swallows'. However, most of the total reduplicative forms from the *Shijing* are adjectives and serve other purposes. Sun (1999:51) therefore believes that Karlgren's example might not be a case of reduplication but merely a repetition of the monosyllabic noun *yan*. Another possible semantic implication is to achieve a sense of 'vividness', which, according to Sun (1999:166), is used to 'heighten the atmosphere', and covers 'an overwhelming majority of the total reduplication sounds in OC'.

2.2.2 The Problems of this Categorization

Although this classification might seem quite reasonable for OC reduplication, it reflects several problems.

First, it is not hard to see that the premise of this categorization is based on the assumption that any reduplicated word in OC originates from a monosyllabic word or morpheme, and therefore must have a single form. This is problematic if we do not have enough phonological and etymological evidence to prove that the 'single form' appears earlier than the reduplicated form in history.

Second, sometimes it could be rather difficult to identify which component is the base from a purely semantic point of view, especially when the meanings of both components have a close relationship with the combined form. Take the reduplicated word *chichu* 踟蹰, 'walking back and forth' for example, Sun (1999) treats it as retrogressive reduplication, supported by the evidence that the word conveys a sense of 'repetition'. However, even if his assumption that all the words of retrogressive reduplication contain the meaning of 'repetitive action' is true, it cannot prove that every reduplicated word that conveys a sense of repetition is a case of retrogressive reduplication. In other words, the categorization of the reduplicated words should not be based purely on induction. On the other hand, one also should not regard the phonological reconstruction results as the sole stipulation for classification, as mentioned in the fission reduplication section.

Another problem related to this classification, as mentioned before, is that the results might differ from each other when adopting different sound systems of OC reconstruction, especially with regards to the partial reduplications, i.e. the progressive, retrogressive and fission reduplications. Though this might not necessarily lead to serious consequences (as explained in the previous chapter), it is still a problem worth noticing.

Last but not least, although this classification seems to be able to cover most of the partial reduplicated words, it might not be suitable for total reduplicative forms. In a total reduplicated word, it appears almost impossible to determine

the base and the reduplicant at first sight since both have the same phonological characteristics. Although the concepts of ‘base’ and ‘reduplicant’ might be useful for the study of reduplicated words in modern Chinese, as for example in Mandarin, the phonological form of many total reduplicated words always undergoes a process of soft-tone variation, where the second syllable tends to lose its original tone and becomes a light syllable²⁸, we cannot prove that total reduplicative forms in OC also went through a similar tone-variation process, since it is still debatable whether OC is tonal or not. In this sense, although we can treat total reduplication in modern Chinese as a special kind of progressive reduplication, it is rather difficult to decide whether total reduplication belongs to progressive reduplication or not. Moreover, this will further lead to the question as what stimulates the emergence of progressive reduplication or what differentiates the progressive reduplications from the total ones. Further discussion centered on this question is included in the next chapter.

2.3 The Syntactic Categorization

Unlike the phonological categorization, this categorization is only based on the grammatical function of the reduplicative forms, regardless of the phonological structure and the lexical meanings of the construction. In other words, this type of classification corresponds to the identification of word class, and each reduplicative pattern is classified in terms of its syntactic roles it plays in a sentence (e.g. nouns, verbs, etc.).

2.3.1 The Three Types of Reduplicative Patterns

Three most common kinds of reduplication, viz. nominal reduplication, verbal reduplication as well as adjectives and adverbs are distinguished as a result of this categorization, each will be introduced in the following paragraphs.

a) Nominal reduplication

Reduplicative forms used as nouns are categorized as nominal reduplication. A large portion of nominal reduplication in the *Erya* serve for the purpose of naming, as most of the words come from the last section of which the main content is to explain the names or nominal terms given to animals, plants, and other things. A number of the animal names appear in the *Shi Chong* 釋蟲, ‘Explanations for insect’s names’; *Shi Yu* 釋魚, ‘Explanations for the names of fish’; *Shi Niao* 釋鳥, ‘Explanations for the names of birds’; *Shi Shou* 釋獸, ‘Explanations for the names of wild animals’; and *Shi Chu* 釋畜,

²⁸ Some examples of this soft-tone variation are *zou*³*zou*⁰ 走走, ‘take a walk’, *xiao*⁴*xiao*⁰ 笑笑, ‘laugh a bit’, in which the number ‘0’ represents a soft or light tone.

'Explanations for the names of domestic animals' chapters are examples of this type. In addition, evidence of using reduplicative forms for nomenclature of animals still exists in modern Chinese, such as *xingxing* 猩猩, 'orang', and *zhizhu* 蜘蛛, 'spider'.

b) Adjectives and Adverbs

OC does not discriminate adjectives from adverbs strictly. That is, the same word can be used as an adjective and an adverb without changes in the meaning. Reduplicative forms that can be used as adjectives or adverbs and serve a descriptive purpose belong to this type. Syntactically, this type of reduplicative forms is usually attached to a noun, and can be used as a modifier. The preponderance of words in the *Shi Xun* chapter have the function of adjectives or adverbs, which possess a total reduplicative form to denote more abstract meanings such as the spirits of human beings or some idiosyncrasies of other things.

What's more, the monosyllabic base can be either a noun or an adjective. For instance, *mingming* 明明 'clear', is duplicated by the adjective *ming* 明, 'bright', while *jinjin* 斤斤, 'clear', is duplicated by the noun *jin* 斤, 'an axe'.

c) Verbal reduplication

Reduplicative forms that function as verbs in syntax are cases of verbal reduplication. Only a few words can be identified as verbal reduplication in the *Erya*, which will not be included in Chapter 3 for further analysis, but is given a brief discussion in this section instead. Although exempted from the core analysis of this study, I would like to address some problems regarding the essence of verbal reduplication that I have noticed.

Compared with other classes of reduplication, the verbal reduplication might be the difficulties that received most attention for analyzing this kind of reduplication mainly reflect on two aspects. First, the boundary between a verb and an adjective is not clear enough. In other words, there is always a blurry zone between verbs and adjectives, especially in OC. Hence, it is sometimes not so clear whether a word should be treated as a verb or an adjective. An illustration of this problem is the reduplicated word *caicai* 采采 from the *Juan'er* (卷耳) poem in the *Shijing*. Ding (1938) shows two different attitudes toward this word among scholars:

Scholars from the ancient time usually treated it (*caicai*) in two different ways: one regarded '*caicai*' as a verb, and explained it as the action of 'picking up and up without stopping' (采而不已); the other treated it as an adjective, with the meaning of 'flourishing'.²⁹

²⁹ The original text is in Chinese. I have translated it in this study for reference. Here is the original text from Li (2009: 64): "昔人解《詩》者約有二說：一以「采采」為外動詞，訓為「采而不已」；一以「采

A possible solution to this problem, according to Ding (1938), is to find out whether the reduplication can be put in front of a noun, i.e. used as a modifier by a careful examination of the *Shijing*. The word should be taken as an adjective if examples of such situation can be found. For instance, the word ‘*guanguan* (關關, an imitation of the singing or chirping of a bird)’ that modifies the noun ‘*jujiu* (雉鳩, a kind of singing bird)’ in the sentence in ‘*guanguan jujiu* 關關雉鳩 (a singing bird)’ should be considered as an adjective instead of a verb.³⁰

The other problem is the difficulty to identify it is a reduplicated word or simply a case of verbal conjunction (or the repetition of a verb). This is especially the case for the examples in the *Erya*. For instance, *susu* 宿宿 from the *Shi Xun* chapter should not be taken as a reduplicated word since the single verb *su* 宿 means ‘to stay for one night’ and the doubling form *susu* 宿宿 means ‘to continue staying for the night after the first night, i.e. to stay for two continuous nights’, which is in fact a case of serial verb construction, i.e. it is not a case of reduplication at all. According to Feng (2014), a contrastive property of syntax between OC and MC is the [V&V] verb conjunction, which is completely normal in OC but appears unacceptable during the MC period.³¹ This evidence suggests that the duplication of the verb *su* could have been an instance of verb conjunction or repetition, rather than verbal reduplication. A support of this is the description which puts *susu* 宿宿 in a sentence as ‘*you ke susu, yan zai su ye* (有客宿宿, 言再宿也, if a guest stays for two nights continuously, then we call it *zai su*)’³², which might suggest that *susu* is not a word and cannot be used independently.

If we re-examine this example from a pure semantic point of view, more evidence can be found to support the idea that *susu* is not a reduplicated word. By comparing the meanings between the single and duplicated forms, we can see that *susu* itself does not signal plurality, frequency, or repetition that differentiates it from the single form, but rather a superposition of the meaning ‘to stay for one night’. Similarly, the duplication of the verb *xin* 信 in ‘*youke xin-xin, yan sisu ye* 有客信信, 言四宿也’ should also be treated in the same way. Furthermore, the single form (word) *xin* itself denotes the exact meaning of *susu*, i.e. ‘to stay for two continuous nights’. Therefore, it is very likely that the duplication form *susu* is hardly ever used in colloquial contexts, and is simply applied in the *Shijing* to satisfy the request for a tetrasyllabic line³³. Moreover, contemporary scholars such as Yu (1982) points out that *susu* denotes nothing

采」為形容詞，訓為「眾盛之貌」”。

³⁰ This example also refers to Li (2009), p.64.

³¹ Feng, Shengli (2014), p.545.

³² Selected from the *Erya, Shi Xun Disan* 爾雅·釋訓第三.

³³ Many previous studies of the *Erya*, such as the *Shaoshu* 邵疏 and the *Haoshu* 郝疏 believe that both ‘*xinxin*’ and ‘*susu*’ originate from the poem *Youke* 有客 in the *Shijing*. The full text of *Youke* is recorded here for reference: “有客有客，亦白其馬。有萋有且，敦琢其旅。有客宿宿，有客信信。言授之縶，以繫其馬。薄言追之，左右綏之。既有淫威，降福孔夷”。

else than the exact same meaning as *su*, and the reason why the verb is duplicated is merely a satisfaction of the poetry form.³⁴ Li (1978) also believes that the explanation for *susu* given by the *Erya* is incorrect. The actual meaning should be the same as *su*, which is also the case for *xinxin*.³⁵ Other similar examples that appeared in the *Shijing* include *chuchu* 處處, *yuyu* 語語, and so on.

Given the fact that almost all the reduplicative forms in the *Erya* are either adjectives or nouns, and the situation of verbal reduplication is much more complicated and is likely to be triggered by a series of reasons different from that of the other types, verbal reduplication will not be a major concern in this study.

2.3.2 The Problems of this Categorization

On the one hand, this classification does avoid some disadvantages of the phonological categorization. On the other hand, the second type of categorization seizes merely on the syntactic functions to classify the reduplicated words, without consulting any phonological or morphological characteristics of the syllables. It could, however, bring about some new problems. Moreover, compared with the problems of the first type, the second one can be more serious since it is more of a grammatical issue rather than the classification of words.

Generally, two kinds of problems may arise from this type of categorization. The first one is related to the controversy about word-class in Chinese. Ever since the publication of *Mashi Wentong* 馬氏文通, the first grammar book published in 1898 describing Chinese on the basis of western theories, disputes over the classification of Chinese lexicon has never stopped. Some argue that the boundary between a verb and an adjective is always too fuzzy to identify and therefore should be discarded. Some even question the existence of 'word-class' in Chinese. Kennedy, for instance, after having trouble distinguishing between a verb and a noun, objects the existence of noun-verb distinction in Chinese, which is a basic boundary in the classification of words in any language:

Simple though this may appear, one cannot avoid the feeling that on a higher philosophical level these formulations are unreal and over-elaborated. In the first place, there is the phenomenon of rather extensive interchange of functions, which requires the use of such symbols as Nv and Vn. If a noun may be used as a verb and a verb as a noun, one may well inquire whether there is any actual class distinction between them. In the second place, the classification of certain words as ambis, behaving partly like nouns and partly like verbs, would seem in itself a declaration that the noun-verb distinction

³⁴ Li (2009), p.68.

³⁵ Li (2009), p.68.

does not exist.³⁶

The second problem concerns with the system of categorization. If we only classify OC reduplication merely in terms of the syntactic functions, it cannot signify the core features or idiosyncrasies of reduplication at all. Rather, it is no more than the classification of the whole lexicon. Worse still, it fails in revealing the essence of OC reduplication as a morphological process, as well as providing convincing explanations for the differences in forms, for the reason that the process and motivations of forming a reduplicated word cannot be further analyzed on the basis of this categorization.

2.4 The Categorization of OC Reduplication in this Study

From the previous sections of this chapter we can see that the attempt to categorize OC reduplicative forms from neither phonological nor purely syntactic perspective can reach a satisfying result. One of the reasons is that the essence or core elements of OC reduplication has been left untouched, and thus none of the classifications seem to accomplish what it intends to do successfully. As a morphological phenomenon, the optimal framework for OC reduplication should be established in the domain of morphology, i.e. according to the morphological properties of each pattern.

An interesting question emerging from the analysis in section 2.1 is what should be taken as reduplication, or does a reduplicative form equal a case of reduplication? This reveals an important factor that have clearly been overlooked by many scholars, that is, a word with a reduplicative form does not necessarily imply that it is a case of reduplication, i.e. it has undergone the process of duplicating a monosyllabic base. On this account, it would be appropriate to first introduce a pair of concepts that might help us get closer to the core essence of OC reduplicative forms.

Briefly speaking, the idea is to first discriminate between substantial and formal reduplicative forms, before further categorizing specific patterns. Substantial reduplication consists of words that are formed by duplicating a single word, of which the semantic meaning is usually related to the single form, whereas formal reduplication contains words that possess a reduplicative form but do not undergo a process of reduplication, such as some onomatopoeic words.

Furthermore, in line with the definition for the notions given in section 2.1, total and some partial reduplicative forms are included in the realm of substantial reduplication, while onomatopoeia and other partial reduplicative forms are classified into the formal reduplication type.

³⁶ Cikosky (1970, 1997), p. 14.

Nevertheless, we should also bear in mind that not all the words are absolute 'formal' or 'substantial' reduplication (apart from the onomatopoeia). In other words, the formal and substantial reduplications can be interconnected. In addition, it is not feasible to examine the origin of each word due to the lack of conclusive evidence. The proposal of adding the contrast of 'formal' and 'substantial' concepts here is not to challenge or invalidate any kind of the categorizations provided by previous scholars, but should be seen as a reminder of the possibility that these OC reduplicative forms might not all originate from a monosyllabic word. On this account, these notions can be exploited to explain some of the essential issues (e.g. the problem that there are some words whose construction is not derivable from the normal morphological process of reduplication) in the study of reduplication.

2.5 Summary

This chapter re-examines the definition of OC reduplication, and gives an overview of the various approaches to classification from different dimensions. After comparing pros and cons of the phonological and syntactic types of categorization, this study has adopted the morphological categorization. Moreover, a distinction is drawn between substantial and formal reduplications in section 2.4, which will be further illustrated with examples in Chapter 3.

CHAPTER 3 FURTHER ANALYSIS OF OC REDUPLICATION

From the last chapter, we can see that OC reduplication is a multifaceted phenomenon that can be analyzed from a number of perspectives. Defining and classifying reduplication are complex tasks, due to differences in the understanding and analysis of this phenomenon. Any attempt to define and classify reduplication is shaped by various factors from different angles. It is therefore important to investigate the perspective and stipulations how one defines and classifies OC reduplication. Related to this are questions about why reduplicative forms emerge, and the motivations behind it in correlation with possible historical situations or practicalities, which will be investigated in this chapter.

Each category of OC reduplication is associated with distinct syntactic function and morphological process. For each type of reduplicative forms, the special properties it possesses and the motivations behind it are the focus points of this chapter. In line with the framework for categorization of OC reduplication patterns found in the *Erya* provided in Chapter 2, this chapter focuses on the internal structure of these reduplicative forms and the morphological process of the formation, with further analysis of possible motivations. The first section investigates the properties and possible motivations with illustrations of substantial reduplication, including total and partial reduplicative forms. The second part examines formal reduplication and the possible origins of some partial reduplicative forms. How formal and substantial reduplications interact with each other is studied in 3.3. Finally, a conclusion of this chapter is given in the last section.

3.1 Substantial Reduplication

Most of the total reduplicative forms and a number of the partial reduplicative forms belong to substantial reduplication. This section takes each type of reduplicative forms under careful examination, with illustrations to support the hypothesis that substantial reduplication results from affixation, and partial reduplication undergoes phonological variation to meet different syntactic or semantic requirements.

Affixation differs from compounding in that a word formed by affixation contains at least one constituent that cannot be used independently as a morpheme. Some of the peculiarities of an affix has been pointed out by Liao (2014) which supports the hypothesis of this study that substantial reduplication is the result of affixation (i.e. the reduplicant is an affix):

- i. they (affixes) select for the syntactic category of the stem/ root they attach to.
- ii. sometimes they (affixes) may change the category of the stem/ root they attach to.
- iii. in some instances they have no inherent meaning at all. (p.5)

Despite the fact that the affix component is usually a distinctive syllable, reduplication is a special type of affixation that does not distinguish between the affix and the stem phonologically (i.e. in a reduplicative form, the affix can be identical to the stem). Additionally, although affixation can be further divided into two types, as inflectional and derivational in many languages, it is hard to identify which is the case for Chinese since it is known to lack inflection. On the one hand, the process resembles inflectional affixation in that it does not change the word class of the stem, and does not lead to idiosyncratic change in the meaning; while derivational affixation is a morphological process that can produce or add new meanings, and sometimes change the word class of the original form. On the other, it is also possible to be treated as derivational affixation for the fact that in forming partial reduplication, the word class or the syntactic function sometimes undergoes changes, as well as the lexical meaning. Thus, I suggest that this should be taken as a language specific problem, and no further division of affixation types are needed for this study.

3.1.1 Total Reduplicative Forms

Most cases of total reduplicative forms are found in the *Shi Xun* chapter of the *Erya*, which functions as adjectives or adverbs³⁷ grammatically, denoting a descriptive meaning semantically. This pattern of total reduplicative forms is likely to be a process of affixation, which is triggered by semantic motivations for the purpose of specification and abstraction of the lexical meanings.

First and foremost, to demonstrate that this is indeed a case of affixation, it is necessary to conduct a careful examination of the semantic relationship between the reduplicative form and the monosyllabic root. In other words, if apparent distinctions can be drawn from the lexical meanings of the reduplicative form and the monosyllabic form, then the morphological process of forming a total reduplicative form in OC is not affixational. As mentioned before, the earliest studies of total reduplicative forms in the *Erya* date back to the pre-Qin dynasty when the phenomenon of *chongyan* 重言 or *diezi* 疊字 was noticed by ancient scholars. The term *diezi* literally means ‘the duplication of two identical characters’. From this definition one might deduce that the semantic meaning of a *diezi* might be closely related to its single form *danzi* 單字, ‘single character’. Nevertheless, Shao (1785) noticed that there can be two

³⁷ It should be noted that in OC, adjectives and adverbs are not clearly distinguished from each other, and are always included into the same word class.

types of relationship between the meaning of the two forms, which has been mentioned in the preface of the *Erya Zhengyi* 爾雅正義:

All of the *chongyu* 重語 (same as ‘*chongyan*’ or ‘*diezi*’) words in OC are adjectival words. On the one hand, there are some words whose single form denotes the ‘same’ meaning as the duplicated form, such as ‘*susu* 肅肅, *jing ye* 敬也, (respectful)’, ‘*pipi* 丕丕, *da ye* 大也, (large)’, in which the single forms ‘*su* 肅’ and ‘*pi* 丕’ mean ‘respectful’ and ‘large’ respectively. On the other hand, there are some words whose single and duplicated forms have different meanings, such as ‘*kankan* 坎坎, *xi ye* 喜也, (happy)’, ‘*juju* 居居, *e ye* 惡也, (evil)’ where the single forms *kan* 坎 and *ju* 居 cannot denote the meaning of ‘happy’ or ‘evil’.³⁸

The duplicated words of the first type that Shao mentioned, has the same meaning as the single form with a difference in degree, but not significant as to be substantial. By contrast, the second type can be taken as a creation of a new word.

However, this assumption can be problematic. To begin with, many words with only one character in OC are polysemic words that have various meanings, which suggests that a reduplicated word whose meaning seem totally unrelated to the common meaning of the single form might in fact derives from another meaning of the same character. An illustration of this is given by Karlgren (1960), who points out that the difference in the meanings of ‘*zhenzhen* (振振)’ in ‘*zhenzhen lu* (振振鷺, many egrets)’, and ‘*zhenzhen junzi* (振振君子, a noble gentleman)’ result from the multiple meanings of the single form ‘*zhen* (振)’. In his research, the former derives from the meaning of ‘queue (隊列)’ while the latter is an extension from ‘vibration (震動)’, which is the original meaning of ‘*zhen*’.³⁹

Equally important is that some words might be the results of the *jiajie* situation⁴⁰. For instance, the word *maomao* 懋懋 from the *Shi Xun* chapter is given an explanation as ‘*mian* (勉, meticulous)’, but whose single form *mao* 懋 never appears in the *Erya*. Shao believes that the meaning ‘meticulous’ might be borrowed from the homophone ‘*mao* (茂)’, which has been given the explanation of ‘*mian* (勉, meticulous)’ in the *Shi Gu* chapter.⁴¹ However, a collateral problem of the *jiajie* situation lies in the difficulty to identify which word should be taken as the original one, i.e. the word whose sign has been ‘borrowed’. Back to the ‘*maomao*’ example, although the single form *mao* was

³⁸ I have translated this paragraph from Li (2009), p.12. The original text is “案古者重語皆為形容之詞。有單舉其文與重語同義者，如肅肅、敬也，丕丕、大也，祇言肅，祇言丕，亦為敬也、大也。有單舉其文即與重語異義者，如坎坎、喜也，居居、惡也，祇言坎、言居，則非喜與惡矣。”

³⁹ Karlgren (1960), *Shijing Zhushi* (詩經注釋), p. 17.

⁴⁰ The explanation for *jiajie* can be found in footnote 4.

⁴¹ Li (2009) also mentioned this example as an explanation of the ‘*jiajie*’ phenomenon in the *Erya*.

not mentioned in the *Erya*, it has been used as an independent word in the *Shangshu*, which denotes the meaning of ‘meticulous’.⁴² In other words, it is possible that the meaning *mian* 勉 originates from *mao* 懋 itself, and therefore, the same meaning for *mao* 茂 might be borrowed from the former but not the other way around. Another example from the *Erya* is the first entry of the *Shi Xun* Chapter: ‘*mingming* 明明, *jinjin* 斤斤, *cha ye* 察也, (careful and clear)’. As introduced in 1.2.1, when two or more terms are listed together with only one explanation given at the end, the words share the same meaning. In this case, both *mingming* and *jinjin* denote the meaning ‘careful and clear’. While it is relatively easy to prove the single form *ming* 明 has the meaning ‘careful and clear’, many scholars failed in the attempt to prove the same for *jin* 斤. If we trace back to the original meaning of *jin*, as according to the *Shuowen Jiezi*, it should be ‘axe’, which later extends into a measuring unit that equals to sixteen *liang* 两, ‘another measuring unit’.⁴³ However, neither of these meanings can be related to ‘clear and careful’ at any rate. Faced with this problem, different solutions are provided by ancient scholars. Hao, for instance, by examining the explanation for *jin* 謹 in the *Shiming*, points out that since the function of *jin* 斤 is to ‘erase the trace left by the axe’⁴⁴, it can derive the meaning of ‘rigorous and accurate (詳謹)’, which is close to ‘careful and clear’. Yet other scholars such as Zhu Jian 朱璿 and Ma Ruichen 馬瑞辰 believe it to be a case of the *jiatie* situation. However, their opinions toward the original character differ from each other. Zhu believes that the meaning ‘careful and clear’ of *jin* 斤 is borrowed from *xin* 忻, while Ma insists on the character *xin* 昕⁴⁵. Nevertheless, either explanation agrees with the opinion that the lexical meaning of the total reduplicative form does not undergo distinctive change from the monosyllabic form, which supports the hypothesis that the morphological process of total reduplication⁴⁶ is affixation instead of compounding.

Apart from the morphological process of total reduplication, we also need to solve the question as what motivates the total reduplication process if it is not triggered by semantic elements. As every morphological process must be triggered by some motivations, total reduplication must have some differences compared with the monosyllabic form. Since no major differences can be found in the grammatical functions, I propose that total reduplication serves for the purpose of specification and abstraction of the lexical meanings.

⁴² The word ‘*mao* (懋)’ appeared in the *Pangeng* 盘庚 section in the *Shangshu*. Here is the poem: “盤庚既遷，莫厥攸居。乃正厥位，綏爰有眾。曰：『無戲怠，懋建大命。今予其敷心腹腎腸，歷告爾百姓朕志。罔罪爾眾，爾無共怒，協比讒言予一人』”。 The text proves that the word ‘*mao*’ can be used independently with the meaning of ‘meticulously’.

⁴³ The original text in the *Shuowen Jiezi* is “斫木也。象形。凡斤之屬皆从斤。”

⁴⁴ The original text in the *Shiming* says “斤，謹也。板廣不可得削，又有節，則用此斤之所以詳謹，令平滅斧跡也。”

⁴⁵ Since this is not directly relevant to the main argument, details regarding this question will not be discussed in this paper.

⁴⁶ The term ‘total reduplication’ used here does not include ideophones, meaning ‘the formation of a total reduplicated word’, the same hereafter.

First of all, total reduplication conveys a sense of abstraction and vagueness compared with the monosyllabic form. Based on the statistics provided by previous studies⁴⁷, a significant number of the total reduplicated words in OC appear in prosodic texts such as the *Shijing* and the *Chuci*. In most of the cases, the use of reduplication is under restrictions of the rules for a particular poetic form⁴⁸. An important characteristic of these poetic texts is that the content always describes the qualities of human or other objects with the use of adjectives or adverbs, which denote abstract or vague meanings. For instance, in a sentence like ‘*zhuozhuo qi hua* 灼灼其华, (brilliant are its flowers⁴⁹)’, what the author actually wants to emphasize is not ‘the brilliant look of the flower’, but rather the sense of brilliance one conceived from the flowers. By duplicating the word *zhuo* 灼, the lexical meaning of *zhuo*, ‘burning, bright’ is abstracted or weakened, leaving only the vague sense of brilliance preserved in the reduplicative form, which perfectly matches the intention of the poet, and accommodates the purpose of a prosodic text effectively. This also to some extent explains the reason why most of the total reduplicated words in OC are adjectives and adverbs, since these words are usually used to describe one’s motion, moral qualities, emotional feelings, personalities, or the characteristics of other things that always serve as the theme or main idea of a poem. In the rhetorical aspect, the use of total reduplicative forms can also highlight the main idea in a sentence better than using other disyllabic forms, thanks to the perfect identity in phonology.

The second possible motivation for forming a total reduplicative form is the specification or selection of semantic meanings from the monosyllabic word. It is worth noticing that there is a large number of polysemes in the category of content words in OC. To put it another way, the use of a polyseme instead of creating a new word is common among languages according to the Economy Principle⁵⁰. OC as a typical monosyllabic language, it is usually the case that a monosyllabic syllable denotes more than one meaning. As a consequence, it is sometimes difficult to interpret ‘correct’ meaning of the monosyllable even with the help of the given context. However, by duplicating the monosyllabic form, the choice of the possible meanings is narrowed down, so that one can easily interpret the exact meaning the word denotes. An illustration of this is the word *ming* 明, which itself has the meanings of both ‘bright (光明)’ and ‘evident (顯

⁴⁷ For example, according to Gallagher (1993), the use of reduplicated words in poetry greatly outnumbers that in their use in prose.

⁴⁸ Most of the poems in the *Shijing* follows a tetrasyllabic format, i.e. a form that each line consists of four syllables.

⁴⁹ The English version refers to the translation of the *Tao Yao* 桃夭 poem by James Legge in the *Book of Poetry* (1898).

⁵⁰ According to the Economy Principle, it is always preferable for a language to make use of its current lexicon to express new meanings rather than making too many new words, which prompts the emergence of polysemes. Another understanding of this principle for this study is that the phonological form of a word will not alter randomly unless there is a clear change in the meaning.

明)⁵¹. In a sentence like ‘*suye zai gong* 夙夜在公, (spending day and night at the office), *zai gong mingming* 在公明明, (discriminating and intelligent⁵²)’ from the *Shijing*, the reduplicated word *mingming* 明明 specifies the meaning of *ming* as ‘evident’, which derives the meaning of ‘discriminating and intelligent’ in the whole sentence.⁵³

A similar phenomenon can be found in children’s speech or the so-called ‘baby talks’ in modern Chinese. One example is the use of the word *fan* 飯, whose meaning varies when used independently or in the compound *chifan* 吃飯, ‘to have a meal’. It denotes the meaning of ‘a meal (including both rice and other dishes)’ when used as a part of the compound *chifan*, which is always duplicated as (*chi*) *fanfan* in children’s speech. A difference between the single form ‘fan’ and its reduplicated form can be shown in (1):

- (1) a. -Ni xianzai xiang chi shenme?
 you now want eat what
 (What do you want to eat now?)
 -Fan.
 (Rice.)
- b. -Ni xianzai xiang chi shenme?
 you now want eat what
 (What do you want to eat now?)
 -Fan-fan.
 (A meal.)

The meaning of *fan* changes into ‘rice’ in (1a), but remains the same meaning as the one in *chifan* in (1b), which reveals the fact that the use of reduplication might, to some extent, denote a different meaning from its single form in the same context. Although this might not be a persuasive argument for this study, the popularity of using reduplicated forms among children might suggest that reduplication is not only one of the primitive word formation methods, but also plays an important role in the nation’s cognition of the world.

⁵¹ These two explanations are given by Li (2009), p. 29. However, my understanding of the word ‘*mingming*’ differs from Li’s in the analysis of the *You Bi* 有駢 poem from the *Shijing*. As can be seen in the following illustrations.

⁵² The translation of the second half the sentence refers to the *You Bi* poem by James Leggie in the *Book of Poetry* (1898).

⁵³ This interpretation is based on Zheng Xuan’s 鄭玄 analysis. However, his is not the only interpretation of the word *mingming* 明明 in this example. In Chen Huan 陳奐 and Ma Ruichen’s interpretations, *mingming* should be understood as ‘hard-working’, borrowing from the phonetically similar word *mianmian* 勉勉. The reason why I used Zheng’s version is under the consideration of the interpretation of ‘*mingming*, *jinjin*, *cha ye* 明明, 斤斤, 察也’ in the *Erya*. Since the meaning of *cha* 察 is ‘clear and careful’, it can be taken as a synonym of ‘bright’. Thus, the meaning of *mingming* in both the *Erya* and the *Shijing* can be united. In addition, the word *mingming* appears six times in total in the *Shijing*, where only three of which can be interpreted as ‘hard-working’. Based on these two factors, Chen’s and Ma’s versions have not been adopted. This also proves that my understanding of *mingming* as a receiving a limited meaning ‘evident’ from *ming* might be right.

Another example in modern Mandarin similar to (1) is the use of *shoushou* 手手, as an alternative of *shou* 手, 'hand', denoting the meaning of 'finger (shouzhi, 手指)', as exemplified in (2):

- (2) a. Ta (xia dao) chi shoushou.
 He shock to eat hand-hand.
 'he is so shocked that he starts biting his finger'
- b. Ta (xia dao) chi shou.
 He shock to eat hand.
 * 'he is so shocked that he starts eating hand'

In this example, the expression of '*chi shoushou*' denotes the meaning of 'biting (one's) finger', while '*chi shou*' is problematic and failed to convey the same meaning. In other words, the reduplication of the word *shou* specifies the semantic meaning to a part of the hand, i.e. the finger instead of the whole hand. This also suggests that total reduplicative forms in OC are motivated by the specification of the lexical meanings from the monosyllabic form.

Although the analysis above might provide evidence for using total reduplication as a limitation of the multiple meanings of a single word, we should also take into consideration the fact that there are still plenty of total reduplicated words that seem to be able to denote more than more meaning. From my perspective, this phenomenon is not against the hypothesis, and can be explained from at least three aspects.

To begin with, a nonnegligible factor is the use of the *jiajie* method. As in the above-mentioned example, the meaning of the single word *jin* 斤 can either be 'axe' or a measuring unit, while its duplicated form *jinjin* 斤斤 denotes a completely irrelevant meaning of 'clear and careful', which is very likely to be the case of the *jiajie* situation, where the meaning 'clear and careful' is borrowed from phonetically similar words such as *xinxin* 昕昕 or *xinxin* 忻忻.

Secondly, some might be the result of homophones, which means that the two reduplicated words are given the identical phonetic and graphic form by coincidence. In other words, although they might look like the same word, they are in fact two independent words. For example, the word *zhizhi* 秩秩 is interpreted as 'wise (智)' in the *Shi Gu* chapter of the *Erya*, but it is clearly understood as 'the sound of the flowing water (流水聲)' in the line '*zhizhi sigan* 秩秩斯干, (the water in the steam keeps flowing and flowing)', from the *Shijing*. In my opinion, it should be analyzed as a case of the homophone phenomenon, in which the latter is an onomatopoeic word that happens to be graphically identical as the former. To put it another way, the latter is purely an imitation of the flowing sound of the water, which has no semantic connections with the single form *zhi* 秩, and therefore, the two *zhizhi* should be taken as mutually

independent words rather than the same one.

Last but not least, it is also possible that the different interpretations or definitions given for the same reduplicated word are closely related to each other, and can thus be regarded as the same meaning. Take the word *susu* 肅肅 from the *Erya* for instance. Although it has been interpreted as both *jing* 敬, polite and *gong* 恭, 'respectful' in different entries, the two interpretations are actually synonyms which can be concluded as 'respectful' after a further examination. Hence, this is in fact not a case of polysemy.

To conclude, the pattern of total reduplication in OC⁵⁴ can be taken as a process of affixation, which is triggered by semantic motivations for the purpose of specification and abstraction of the lexical meanings.

3.1.2 Partial Reduplicative Forms

The major distinction between the partial⁵⁵ and total reduplicated words lies in the grammatical property of the word (or word-class). With verbal reduplication aside, a preponderance of partial reduplicated words found in the *Erya* are nouns, terminologies or names of animal, plant, etc. distributed in the last section of the book. Morphologically, it differs from compounds in that it is always the case that both of the components or at least one constituent cannot be used freely and independently as a root, though not being fettered by perfect identity phonologically. Semantically, of the two constituents (in a disyllabic construction), one performs as the semantic base for the whole word (i.e. it is a morpheme or can be used as a word that has a clear lexical meaning), while the other one is itself meaningless. Syntactically, there is always a constituent behaving as an affix that cannot occur freely, and must be bound to the other constituent (the semantic base). Based on a careful observation of the words in the *Erya*, I propose that it is possible that some partial reduplicative forms undergo the process of further affixation on the basis of total reduplication, since affixation as a morphological process, can also produce or add new meanings, and sometimes change the word class of the original form. In other words, the original form of these partial reduplicated words is the total reduplication of the stem, which later undergoes some phonological variations for specific syntactic purposes.

Likewise, the first step of demonstration is to see whether partial reduplication undergoes an affixational process. The bipartite relationship between the two constituents is therefore examined, which shows that a partial reduplicated word is not constructed by two roots, but a root (or semantic base) plus an affix-like component that, when combines with the root, the word class of the stem shifts from adjective or adverb to a noun⁵⁶. One illustration provided

⁵⁴ Verbal reduplication is excluded in the analysis.

⁵⁵ The partial reduplicated words here are only those within the category of substantial reduplication.

⁵⁶ It should be noted that this affix-like component is different from affixes in English or other inflectional languages that the syllable itself might not have the grammatical function to change the word class.

by Sun (1999: 117) is the name for looper or inchworm *ciqi* 蠨蛸 OC **tsəkʰtsəkʷ*, in which the semantic base (root) is the second constituent */*tsəkʷ/*, meaning 'shrink, wrinkle, or be close to', and can be used as an adjective. Since one of the properties this kind of insects has is that there are many wrinkles in the back, it is possible that */*tsəkʷ/* is the semantic base of the noun. This example shows that in a partial reduplicative form, there is usually a component served as the semantic base for the whole construction.

Furthermore, with the illustration of total reduplicative forms given in 3.1.1, I propose that the word */*tsəkʰtsəkʷ/* originates from the total reduplicative form */*tsəkʷtsəkʷ/*, which denotes a sense of 'shrinking, wrinkly' (an abstraction of the semantic meaning of */*tsəkʷ/*). If this is indeed the case for partial reduplication, then the hypothesis that the morphological process of partial reduplication is affixation instead of compounding also stands⁵⁷. For better demonstration, I have found an example in a dialect of modern Chinese. In a dialect spoken in the Shandong province⁵⁸, the local name for *qingji* 青薊, 'Cirsium setosum' is the word *qingqingcai* 青青菜, in which the last constituent *cai* 菜, 'vegetable (in general)' is added after the total reduplicative form *qingqing* 青青, 'dark green' (which grammatically functions as an adjective) to ensure it is a noun instead of an adjective. On the contrary, the general name for vegetables *cai* 菜 is unnecessary in the word *qingji*⁵⁹. This example also provides evidence for the assumption that partial reduplication could be further modifications from total reduplication.

However, those who insist upon the opinion that reduplication is a purely phonological process might disagree with this. One of the most commonly accepted explanation for the emergence of a partial reduplicative form is that it is the result of the disyllabification⁶⁰ process beginning from late OC period. Similar to the affixational process, a prominent feature of words formed through disyllabification is that there is always a monosyllabic base and a redundant constituent in the construction. In other words, only one constituent has the same or similar semantic meaning compared with the whole construction, while the meaning of the other one is rather irrelevant. For example, in the word *huanghu* 荒忽 **hmanhmut*, 'distant and indistinct', the second syllable *hu* 忽, 'fleet, uncertain' is believed to be the semantic base⁶¹. However, if these words

⁵⁷ In other words, if partial reduplicated words are formed by variations in the phonological structure of a total reduplicative form, then the motivation behind the process must be different from that of combining two morphemes to form a compound.

⁵⁸ This information is collected by me through an interview with a local speaker of the Zibo (淄博) sub-dialect from the Shandong province, China.

⁵⁹ To some extent, the word *qingji* can be taken as a partial reduplicative form, since the main vowels of the two constituents are identical.

⁶⁰ Disyllabification is a process where a large portion of the OC lexicon transformed from monosyllabic words into disyllabic words from the loss of initial clusters and the coda such as **/-s/* or **/ʔ/* during the Han Dynasty.

⁶¹ An illustration of this example can be seen in the sentence '*huxiruohai* 忽兮若海, (feeling uncertain like fleeting on the sea)' from the *Laozi* 老子, where *hu* 忽 is used independently to denote a similar meaning as *huanghu* 荒忽.

are results of disyllabification, then there must be a monosyllabic form for each word which was later replaced by these disyllabic forms. In other words, the monosyllabic forms must be substituted by the disyllabic forms for they could no longer denote the same meaning as the latter. Moreover, these monosyllabic forms should be found in earlier texts with specific graphic forms in the writing system. If nothing can be found as evidence, or the monosyllabic and the disyllabic forms both denote the same meaning synchronically, then this might not be the actual reason behind the formation of partial reduplicated words in OC.

Sun (1999) also tries to provide a thorough explanation for this from a phonological perspective with the base-reduplicant method (BRCT). He proposes the categorization of progressive, retrogressive, and fission reduplicative patterns for partial reduplication based mainly on observation of the onsets of each constituent, and induced the possible morphological implications behind each type⁶². However, the major problem of Sun's solution is that, it is dangerous to distinguish the phonological base from the reduplicant merely according to the reconstructed initials without enough morphological evidence. On the one hand, this analysis depends too heavily on the reconstructed system which might turn out to be wrong. On the other, some of the semantic implications induced from the phonological patterns, i.e. progressive, retrogressive and fission proposed by Sun are against the linguistic facts. An example is the word *xiangyang* 相羊, OC **saŋlan*, 'hovering', which is classified as progressive reduplication in Sun (1999) with morphological implications of 'smallness or vividness' is actually the opposite according to morphological analysis of both constituents, as mentioned by Zhou (2000). In fact, the constituent *yang* can be used independently with the meaning of 'flying freely'⁶³, which corresponds to the meaning of 'hovering', whereas *xiang* cannot.

Another explanation from the prosodic perspective can be found in Feng (2014) as part of the prosodic/ intonational syntax. Feng believes that the changes in the OC syllable structure had led to the loss of weight of the syllables, (i.e. a stressed syllable became a light one), and the reduplicative forms emerged as the result of this. However, even if most nouns undergo the process of disyllabification due to prosodic reasons, it is still unlikely to be the case for names. In addition, the time period for disyllabification is much later than the emergence of OC reduplication⁶⁴. Thus, the prosodic syntactic reason also fails to explain the prosodic differences between reduplicative structure and other

⁶² The details of Sun's categorization have already been explained in previous chapters, and will not be repeated here.

⁶³ Such examples can be found in '*xiang, yang ye* 翔, 佯也' from the *Shiming*, where *xiang* 佯 is commonly agreed to be the actual form of *yang* 羊 in *xiangyang* 相羊.

⁶⁴ According to Feng (2014), the process of disyllabification "did not flourish until the Han Period (206 BCE–220 CE)".

stressed monosyllabic forms in OC (e.g. why each constituent in a reduplicative form contains less than two mora)⁶⁵. While Feng's proposal is inspiring to some extent, it still lacks convincing evidence to prove that the process of forming OC reduplication is purely phonological.

To sum up, the morphological process of both partial and total reduplication in OC⁶⁶ can be taken as a process of affixation, which is triggered by either semantic or syntactic motivations for different purposes, and partial reduplication could be further modifications from total reduplication.

3.2 Formal Reduplication

3.2.1 Some Partial Reduplicative Forms⁶⁷ and Other Possible Situations

Apart from the affixational process, there are also many other possible situations that lead to the emergence of a partial reduplicative form. An important reason is that the origins of these words might come from multiple possible situations. Evidence supporting this argument is that although a number of partial reduplicative forms analyzed in 3.1.2 has a component clearly served as the semantic base for the whole construction, there is also a considerable amount of words in which the semantic base remains unclear, such as *dingdong* 蕻董, **tanj'ʔtanj'ʔ*, 'a kind of grass'; *pulu* 蒲蘆 **bayray*, 'bulrush, reed'; *diaoliao* 鴉鷄 **tjawrjaw*, 'a kind of birds'⁶⁸. Thus, when faced with this type of reduplication, the two most important problems confronting us would be whether these words belong to substantial or formal reduplication, as well as what are the possible stimulations behind the formation of these words. With these questions in mind, several possibilities in terms of the chief agents and problems behind will be illustrated here with feasible solutions.

To begin with, if these words belong to substantial reduplication, then they must have a monosyllabic base which was later duplicated. Another one of the most important goals when investigating a substantial reduplication is to examine the relationship between the two sub-constituents, i.e. to see whether they are equally equivalent morphologically and syntactically, or not. A possible way to identify this relationship is to see whether the two sub-constituents are semantically independent or highly reliant on each other. However, since no evidence suggesting the possible monosyllabic form or the relationship between the sub-constituents of these words can be found, it is unlikely to be

⁶⁵ Feng's theory is based on the assumption that OC has a different prosodic structure than MC. In other words, the monosyllables were emphatic ones which contains two mora and can be counted as an independent prosodic unit before disyllabification occurred.

⁶⁶ As mentioned before, verbal reduplication is excluded in the analysis.

⁶⁷ Unlike the partial reduplicative forms analyzed in 2.1.2, these forms are words that possess a partial reduplicative form, but does not necessarily be the case of substantial reduplication.

⁶⁸ Unfortunately, the crucial step to solve this problem is to find the direct origins of these words, which is of little possibility due to the lack of evidence. Thus, either to support or deny this possibility needs conceivable evidence.

the case of substantial reduplication, but possibly a type of formal reduplication. In other words, they are disyllabic words from the very beginning. To support this hypothesis, three types of situation are analyzed here as the possible motivation for the emergence of these partial reduplicative forms.

One is that some words, especially those of which the origins are not clear, could be loanwords from a polysyllabic language. Historical materials have proven that many words, such as *musu* 苜蓿, 'Medicago sativa'; *pipa* 枇杷, 'loquat'; *konghou* 箜篌, 'a kind of instruments' are borrowed from the Western Regions (西域) with the importation of alien species during the pre-Qin and Han dynasties. These words usually preserve some characteristics of the original language. For instance, many languages from the Altaic family have the feature of vowel harmony, which also explains the vowel assimilation phenomenon in the *dieyun* words in OC.

The second possible situation is that some names of the same object reflect the distinction between elegance and vulgarity. Additionally, another possible situation that should not be neglected is that some reduplicative forms are collected from different dialects or languages. Inspired by the discrepancy between the spoken language and the writing system in places where people speak a 'dialect' of Chinese today⁶⁹, it is worth some reflection on the possibility that the monosyllabic form given at the end of each entry in the *Erya* could be 'translations' of different dialects or languages⁷⁰, rather than a simple interpretation. If so, then the different constructions or forms denoting the same meaning are not cognates, but completely unrelated.

Another possibility is that the monosyllabic form and the reduplicative form are used to denote different species of the same type. In this case, such as in 'duan 楸, *mujin* 木槿 (hibiscus)' and 'qin 檉, *mujin* 木槿 (hibiscus)', it would be better to examine the slight differences in the semantic meanings between *duan* and *qin* rather than focusing on which might be the monosyllabic form from which *mujin* dimidiates.

These three types of situation provide possible explanation for the origins of the partial reduplicative forms as pure formal reduplication.

3.2.2 Ideophones or Onomatopoeia

Ideophones or onomatopoeia belongs to a special type of words that is common in animal names as an imitation of the natural sounds. They belong to formal reduplication, and only appears in a duplicated form for a certain meaning. To put it another way, an onomatopoeic word cannot be decomposed in order to convey a certain meaning. This type of reduplication, such as the word *guanguan* 關關, in '*guanguan jujiu* 關關雉鳴' from the *Shijing*, belongs to

⁶⁹ In many provinces where people speak Wu, Yue, etc., there is no direct connection between the local vernacular and the graphic characters written down.

⁷⁰ The *Erya* was written during the Warring States period, when the territory of Zhou was composed of many states with different nations and languages.

onomatopoeia, according to Kennedy and Zhou Fagao⁷¹. In addition, there is a very limited number of pure ideophones or onomatopoeia found in the *Erya*. Some examples can be found in the Shi Chong chapter that introduces the names of insects, such as *qingqing* 蜻蜻 for a type of small cicadas, which is very likely to be originated from an imitation of the sound produced by flipping the wings in a high frequency.

Not all the words that possess a form of total reduplicative are substantial. Syntactically, these words function as nouns instead of adjectives or adverbs, and another possibility is that some of these forms are ideophones or onomatopoeia. The investigation conducted by Kennedy (1959) provides strong evidence for this argument. After an examination of 360 reduplicative forms, he found out that more than half of them only appear in doublet forms. Since a major distinction between onomatopoeia and the total reduplicated words in 3.1.1 is that the former only possess a 'reduplicative' form, while the latter is the result of doubling a monosyllabic base, it is reasonable to propose that some of the words from Kennedy's results are in fact onomatopoeic words.

In conclusion, both onomatopoeia and partial reduplicative forms should be taken as cases of formal reduplication that does not actually undergo the process of duplication.

3.3 The Interaction between Substantial and Formal Reduplications

While the last two sections demonstrate the contrasts between substantial and formal reduplicative forms in morphology and syntax, OC reduplication is a much more complicated phenomenon that involves more than two types of morphological constructions. In other words, there are also some other possible motivations for forming a reduplicative form resulting from the interaction between formal and substantial reduplications.

In addition, the morphological process for forming these words is more complicated than the pure substantial reduplicative forms. One possible situation observed from the *Erya* is that the original form or the base of a partial reduplicative form can be a formal reduplicated word rather than a substantially total reduplicated one. For instance, a partial reduplicative form based on an onomatopoeic word denoting an insect might be used to specify the species of the insect with the name of an onomatopoeic word (which is similar to the affixational process of forming a substantially partial reduplication). An illustration is also found in a modern dialect spoken in the Shandong province, where the onomatopoeia *chouchou*⁷² is used to denote the meaning of small-

⁷¹ This example is also given by Li (2009).

⁷² To support this argument, I have personally interviewed a few local speakers of this dialect. They all seem to believe that *chouchou* is an imitation of small-sized cicadas. Also, since no one knows the exact character of *chou*, I think it is better to leave the writing system out of this study.

sized cicadas by local people; while to denote large-sized cicadas, the name *langchou* is used as a different species of the former⁷³. This example also suggests the possibility that the onomatopoeia was once used as the general term of a genus, which later underwent semantic changes with the emergence of partial reduplicative forms through phonological modifications to denote specific species.

3.4 Summary

This chapter mainly examines the idiosyncrasies of each reduplicative pattern, with the analysis of possible motivations and the morphological processes of the substantial and formal reduplicative forms.

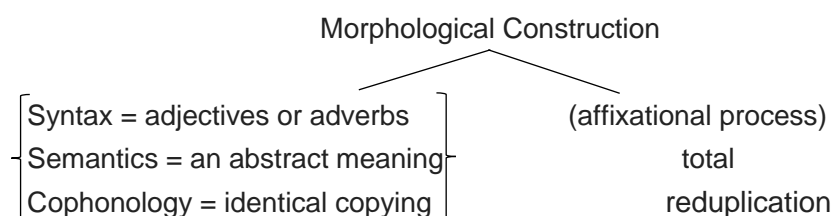
For substantial reduplication, the morphological process is an affixational process rather than compounding. Besides, based on the observation that the majority of total reduplicated words in the *Erya* are adjectives, whereas the predominant part of the partial reduplicated words are nominal words, the hypothesis that the pattern of total reduplication (substantial) in OC is motivated by the specification of the lexical meanings from the monosyllabic form, whereas the pattern of partial reduplication (substantial) is mainly triggered by a syntactic motivation of nominalization. Moreover, with the analysis in section 3.1.2, it is possible that partial reduplication originates from the total reduplicative form instead of directly from a monosyllabic base. With the schema from the MDT theory and methodology, the morphological processes of constructing a total and a partial reduplicative form is shown in (3a) and (3b) respectively:

(3) a. Total Reduplication (substantial):

Syntax = adjectives or adverbs

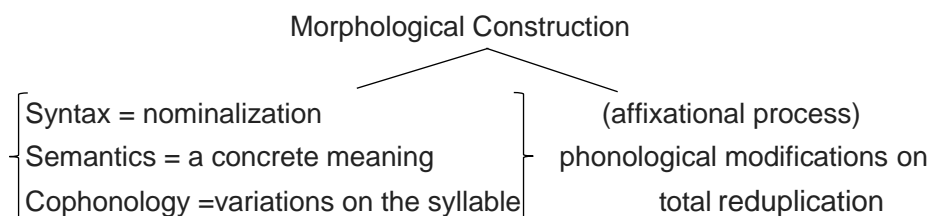
Semantics = specification and abstraction of the lexical meanings

Cophonology = identical phonological copying



⁷³ One of the interviewees points out that *lang* means 'large (in size)'.

- b. Partial Reduplication (substantial):
 Syntax = nominalization
 Semantics = specific lexical meanings
 Cophonology = variations on identical copying

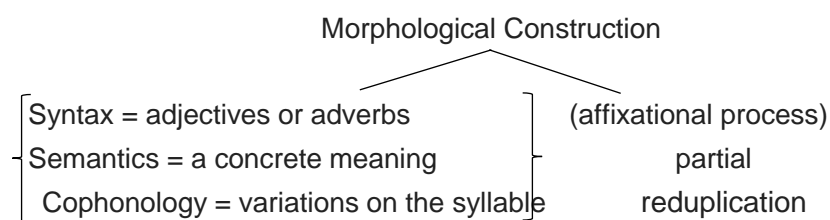


Nevertheless, these two schemas only reflect some aspects of the morphological construction of OC reduplication within the scope of this study. For total reduplication, those that denote the same semantic meaning as the monosyllabic form might emerge to meet the metrical requirements in a rimed prose or poem. A pragmatic function of [+emphasis] is also added during the duplicating process, making it the focus or highlight of the sentence it situates in. By contrast, the duplication is probably triggered to narrow down the range of possible meanings and avoid ambiguity for those that denote a different or new meaning from the monosyllabic base. For partial reduplication, the primary step of the duplicating process might be total reduplication, which then undergoes phonological modifications for the syntactic motivation of nominalization. Moreover, illustrations are given in section 3.1.2 to rule out the possibility that OC reduplication is triggered by purely phonological motivations.

For formal reduplication, the analysis of some partial reduplicative forms and onomatopoeic words shows that these words are cases of formal reduplication, i.e. they are disyllabic words from the beginning. Several explanations for the origins of the partial reduplicative forms are also proposed in section 3.2.1, which reveals some missing possibilities that supports the hypothesis that these words are not formed through the process of duplication.

The interaction between the two forms of reduplication (i.e. formal and substantial) is also investigated in 3.3. A case of partial reduplication formed on the basis of an onomatopoeic word with a total reduplicative form is illustrated, and the schema is shown in (4) below:

- (4) A Case of the Interaction between Partial Reduplication and Onomatopoeia:
 Syntax = nouns
 Semantics = modification of the lexical meanings
 Cophonology = phonological modification



However, it should also be noted the analysis in this study is only based on limited materials, and hence there could still be other existent exceptions which might reveal factors that are neglected in this dissertation.

In sum, within the realms of possibility thus far, all these reasoned arguments should be incorporated into consideration unless infallible evidence is found to proven any of these to be the only explanation. In other words, nothing is inconsequential before we find more concrete evidence regarding the motivation of forming total or partial reduplicated words in OC. For a full dissection of this issue, it is necessary to conduct a cautious inspection on the etymological, historical, pragmatic and cognitive aspects of these forms.

CHAPTER 4 CONCLUDING REMARKS

4.1 The Conclusion of this Study

OC reduplication has long been recognized as a special linguistic phenomenon. However, previous research on the syllable structure of the reduplicative forms fail to reach a convincing conclusion. This dissertation, with the aim to obtain a more comprehensive of the internal process of OC reduplication, discusses the key features of OC reduplication from a systematic perspective, and carries out an investigation of the morphological processes of different reduplicative patterns, revealing some essential properties of the phenomenon.

The first chapter compares several advanced theories and methodologies instructing the analysis of reduplication, and addresses the hypothesis that OC reduplication should be seen as a morphological process accompanied by some phonological variations (cophonology) instead of being purely driven by phonological identity imperative.

In Chapter 2, an inspection of the terminologies crucial to the study has been carried out, through which several problems have been revealed. In view of this problem, the set of terms have been redefined so that confusion regarding the interpretation can be effectively avoided. The inspection also reveals that a word with a reduplicative form might not necessarily be a case a case of reduplication which undergoes the process of morphological doubling. Hence, a contrast between formal and substantial reduplication in terms of the semantic relationship between the duplicative form and its monosyllabic base is introduced, where the former means words that possess a reduplicative form but do not undergo a process of reduplication, whereas the latter means reduplicated words that are formed by the doubling of a single word with some phonological or morphological modifications. This pair of concepts also plays an important role in identifying the essence of different reduplicative patterns in Chapter 3. In addition, after comparing the advantages and drawbacks between phonological and syntactic classifications, a categorization targeted at words in the *Erya* from a morphological perspective has been brought into line with the definitions given before.

The morphosyntactic and semantic analysis of each category is the topic of Chapter 3, with a detailed discussion of possible factors that could have been the motivation for forming OC reduplication. The difference in terms of syntactic functions between total and partial reduplication has also been mentioned, and a type of partial reduplication that combines substantial and formal forms have been brought out with examples. Moreover, the relationship regarding the morphological processes of total and partial reduplications have been proposed

within the possibility realm that a partial reduplicated word originates from total reduplication. The analysis of some partial reduplicative forms and onomatopoeic words is also included in this chapter, showing that they are cases of formal reduplication instead of substantial. Finally, the interaction between the two forms of reduplication (i.e. formal and substantial) is investigated, with a schema displaying a possible situation of forming a partial reduplicated word. However, none of these potential factors in the discussion seems to be the only force behind OC reduplication, and the conclusion by far is that while substantial reduplication can be taken as an affixational process chiefly triggered by syntactic or semantic implications, what motivates the formation of a reduplicated word is a combination of many different elements which are highly inter-related and cannot be easily decomposed.

4.2 Limitation and Further Studies

To begin with, one of the potential bias in this study lies in the assumption that all kinds of reduplication begins at the stage of total or full reduplication needs further evidence and demonstration. Methodologically, MDT has been selected as opposed to BRCT, for it is less prone to misinterpretation of the semantic meaning of the reduplicated words in the *Erya*. However, this does not guarantee that MDT is infallible in explaining OC reduplication, and there might be other theories and research methods more suitable for the study. Besides, the assumption that substantial reduplication is constructed in a compounding way might also lead to an underestimate of the possibility that it could be the case of affixational reduplication.

The examples used as evidence are collected from a limited range of sources. In other words, the examples for some arguments in this study is inadequate. Materials such as the *Fangyan* 方言 by Yangxiong 揚雄 (BCE53-CE18) and other resources that have not been included as reference might also provide precious information for the study. Therefore, bias due to a lack of information or data might occur in the illustration of potential motivations. It is possible that one of these elements plays a dominating role in the motivation behind OC reduplication, but to prove this requires further inspections of the etymology, phonology and history of the examples.

Limitation in the examination of the phonological structure has resulted in the classification of reduplicative patterns in this study. On the one hand, this categorization minimizes the possibility of nondifferential misclassification. On the other, it is not detailed enough to further investigate how morphology interacts with phonology on the basis of MDT within each category. Additionally, the reduplicative patterns occurred in the *Erya* are limited. For instance, verbal reduplication is beyond the scope of this study, which is an important aspect

that should not be left out of the discussion of OC reduplication for a more comprehensive result.

Comparisons between OC and MC, modern Chinese dialects, as well as neighboring languages from the Tai and Altaic families will be helpful to the study and should be furthered on, which might also shed light on how vowel harmonic rules influence the phonological structure of OC reduplication.

Last but not least, although the analysis of possible motivations in this study affords certain advantages in getting a more comprehensive understanding of OC reduplication, the reality is that what we have for now are just written documents indicating an existent phenomenon of 'reduplication' in ancient Chinese. What they actually appeared in speech thousands of years ago still, at least to some extent, remains a mystery that requires further investigation. In sum, this study only addresses some core issues about OC reduplication, and provides several explanations for the possible motivations behind different phenomena. More evidence needs to be found that can supply us with the 'missing link' to the esoteric world of OC reduplication.

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