

A descriptive study of affixation in Chinese and Indonesian and their morphological types

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ABSTRACT

The comparison of language systems in different language families is still a topic worth in-depth research. Both Chinese and Indonesian are languages with large population in the world, belonging to the language families of Sino-Tibetan and Austronesian, respectively. However, the comparison of their morphologies has received less attention, and scholars hold different views on their morphological types. This study delves into the types of affixation in Chinese and Indonesian, analysing their similarities and differences to deepen our understanding of the basic morphological types in both languages. Descriptive qualitative approach, current literature and document analysis are the main research method applied in this study. The findings reveal that Chinese and Indonesian affixes are mainly derivational, both have sound changes and the same mechanism of borrowed affixes. However, both Chinese and Indonesian exhibit unique types of affixation, varying in the number of allomorphs and the patterns of sound changes across different affixes; some Chinese affixes can be a root, and some of their quasi affixes are expressed in a free word in Indonesian. Analysing the morphological process of affixation in Chinese and Indonesian can further elucidate their basic morphological types. Chinese is a typical isolating language, but its affixes have certain characteristics of agglutinating language. Indonesian can be regarded as an isolating language in which its affixes have abundant characteristics of agglutinating language.

Keywords: Affixation; Chinese language; Indonesian language; morphological types

Received:

17 November 2023

Accepted:

6 September 2024

Revised:

7 August 2024

Published:

30 September 2024

How to cite (in APA style):

Marlim, Y. (2024). A descriptive study of affixation in Chinese and Indonesian and their morphological types. *Indonesian Journal of Applied Linguistics*, 14(2), 273-286. <https://doi.org/10.17509/ijal.v14i2.74904>

INTRODUCTION

Language comparative study is not merely limited to two languages; it can encompass many languages, i.e. typological comparisons. Linguistic typology observes and identifies cross-linguistic patterns of diversity and similarity (Arkadiev & Klamer, 2019; Aikhenvald & Dixon, 2017). Every language possesses phonological, morphological, and syntactic systems. Understanding these systems both in their commonalities and variations can aid fieldworkers and second language learners in developing a comprehensive understanding of languages efficiently and systematically.

One of the language systems that can be easily seen is the “shape”. The study of the shapes of words, i.e., the systematic changes in shape related to changes in meaning is called morphology (Bauer,

2003; Payne, 2017; Velupillai, 2012). It refers to the study of the internal structure of words (Arkadiev, 2020), the systematic form-meaning correspondences between words (Booij, 2007), and the study of how the forms of words may vary systematically to accomplish communicative purposes (Payne, 2017).

In traditional typology, besides the basic morphological types such as isolating, agglutinating and inflectional language, German linguist Humboldt introduced a mixed form type known as the “incorporating language” (or polysynthetic). These four language types are categorized based on the most basic linguistic unit, the “word” (Lu & Jin, 2015).

Whether one language belongs to isolating, agglutinating, inflectional or polysynthetic

language, it depends on the basic characteristics of its morphology. Based on scholars' views (Hu et al., 2017; Lu & Jin, 2015; Velupillai, 2012; Ye & Xu, 2010; Iacobini, 2006), characteristics of morphological types of languages can be summarized as follows: (1) Isolating language has almost no inflectional form, no morphological complexity, and almost every word is composed of a free morpheme; free morphemes can stand alone as independent words; morphs are clearly identifiable both phonologically and semantically; both word order and function words play important roles in grammatical means. (2) Agglutinating language has no internal inflection, no gender distinction, relatively fixed word order, and agreement is almost completely absent; affixes are derivational, each affix carries only one meaning, and boundaries between affixes and roots are quite clear. (3) Inflectional language is rich in inflection in which word order is not as important as isolating language; the affixes and roots are tightly combined, so without inflectional affixes, roots generally cannot exist independently; one inflectional affix represents several grammatical categories at the same time; high degree of modification of internal morph boundaries, and agreement is widely employed; inflectional affixes never change the category and the meaning of the base lexeme. (4) Polysynthetic language is particularly complex where a word can include many morphemes and can even form a sentence.

The morphological typology of languages can be a meaningful basis for fieldworkers or second language learners to compare languages (Payne, 2017). The comparison of language systems in different language families is still a topic worth in-depth research. Chinese and Indonesian are languages with large populations in the world (Indonesian has become an official language of UNESCO), belonging to the language families of Sino-Tibetan and Austronesian, respectively. Knowing the similarities and differences in their features will assist second language learners in mastering both languages (Hu, 2018; Hu, 2017; Jiang, 2012). However, the comparison of their morphologies has received less attention, and scholars hold different views on their morphological types.

Scholars generally classify Indonesian as an agglutinating language characterized by rich word-form changes, mainly formed through derivation, reduplication and compounding; Indonesian exhibits a wealth of affixes that serve grammatical functions. (Febrian et al., 2022; Tambusai, 2020; Jiang et al., 2020; Wang et al., 2019; Surinah, 2017; Li, 2016; Tang, 2009). Some argue that Indonesian belongs to an inflectional language, characterized by rich inflectional changes, diverse derivative word formations, and high productivity (Fang & Hong, 2017; Ye, 2011). Some argue that Indonesian is an

isolating language, mainly isolating language with agglutinative characteristics. They assert that besides depending on word order and function words, Indonesian also uses affixes and other methods to convey different grammatical and semantic relationships (Cui, 2023; Bickel & Nichols, 2013; Hu, 2017; Yan & Zong, 2003).

Most scholars assert that Chinese is classified as an isolating language, also referred to as an analytical language. It is characterized by the lack of derivative words, with syntactic relationships being expressed not through inflectional forms of words, but rather through word order or function words (Lyu & Hu, 2020; Lamarre & Itsuku, 2017; Fang & Hong, 2017; Tang, 2009; Hu, 2017; Savitri, 2011; Yan & Zong, 2003). Bickel & Nichols (2013) pointed out that Chinese is a mix of isolating and agglutinating. Deng (2018) emphasized that Chinese is a "root language" that generates many words through compounding. Even though Chinese is an isolating language, it also has agglutinative and inflectional elements, e.g. "了 *le*, 着 *zhe*, 过 *guo*" attached to verbs are in fact agglutinative components; Some words change their word class through internal inflections (sound change), such as 好球 *hǎo qiú* 'good shot'—爱好 *ài hào* 'hobby', 长短 *cháng duǎn* 'length'—生长 *shēng zhǎng* 'grow' (Ye & Xu, 1997; Yang, 2020). Chinese indeed lacks of the morpheme inflectional form, yet its morphological process can be studied more on sound changes, i.e. morphological prosody (Wang, 2023).

In summary, scholars hold different perspectives on the morphological classification of Chinese and Indonesian. Chinese is widely considered an isolating language, though some argue it exhibits elements of both isolating and agglutinating languages, and even features inflectional elements. Indonesian is generally regarded as a typical agglutinating language, although some scholars classify it as inflectional, while others view it as an isolating language with agglutinative characteristics. Given these varied interpretations, further study to explore the morphological types of Chinese and Indonesian remains necessary and challenging. Based on the internal structure of words, traditional morphology can be studied in word-formation (includes derivation, compounding, etc.) and syntactic level (Wang, 2023; Sha, 1999). In order to identify the morphological characteristics of Chinese and Indonesian, this study will focus on the word formation level. There are a number of ways of building words in languages, such as affixation, reduplication, compounding, etc. Shao (2016) divided Chinese word formation into monomorphemic and Hecheng words (compounding, affixation, reduplication). Indonesian word formation can be formed basically through affixation, reduplication and compounding

(Widya & Dewi, 2009). New words are more likely formed through compounding (Qiu et al., 2020). But the most common way in building new words is through affixation (Bauer, 2003).

Research conducted by Salim (2015) comparing affixation in Indonesian and Chinese revealed both similarities and differences in meaning and form, particularly concerning borrowed affixes. However, her study did not address the types of Chinese affixation in infixes and quasi-affixes. Sunarti & Sakti (2020) discovered that Indonesian and Chinese personal affixes exhibit both one-to-many and one-to-one relationships. Their analysis was based on limited data, including 10 Chinese suffixes (-者 *zhe*, -鬼 *gui*, -汉 *han*, -师 *shi*, -家 *jia*, -生 *sheng*, -手 *shou*, -星 *xing*, -员 *yuan*, -长 *zhang*) and 4 Indonesian affixes (prefix *pe-* and borrowed suffixes *-man*, *-wan*, *-wati*). It was noted that many of the Chinese personal affixes described were quasi-affixes (Li, 2022; Zhang, 2022), and some lacked equivalents to Indonesian, e.g. suffix-生 in 学生 *xuesheng* 'student' corresponds to prefix *pe-* in *pelajar* 'student', but there is no equivalent affix for 医生 *yisheng* 'doctor' in Indonesian *dokter* 'doctor'. Fang & Hong (2017) elaborated that the derivation of abstract noun in Chinese and Indonesian is influenced by Indo-European affixes, e.g. affix -非 *fei* is equivalent to affix *non-*. Yet there are numerous Chinese borrowed affixes that are not equivalent to Indonesian borrowed affixes, as there are no quasi-affixes in Indonesian. Yan & Zong (2003) described the types of affixations in Chinese and Indonesian, including their origins. However, the authors expressed hesitation regarding Chinese infixes and quasi-affixes, and the discussion on Indonesian affixation was brief, lacking illustrations of allomorphs and sound changes.

Previous research has also shown that comparisons of affixation in Chinese and Indonesian are still relatively understudied. Therefore, further research on affixation in both languages is necessary and holds significant importance in advancing linguistic understanding. Describing and comparing the affixation patterns of Chinese and Indonesian may reveal fundamental morphological features, enabling fieldworkers to conduct more comprehensive research. Moreover, this line of research studies can contribute to applied linguistic inquiries, particularly in the realms of second language teaching and learning.

Hence, this study aims to analyze the affixation of Chinese and Indonesian to reveal their basic morphological types across four main aspects: (1) types of affixation in Chinese and Indonesian, (2) similarities of affixation in Chinese and Indonesian, (3) differences of affixation in Chinese and Indonesian, and (4) the morphological types of Chinese and Indonesian.

METHOD

This study employs a descriptive qualitative research approach, which includes understanding the phenomenon being investigated, synthesizing information, explaining relationships, theorizing about why relationships occur as they do, and integrating new insights with existing knowledge (Ary et al., 2014). In qualitative research, key data collection strategies include observation, interviewing, and document analysis. For this study, current literature and document analysis are utilized to address the research questions, which include describing the types of affixation in Chinese and Indonesian, identifying similarities and differences between them, and analyzing their morphological types.

The documents used for data analysis are mainly obtained from Chinese and Indonesian books and journals. The data for Chinese affixation were mainly obtained from *Xiandai Hanyu Tonglun* (General Theory of Modern Chinese), *Yufa Jiangyi* (Lecturers on Grammar), *Xiandai Hanyu* (Modern Chinese), *Hanyu he Yinniyu Duibi Yufa* (Comparative Grammar of Chinese and Indonesian). The data for Indonesian affixation were obtained mainly from *Morfologi Bahasa Indonesia* (Indonesian Morphology), *Inti Sari Morfologi: Afiksasi, Reduplikasi, dan Komposisi* (Essence of Morphology: Affixation, Reduplication, Compounding), *Morfologi: Bentuk, Makna dan Fungsi* (Morphology: Shapes, Meanings and Functions), *Morfologi: Kajian Proses Pembentukan Kata* (Morphology: Study of Word Formation Processes), and Indonesian References Grammar.

Regarding the morphological typology study, the data were obtained mainly from An Introduction to Linguistic Typology, Morphological Typology, The Cambridge Handbook of Linguistic Typology, Linguistics: A Course Book, *Yuyan Leixingxue Jiaocheng* (Introduction to Linguistic Typology), *Yuyanxue Jiaocheng* (A Course of Linguistics), and Agglutinating language in Bahasa Indonesia.

Data analysis spiral (Creswell, 2007) was employed in this study involving four procedures conducted in a continuous loop: (1) data managing, (2) reading and memoing, (3) describing, classifying and interpreting, and (4) representing and visualizing. The first procedure involved organizing the documents obtained from Chinese and Indonesian book and journals. These documents were classified into three sections, namely Chinese and Indonesian morphological types, Chinese affixation and Indonesian affixation.

The second procedure involved engaging with the organized documents through reading and reflection. During this stage, notes were taken on issues related to Chinese and Indonesian morphological types, as well as their affixation features. Theories and data were examined and

highlighted to be analyzed and integrated for the upcoming phase of the process.

The third procedure involved describing, classifying and interpreting the data. This stage represents the core of qualitative data analysis and, hence was carried out meticulously and in detail. Initially, the researcher described and synthesized the definitions and features of Chinese and Indonesian affixation. For example, in Chinese, there are three general types of affixation, namely prefix, infix, and suffix. Additionally, Chinese exhibits specific quasi-affixes such as quasi prefix, quasi infix, monophonic quasi suffix, and reduplicated syllable quasi suffix. On the other hand, Indonesian has five types of affixation, namely prefix, infix, suffix, circumfix, and simulfix. Each type of affixation was elaborated in detail and illustrated with examples.

Secondly, through detailed analyses, the researcher was able to identify and classify the similarities and differences in both Chinese and Indonesian affixation. For instance, both languages have their own unique affixes, in which Chinese features quasi-affixes, while Indonesian has circumfixes and simulfixes.

Thirdly, analyzing the similarities and differences between Chinese and Indonesian affixation features and connecting them with the features of universal morphological types may provide insight into discovering new interpretations of Chinese and Indonesian morphological types. For example, while Chinese has quasi-affixes that retain basic meanings and some affixes can function as roots, Indonesian has no quasi-affixes. However, most roots of words in Indonesian demonstrate high independence and can stand alone as free morphemes. This can be illustrated as follows:

- (A) Suffix -子 *zi* + 骗 'lie' → 骗子 *pianzi* 'liar'
——产子 *chan zi* 'give birth to a child'
(In Chinese, suffix -子 *zi* attached to the root 骗 *pian* 'lie' in 骗子 *pianzi* 'liar' functions as a bound morpheme, changing the word class from a verb to a noun. However, in the compound word 产子 *chan zi* 'give birth to a child', 子 *zi* becomes a root, meaning 'child').
- (B) Prefix *meN-* + *baca* 'read' → *membaca* 'to read' (In Indonesian, the prefix *meN-* attached to the root *baca* 'read' in *membaca* 'to read' indicates an active verb. However, the root *baca* can still be used independently in a sentence, as in *saya baca buku* 'I read books').

These illustrations demonstrate that both Chinese and Indonesian exhibit the basic characteristics of an isolating language.

Finally, the fourth procedure involved representing the findings of this research in

visualized formats. This included illustrating the types of affixation in Chinese and Indonesian, as well as depicting the similarities and differences of Chinese and Indonesian affixation through the use of tables, figures, and examples.

FINDINGS AND DISCUSSION

This section provides detailed answers to the research questions, beginning with an exploration of the types of affixation in Chinese and Indonesian, which will be further divided into Chinese affixation and Indonesian affixation. Subsequently, the similarities between Chinese and Indonesian affixation are presented, followed by an analysis of their differences. Finally, the morphological types of Chinese and Indonesian that exhibit their affixation features are presented.

Types of Affixation in Chinese and Indonesian

An affix is a bound morpheme that attaches to a word but is not the root itself (Carstairs-McCarthy, 2006), typically categorized as derivational or inflectional. Derivational affixes, such as *un-* and *-ness* in the word "*unhappiness*", create new words; whereas inflectional affixes, like *-s* for plural or *-ed* for past tense, provide grammatical information (Velupillai, 2012). Affixes can only attach to another morpheme, making them essentially agglutinative (Hu, 2007).

Affixation is a word formation process involving roots and affixes, resulting in derivative words (Huang & Liao, 2017). In Chinese, affixation is classified into three types: prefix, suffix and infix, depending on the order of affixes relative to the roots (Shao, 2016). Affixation is a process of word formation that involves adding affixes (bound morphemes) to the root of a word, where the root can be either a free or bound morpheme (Simpfen, 2021). Indonesian exhibit five types of affixation namely prefix, infix, suffix, circumfix, and simulfix (Simpfen, 2021; Setyaningsih, 2019; Arifin, 2007; Yan & Zong, 2003).

Chinese Affixation

In Chinese, affixes, known as "词缀 *cizhui*", play a crucial role in the word formation process alongside roots. Affixes exhibit a fixed order relative to roots, with some appearing before roots and others after (Zhu, 1982). They are typically categorized into three types based on their position with respect to the roots, namely prefixes, infixes, and suffixes. While the variety of typical affixes in Chinese is not extensive, there exists a number of "quasi affixes" characterized by similarities to affixes, high productivity, and grammaticalized forms. Among all types of affixes, suffixes and quasi-suffixes are the most productive, while infixes and quasi-infixes are the least productive (Shao, 2016).

Prefix (前缀)

There are prefix (前缀) and quasi prefix (类前缀) in Chinese, both of them refer to the affixes that are attached to the front of roots.

(1) Prefix

老-lao: 老婆 'wife', 老师 'teacher', 老板 'boss',

Quasi Prefix

可-ke: 可信 'trustable', 可靠 'dependable', 可爱 'adorable' (Shao, 2016, p. 92)

The combination of prefixes and roots causes changes in word class and meaning, as illustrated in (1). 老婆 laopo 'wife' is composed of the prefix 老-lao and the root 婆 po 'grandma'. Similarly, the quasi prefix 可-ke 'can' (its basic meaning) is attached to the roots 信 xin 'trust' and 靠 kao 'depend', resulting in 可信 'can be trusted/trustable' and 可靠 'can be depended/dependable'.

Infix (中缀)

There are infix (中缀) and quasi infix (类中缀) in Chinese, both of which refer to affixes that are attached in the middle of roots.

(2) Infix

-里-li: 糊里糊涂 'confused'

Quasi Infix

-得-de: 来得及 'still get time',

-不-bu: 来不及 'no more time'

(Shao, 2016, p. 92)

In example (2), the infix -里-li is attached to the root 糊涂 hutu 'foolish', resulting in 糊里糊涂 hulihutu 'confused, act stupidly, cannot think clearly'; sound change occurs, infix -里-li is pronounced in a neutral tone. Quasi infix -得-de 'get' and -不-bu 'no, not' still retain their basic meanings of affirmation and negation (Li, 2019); when applied, sound changes occur, and they are pronounced in a neutral tone.

Suffix (后缀)

In Chinese, there are suffix (后缀) and quasi suffix (类后缀), both of which refer to affixes that are attached behind the roots. Quasi suffix are further divided into monophonic quasi suffix (单音类后缀) and reduplicated syllable quasi suffix (叠音类后缀).

(3) Suffix

-子 zi : 孩子 'child', 妻子 'wife', 胖子 'fat person'

-儿 er : 鸟儿 'bird', 活儿 'work', 花儿 'flower'

-头 tou : 石头 'stone', 木头 'wood', 念头 'idea'

(Shao, 2016, p. 92; Zhu, 1982, p. 30)

(4) Monophonic Quasi Suffix

-者 zhe : 学者 'scholar', 读者 'reader'

-性 xing : 慢性 'chronic', 急性 'acute'

Reduplicated Syllable Quasi Suffix

-乎乎 huhu: 热乎乎 'hot', 胖乎乎 'chubby'

-溜溜 liuliu: 光溜溜 'bare and smooth', 滑溜溜 'slippery'

(Shao, 2016, p. 92)

In example (3), suffix-子 zi is used for nouns or quantifiers and pronounced in a neutral tone. Suffix -儿 er is used for nouns and quantifiers, but it never functions as a standalone syllable (Zhu, 1982). The suffix -子 zi and -头 tou differ from the suffix -儿 er in that they become neutral tone syllables when attached to roots (Huang & Liao, 2017); while the suffix -儿 er undergoes retroflexion (儿化), resulting in sound changes. This indicates that when a suffix -儿 er is attached to a root, either the root or the suffix will undergo sound changes, e.g. 片儿 piàn'ér is pronounced pīr. Suffixes -子 zi, -头 tou, and -儿 er are typically used in nominalization as noun markers (Yi, 2023).

In example (4), the quasi suffix -溜溜 liuliu 'smooth and sleek' (its basic meaning) is attached to the root 光 guang 'bare', resulting in 光溜溜 'bare and smooth'. Additionally, Wang (2023) emphasized that besides sound changes in phonemes, alterations in stress, tone, and reduplication are also Chinese morphological features.

Chinese affixation is influenced by the Indo-European language, leading to the incorporation of borrowed affixes in abstract noun formation (Fang & Hong, 2017; Yan, 2021).

(5) -化 hua: 全球化 'globalize', 现代化 'modernize'

(Fang & Hong, 2017, p. 1235)

The borrowed affix, as illustrated in (5), is a quasi affix. Affix -化 hua still retains its original meaning of 'change' (verb) and functions as a free morpheme. In modern Chinese, -化 hua corresponds with the English suffix -ize, both carrying the meaning of 'to change become or to make become' (Deng, 2020). Besides functioning as quasi affix, -化 hua can also serve as a root in a sentence, e.g. 雪化了 xue hua le 'the snow is melting', 化 hua here means 'melt'.

In summary, Chinese affixation is a word formation process involving the combination of roots and affixes, resulting in derivative words. Affixes in Chinese are bound morphemes with fixed positions. In addition to prefixes, infixes, and suffixes, Chinese also features "quasi affixes" such as quasi prefixes, quasi infixes, monophonic quasi suffixes and reduplicated syllable quasi suffixes. When affixes are attached to the root of a word, they change the word class and meaning, with minimal alteration in pronunciation (except for affixes undergoing 儿化 'retroflexion' and 轻声 'neutral tone'). Chinese has incorporated some borrowed

affixes (quasi) in abstract noun formation, influenced by Indo-European languages.

Indonesian Affixation

In Indonesian, affixes are referred to as “*imbuhan*”. Affixation is a word formation process that involves the combination of roots and affixes (bound morphemes) in which the roots can be either free morphemes or bound morphemes. This combination of roots and affixes can lead to changes in both word class and meaning (Rasika, 2022). Indonesian affixation is classified into five categories namely prefix, infix, suffix, circumfix, and simulfix (Simpem, 2021; Setyaningsih, 2019; Arifin, 2007; Yan & Zong, 2003).

Prefix (awalan)

Prefix refers to an affix that is attached in front of a root, e.g. *penjual* ‘seller’, *jual* is the root, and *peN-* is the prefix. Indonesian features 9 prefixes, namely *meN-*, *di-*, *ke-*, *ber-*, *ter-*, *se-*, *peN-*, *per-*, and *pe-* (Widya & Dewi, 2009). When prefixes are attached to roots, changes occur in the meaning and word class of the resulting words, as demonstrated in Table 1. Among these prefixes, 5 prefixes (*meN-*, *peN-*, *pe-*, *ber-*, *ter-*) have multiple allomorphs and can cause sound changes when attached to roots with one syllable or specific phonemes. However, when a prefix is attached to a loanword root, the first phoneme of the root remains unchanged (Rasika, 2022; Setyaningsih, 2019; Karimah, 2019), e.g. *suplai* in Table 1.

Table 1

Affixation of Prefix in Indonesian

Prefix	Root	Word class	Word	Word class	Allomorph
<i>peN-</i>	<i>ajar</i> ‘teach’	verb	<i>pengajar</i> ‘teacher’	noun	<i>peng-</i>
<i>pe-</i>	<i>ajar</i> ‘teach’	verb	<i>pelajar</i> ‘student’	noun	<i>pel-</i>
<i>meN-</i>	<i>cat</i> ‘paint’	noun	<i>mengecat</i> ‘to paint’	verb	<i>menge-</i>
<i>ter-</i>	<i>nama</i> ‘name’	noun	<i>ternama</i> ‘famous’	adjective	<i>ter-</i>
<i>meN-</i>	<i>suplai</i> ‘supply’	noun	<i>mensuplai</i> ‘to supply’	verb	<i>men-</i>

Infix (sisipan)

Infix refers to an affix that is attached in the middle of a root. There are 4 infixes in Indonesian, namely *-el-*, *-em-*, *-er-*, and *-in-* as illustrated in (6). However, the method of using infixes to form words is no longer in use, and most words composed of infixes have been transformed into roots (Setyaningsih, 2019).

- (6) *-el-* + *tunjuk* ‘to point’ *telunjuk*
 ‘forefinger’
- em-* + *getar* ‘shake’ *gemetar* ‘tremble’
- er-* + *gigi* ‘tooth’ *gerigi* ‘serration’

- in-* + *kerja* ‘work’ *kinerja* ‘performance’
 (Setyaningsih, 2019, p. 23; Yan & Zong, 2003, p. 63)

Suffix (akhiran)

Suffix refers to an affix that is attached behind a root and there are 4 suffixes in Indonesian, namely *-an*, *-i*, *-kan*, *-nya* (Setyaningsih, 2019). Each of these suffixes carries several grammatical meaning, some of which can be seen in (7).

- (7) *ajar* ‘teach’ + *-an* *ajaran* ‘the things you teach’
- tinggi* ‘high’ + *-kan* *tinggikan* ‘make higher’
- panas* ‘hot’ + *-i* *panasi* ‘to make hot’
- asyik* ‘fun’ + *-nya* *asyiknya* ‘being so fun’
 (Setyaningsih, 2019, p. 21-23)

Circumfix (imbuhan terbelah)

Circumfix refers to affixes that are attached simultaneously to the front (prefix) and behind (suffix) a root. The combination of affixes and a

root in circumfix is integrated, the affixes cannot be used separately. There are 5 circumfixes in Indonesian, namely *ke-an*, *peN-an*, *per-an*, *ber-an* and *se-nya* (Setyaningsih, 2019).

- (8) *ke-* + *indah* ‘beautiful’ + *-an*
 keindahan ‘beauty’
- per-* + *sama* ‘similar’ + *-an*
 persamaan ‘similarity’

In (8), circumfix *ke-an* attached simultaneously to the root *indah* ‘beautiful’ becomes *keindahan* ‘beauty’, and circumfix *per-an* attached to the root *sama* ‘similar’ becomes *persamaan* ‘similarity’. In both cases, the word class change from adjective to noun.

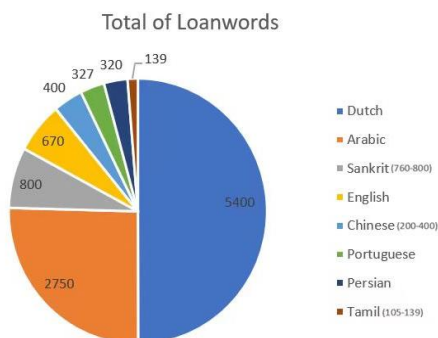
Simulfix (imbuhan gabung)

Simulfix refers to affixes that are composed of two or more prefixes, infixes or suffixes attached to the root in a systematic and gradual manner. There are 5 combinations of simulfixes, namely prefix and infix combination (*ber-el-*), infix and suffix combination (*-em-an*), prefix and suffix combination (*ber-an*, *meN-i*, *di-i*, *meN-kan*, *di-kan*, *ber-kan*), prefix and prefix with suffix combination (*memper-kan*, *diper-kan*, *memper-i*, *diper-*) and multiprefixes (*memper-*) as illustrated in the following example (Arifin, 2007; Yan & Zong, 2003):

- (9) *-em-an* + *gerlap* ‘flash’ → *gemerlap* ‘flash’
 → *gemerlapan* ‘sparkling’
- ber-an* + *pakai* ‘use’ → *pakaian* ‘clothes’ →
 berpakaian ‘put on clothes’
 (Yan & Zong, 2003, p. 63)

Indonesian is a language that has Riau Malay base and has evolved by incorporating elements from various local ethnic languages and foreign languages such as Dutch, English, Arabic, Sanskrit, Chinese, Portuguese, and others (Zhu, 2022; Sneddon, 2010; Samuel, 2008). Jones (1984) conducted an analysis of loanwords in Indonesian during the second half of the 19th century, as depicted in Figure 1.

Figure 1
Number of Loanwords of Indonesian in the Second half of the 19th Century



Indonesian loanwords were predominantly derived from Dutch e.g. *bengkel* ‘workshop’, *sepeda* ‘bicycle’, *aula* ‘hall’, *pulpen* ‘pen’, *handuk* ‘towel’, *telat* ‘late’, etc.; the second most dominant source of loanwords was derived from Arabic e.g. *ilmu* ‘science’, *wafat* ‘death’, *pasar* ‘market’, *hewan* ‘animal’, *badan* ‘body’, *waktu* ‘time’, *murid* ‘pupil’, etc.; and the third dominant loanwords originated from Sanskrit e.g. *bahasa* ‘language’, *sastra* ‘literature’, *menteri* ‘minister’, *agama* ‘religion’, *upacara* ‘ceremony’, *bicara* ‘talk’, etc.

There are several productive affixes derived from Sanskrit (Jones, 1984), such as *antar-* ‘inter’ for *antarbangsa* ‘international’, *maha-* ‘great’ for *mahasiswa* ‘university student’, *swa-* ‘self’ for *swasembada* ‘self-supporting’, *wan-* ‘personal suffix’ for *rupawan* ‘good-looking person’, etc. Due to the influence of foreign languages, Indonesian has adopted numerous borrowed affixes, such as *anti-*, *non-*, *-wan*, *-wati*, *-in*, *-isme*, *-(is)asi*, *-logi*, *-tas*, *-si*, *-iah*, etc. (Sunarti & Sakti, 2020; Arifin, 2007; Fang & Hong, 2017) illustrated in (10).

- (10) *seni* ‘art’ + *-man* *seniman* ‘artist’
kapital ‘capital’ + *-isme*
kapitalisme ‘capitalism’
global ‘global’ + *-is(sasi)*
globalisasi ‘globalization’
(Sunarti & Sakti, 2020; Fang & Hong, 2017)

In summary, Indonesian affixation is a word formation process that involves combining roots (either free or bound morphemes) with affixes (bound morphemes). Indonesian exhibits a relatively diverse array of affixes. These affixes are categorized into five types based on their order with

respect to the roots, namely prefix, infix, suffix, circumfix and simulfix. Among them, prefixes are the most commonly used and productive, while infixes have largely lost their word-forming function. The combination of roots with various affixes results in the creation new words, accompanied by changes in word class, sound and meaning. Influenced by historical, economic, and cultural factors, as well as contact with foreign languages, Indonesian has incorporated a number of borrowed affixes into its morphology.

Similarities of Affixation in Chinese and Indonesian

Affixation in Chinese and Indonesian exhibits similarities in the following aspects:

- Both Chinese and Indonesian affixes are mainly derivational, not inflectional.
(11) 画 ‘paint’ + -家 画家 ‘painter’
ajar ‘teach’ + -an ajaran ‘the things you teach’

Derivational affixes in both languages induce changes in word class and meaning. In (11), the Chinese suffix *-家 jia* attached to the root 画 *hua* ‘paint’ becomes 画家 ‘painter’, altering the word class from a verb to a noun. Similarly, the Indonesian suffix *-an* attached to the root *ajar* ‘teach’ becomes *ajaran* ‘the things you teach’, also transitioning the word class from a verb to a noun. However, there are certain affixes in both languages that, while attached to roots, do not alter the word class and the meaning of the roots, e.g. suffix *-子 zi* for 桌子 *zhuozi* ‘table’ (桌 *zhuo* ‘table’) and prefix *meN-* for *membaca* ‘to read’ (*baca* ‘read’).

- Both Chinese and Indonesian affixation share the same mechanism of borrowing.
(12) 资本 ‘capital’ + -主义 资本主义 ‘capitalism’
kapital ‘capital’ + *-isme* *kapitalisme* ‘capitalism’

In both languages, the affixes attached to the roots follow a similar order, reflecting borrowing from Indo-European languages. In (12), Chinese quasi suffix 主义 *-zhuyi* attached to the root 资本 *ziben* ‘capital’ becomes 资本主义 ‘capitalism’. The suffix 主义 *-zhuyi* corresponds to the prefix *ism-* in English. Indonesian suffix *-isme* attached to the root *kapital* ‘capital’ (a loan morpheme) becomes *kapitalisme* ‘capitalism’. The suffix *-isme* corresponds to the suffix *-ism* in English.

Despite this similarity, there are differences in how borrowed affixes are integrated into each language. Indonesian often directly adopts the pronunciation of the borrowed affixes such as *non-*, *anti-*, etc., and sometimes the spelling of borrowed affixes, e.g. *-isme* for *-ism*, *-logi* for *-logy*, etc. Meanwhile, Chinese borrowed affixes may have different spellings and pronunciations but retain

similar meanings to their borrowed counterparts, e.g. 非-*fei* for *non-* ‘non’, 反-*fan* for *anti-*, -化 *hua* for *-ize*’, 主义 *zhuyi* for *-ism*, etc.

3. Both Chinese and Indonesian affixation cause sound changes on their affixes and roots.

- (13) 片 ‘slice’ + -儿 *er* 片儿 ‘film’
peN- + *sewa* ‘rent’ *penyewa* ‘landlord’

Chinese affixation causes sound changes on their roots and affixes for the retroflexive suffix -儿 *er* and neutral tone for suffixes -子 *zi* and -头 *tou*. Indonesian affixation causes sound changes in their roots and affixes, especially prefixes. In (13), Chinese retroflexion (儿化) occurs after suffix -儿 *er* is attached to the root 片 *piàn* ‘slice’, instead of *piàn’ér*, it is pronounced *pīr*. Indonesian *penyewa* ‘landlord’ is a combination of the prefix *peN-* and root *sewa* ‘rent’, the prefix *peN-* changes to *peny-* when attaching with the root that starts with phoneme ‘s’, and the phoneme ‘s’ of the root is omitted.

Differences of Affixation in Chinese and Indonesian

Affixation in Chinese and Indonesian exhibits differences in the following aspects:

1. Both Chinese and Indonesian have their own unique affixes, Chinese has quasi affixes, while Indonesian has circumfix and simulfix.

- (14) Quasi Prefix → 可-*ke*: 可信 ‘trustable, 可靠 ‘dependable’
 Quasi Infix → -得-*de*: 来得及 ‘still get time’
 Monophonic Quasi Suffix → -者 *zhe*: 学者 ‘scholar’, 读者 ‘reader’
 Reduplicated Syllable Quasi Suffix → -溜溜 *liuliu*: 光溜溜 ‘bare and smooth’
 (15) Circumfix → *ke-* + *aman* ‘safe’ + *-an* → *keamanan* ‘safety’
 Simulfix → *ber-an* + *pakai* ‘use’ → *pakaian* ‘clothes’ → *berpakaian* ‘put on clothes’

There is no quasi-affix in Indonesian affixation (Dyah, 2016). Besides prefix, infix and suffix, there are unique types of Chinese affixation, namely quasi prefix, quasi-infix, monophonic quasi suffix and reduplicated syllable quasi suffix described in (14). The term “quasi” used in Chinese affixes refers to the affixes that still have their basic meaning and sometimes can be used as roots (Zuo, 2024; Zhang, 2019). When the quasi prefix 可-*ke* ‘can’ (its basic meaning) is attached to 信 *xin* ‘trust’ and 靠 *kao* ‘depend’, they become 可信 ‘trustable’ and 可靠 ‘dependable’. Quasi infix -得-*de* ‘get’ (its basic meaning) applied in 来得及 *laideji* means ‘still get time’. When the monophonic quasi suffix -者 *zhe* ‘person’ (its basic meaning) is attached to 学 *xue*

‘learn’ and 读 *du* ‘read’, they become 学者 ‘scholar’ and 读者 ‘reader’. Reduplicated syllable quasi suffix -溜溜 *liuliu* ‘smooth and sleek’ (its basic meaning) attached to 光 *guang* ‘bare’ becomes 光溜溜 ‘bare and smooth’.

Meanwhile, there are also unique types of Indonesian affixation, namely circumfix and simulfix illustrated in (15). Circumfix is composed of one prefix and one suffix attached simultaneously to a root, e.g. *keamanan* ‘safety’ prefix *-ke* and suffix *-an* are attached simultaneously to the root *aman* ‘safe’, and the word class changes from adjective to noun. Simulfix is a unique type of Indonesian affixation in which it combines two or more affixes in a systematic and gradual manner, e.g. *berpakaian*, suffix *-an* is first attached to the root *pakai* ‘use’ becomes *pakaian* ‘clothes’, prefix *ber-* is attached afterwards and becomes *berpakaian* ‘put on clothes’.

2. Some affixes in Chinese can function as roots, while Indonesian affixes are exclusively bound morphemes.

- (16) 骗 ‘lie’ + -子 *zi* → 骗子 *pianzi* ‘liar’ — 产子 *chan zi* ‘give birth to a child’
 (Deng, 2020, p. 841)

Besides bound morphemes, some affixes in Chinese can be a root, such as suffixes -子 *zi*, -儿 *er*, quasi affixes -化 *hua*, 反-*fan*, etc. In (16), suffix -子 *zi* attached to 骗 *pian* ‘lie’ becomes 骗子 *pianzi* ‘liar’, -子 *zi* is pronounced in neutral tone; yet 子 *zi* becomes a root in 产子 *chan zi* ‘give birth to a child’, 子 *zi* here means ‘child’ and is pronounced in the third tone (上声). While in Indonesian, no affix can be a root in any condition e.g. *terbaik* ‘the best’ is composed of prefix *ter-* ‘shows the most’ (grammatical meaning), and a root *baik* ‘good’, prefix *ter-* will never be a root and cannot be independent.

3. Chinese affixes basically have no allomorph, while Indonesian affixes have a number of allomorphs.

- (17) 第-*di* + 一-*yi* ‘one’ → 第一 ‘number one’
 读 *du* ‘read’ + -者 *zhe* → 读者 ‘reader’

Most Chinese affixes have invariant form (no allomorph). In (17), 第一 *diyī* ‘number one’ is composed of prefix 第-*di* and root 一-*yi* ‘one’, there is no variant of prefix 第-*di* after the affixation. 读者 *duzhe* ‘reader’ is composed of quasi suffix -者 *zhe* and root 读 *du* ‘read’, there is no variant of quasi suffix -者 *zhe* after the affixation.

Meanwhile, Indonesian affixes have a number of allomorphs on prefixes, see Table 2.

Table 2
Affixation of Prefix *peN-*

Root	Word	Allomorph
<i>takut</i> 'afraid'	<i>penakut</i> 'someone who is afraid'	<i>pe-</i>
<i>bawa</i> 'carry'	<i>pembawa</i> 'carrier'	<i>pem-</i>
<i>dorong</i> 'push'	<i>pendorong</i> 'pusher'	<i>pen-</i>
<i>sewa</i> 'rent'	<i>penyewa</i> 'landlord'	<i>peny-</i>
<i>cat</i> 'paint'	<i>pengecat</i> 'painter'	<i>penge-</i>
<i>karang</i> 'compose'	<i>pengarang</i> 'composer'	<i>peng-</i>

There are 5 prefixes (*meN-*, *peN-*, *per-*, *ber-*, *ter-*) that will form variants when they are attached to one-syllable roots or roots with certain first phonemes. Prefix *meN-* has 6 allomorphs namely *men-*, *mem-*, *meny-*, *meng-*, *me-* and *menge-*. Prefix *peN-* also has 6 allomorphs namely *pen-*, *pem-*, *peny-*, *peng-*, *penge-* and *pe-*. Both *peN-* and *meN-* show the same allomorphs (Denistia & Baayen, 2019) and systematic relations with roots (Denistia & Baayen, 2023). Prefix *per-* has 3 allomorphs namely *per-*, *pe-* and *pel-*. Prefix *ber-* also has 3

allomorphs namely *ber-*, *be-* and *bel-*. While prefix *ter-* only has 2 allomorphs namely *ter-* and *te-*.

4. Sound changes in Chinese affixation occur on certain affixes, while sound changes in Indonesian affixation occur mostly on prefixes.

Sound changes in Chinese affixation only occur on suffixes (*-儿 er*, *-子 zi* and *-头 tou*) shown in Table 3 and infixes (*-里 li*, *-得 de* and *-不 bu*) illustrated in (18).

Table 3
Sound Changes of Chinese Suffixation

Suffix	Root	Word	Pronunciation
<i>-儿 ér</i> [ər]	<i>片 piàn</i> 'slice'	<i>片儿</i> 'film'	<i>pīr</i> [p ^h i r]
<i>-子 zǐ</i> [tsi]	<i>椅子 yǐ</i> 'chair'	<i>椅子</i> 'chair'	<i>yǐzi</i> [ji tsi]
<i>-头 tóu</i> [t ^h ou]	<i>石头 shí</i> 'stone'	<i>石头</i> 'stone'	<i>shítou</i> [ʃ i: t ^h ou]

Table 3 shows that when suffix *-儿 ér* is attached to *片 piàn* 'slice', retroflexion occurs, the word is pronounced *pīr* instead of *piàn'ér*; there are omission on the phonemes of the root and the suffix, and tone changes occur as well. While suffix *-子 zǐ* and suffix *-头 tóu* will be pronounced in a neutral tone when they are attached to any roots, e.g. suffix *-子 zǐ* is attached to *椅子 yǐ* 'chair' and is pronounced *yǐzi* instead of *yǐzǐ*, *子 zǐ* changes to neutral tone; suffix *-头 tóu* is attached to *石头 shí* 'stone' and is pronounced *shítou* instead of *shítóu*, *-头 tóu* changes to a neutral tone.

- (18) *-里 lǐ* 糊里糊涂 'confused, act stupidly, cannot think clearly'
-得 dé 来得及 'still get time'
-不 bù 来不及 'no more time'

In (18), when infix *里 lǐ* is attached to the root 糊涂 *hútu* 'foolish', the word is pronounced *húlihútu* instead of *húlihútu*, infix *-里 -lǐ* is pronounced in neutral tone. The same phenomena occurs to 来得及 *láidejí* 'still get time' and 来不及 *láibují* 'no more time', infix *-得 -dé* and infix *-不 -bù* are pronounced in neutral tones.

Meanwhile, sound changes in Indonesian affixation occur mostly on prefixes illustrated in (19).

- (19) *meN-* + *pakai* 'use' *memakai* 'to use'
meN- + *cat* 'paint' *mengecat* 'to paint'
meN- + *sewa* 'rent' *menyewa* 'to rent'

In (19), suffix *meN-* in the word *memakai* 'to use' becomes *mem-* when it is attached to the root with "p" first phoneme and the phoneme "p" itself is omitted; suffix *meN-* in the word *mengecat* 'to paint' becomes *menge-* when it is attached to the one syllable root; suffix *meN-* in the word *menyewa* 'to rent' becomes *meny-* when it is attached to the root with "s" first phoneme and the phoneme "s" itself is omitted.

5. There are some quasi affixes in Chinese that are expressed in a free word in Indonesian.

Some Chinese quasi affixes are considered as word forming affixes, but the corresponding affixes in Indonesian are considered as word forming roots. Some quasi affixes in Chinese such as *-式 'style'*, *-学 'subject of study'*, *-性 'character'*, *-论 'theory'*, and etc. (Fang & Hong, 2017) are considered as word forming affixes, while in Indonesian, the corresponding affixes are considered as the word forming root of the abstract nouns.

- (20) *-论: 达尔文论 teori Darwin* 'Theory of Darwin'
-式: 西式 model Barat 'Western Style'

In (20), the *-式 shi* and the *-论 lun* in the words *达尔文论 da'erwenlun* and *西式 xishi* are quasi suffixes; but in Indonesian, the *teori* and the *model* in the words *teori Darwin* and *model barat* are roots. In other words, Chinese *-论* and *-式* in the context of *X 论* and *X 式* belong to suffixes; while

Indonesian *teori* and *model* in the context of *teori X* and *model X* belong to roots of word formation (compounding). Therefore, when they are being written in Indonesian, they are not attached to the subsequent roots and a space in between is a must.

Morphological Types of Chinese and Indonesian

Chinese is generally classified as an isolating language while Indonesian an agglutinating language. However, some scholars assert that Chinese belongs to a mix of isolating and agglutinating (Bickel & Nichols, 2013), a “root language” (Deng, 2018), an isolating language with agglutinative and inflectional elements (Ye & Xu, 1997). Meanwhile, besides agglutinating, scholars claim that Indonesian belongs to inflectional (Fang & Hong, 2017; Ye, 2011), an exclusively isolating (Bickel & Nichols, 2013), isolating (Cui, 2023) and mainly isolating language with agglutinative characteristics (Hu, 2017; Yan & Zong, 2003). Therefore, further research and discussion are required to provide a better understanding of their morphological features.

The analysis of the similarities and differences of Chinese and Indonesian affixation will reveal their morphological features. First, both Chinese and Indonesian affixes are mainly derivational in which they create new words and cause changes in word class, sound, and meaning. Second, they have the same mechanism of borrowed affixes, influenced by Indo-European languages. Third, their affixation causes sound changes in roots and affixes. However, there are points that show Chinese consists of stronger and more free roots than Indonesian, namely Chinese has quasi affixes that still retain their basic meaning and some affixes in Chinese can function as roots. Hence, Chinese is a more typical isolating language.

In Indonesian, a word can be a single free morpheme and can be used in a sentence without any affixes, e.g. *baca* ‘read’ and *membaca* ‘to read’, prefix *meN-* was omitted in informal situations (Saddhono et al., 2023). Most roots of words in Indonesian show high independence and they are free words that stand alone as free morphemes; this is one of the strong features of isolating (Velupillai, 2012). Distinguishing word classes in Indonesian is rather challenging due to the lack of morphological markers, e.g. *marah* ‘angry’, it can be a verb or an adjective (Darwanto et al., 2020). Hence, Indonesian indeed exhibits the morphological characteristics of isolating language.

Regarding the agglutinating features, Indonesian affixes are mostly derivational, the basic meanings of roots still exist, and the boundary between roots and affixes is clear, e.g. suffix *-an* attached to *ajar* ‘teach’ becomes *ajaran* ‘the things you teach’. Chinese affixes also have similar characteristics, e.g. quasi suffix *-者* attached to *读* ‘read’ becomes *读者* ‘reader’.

As for inflectional features, scholars may have seen some inflectional affixes in Indonesian, namely prefix *di-* and *meN-*, they are attached to transitive verbs to indicate whether the verbs are passive or active (Denistia & Baayen, 2022; Sneddon, 2010), such as *membaca* ‘to read’ and *dibaca* ‘be read’. Similarly, in Chinese, suffix *-子* in the word *桌子* *zhuozi* ‘table’ (*桌* *zhuo* ‘table’), no changes occur in the word class and the meaning except for the sound change. It might be a type of affixation called **suprafix**, a morphological process that involves suprasegmental factors such as changes in stress or pitch (Carstairs-McCarthy, 2006); Scholars explained that sound changes on suffixes *-儿* *er*, *-子* *zi*, *-头* *tou* and reduplication are morphological prosody (Wang, 2023; Feng & Lin, 2023; Cui, 2012). Pertaining to Chinese inflectional element, Zhou (2023) claimed that the usage of “-了 *le*, -着 *zhe*, -过 *guo*” attached to the verbs will add grammatical meaning to the verbs without affecting their lexical meaning. However, these elements do not represent multiple grammatical categories at the same time. They only show one grammatical information (this is one of the agglutinating features, see Wang, 2023) and there is neither agreement nor gender distinction. One of the inflectional language characteristics is one morphological component usually represents some grammatical meaning (Wang, 2023; Lu & Jin, 2015), e.g. in English, the root *look* after adding suffix *-s*, becomes *looks*, the suffix *-s* indicates the feature of present tense and the third singular person at the same time, while the word class and meaning of the base lexeme *look* remains the same. Both Chinese and Indonesian affixation have almost no gender distinction and no agreement. Hence, it can be concluded Chinese and Indonesian are not inflectional languages (see Gao, 2020).

Contemporary research on morphological types of languages focuses more on identifying correlations between different types rather than strictly classifying them into prototypical categories (Arkadiev, 2020). This approach allows for the recognition of the variety of combinations of morphological types and the identification of mixed types to which they belong. This study shows that Chinese is a typical isolating language, but its affixes in basic word formation have some characteristics of agglutinating; while Indonesian can be concluded as an isolating language in which its affixes in basic word formation have abundant characteristics of agglutinating language.

CONCLUSION

The morphological process of Chinese and Indonesian word formation can be observed from three aspects namely affixes, reduplications, and compounds. This study delves into the types of

affixation in Chinese and Indonesian, analyses their similarities and differences to better understand the basic morphological types of Chinese and Indonesian.

The study shows that both Chinese and Indonesian affixation are similar in three aspects: (1) their affixes are mainly derivational; (2) they have the same mechanism of borrowed affixes; and (3) their affixation cause sound changes on roots and affixes. Meanwhile, they are different in five aspects: (1) Chinese has quasi affixes, while Indonesian has circumfix and simulfix; (2) Some affixes in Chinese can be a root, while Indonesian affixes can only be bound morphemes; (3) Chinese affixes have no allomorph, while Indonesian affixes have a number of allomorphs; (4) Sound changes in Chinese affixation occur on certain affixes, while sound changes in Indonesian affixation occur mostly on prefixes; and (5) there are some quasi affixes in Chinese that are expressed in a free word in Indonesian.

By analyzing the affixation of Chinese and Indonesian, it further reveals their basic morphological types. Chinese is a typical isolating language, but its affixes have some characteristics of agglutinating language. Indonesian can be concluded as an isolating language in which its affixes have abundant characteristics of agglutinating language. For further research, the other two aspects of basic word formation in Chinese and Indonesian, namely reduplication and compounding, are worth studying to explore more on their morphological process.

ACKNOWLEDGEMENT

I would like to express my utmost gratitude to Dr. Li Yu – my lovely lecturer and mentor. I am very thankful for her insightful advice, assistance, and guidance in completing this research. I am grateful to Charles Kambaya for his continuous support and valuable suggestions. Finally, I am indebted to my supervisor Prof. He Lin for making this research supported by The National Language Commission's "14th Five Year Plan" Research Program for 2021 Major Scientific Research Project "Research on the Construction and Communication of Chinese Linguistics Discourse System" (ZDA145-2); Wuhan University Chinese Characteristics Philosophy and Social Science Discourse System Special Project (2019HY004).

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