ORIGIN AND DEVELOPMENT OF
CLASSIFIERS IN CHINESE

DISSERTATION

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To my parents,

Huibi Wang
&
Mingrong Feng
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CHAPTER I

INTRODUCTION

1. Significance and purpose of this study

In his book On the Yin and Yang Nature of Language, Bailey writes,

The fundamental problem of linguistic theory is to understand (explain and predict) how linguistic structures evolve - come into being and change into new (sub) systems - and thereby to learn what the true nature of language is. (1982: 25)

All languages need measures to indicate quantity. For example, while English has measure words such as *pound, foot* and *meter*, Chinese has the equivalence of 磅 *bang*, 英尺 *yingchi* and 米 *mi*, respectively. However, only some languages need classifiers. For instance, in English one can say 'four tables' and 'one chicken', but in Chinese one has to say 四張桌子 *si zhang zhuozi* 'four-flatness-table: four tables' and 一隻鶏 *yi zhi ji* 'one-animal-chicken: one chicken'. *Zhang* 'flatness' and *zhi* 'animal' are classifiers, placed between the numeral and the following noun.

The present study investigates why Chinese needs classifiers and how classifiers
came into being and developed into an obligatory grammatical category in the modern language. Studying the origin and development of classifiers will provide not only a better understanding of the nature of classifiers, but also the circumstances which might motivate the development of this typological feature in classifier languages.

Classifier languages are found throughout East Asia (China, Japan and Korea) and Southeast Asia (Vietnam, Thailand, Burma, etc). Since classifier languages in this area, especially those in Southeast Asia, share some typological features (e.g., Jones 1970, Norman 1988), how classifiers originate in these languages has been a topic of growing interest among linguists in the past couple of decades. How classifiers arose differs from language to language; different origins and conditions thus necessitate further subcategorization of classifier languages. The following question has often been asked in previous studies (Jones 1970, Erbaugh 1986, Sun 1988, Peyraube 1991): Did classifiers in an area come into being under the influence of a common source by spreading from a particular language, or did languages in that area independently develop their own classifier systems?

The present study is motivated by the following considerations. Among the languages in Asia, Chinese historically exerted a strong influence on other languages in the area, as reflected by their wholesale borrowing of Chinese, spoken and written. Such borrowing included classifiers (cf. Downing 1984 for Japanese, Nguyen 1957 for Vietnamese, F. Wang 1985 and 1983 for Miao, Wei and Qin 1979 for Zhuang, etc.). Furthermore, classifier usage in China has had a long history. Classifiers were used in the Chinese language for more than three thousand years. The modern classifier structure might have had its origin in the Weijin Nanbei Chao period, that is, in the third to fifth
century A. D. (Liu 1965). Classifiers as a grammatical category became obligatory in the Song period around the eleventh century. (Wang 1958). The long history of written records in Chinese can be used to trace the development of classifiers in the language. More, and older, historical documents have been written in Chinese than in other classifier language in Asia. Therefore, the study of the development of classifiers in Chinese is not only valuable on its own merits, but will also provide a useful reference to the study of classifiers in other Asian languages.

To date, some crucial problems concerning classifiers in Chinese have remained. The central ones are questions on the origin, motivation, and the development of the classifiers in Chinese. Some studies hypothesize that classifiers in Chinese were borrowed from Tai languages (Jones 1970, Erbaugh 1986). Other studies offer different answers. Since nouns in Chinese are not inflected for number, some link the emergence of classifiers in Chinese to the mass/count noun contrast (cf. Hansen 1983), while others claim that Chinese classifiers were motivated to help speakers and listeners remember big numbers (cf. Yau 1988). Some cross-linguistic studies of other classifier languages have suggested that the numeral classifier system "tends to appear first as focus particularly in answers to quantitative WH-questions and later spreads to other constructions" (Greenberg 1972: 189). Does the same hold for Chinese? Given the continued debate over these issues and many questions that remain unanswered, the current study is an in-depth investigation on the origin and development of classifiers in Chinese. The findings in this study will shed light on the issues raised above, and will enable us to better address those issues, including the source of classifiers in Southeast Asia.
2. Organization of the dissertation

The remaining chapters of this dissertation are organized as follows. Chapter II will discuss the background on the study of classifier languages in the world in general, and of classifiers in Chinese in particular. Two topics are raised in the chapter: (1) the theoretical framework and data base, and (2) the distinction between classifiers and measure words. Clarifying the distinction between classifiers and measure words is crucial to the discussion of the origin and development of classifiers. Chapter III discusses the origin of classifiers in Chinese. Chapter IV traces the historical development of classifiers in the language. These two chapters focus on why Chinese needed classifiers, how classifiers in Chinese came into being, and how they gradually developed into an obligatory grammatical category in the language. Based on the findings in Chapters III and IV, Chapter V discusses the history of the relationship between classifiers in Chinese and classifiers in the neighboring languages, with particular emphasis on the Tai languages. The chapter also addresses the hotly debated issue of whether classifiers are indigenous to Chinese or were borrowed from neighboring languages. The issue involves more than simply the question of borrowing some individual classifiers; it involves the borrowing of the entire classifier system from some other Asian language. The study closes with Chapter VI, summarizing the main findings and conclusions in the dissertation, and presenting some residual problems for further investigation.
CHAPTER II

BACKGROUND

1. Theoretical framework and data base

1.1. Cognitive grammar

The present study adopts the general framework of cognitive grammar which has underlain grammatical theories proposed in Jackendoff (1983, 1987), Langacker (1987), Lakoff (1986, 1987), among others.

Jackendoff emphasizes the connection between language and thought. He points out, "using linguistic structure to uncover the nature of thought" is an "age-old dream" in semantics. (1983: IX) Along with many other scholars, Jackendoff tries to develop a cognitive semantics, "emphasizing the role of semantics as a bridge between the theory of language and theory of other cognitive capacities such as visual perception and motor control." (p. IX)

In explaining the foundations of cognitive grammar, Langacker (1987: 2) summarizes the theory as consisting of three aspects: (1) Semantic structure is not universal; it is language-specific to a considerable degree. (2) Grammar does not constitute an autonomous formal level of representation. Instead, grammar is symbolic in nature, consisting in the conventional symbolization of semantic structure. (3) There is no meaningful distinction between grammar and lexicon. He states that cognitive grammar
"agrees with Jackendoff (1978, 1983) in equating semantic structure with conceptual structure." (p.5)

Lakoff (1987) puts more emphasis on human categorization, called "conceptual categories" throughout his book. He writes, "The argument is based on the nature of categorization." (p. 370) In categorizing objects in daily life, the ability for reasoning of human beings is essential. He states, "What gives human beings the power of abstract reason? Our answer is that human beings have what we will call a conceptualizing capacity." (p. 280) Under his theory, human metaphorical and imaginative ability play a crucial role in categorization (cf. Lakoff & Johnson 1980: Metaphors We Live By). When human beings apply metaphor and imagery to conceptualize the outside world, they are basing it on their own experience. This is why Lakoff also names his view "experimentalism". (p. xv)

Despite the different emphases in the articulations of cognitive grammar, they hold a common view that language and cognition interface closely and that a semantic theory cannot be sufficient and satisfactory without reference to cognition. In addition, with regard to categorization, they all adopt the prototypical rather than the classical theory, as to be further discussed in 1.2.

Building on the insights of these cognitive grammarians, Tai (1989) proposes a cognition-based functional approach to Chinese grammar, which incorporates a non-objectivist view.

This non-objectivist view is unbiased and indeed objective in that it frees the analysis of Chinese grammar from the confinement of Western theories, and in that it interprets grammatical structures of Chinese in terms of basic human perceptual abilities, especially with respect to space and time. (1989: 192)
He further explains his non-objectivist view as using "grammatical features unique to Chinese as an orientation point to uncover conceptual principles unique to this language" (p. 192). Tai's non-objectivist view offers a new way of thinking which has cast new light on some central issues in Chinese grammar. The present study is an attempt toward the application of Tai's cognition-based functional approach to understanding the emergence and development of classifiers in Chinese.

1.2. Categorization

Cognitive grammar considers categorization a crucial aspect of the theory. "The role of categorization is especially prominent in cognitive grammar" (Langacker 1987: 369). Jackendoff (1983: 37 and 1987: 134) also writes, "An essential aspect of cognition is the ability to categorize: to judge that a particular thing is or is not an instance of a particular category." Both the old and new views on cognitive semantics "take categorization as the main way that we make sense of experience" (Lakoff 1987: XI). Lakoff (1987: 5) further points out that "An understanding of how we categorize is central to any understanding of how we think and how we function, and therefore central to an understanding of what makes us human."

There are different views on human categorization, however. The classical view holds that all properties/characteristics of a category should be shared by every member of the category, serving as necessary and sufficient critical conditions for categorization. On the other hand, the prototype theory views human categorization in a quite different way, as illustrated below.

1.2.1. Prototype theory of categorization
There are two extreme approaches to looking at human categorization, that of Plato and that of Wittgenstein. According to the Platonic point of view, categories of understanding are discrete, absolute and pristine. Therefore, membership in such categories is defined by possession or non-possession of criterial properties. On the other hand, Wittgenstein holds that, "first, categories are not discrete and absolute but rather fuzzy-edged and contingent, ... and second, that a family resemblance relation may often hold between the various members of the same category ..." (Givon 1986: 78). Thus, Wittgenstein considers all members of a category are equal, and no members is better example than others.

These two extreme approaches on categorization fail to account for one very important property of human categorization, namely, there are core and marginal members in a category. For example, while people treat robins and sparrows as better examples of birds than eagles and pelicans, some may disagree about considering chickens as birds (Cf. Lakoff 1986). Many studies have shown the shortcomings of these extreme approaches. Recently, a non-extremist compromise solution has been proposed. The earliest efforts toward a compromise solution can be traced back to Berlin and Kay's (1969) study of color categories, Rosch (1973, 1975 a, b) in psychology, Lakoff (1973) and Labov (1972) in linguistics. The prototype theory which emerged from those studies exposed many inadequacies in the classical view on categorization. Under this theory, categorization can be reached through association with prototype(s), and the members of a category can be connected by family resemblance. In other words, a member of a category does not necessarily possess all the properties of that category. Around the prototype member(s) are those less central ones which resemble the central member(s) to different degrees of gradation. Some studies on the categorization of the natural world also show that
graduation exists everywhere. For example, in identifying the specimens of Tzeltal plants, Berlin et al. observed:

One specific category, because it is most widespread, larger, best known, or the like, will always be recognized as the typical species of the folk genus. This taxon [category] can be referred to as the type-specific, the archetype, or the ideal type. (1974: 59)

On the other hand, "other plants may be within the boundaries of the category, ... but still not be the best example of the category in question" (Berlin et al. 1974: 56).

Between the 'type-specific' and the 'other plants', there is gradation involved and not a clear-cut distinction. By adopting the notion of gradation in human categorization, one can explain why some members in a category are 'questionable' while others are not. As stated by Jackendoff,

A prototype-based definition includes additional features possessed by the prototype but not by other members of the category. It therefore defines the entire category as the prototype and the things similar to it. Such a definition requires specifying both the prototype and a method of judging similarity to it. (1983: 197)

Another aspect of prototype theory is that the properties of objects can be understood in terms of human imagination. Thus, human imagery, metaphor and metonymy all function in the formation of human categorization. In comparison with the classical view of categorization, the prototype theory has been much more successful in explaining the classificatory function of classifiers in many classifier languages, including Chinese.

1.2.2. Classifiers and categorization
The prototype theory is essential to the present study. In classifier languages, objects belonging to the same category denoted by a classifier share only some of the critical features and do not possess all the features. Moreover, some characteristics are functional properties/characteristics based on the perception of their interaction with the physical environment rather than on their physical properties. Scholars working in classifier languages hold different hypotheses on the nature of classifiers. Some argue that "A classifier is an independent morpheme which denotes some salient perceived or imputed characteristics of the entity to which the associated nouns refer," and these properties which are picked up by noun classifiers are 'inherent' properties rather than contingent ones (Allan 1977: 285). Others emphasize the social function of classifiers, claiming that "classifiers have more to do with how humans interact with the world" (Denny 1976). Lee (1987) combines the two and proposes that the cognition-based categories and the socially-determined categories are complementary, and therefore "classifiers set up socially-based cognitive categories."

In spite of their different opinions on the nature of classifiers with respect to categorization, these scholars seem to agree that the ways in which objects in the world are classified differ from language to language; or, in other words, classifiers are 'cultural-specific'. Some studies on the classifier languages outside the Sino-Tibetan languages (Dyirbal by Dixon in 1982, Bantu by Denny in 1976, etc.) show that these languages have a quite limited number of classifiers. For example, Tarascan (Friedrich 1970) has only three classifiers referring to 'longish', 'roundish' and 'flatish', while Tzeltal, Toba and Eskimo have nine, six and nine classifiers, respectively. On the other hand, the Sino-Tibetan languages and languages in Southeast Asia have far more classifiers than the languages mentioned above. Burmese (Burling 1965), for example, has about two hundred classifiers. According to Nguyen (1957) and Adams (1982), most Austroasiatic
languages have more than one hundred classifiers. Similar to classifier languages, some
Indo-European languages classify objects by gender. French and German, for example,
have two and three genders respectively. A study of American sign language (Supalla
1986) shows that this language possesses a classificatory system quite similar to classifier
languages.

All the facts mentioned above support the view that human beings are endowed
with an ability to categorize the same object in different ways according to their
interaction with the objects in different cultural environments. Human categorization thus
varies from culture to culture. Even among classifier languages, the criteria for
classification vary. For example, the primary use of the six classifiers in Toba is to specify
the location in space of the entity referred to, and only 'sometimes [do the speakers] make
a judgment about its shape and about time" (Klein 1975). However, in some other
languages, such as Burmese, the speakers seem more concerned with the visible shapes of
the objects than with their location for their classification (Burling 1965).

1.3. An overview of the literature on classifier languages

Even though the ways in which classifiers categorize objects in the world are
different, all these classifier systems share a common feature: the classifiers in these
languages are categorical according to the principles in the minds of speakers of a given
language. Many of the above-mentioned studies in other languages have in fact tried to
uncover these principles, as further detailed below.

1.3.1. Studies of classifier languages in the world

Based on the various noun classification systems in languages over the world,
Dixon (1982) defines two different forms in linguistic categorization, namely, (1) the
lexico-syntactic phenomenon of noun classification, and (2) the grammatical category of
noun classes. The lexico-syntactic form includes the numeral classifier systems, such as in
Chinese and Burmese, while the grammatical category of noun classes includes most types
of gender systems and concord systems, such as the gender system of German (Zubin and
Kopcke 1986) and the concord systems in Niger Congo languages (Demuth 1986).

Among these different classifier languages defined by Allan (1977), numeral
classifier languages are spread most widely and are being studied more intensively than
others. They are called numeral classifier languages because classifiers occur obligatorily
in numeral noun phrases in counting constructions. For example, Chinese is a numeral
classifier language. To say 'two books' in Chinese, one has to put a classifier, usually ben,
in between; Thus, 'two books' become liang ben shu 'two-volume (or book-like) -books' in
Chinese. What is interesting and intriguing here in Chinese is the fact that a group of
nouns, say, zidian 'dictionary', zazhi 'magazine', xiaoshuo 'novel', are all categorized by
ben. Thus these nouns form a ben category (cf. Tai & Wang, 1990).

In order to outline the relationship between numeral classifier systems and human
categorization, scholars have not only described separately the classifier languages, but
have also discovered some general principles in the process of categorization by human
beings. For example, after a general review of over fifty classifier languages, Allan (1977)
reaches some interesting conclusions. He lists seven semantic features of classification as
'defining criteria' for noun classes which appear again and again in the languages
concerned. These features are as follows: (i) material, (ii) shape, (iii) consistency, (iv) size,
(v) location, (vi) arrangement, and (vii) quanta.

While the last two occur in languages like English which are not classifier
languages, the first five occur only in classifier languages. Lee (1987) agrees that, with a
few exceptions, these properties and characteristics which are picked out by noun classifiers are 'inherent' (Allan 1977) rather than contingent. He emphasizes the fact that the shape, which is visual or tactile, of an object is by far the most common basis for classification. Adams and Conklin (1973) make this point even more clearly by claiming that "the semantics [of classifiers] ... are observable to those who have eyes to see (the nose to smell is unnecessary)."

Tai and Wang (1990) questions the notion of 'inherent properties' in understanding categorization underlying classifiers system. It appears to them that while every object possesses many physical properties, only one of them become salient enough to serve as the cognitive basis for classification. For example, the physical features of chair in Chinese include a handle for portability, legs for support, and, of course, a flat surface for seating. Tables are another piece of furniture with legs and a flat surface. However, the classifier for chair yizi in Chinese is ba ‘handle’, picking out the handle as the salient feature. In contrast, the classifier for table zhuozi is zhang ‘flat surface’, picking out the flat surface as the salient feature. This shows that ‘handle’ and ‘flat surface’ are not ‘inherent’ but rather functional properties derived from human conceptualization. In this regard, xiaoxi ‘news’ in Chinese is a proper example. The classifier for xiaoxi is tiao ‘long-shape’. The long-shape property is not physically ‘inherent’; instead, it is based on human imagination: a piece of news might be written down vertically on the page. However, some others may question this long-shape property. Thus, it is difficult to argue that it is an ‘inherent’ property. To avoid the misleading term 'inherent properties', Tai and Wang (1990) suggest, through their study of the Chinese classifier tiao, to adopting a distinction between 'permanent' and 'temporary' properties of entities. Thus, the ‘long-shape’ property is a permanent property derived from the conceptualization of the native speakers of Chinese. By employing the 'permanent' and 'temporary' properties, one can semantically
tell a classifier from a measure word. For example, *ba* in *yi ba huasheng* ‘one handful of peanuts’ is not a classifier; Instead, it is a measure word, because the property of *ba* ‘handle, handful’ is temporary to peanuts. Similar to *ba*, *tiao* in *yi tiao xiangyan* ‘a carton of cigarettes’ is a measure word, while it is a classifier in *yi tiao xiaoxi* ‘a piece of news’, as just mentioned above. (cf. 2.2)

1.3.2. Studies of classifiers in Chinese

The major studies on Chinese classifiers have so far focused either on the historical development of classifiers (Wang, 1958; Liu 1965, Erbaugh 1986, etc.), or on the structural distribution or occurrence conditions of classifiers, i.e., what kinds of classifiers are set to certain nouns (Chao 1968; Li & Thompson 1981, Lu 1989). These works generally agree that noun classifiers in Mandarin are morphemes and can either co-occur with nouns or replace them (Lu 1989). However, very few works have attempted to develop a principled explanation of the intricate patterns of collocations between classifiers and human categorization.

Without exception, traditional works on Chinese grammar consider classifiers as either a subcategory of noun *fu mingci* 'sub-nominal' or as measures *liangci* 'measure words.' In the following sections, we will examine some important works on Chinese classifiers to see whether these studies treat classifiers and measure words on an equal footing, or totally mix up classifiers with measure words.

Chao’s *A Grammar of Spoken Chinese* (1968) treats classifiers as a subcategory of measure words. He sometimes puts a single classifier into two or more subcategories based on the different semantic functions of these classifiers. His classification provides some interesting examples of the fuzziness and gradation of classifiers as well as of the
overlapping relation between some classifiers and measure words. He clearly observes the functional difference between classifiers and measure words, and he does name classifiers as 'classifiers' besides 'individual measures'. That this distinction was an innovation in Chinese linguistics is evidenced by the fact that Lu (1979), in translating Chao's book from English to Chinese, had to create for the first time a Chinese term leici 'classification-word' in a bracket after geti liangci 'individual measure word' to refer to classifiers. The term leici is still not widely accepted in the field of Chinese linguistics, however.

Chao divides measures into nine groups, treating classifiers as a subgroup of measures. Tai and Wang (1990) have emphasized that "while a classifier is to 'categorize' an object, a measure word is simply to measure an object." Thus, a classifier is by nature different from a measure word functionally as well as semantically. Using the term 'measure' to refer to 'classifiers' would not reflect the distinction between the two. Any confusion in terminology of classifiers and measure words will certainly obscure their proper analysis as seen from many examples in Chao's further description in page 585-620. For example, classifiers kuai 'piece, lump, chunk' for shitou 'rock', pian 'flat piece' for baiyun 'white cloud', are mixed up with measure words like dui 'pole', and cheng 'layer' (Chao's Partive Measure: Mp). These classifiers are not listed under Chao's "individual classifiers;" Instead, they are put together with measure words, such as xie 'little (of), and few (of) and ba 'handle'.

Li & Thompson's Mandarin Chinese: A Functional Reference Grammar (1981) devotes many pages to discussing classifiers and measure words. They employ two terms, 'classifier phrases' and 'measure phrases'. They define a classifier as 'a word that must occur with a number ... and/or a demonstrative , or certain quantifiers before the noun.' Their definition ignores the categorical function of classifiers. Consequently their
definition will lead to confusing classifiers with measure words. This is evidenced by their immediately following statement that 'any measure word can be a classifier.' (p. 106)

Li Jinxi's *Xinzhu Guoyu Yufa* 'New Version of Chinese Grammar' (1957) divides measure words into three groups. The third group in his classification is classifier. His insightful comment on classifiers should be well noted. He writes that 'the use of classifiers depend on shapes, quality or function (of the noun).'

An important work in Chinese classifiers is Liu Shiru's *Weijin Nanbeichao Liangci Yanjiu* (A Study of Measure Words in Weijin Nanbeichao Period). This book was published in 1965 when linguists in China enjoyed their academic "golden time". To the best of my knowledge, this is the only book available which concentrates exclusively on discussing classifiers and measure words in Chinese. Even though Liu's focus is on the historical development of the measurement system in a specific historical period, the Weijin Nanbei period, he has made a valuable contribution to the study of classifiers in Chinese.

First, he names classifiers in Chinese as *peibanci* 'company-word' to differentiate classifiers from measure words, his *chengliangci* 'measure-quantity-word.' For those functioning as both classifiers and measure words, he names them as *peiban-chengliang ci* 'company-measure-quantity-word.' More significantly, he recognizes the functional and semantic difference between classifiers and measure words by highlighting the classificatory function of classifiers. He writes, "This (*peibanci*) is solely a grammatical category, and has nothing to do with measurement." (p.5) He further takes the classifier *tiao* as an example to show that *tiao* is for things in the long-shape category, and observes that "there is not such a grammatical category in European languages." (p.5) Secondly, he frequently compares classifiers in the Wei Jin Nanbei Chao period (3rd-6th c. AD) with
those in modern Chinese. As shown in his work, Chinese developed its systematic classifier system from the Weijin Nanbei Chao period, and most of these classifiers, with some semantic change, remain in use up to modern times.

In short, Liu's study is quite inspirational. However, he has not remained consistent in differentiating classifier from measure word either semantically or syntactically. Liu also treats classifier as a subcategory of measure words as clearly indicated by the title of his book, *A study of measure words in the Weijin Nanbei period*.

From this brief examination of some previous works on the Chinese classifiers, we can see that even though each author does in one way or another mention some of the distinctions between classifiers and measure words, they share a common view; that is, that classifiers in Chinese are a subcategory of measures -- a view which we find to be misleading.

1.4. Sources and data base of the present study

1.4.1. Sources in regard to the origin and historical development of classifiers in Chinese

In discussing the origin and diachronic development of classifiers in Chinese, the present study makes use of historical documents disclosed in many previous studies of Jiaguwen, Jinwen and classical Chinese in different historical periods. As far as the periodicization of Chinese is concerned, the following definitions are adopted (cf. Todo 1957: 2):

Proto-Chinese (Shanggu Hanyu):

1st Period: the Shang (Yin) Zhou
2nd Period: the Spring-Autumn and Warring States

3rd Period: the Han

**Archaic Chinese (Zhonggu Hanyu):**

4th Period: Weijin Nanbei Dynasties

**Ancient Chinese (Jingu Hanyu):**

5th Period: the Tang and the Five Dynasties

6th Period: the Song, Yuan and Ming

**Old Mandarin (Jindai Hanyu):**

7th Period: the Qing

**Modern Mandarin (Xiandai Hanyu):**

8th Period: 1911 onward

Different versions of the periodicization of Chinese have been proposed (Karlgren 1954; Wang 1958, etc.). The above scheme is adopted because it roughly reflects the historical periods of the development of Chinese classifiers (see chapters III and IV). At the same time, in order to mitigate the old problem of having to depend on formal written text to make generalizations about broad linguistic usage, we have tried, whenever it is possible, to quote classifier examples from the documents which are deemed to be closer to the spoken language, such as *chuanqi* (short stories) in the Tang and Song dynasties and *xiaoshuo* (fiction or novel) after the Song. To make this kind of study more reliable, further study on the difference between spoken and written forms in old Chinese is needed. However, it is beyond the concern of the present study.
1.4.2. Data used in differentiating classifiers from measure words

Prior to discussing the origin and development of classifiers in Chinese, one has to face the following question: how to differentiate the classifiers from measure words. It is impossible to find out the origin and understand the nature of classifiers if we mix the two different grammatical categories.

In differentiating classifiers from measure words (cf. 2.2), we limit the data to within a specific dialect rather than under the general term of "Chinese classifiers". Chinese consists of numerous dialects. Only when we focus on a single dialect, can we find a more accurate and effective criteria to tell classifiers from measure words. This study will then use the data from the Beijing Mandarin, which is considered the standard of Putonghua "Common language" or Guoyu "National Language" (cf. Norman 1988). In the following section 2.2., we have used the data on classifier uses in Beijing Mandarin gather from field investigation in 1990 and in 1992 in Beijing. Besides the data collected from Beijing, I also surveyed some native Beijing Mandarin speakers who have resided in the United States for less than two years.

2. Distinctions between classifiers and measure words

Chinese has both classifiers and measure words. However, as mentioned in section 1, previous works in Chinese grammar treat classifiers and measure words on an equal footing. The term mingliangci 'noun measure' for classifiers as a subclass of measure words has been accepted by most linguists in China, even though the new term leici 'classification-word' was first used by Lu Shuxiang when he translated Chao's A Grammar of Spoken Chinese (1968) into Chinese (Hanyu Kouyu Yufa, Beijing, 1979). This is because the distinction between classifiers and measure words has not been well
understood. There are both syntactic and semantic reasons for Chinese linguists to overlook the distinction. Syntactically, classifiers and measure words in Chinese occupy the same position in counting phrases. Semantically the distinction is not always clear-cut (see below). Therefore, in order to investigate the origin and development of classifiers in this language, it is essential to tell classifiers from measure words both semantically and syntactically.

How to differentiate classifiers from measure words has been a nagging question in analyzing classifier languages. (cf. Greenberg 1972; T'sou 1976) Some scholars have tried to differentiate the two without satisfactory results. (cf. Adams 1982) Recently, Tai & Wang (1990) propose a cognition-based functional distinction between classifiers and measure words to the effect that classifiers are to categorize noun classes, while measure words are to measure the quantity of the entities denoted by nouns. In this section, I will identify semantic and syntactic distinctions between classifiers and measure words, and further propose that classifiers in Chinese be an independent word class, even though classifiers and measure words both occupy the same syntactic position in modern Mandarin, i.e., between numerals and nouns.

To begin, we will review the terminology used in the previous studies of classifiers in Chinese (2.1.). Then we will discuss the semantic function (2.2) and syntactic features (2.3.) of classifiers in Beijing Mandarin. Based on the evidence from these two sections, we will argue that classifiers be regarded as an independent word class in Chinese. It will be noted that, in some cases, the distinction between classifiers and measure words becomes fuzzy. This is, however, consistent with the prototype theory of categorization adopted in this study. The continuum from classifiers to measure words will be discussed in 2.4. Section 2.5. discusses some factors which contribute the fuzziness between
classifiers and measure words. Taking into consideration the distinction between classifiers and measure words in other languages, 2.6. discusses the theoretical and typological implication of the proposed distinction.

2.1. Terms for classifiers in Chinese grammars

2.1.1. In literature written in Chinese

Classifiers in Chinese were called 别称 Biecheng 'other name' in Mashi Wentong, the first known indigenous grammar, written in 1898 (Lu 1986: 215). The term biecheng includes both classifiers and measure words. The following examples were provided by Ma (1898):

... 轼车百乘, 牛车千乘, 木器髹者 ... 千枚. 筋角 ... 砂丹千斤, ... 羊裘千石, ...
... yao che bai cheng, niu che qian liang, mu qi xiu zhe ... qian mei. Jin jiao, ... sha dan qian jin, ... gaoyang qiu qian shi, ...

one-horse carriage 100 C, ox cart 1,000 C, lacquered wooden items 1,000 C, cinnabar 1,000 catty, lamb fur 1,000 (Chinese) picul

'... one hundred one-horse carriages, one thousand ox carts, one thousand lacquered wooden items, ... one thousand catty of cinnabar, ... one thousand pecks of lamb fur, ...'

Among the above examples of biecheng, cheng, liang and mei are classifiers, while the jin and shi are measure words. To the term biecheng, Lu (1986) added a note: "Biecheng is liangci 'measure words' in modern time". (p. 217)

Wang Li, in his Zhongguo Xiandai Yufa (Modern Chinese Grammar) (1954), uses 單位名詞 Danwei Mingci 'unit-noun' for Ma's Biecheng. Wang Liaoyi (1957) treats classifiers as a part of 數詞 shuci 'numeral-word' in Hanyu Yufa Gangyao (A sketch of Chinese Grammar). Thus, numerals and classifiers belong to each other in his system.
The most popular term for classifiers in modern Chinese is 量詞 liangci 'measure words'. It was used as early as the 1920's by Li Jinxi in his Xinzhu Guoyu Wenfa (New Version of Chinese Grammar) (1924, reprinted in 1957). He divides liangci into three subgroups. Of Li's three subgroups, only group c consists of classifiers proper (zhi 只 for animal, duo 朵 for flower, ke 棵 for tree, pi 匹 for horse), while group a is 枚時量詞 linshi liangci (temporary measure), such as wuzi 窝子 'house' and zhuozi 桌子 'table', and group b. is 度量衡 duliangheng (standard measure), such as jin 斤 'catty' and chi 尺 '(Chinese) foot' in Chao's (1968) framework to be discussed later. Concerning group c, Li writes, 'Even though they are conventional, they are not without principles. In most cases, they are based on the shapes, qualities and functions of objects.' His explanation shows that he notices the difference between classifiers and measure words.

The term 名量詞 ming liangci, literally "noun measure word", is usually used in opposition to 動量詞 dong liangci, literally, "verb measure word". This is widely accepted by scholars both in Mainland China and Taiwan. The category of ming liangci is further divided into several subcategories by some later Chinese grammarians (Lu, 1955; Zhang, 1953; Liu 1965; Zhu 1982; etc.). However, all those later works basically follow Li and Wang in putting classifiers and measure words under the 'measures' category with some slight difference in the terms they employ. In other words, there is no significant difference between the works by later grammarians and that by Li and Wang. To outline those terms used for classifiers in most previous Chinese grammars discussed in this section, a list with some examples is given as below.
## Table 1: Terms for classifiers in Chinese grammars

<table>
<thead>
<tr>
<th>Years</th>
<th>Author(s)</th>
<th>Terms for Classifiers</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1898</td>
<td>Ma Jianzhong: <em>Mashi Wentong</em></td>
<td>別稱 <em>Biecheng</em> 'Other Name'</td>
<td>乘 <em>chēng</em> (for carriage) 枚 <em>méi</em> (gen. CL) 斤 <em>jīn</em> (1/2 kg.) 石 <em>shí</em> (hectoliter)</td>
</tr>
<tr>
<td>1924</td>
<td>Li Jinxi: <em>Xinzhu Guoyu Yufa</em></td>
<td>量詞 <em>Liangci</em> 'Measure word'</td>
<td>1. 碗 <em>wān</em> (bowl) 包 <em>bāo</em> (box) 2. 尺 <em>chǐ</em> (Ch. foot) 身 <em>shēn</em> (body) 3. 只 <em>zhī</em> (for animal) 朵 <em>duō</em> (for flower)</td>
</tr>
<tr>
<td>1944</td>
<td>Wang Li: <em>Zhongguo Xiantai Yufa</em></td>
<td>單位名詞 <em>Danwei Mingci</em> 'Unit Noun'</td>
<td>个 <em>gè</em> (gen. CL) 只 <em>zhī</em> (for animal) 張 <em>zhāng</em> (for flat things) 把 <em>bā</em> (handle)</td>
</tr>
<tr>
<td>1953</td>
<td>Zhang Zhigong: <em>Hanyu Yufa</em></td>
<td>數量詞 <em>Shuliangci</em> 'Numerals'</td>
<td>一點 <em>yī diǎn</em> (one-point) 一條 <em>yī tiáo</em> (one-long-shape) 一百種 <em>yī bǎi zhǒng</em> (100 kinds)</td>
</tr>
<tr>
<td>1955</td>
<td>Lu Shuxiang: <em>Yhanyu yufa lunwenji</em></td>
<td>付名詞 <em>Fú Mingci</em> 'Sub-noun'</td>
<td>个 <em>gè</em> (gen. CL) 種 <em>zǒng</em> (kind) 尺 <em>chǐ</em> (Ch. foot) 斤 <em>jīn</em> (1/2 kg.)</td>
</tr>
<tr>
<td>1957</td>
<td>Wang Liaoyi: <em>Hayu Yufa Gangyao</em></td>
<td>數詞 <em>Shuci</em> 'Measure Words'</td>
<td>三個人 <em>sān ge rén</em> (three-gen. people) 兩匹馬 <em>liǎng pǐ mǎ</em> (two-animal-horse) 五月 <em>wǔ yuè</em> (May) 十六日 <em>shí liù rì</em> (16th)</td>
</tr>
<tr>
<td>1957</td>
<td>Zhang Zhigong et al: <em>Zhanni Hanyu Jiaoxue Yufa Xitong</em></td>
<td>量詞 <em>Liangci</em> 'Measure words'</td>
<td>个 <em>gè</em> (gen. CL) 只 <em>zhī</em> (for animal) 趟 <em>tāng</em> (one-time) 尺 <em>chǐ</em> (Ch. foot)</td>
</tr>
<tr>
<td>1965</td>
<td>Liu Shiru: <em>Weijin Nanheiciao Liangci Yanjiu</em></td>
<td>陪伴詞 <em>Peibanci</em> 'Company Words'</td>
<td>1. 枚 <em>méi</em> 个 <em>gè</em> (both are gen. CL) 2. 根 <em>gēn</em> (long-shape) 面 <em>miàn</em> (flat-shape) 3. Spec:匹 <em>pǐ</em> (for horse) 管 <em>guǎn</em> (for pen)</td>
</tr>
<tr>
<td>1968</td>
<td>Chao Yuen-ren: <em>A Grammar of Spoken Chinese</em></td>
<td>Individual M. C. assoc. with V-O</td>
<td>1. 只 <em>zhī</em> (for animal) 个 <em>gè</em> (gen. CL) 2. 口 <em>kǒu</em> (for people) 句 <em>jù</em> (for speech) 首 <em>shǒu</em> (for song)</td>
</tr>
<tr>
<td>1981</td>
<td>Lu Shuxiang: <em>800 Chinese Words</em></td>
<td>特殊量詞 'Special measures'</td>
<td>个 <em>gè</em> (gen. CL) 只 <em>zhī</em> (for animal) 匹 <em>pǐ</em> (for horse) 管 <em>guǎn</em> (for pen)</td>
</tr>
<tr>
<td>1982</td>
<td>Zhu Dexi: <em>Yufa Jiangyi</em></td>
<td>名量詞 <em>Mingliangci</em> 'Noun Measures'</td>
<td>个 <em>gè</em> (gen. CL) 只 <em>zhī</em> (for animal) 條 <em>tiáo</em> (long-shape) 塊 <em>kuài</em> (piece)</td>
</tr>
</tbody>
</table>
The following two observations can be made from the discussion in this section.

a. Without exception, all Chinese scholars consider classifiers as measure words, in spite of the different terms they have used. It is important to see that most scholars notice the necessity to further divide liangci into different subgroups of which the classifier is often a subgroup.

b. Judging from the terms they use for classifiers in Chinese, most modern scholars do not consider it necessary to distinguish classifiers from measure words. The term liangci is overwhelmingly used in scholarly works for classifiers, measure words as well as verb-measure in Chinese.

2.1.2. In literature written in English

In the past several decades, many anthropologists and linguists in the West, especially those in the United States, have studied the measurement systems of peoples in Asian countries as well as of the American Indians. From their point of view, one of the unique facets of the languages spoken in Asia is the use of classifiers rather than measure words, since measure words also exist in English and other European languages. Attempts have been made to differentiate classifiers from measure words. In their studies of the grammars of Asian languages, two terms, classifier and measure word, are adopted to make the necessary distinction (Jones 1970, Adams 1986, Erbaugh 1986, etc).

However, scholars in Chinese linguistics continue to use the term 'measure word' for both classifiers and measure words. For instance, Chao (1968) uses 'measures' to refer to both classifiers and measure words. Following earlier grammarians, he puts classifiers into two subcategories: individual measures (classifiers) and classifiers associated with V-
O. Li and Thompson (1981), while employing both terms, classifiers and measure words, clearly treat them no differently by stating that 'any measures can be a classifier' (p. 106).

Since differences between classifiers and measure words obviously exist, some linguists do recognize their difference and attempt in one way or another to separate them. Liu (1980: 6) names the two kinds of measures for nouns as Sortal and Measural, respectively. He, however, follows the previous works by putting these two kinds of 'measures for nouns' under measure words. None of the works previously mentioned discusses the possibility of treating classifiers as an independent word class by considering the semantic function and the syntactic features of classifiers. Diverging from the previous works, Tai and Wang (1990) propose a cognition-based functional distinction between classifiers and measure words to the effect that while classifiers are to categorize noun classes, measure words are to measure the quantity of the entities denoted by nouns.

However, Tai and Wang (1990) did not go further to explore in detail the syntactic/semantic difference between classifiers and measure words. In this section I will examine their semantic and syntactic differences. For the convenience of demonstration, I will assume the terms for different kinds of measure words in Chao 1968. According to Chao's classification, there are nine kinds of measure words: individual measures, classifiers specially associated with V-O constructions, group measures, partitive measures, container measures, temporary measures, standard measures, and quasi-measures. His individual measures are treated as classifiers proper to be discussed in the present study. His classifiers associated with V-O are similar to 'verb measures' and will not be included in this study.

2.2. Semantic distinction between classifiers and measure words
Based on the cross-linguistic surveys by Allan (1977), Greenberg (1972) and others, it can be observed that every language including English has measure words, but only some of them have classifiers. Thus, from the point of view of language typology, to differentiate classifier languages from non-classifier languages becomes highly desirable. However, in most classifier languages, classifiers and measure words often occupy the same syntactic positions and combine with numerals and nouns to be 'numeral phrases' (Cf. Hass 1942 for Thai, Nguyen 1957 for Vietnamese, Downing 1984 for Japanese, Becker 1975 for Burmese, Chao 1968 for Chinese). It therefore becomes more interesting and important to find how classifiers are distinguished from measure words in a classifier language, such as Chinese.

In a semantic study of the classifier *tiao* in Mandarin, Tai and Wang propose a cognition-based functional distinction between classifiers and measure words:

A classifier categorizes a class of nouns by picking out some salient perceptual properties, either physically or functionally based, which are permanently associated with the entities named by the class of nouns; a measure word does not categorize but denote the quantity of the entity named by a noun. (p.38)

In simple words, their proposed distinction claims that while the primary function of a classifier is to *categorize* objects into different classes, that of measure is to *measure* the quantity. 9

Nonetheless, the demarcation between classifiers and measure words is sometimes fuzzy and elusive even under careful scrutiny. However, we can appeal to the prototype theory (Rosch 1975, 1978; Lakoff 1987; etc.) which allows 'gradation' in categorization.
In this theory, the boundary between two categories is not always clear-cut. Instead, there are borderline members along the category boundaries. The prototype theory can explain why some members are more central or prototypical than others in a category, since each member is graded with respect to the category. To apply the prototype theory to Tai and Wang's distinction, we need to search for more semantic/syntactic differences between classifiers and measure words in order to find out whether a classifier/measure word in question is more central than others with respect to the two ends of the distinction.

2.3. Syntactic/semantic features differentiating classifiers from measure words

In section 2.2, we have mentioned Tai and Wang's distinction between classifiers and measure words. Their distinction is essentially a cognition-based semantic distinction. However, the semantic distinction alone may not be sufficient for separating classifiers from measure words as an independent word class (cf. Wang 1991). We need to identify some overt syntactic behaviors for distinguishing classifiers from measure words.

2.3.1. *De* insertion

One of the most obvious syntactic behaviors which differentiate classifiers from measure words involves the insertion of *de*, a marker of explicit modification, between the numeral phrase and the head noun. Both Chao (1968) and Zhu (1982) observe that *de* is prohibited between a classifier and its noun. Chao (1968:588) points out, "Between a classifier and a following noun no *de* is inserted." Zhu (1982) made a similar statement. For example, *yi ge de ren* 'one-classifier-de-person (one person)' is ungrammatical in Chinese. In contrast, *de* can be inserted between measure words and head nouns. Thus, *san bang de yu* 'three-pound-de-fish (a three-pound fish)' is acceptable in Chinese.

2.3.2. Substitution by the general classifier *ge* and by *liangr*
As observed also by Zhu (1982), the general classifier *ge* can replace most *geti liangci* 'individual measure', namely, classifiers. The substitution of *ge* is thus another workable criterion to differentiate classifiers from measure words. Most classifiers in numeral phrases can be replaced by the general classifier *ge* without changing the meaning. Thus, *yi bu diannao* 'one-classifier-computer (a computer)' can be said as *yi ge diannao*.¹²

In some other cases, specific classifiers are obligatory, and substitution by the general classifier *ge* is not acceptable at all. For example,

\[
\begin{align*}
yi ke mi & \quad *yi ge mi \\
one grain rice & \quad one ge rice \quad 'a grain of rice'
\end{align*}
\]

The object in this case usually is perceived as a collective of small discrete units. If an individual unit is to be singled out, a specific classifier must be used.

In contrast with classifiers, measure words are not allowed to be replaced by *ge*; otherwise, the quantity indicated by the measure words would be changed:

\[
\begin{align*}
yi bao tang & \neq yi ge tang \\
one sack sugar & \quad one GE sugar \\
'one sack of sugar' & \quad 'one candy' \\
yi dui ren & \neq yi ge ren \\
one pile person & \quad one GE person \\
'one crowd of people' & \quad 'one person'
\end{align*}
\]

We can use *ge* substitution to tell classifiers from measure words, i. e., if the morpheme in question is allowed to be replaced by *ge* without changing the quantitative
meaning, then the morpheme is a classifier; otherwise, it is a measure word. For example, ge can be used in the following sentence:

Wo kan-le yi chang dianying. = Wo kan-le yi ge dianying.

see-asp. one arena cinema see-asp. one GE cinema

'I have seen a film.'

Therefore, chang is a classifier. In contrast, the use of ge will change the meaning of a measure phrase, such as yi chu xi 'an-act-play' which means 'an act of a (whole) play'. Thus,

yi chu xi ≠ yi ge xi

one act play a GE play

'one act of a play' ≠ 'a play'

Zhe is similar to chu but is used only for northern opera, such as Peking opera. Like chu, zhe cannot be replaced by ge:

yi zhe xi ≠ yi ge xi

one act opera one GE opera

'one act of an opera' 'an opera'

Therefore, both chu and zhe are measure words (partitive measure in Chao's classification) rather than classifiers.

Related to the ge substitution is the deletion of classifiers and nouns after the numeral liangr 'two unit'. It is observed that in Beijing Mandarin the classifier and the
head noun can be replaced by liangr, while measure words have to be repeated. For example, the classifiers in (a) and (b) are omitted:

(a) Yigong si ge ren, liangr shi Zhongguoren, liangr shi Meiguoren.

altogether four GE person, two be Chinese, two be American.

'There are altogether four people, two are Chinese, and the other two are American.'

(b) Zhe si ba yaoshi, liangr shi nide, liangr shi wode.

this four CL key, two be your, two be mine

'Of these four keys, two are yours, two are mine.'

In (a) and (b), liangr stands for liang ge ren 'two people' and liang ba yaoshi 'two keys', respectively. On the other hand, the measure words in the following sentences cannot be deleted:

'Yigong si bang shuiguuo, liang bang (liangr) shi xiangjiao, liang bang (liangr) shi pingguo.'

altogether four pound fruit, two pound be banana, two pound be apple

'Of the four pounds of fruit, two pounds are banana and two pounds are apple.'

Liang bang in the above examples cannot be replaced by liangr. Otherwise, listeners will understand them as liang ge xiangjiao 'two banana' and liang ge pingguo 'two apples.'

2.3.3. Positions of adjective modifiers da and xiao

Another difference between a classifier and a measure word can be found by different positions of the attributive da 'big' and xiao 'small' in a noun phrase. Usually, the
attributes are in between classifiers and head nouns, not prior to classifiers, in numeral classifier phrases:

\[
\begin{align*}
\text{yi zhi da mao} & \quad *\text{yi da zhi mao} \\
\text{one ZHI (CL) big cat} & \quad \text{one big ZHI (CL) cat 'a big cat'} \\
\text{yi ke da xingxing} & \quad *\text{yi da ke xingxing} \\
\text{one KE (CL) big star} & \quad \text{one big KE (CL) star 'a big star'}
\end{align*}
\]

In contrast, in temporary measure phrases, the attributes can be placed either before or after measure words, with meaning difference, however:

\[
\begin{align*}
\text{yi da kun shengzi} & \quad \neq \quad \text{yi kun da shengzi} \\
\text{one big bundle (MW) rope} & \quad \text{one bundle (MW) big rope} \\
\text{'a big bundle of rope'} & \quad \text{'one bundle of big rope'} \\
\text{yi da chuan zhuzi} & \quad \neq \quad \text{yi chuan da zhuzi} \\
\text{one big string (MW) pearl} & \quad \text{one string (MW) big pearl} \\
\text{'a big string of pearls'} & \quad \text{'a string of big pearls'}
\end{align*}
\]

The same holds true for group measure phrases,

\[
\begin{align*}
\text{yi da bang ren} & \quad \neq \quad \text{yi bang da ren} \\
\text{one big gang (MW) people} & \quad \text{one gang (MW) big people} \\
\text{'a big gang of people'} & \quad \text{'a gang of adult'} \\
\text{yi da qun yang} & \quad \neq \quad \text{yi qun da yang} \\
\text{one big flock (MW) sheep} & \quad \text{one flock (MW) big sheep}
\end{align*}
\]
'a big flock of sheep'  

'a flock of big sheep'

as well as for the container measure phrases:

yi da he yuebing  ≠  yi he da yuebing

one big box (MW) moon cake  one box (MW) da moon cake

'a big box of moon cake'  'a box of big moon cake'

yi da louzi liyu  ≠  yi louzi da liyu

one big basket (MW) carp  one basket (MW) big carp

'a big basket of carp'  'a basket of big carp'

From these examples we can see that, in temporary, group and container measure phrases, the two attributes da and xiao can modify either measure words or head nouns with meaning difference; attributes cannot modify classifier, however.

Notice that in standard measure phrases, no attribute is allowed to precede the measure; if there is an attribute, it must be between measure and head noun:

yi gongjin da liyu  *yi da gongjin liyu

one kilo (MW) big carp  one big kilo (MW) carp  'a kilo of big carp'

yi mi hao liaozi  *yi hao mi liaozi

a meter (MW) good textile  a good meter (textile)

'one meter of good textile material'

Semantically, standard measure words are devised to measure quantity and can not be used with negotiation. Therefore attributes such as 'small' and 'big' conflict with their semantic function and are certainly unacceptable. To emphasize the accuracy of quantity
denoted by standard measure words, however, the attributive zheng, 'entire, full, ...' is allowed to be used. Even in that case, it is more appropriate to use zheng in other measure phrases than in standard measure phrases:

(yi) zheng wu de ren
one whole house (MW) de person
'a whole house of people'

(?) yi zheng jin de yu
one whole 1/2 kilogram (MW) de fish
'a full jin (1/2 kilogram) of fish'

2.3.4. Classifier deletion in listing items

The fourth way to tell classifiers from measure words is to see whether they can be omitted in listing items. It is very common in the Beijing dialect that in listing a series of items people often omit the classifier. For example, to list the furniture in the room of a hotel, the following list may be used:

<table>
<thead>
<tr>
<th>classifier</th>
<th>count</th>
<th>list</th>
<th>translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>chuang</td>
<td>2</td>
<td>liang zhang chuang</td>
<td>'two beds'</td>
</tr>
<tr>
<td>bed</td>
<td>2</td>
<td>two ZHANG bed</td>
<td>'two beds'</td>
</tr>
<tr>
<td>yizi</td>
<td>6</td>
<td>liu zhang yizi</td>
<td>'six chairs'</td>
</tr>
<tr>
<td>chair</td>
<td>6</td>
<td>six ZHANG chair</td>
<td>'six chairs'</td>
</tr>
<tr>
<td>shujia</td>
<td>3</td>
<td>san ge shujia</td>
<td>'three bookshelf'</td>
</tr>
<tr>
<td>bookshelf</td>
<td>3</td>
<td>three GE bookshelf</td>
<td>'three bookshelf'</td>
</tr>
</tbody>
</table>

An additional observation is in order here. The deletion of classifiers in listing items applies only for items which usually exist as discrete and countable objects. In
counting items which are often in pairs, such as xie 'shoe', wazi 'sock', qiupai 'racket', etc., deletion may cause misunderstanding.  

2.3.5. Conjoined head nouns

The fifth way to tell a classifier from a measure word is to see whether two conjoined head nouns can be modified by one single classifier/measure. Since the semantic function of a classifier is to categorize the item based on the shapes or the functions of objects denoted by nouns, it is required that a classifier modify only one single noun in a numeral-classifier- noun phrase. Thus, conjoined head nouns are not allowed to be modified by a single classifier:

yi gen shengzi  *yi gen shengzi he maoxian
one GEN string one GEN string and knitting wool
one string'

yi zhi yang  *yi zhi yang he mao
one ZHI sheep one ZHI sheep and cat
one sheep'

yi tiao lu  *yi tiao lu he hutong
one TIAO road one TIAO road and alley
one road'

On the other hand, since measure words are to measure the quantity of the following items, conjoined head nouns are allowed to be modified by a single measure. 

2.3.6. Whether duo 'more' is allowed to precede the head noun
Since classifiers are used to categorize individual objects into different classes, each object is supposed to be an entire unit which cannot be quantified by expressions including a little more than 'one' but less than 'two.' For example, the classifier *ba* is used for *yizi* 'chair' and *yaoshi* 'key' which are discretely individuated objects, therefore, *duo* 'more' is not allowed to precede *yi ba yizi* 'a chair' and *liang ba yaoshi* 'two keys':

*yi ba duo yizi

one BA more chair

*'a little more one chair'  

*liang ba duo yaoshi

two BA more key

*'two and little more key'

On the other hand, the measure word *ba* 'handful' can be followed by *duo* to mean 'more than one (but less than two)' as in the following:

*yi ba duo huasheng

one handful (MW) more peanut

'a little more than one handful of peanuts'

This occurrence of *duo* provides a good criterion for distinguishing the categorical function of classifiers from the measuring function of measure words. With regards to this criterion, the boundary between classifiers and measure words can still be fuzzy in some cases. For example, the classifier *ben* is used for books, magazines, etc. It is a typical member of the category of classifier and meets most criteria established so far. However, it is possible to use *duo* after *ben* in some contexts:
Zhe men ke you san ben shu yao du, wo yijing du le liang ben duo le.

this MEN course have three BEN book need read I already read P. two BEN more P.

'There are three books to be read for this course. I have already finished more than two.'

It appears that ben in the second part functions more like a measure word rather than a classifier, referring to the quantity of finished reading assignment.

In closing the discussion on the distinction between classifiers and measure words, we notice that some other researches have been devoted to this issue. Gao (1993), for example, in discussing the distinction between CIP (Classifier Phrase) and MP (Measure Phrase), puts his effort on observing the classifier/measure phrases with and without de insertion. His survey has provided evidence (p. 107-112) showing how de insertion can differentiate CIP from MP. Gao's study implies that the distinction between classifiers and measure words may be further examined at the pragmatic, even at the discourse level. Thus the typological feature of classifier languages, here, Chinese, will be better explained.

2.4. Gradation from Classifiers to Measure Words

In 2.3. we have identified a number of syntactic and semantic features to make a distinction between classifiers and measure words. However, we have seen that in some cases the distinction is not clear-cut. The gradation between classifier and measure word can be seen in table 2 which outlines the graded relationship between these two grammatical categories with respect to their semantic/syntactic distinctions. Some illustrative examples with explanations are provided as notes for the table.
Table 2^{16}
Gradation from Classifiers to Measure Words

<table>
<thead>
<tr>
<th></th>
<th>De Ge Sub Insertion</th>
<th>Ge Sub Insertion</th>
<th>Liangr Substitution</th>
<th>Modifier (M)</th>
<th>Duo Deletion in Positions*</th>
<th>'more'</th>
<th>Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classifiers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>錢根</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>A</td>
<td>-/+10</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>塊片</td>
<td>+/-1</td>
<td>+/-2</td>
<td>+/-</td>
<td>B</td>
<td>+</td>
<td>+/–</td>
<td></td>
</tr>
<tr>
<td>滴串</td>
<td>+/-1</td>
<td>–</td>
<td>+/-4</td>
<td>B</td>
<td>+</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>出折</td>
<td>+/-</td>
<td>–</td>
<td>+/-5</td>
<td>A</td>
<td>+</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Measure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Part-堆串</td>
<td>+</td>
<td>-</td>
<td>+/-6</td>
<td>B</td>
<td>+</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Group 雙對</td>
<td>–</td>
<td>-</td>
<td>–/+/7</td>
<td>A</td>
<td>-</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Temp-身頭</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>A/B^a</td>
<td>-</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Cont-盒碗</td>
<td>+</td>
<td>–</td>
<td>–/–</td>
<td>B</td>
<td>+</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Quasi-村章</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>+</td>
<td>–</td>
<td></td>
</tr>
<tr>
<td>Stand-尺磅</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>A</td>
<td>+</td>
<td>–</td>
<td></td>
</tr>
</tbody>
</table>

*A = Numeral + Classifier + Modifier + Noun; B = Numeral + Modifier + Classifier + Noun

The gradation given in table 2 can be accounted for in terms of the concepts of gradation and boundary members within the framework of prototype theory. Thus armed with prototype theory, we are in a better position to understand the complexity involving the differentiation of classifiers from measure words.

In terms of gradation from classifiers to measures, there are three kinds of classifiers: (1) prototypical classifiers, (2) overlapping classifiers, which function as classifiers in some expressions and as measure words in some other expressions, and (3) borderline classifiers, which can also be construed as measure words in all the expressions.
This section will further illustrate the three kinds of classifiers referred to classifiers and measures listed in table 2 within the prototype framework.

2.4.1. Prototypical classifiers and prototypical measure words

By prototypical classifiers, we mean those which categorize the objects denoted by nouns in accordance with their perceptual or functional properties and meet all the syntactic/semantic criteria identified in 2.3. For example, gen 'root' in table 2 is a prototypical classifier.17

On the other hand, the prototypical measure words are those which only function in measuring the quantity of objects. All those objects being measured share no common properties/characteristics. Bang and jin are examples of two such prototypical measure words. The following objects, water, apple, cotton, oxygen, sharing no common properties, are measured by the measure word bang 'pound':

<table>
<thead>
<tr>
<th>yi bang</th>
<th>shui</th>
<th>'water'</th>
<th>'a pound of water'</th>
</tr>
</thead>
<tbody>
<tr>
<td>pinguo</td>
<td>'apple'</td>
<td></td>
<td>'a pound of apple'</td>
</tr>
<tr>
<td>mianhua</td>
<td>'cotton'</td>
<td></td>
<td>'a pound of cotton'</td>
</tr>
<tr>
<td>yangqi</td>
<td>'oxygen'</td>
<td></td>
<td>'a pound of oxygen'</td>
</tr>
</tbody>
</table>

The gradation given in table 2 shows that in applying the syntactic/semantic criteria, whenever the prototypical classifiers are "+", the prototypical measure words are ".".18 The prototypical classifiers and measure words will involve more or less uncertainty when those criteria are tested as further illustrated below.
2.4.2. Overlapping classifiers

The second type of classifier can be used as a classifier in some cases, and as a measure word in other cases. *Ba* is a typical example. It is a classifier in (a), but a measure word in (b):

(a) yi ba yizi  
(b) yi ba huasheng  
one BA chair  
one handful (MW) peanut  
'a chair'  
'a handful of peanut'

To apply the six syntactic distinctions between classifier and measure word established in 2.3, we see the following results:

As a classifier:  
As a measure word:

(1) *De* insertion:
*yi ba de yizi*  
yi ba de yizi  
*yi ba de huasheng*  
one BA de chair  
one handful (MW) de peanut  
'a handful of peanut'

(2) *Ge* substitution:
*yi ba yizi = yi ge yizi*  
yi ba huasheng  
*yi ge huasheng*  
one BA chair  
one GE chair  
one handful (MW) peanut  
one GE peanut  
'a chair'  
'a chair'  
'a handful of peanut'  
'a peanut'

(3) Position of adjective modifiers:
*yi da ba yizi  yi da ba huasheng
one big BA chair  one big handful (MW) peanut
'a full handful of peanut'

(4) Deletion in listing items:
yizi, 1  *huasheng, 1
chair  peanut
'a chair'

(5) Conjoined head nouns:
*yi ba yizi he dengzi  yi ba huasheng he guazir
one BA chair and bench  one handful (MW) peanut and melon seed
'a handful of peanut and melon seed'

(6) Whether duo is allowed to precede the head noun:
*yi ba duo yizi  yi ba duo huasheng
one BA more chair  one handful (MW) more peanut
'little more than one handful of peanut'

Similar to ba, tiao can be used as a classifier for he 'river', jie 'street', and can be
used as a measure word in yi tiao xiang yin 'a carton of cigarettes = ten packs of
cigarettes'); Similarly, gu can be used as a classifier for dao 'road, quanshui 'spring water',
liliang 'strength', ...) and can be used as a measure word in yi gu xian 'a skein of thread'.

2.4.3. Borderline classifiers
Borderline classifiers can be differentiated from overlapping classifiers/measure words. We have seen that overlapping classifiers/measure words are those which function as classifiers in some expressions, but as measure words in others. Borderline members are those whose function can be construed both as classifiers and measure words in the same expression. *Kuai* and *pian* are two such classifiers. In comparison with prototypical classifiers, these are on the borderline if they are put into either one of the two categories, classifiers or measure words.

Tai and Wang also note that while the distinction they proposed is fundamentally correct, the distinction works best for typical classifiers on the one hand and typical measure words on the other. There are, however, borderline members between the prototypical classifiers and prototypical measure words. These borderline cases can be accommodated by the prototype theory. As observed by Langacker:

"Much in language is a matter of degree. Linguistic relationships are not invariably all-or-nothing affairs, nor are linguistic categories always sharply defined and never fuzzy around the edges." (1987: 14)

The distinction between classifier and measure word is no exception to this observation. As shown in table 2 in 2.4., in between ideal example classifiers (*tiao* and *gen*) and ideal measure words (*bang* and *chi*), there are examples of which the boundaries are not so clear-cut when the syntactic criteria are applied to them. They are, therefore, borderline, or fuzzy members of the two categories, classifiers and measure words. *Kuai* 'piece' and *pian* 'slice', *di* 'drop' and *chuan* 'string' are among the borderline members. Furthermore, they form a continuum. At one end, *kuai* and *pian* are closer to prototypical classifiers such as *gen* and *tiao*. At the other end, *di* and *chuan* are closer to *chi* and *bang* as shown in table 3:
Table 3. Borderline members between classifiers and measure words

<table>
<thead>
<tr>
<th>Classifiers</th>
<th>Fuzzy members</th>
<th>Measure words</th>
</tr>
</thead>
<tbody>
<tr>
<td>tiao, gen</td>
<td>kuai, pian</td>
<td>bang, chi</td>
</tr>
<tr>
<td>di, chuan</td>
<td>→</td>
<td>→</td>
</tr>
</tbody>
</table>

2.5. Fuzziness of classifiers in Beijing Mandarin

We have adopted Tai and Wang's proposal that classifiers are to categorize the objects denoted by nouns, while measure words are to measure the quantity of the objects. We have also discussed the distinctions between the two categories with respect to a number of semantic and syntactic features. We have found, however, that there are some borderline members between the two categories. That is, the boundary between these two grammatical categories is fuzzy as human categorization in general is.

The fuzziness of the categorization of classifiers in Beijing Mandarin can be attributed to three factors: the quantifying function of classifiers, the contrast between count and mass nouns, and the ambiguity of 'unit' in Beijing Mandarin. In the following we will examine these factors one by one.

2.5.1. Quantifying function of classifiers

That classifiers also possess some quantifying function often makes the membership of the classifiers in question fuzzy. In other words, the fuzziness comes from the quantifying function of the classifier.
In Beijing Mandarin, there are some cases where even in one single unambiguous expression, we cannot clearly distinguish classifier from measure word or vice versa. In other words, both classifying and measuring functions exist in the same linguistic form. For example, the morpheme *pian* meaning 'a flat, thin piece' is a classifier in *yi pian shuye* ('one-slice-leaf: a leaf) and *yi pian wa* ('one-slice - tile: a tile').

It is not easy, however, to tell whether *pian* is a classifier or a measure word in the following phrases: *yi pian mianbao* ('one-slice-bread: a piece of bread') and *yi pian xiangchang* ('one-piece-sausage: a piece of sausage'). In fact, *pian* functions both as classifier and measure word at the same time. There are other morphemes in the Beijing Mandarin which function like *pian*, for example, *zhang* 'flat piece' and *kuai* 'chunk'. On the one hand, they describe the shape of an object, and thus function like a classifier; on the other hand, they indicate the quantity of an object in terms of portions marked by various sizes such as slice, chunk, sheet, etc. Thus, when we argue that semantically a classifier is to categorize objects while a measure word is to measure objects, we are not saying that measurement is never involved in classifier usage.

2.5.2. Distinction between mass and count nouns

The distinction between mass and count nouns is also related to the fuzziness of classifiers. It is not always easy to tell whether there is such a distinction in a given language. Greenberg's and Adams' views towards classifier languages differ on this point. Greenberg (1972) argues that classifiers develop in languages which have a mass/count distinction. Adams (1982), on the other hand, questions "whether one can still speak of a mass/count distinction existing in a language which has developed classifiers" (p. 6). At the same time Adams claims that count nouns can occur with all types of forms in the classifier/quantifier slot, but "mass nouns cannot occur with classifiers." (p.23) It seems
that their disagreement focuses on how to tell mass from count nouns rather than whether there is such a distinction in classifier languages. The proposed distinctions between classifiers and measure words in Beijing Mandarin can help to elucidate the nature of their disagreement.

In Beijing Mandarin, semantically, the so-called jiti mingci 'mass nouns' such as shui 'water', mei 'coal', nitu 'mud', etc., are quite different from geti mingci 'individual nouns', such as yizi 'chair', pinguo 'apple'. Mass nouns need to be accompanied by measures which indicate quantities. Thus, the general classifier ge is not allowed to be used for these nouns:

* yi ge mei 'coal'
   one C shui 'water'
   kongqi 'air'
   liangshi 'grain'

In daily life, people do not perceive these kinds of substances as units. They need to be contained in a container or other kinds of measuring expressions, such as dui 'pile' for coal or grain, zhen 'spatter/ gust/ burst' and gu 'stream/ whiff, puff' for wind or air, di 'drop' and tan 'pool' for liquids, and kuai 'piece' for solids. All these morphemes function in two ways: as classifiers and as measure words.22

Back to Greenberg and Adams' question: how can one tell a mass noun from a count noun in languages? We can use the distinctions between classifier and measure word to partly answer the question. We have seen that there are some non-prototype classifier/measure words used for mass nouns. In contrast, prototype classifiers, such as ge, cannot used for mass nouns. On the other hand, count nouns can be accompanied by
prototype classifiers, as we have listed at the previous sections. This suggests that, in Beijing Mandarin, \textit{ge} is a classifier to tell count noun from mass noun: whenever a noun in question can be classified by \textit{ge}, this noun is a count noun; otherwise it is a mass noun.\footnote{Beijing Mandarin, ge is a classifier to tell count noun from mass noun: whenever a noun in question can be classified by \textit{ge}, this noun is a count noun; otherwise it is a mass noun.}

2.5.3. The notion of 'unit' and fuzziness between classifiers and measure words

Because the notion of 'unit' can not be well defined, one may be confused on the function of a classifier. In Beijing Mandarin, the noun \textit{xiangjiao} 'banana' represents some properties of the object '\textit{xiangjiao}', such as 'fruit, inanimate, long-shape, ...' However, what is the unit of \textit{xiangjiao} is a debatable issue. Sometimes, we say \textit{yi ge xiangjiao} 'a banana', thus \textit{ge} is a unit of \textit{xiangjiao}. But we also say \textit{yi chuan xiangjiao} 'a string of banana'. Then a question arises: is \textit{chuan} also a unit of \textit{xiangjiao}? To clarify the issue, Adams (1982) provides two concrete examples. One is how to classify a bunch of carrots which consists of five individual carrots. There are three ways to name these carrots in classifier languages: a) five 'classifier' carrots; b) one bunch of carrots; and c) one point two (1.2) pounds of carrots. Similar to the carrot example, a bunch of \textit{putao} 'grape' which weights one pound can also be called in three different ways in Beijing Mandarin as follow:

a) \textit{wushi ge putao} 'fifty grapes'

\begin{center}
\textit{five C grape}
\end{center}

b) \textit{yi chuan putao} 'a string of grape'

\begin{center}
\textit{one string grape}
\end{center}

c) \textit{yi bang putao} 'one pound of grape'

\begin{center}
\textit{one pound grape}
\end{center}
It is clear that *ge* is a classifier, while *bang* is a measure word. The question is whether *chuan* is a classifier or a measure word. We have argued that there are some fuzzy members between the two grammatical categories, classifiers and measure words. *Chuan* is in fact this kind of fuzzy member which often confuses readers. On the one hand, *chuan* is a classifier. It classifies items which can be connected by strings, or are ranged one by one, such as key, grape, banana, ... etc. We hardly, however, find *yi chuan dianshi* 'one-bunch-T.V., *a bunch of T.V.*, *yi chuan shu* 'one-bunch-book: *a bunch of book*, .... Certainly we could if we wanted. The point is that this is not the reality. On the other hand, *chuan* is also measure-word-like, because the items after *chuan* do not necessarily have shared properties or a family resemblance. We can say *yi chuan yaoshi* 'a bunch of key', *yi chuan zhuzi* 'a string of beads'. It is very grudging to argue that keys, beads, and grapes, ... share some common characteristics or family resemblance. From this point of view, *chuan* is more of a measure than a classifier.

The above argument is based on the fact that a grape is a unit. However, one string can also be a unit in other cases. For example, if there are many strings of grapes in a basket, and we are asked to count exactly how many strings there are in this basket. In this case, it is natural to consider 'a string of grape' rather than 'a (individual) grape' as an acceptable natural 'unit'. The crucial point is that there is a quantitative difference between these two 'units'. In other words, both *ge* and *chuan* involve some kind of quantifying function. This quantifying function usually becomes obvious when two units are being used simultaneously. When the native speakers use *ge*, *chuan* and *bang* for grape, they are making quantifying distinctions among these three 'units'. That is, quantitatively, *yi chuan* is bigger and weightier than *yi ge*: *chuan > ge*, while *yi bang* 'a pound' is also weightier than *yi ge* 'one (grape)'. 
From the above example, we can see that in a 'numeral + classifier + noun' phrase, the noun denotes the properties which decide what classifier to be used; At the same time a classifier also refers somehow to the domain of quantity and thus serves as some kind of quantifier. This is because when questions like "You duoshao putao?" (How many [how much] grape?) are asked, what the questioner wants to know is the quantity. The numeral alone cannot indicate precisely the quantity. Instead, the numeral has to combine with classifiers/ measures and the nouns to express the exact quantity. This is to say that the classifiers do possess a quantifying function in those classifier expressions.

2.5.4. Fuzziness and reality in the everyday world

Language is a reflection of reality. The fuzziness between the two categories of classifiers and measure words is also a reflection of reality in the everyday world. Tai and Wang have proposed that classifiers have little to do with quantity, while measure words have solely to do with quantity of items. Their proposal works very well for the ideal, or prototypical members of the two grammatical categories. On the other hand, as shown in previous sections in 2.2.5., the fuzzy members between classifiers and measure words function partly as classifier and partly as measure word. This is to say that these fuzzy members of classifiers also involve a quantitative measurement in addition to their classificatory function. However, the measurement of these fuzzy members are often imprecise. We have listed kuai 'chunk', pian 'slice', di 'drop', chuan 'string', etc. as examples of fuzzy members between classifier and measure word. We should notice that when they function as measures, they denote approximate quantity of objects in terms of chunk, slice, string, slice, ... etc. This is also a reflection of our real world. In our daily life there are many cases where we do not need the quantity of objects to be expressed accurately. Instead, an approximate amount is sufficient to serve the purpose.
From fuzziness between classifiers and measure words, one can see that the boundary between these two grammatical categories is not sharply demarcated. On the one hand, we should differentiate classifiers from measure words; on the other hand, we should realize this distinction is best captured in terms of prototypes, therefore there are always some fuzzy members between these two grammatical categories. We have suggested some semantic and syntactic criteria which help to tell one from the other. However, it should not be expected that these criteria work perfectly in every case. As a matter of fact, some criteria only work partly in one way or another, as discussed so far in section 2.2.

2.6. Theoretical and typological observations

In this section we would like to give some theoretical and typological observations to conclude our discussion.

2.6.1 Theoretical observations

One of the interesting points raised in section 2.2.5. is that whenever a morpheme in question fails to meet some of the syntactic/semantic criteria for classifier, the morpheme becomes partly classifier and partly measure. Thus, one will certainly wish to ask why some morphemes possess some features of classifiers and some of measure words. Recall that the prototype theory fits well with the fact that some members between categories are fuzzy. The theory can account for human categorization including grammatical categories, of which classifiers and measure words are two. Like other grammatical categories, the boundary between classifier and measure word is not clear-cut. When we argue that functionally a classifier is to categorize objects while a measure
word is to measure objects, we are not saying that measurement can never be involved in the classificatory function. Becker writes:

"Probably the assumed distinction between classifier proper and quantifiers is really best considered a continuum, for, which there are forms which are clearly classifier and clearly quantifiers, there are some forms which are intermediary and not clearly one or the other." (1975: 114)

The cases of pian, di, chuan and kuai in the Beijing dialect are intermediary forms. They are classifiers on one hand, and quantifiers on the other. More than that, even when they meet some criteria of classifiers, we should not forget that some measurement meaning is also involved. For example, the native speakers see yi kuai rou and yi pian rou differently: kuai is used for thicker pieces of meat and pian is used for thin pieces. While both pian and kuai show some features of classifiers, we should notice that yi kuai rou is different from yi pian rou in terms of quantity, even though the quantity here is not exactly indicated.

Even though we have suggested some semantic and syntactic criteria to tell classifiers from measure words, one should not expect to tell one from the other in all cases. Given the gradation in human categorization including linguistic categories, we cannot really predict but explicate their memberships (Cf. Lakoff 1986). As observed by Langacker,

"expectation of absolute predictability are sometimes unreasonable for natural language and commonly lead to erroneous conclusions, dubious claims or conceptual confusion." (1987:48)

His comment is supported by the facts presented in this section.
As cognitive grammar views language as a reflection of the reality of the outside world, the fuzziness with respect to the said distinctions between classifiers and measure words also reflect the fuzziness in human categorization of reality. That is, the distinction between the two grammatical categories are associated with actual differences in the reality of the outside world as perceived by the native speakers. On the one hand, some typical examples of a category are outstanding and therefore easy to be classified. On the other hand, for some other members it is hard to tell their categorical status and therefore hard to decide whether they should belong to this rather than that category.

The semantic structure of languages vary one from another to form their unique characteristic style (Jones 1970). But they join in a common point that all structures of different classifier languages differentiate the classifiers from the measure words, in one way or another. This suggests once again, as argued also by Langacker, among others, that "grammar (or syntax) does not constitute an autonomous formal level of representation. Instead, grammar is symbolic in nature, consisting in the conventional symbolization of semantic structure." (1987:2) In interpreting the relation between human categorization and the classifier systems across Chinese dialects, Tai also claims that "iconic, grammatical patterns mirror natural, linguistic symbolization rather than arbitrary, formal representation" (to appear: 13). The distinction between the classifiers and the measure words in Beijing Mandarin presented in this section provide additional evidence for the above-quoted arguments.

2.6.2. Typological observations

If the distinction between classifiers and measure words is taken as a typological parameter, classifier languages can be subgrouped in the following fashions.
(i) Whether classifiers are obligatory. In many minority languages in China (Wang F. for Miao; Yu and Luo for Dai, Wei and Qin for Zhuang, etc.), as in Chinese, the use of classifiers are obligatory in counting structures. In Khmer, however, the classifiers are usually associated with more standard, formal language and are optional in informal conversation (Cf. Adams 1982: 32). Languages such as Thai, Burmese, Chinese, ... require obligatory use of classifiers; languages such as Khmer do not.

(ii) Whether size of the number (small or big) can affect the use of classifiers. In some languages, classifiers only occur with small numbers. The classifiers in Burmese, for example, do not appear with numbers that are powers of ten. Also in Thai, the big numbers such as 1,000, are considered estimates and therefore classifiers usually do not accompany them. On the other hand, other classifier languages require a classifier, regardless of the size of the number. Thus, in Chinese, yi qian yizi (one-thousand-chair) is ungrammatical, but yi qian zhang yizi (one-thousand-C-chair) is.

(iii) Whether there is more than one set of numerals which are used separately for classifiers and measure words. Ojibwa and Khasi, among others, have two sets of numerals meaning 'one' to be used for classifiers and measure words, respectively. Most classifier languages such as Chinese, Burmese and Vietnamese do not use one set of numerals for classifiers and other set for measures.

(iv) Whether there are some syntactic criterion which can tell classifiers from measure words. As demonstrated in 2.3.1, in Beijing Mandarin Chinese, de 'of' is not allowed between the classifier and noun, while it can be inserted between the measure word and noun. However, Japanese, according to the institution of some native speakers, is the opposite of Chinese: the Japanese no 'of' can appear between the classifier and noun, but is not allowed between the measure word and noun. This suggests that classifier
languages differ from each other in terms of differentiating classifiers from measure words by syntactic feature(s).

Notes to Chapter II

1 Some previous works on classifier languages notice the difference between classifiers and measure words. For example, Becker states that "classifiers are usually distinguished from quantifiers, which measure a more or less precise quantity of the thing being referred to." Interestingly, he realizes that the distinction between the two is sometimes "intermediary and not clearly one or another, while there are forms which are clearly classifiers and clearly quantifiers." (1975:114) In analyzing "measure" in Chinese, C. Liu also mentions the two different kinds of measure of nouns, i.e., the sortal and the measural (1980). However, none of these works go further to discuss the distinction between the two semantically and syntactically as I will do later in this chapter.

2 For example, if we limit our classifiers to Chao's 'classifier' including 'individual measure'(Mc) and 'classifiers Associated with V-O' (Mc') as Norman did (Norman, 1988:115), there are only seventy-two (fifty-one Mc and twenty-one Mc') classifiers in Mandarin. This number is much lower than it should be, because some classifiers have been excluded from this classification, or, to say it in another way, these classifiers have been mixed up with measure words.

3 With the assistance of Dr. Song Zhengchun and my son, Wang Yi, I mailed a pre-designed questionnaire to Beijing to collect examples of classifier use from fifty informants who lived in Beijing when the investigation was conducted (April - August, 1990). I am grateful for their help.

4 Since the present study focuses on the diachronic survey of the classifiers in Chinese, only those related to the topic of distinction between classifiers and measure words have been used in the present study. The data related to the variation of classifier uses in Beijing Mandarin collected in my field work will be examined in my future study. For example, I conducted a survey on the use of classifiers for some items from four Putonghua speakers at The Ohio State University. Two (1 and 2) are native speakers of Beijing dialect, while the other two (3 and 4) are with Wu dialectal background. The result is as follows:

<table>
<thead>
<tr>
<th>lingdai</th>
<th>qianbi</th>
<th>hezi</th>
<th>mianbao</th>
<th>shaoba</th>
</tr>
</thead>
<tbody>
<tr>
<td>'neck tie'</td>
<td>'pencil'</td>
<td>'box'</td>
<td>'bread'</td>
<td>'broom'</td>
</tr>
</tbody>
</table>
In Ojibwa, an American Indian language, there are two lexical forms for 'one' corresponding to a distinction between classifiers and measures. According to Denny and Obijg (1973): "Pesikw is used with those numeral classifiers which refer to certain basic qualities of individual objects. ... Ninkotw is used with all other numeral classifiers. The large group are those which express measurements." (p.94) Interestingly, another language halfway around the globe from Objiwa, namely, Khasi, an Austroasiatic language spoken in Assam, also possesses two distinct words for 'one', shii and wey, to differentiate quality from quantity of the object involved. A more important fact is that the distinction is extended to all numbers.

Under his liangci, three subgroups are found (p. 108):

a. Geti putong mingci biao tawu de shuliang 個體普通名詞表他物的數量. "Individual general nouns indicating the quantity of other nouns: wan 'bowl', tong 'tub', bao 'bag'."

b. Yiqie du liang heng 一切度量衡 "All units measuring length, quantity and weight". Two further subgroups are given: (i) those that can be used as general nouns: chi 尺 'Chinese foot', shen 身 'body', dou 斗 'peck'; (ii) those that can only be used as measures: cun 寸 'inch', jin 斤 'catty', liang 長 'ounce'.

c. Those mostly of nominal origin functioning as an adjective: zhi 只 (for animal), duo 朵 (for flower), ke 棵 (for tree), pi 匹 (for horse).

Interestingly enough, the difference was detected more than one thousand years ago in the Han Dynasty by Yan Shigu. See Chapter IV.

Since the present study focuses on the noun classification presented by classifiers, the so-called 'verb-measure' will not be discussed.

To illustrate the categorical function of classifiers in Chinese, Tai and Wang provide examples to contrast classifiers with measure words (1990:38)

Zhu (1982) writes, "When the numeral-measure phrase modifies a noun, de is usually not allowed to appear. For example, liang ben shu cannot be changed into *liang ben de shu. Only in standard measures, quasi-measures, and the time-measure, can numerals be followed by de." (p. 52)
However, the insertability of *de* is more complicated than expected. We need to examine it in detail.

Generally speaking, it is true that classifiers cannot be followed by *de*, while measure words, including standard measure, quasi-measure and time-measure, usually can be followed by *de*. For example, in the following phrases, *de* cannot be inserted between the classifier and the head noun:

<table>
<thead>
<tr>
<th>Numeral + C + Noun</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>yi ge ren</td>
<td>*yi ge de ren</td>
</tr>
<tr>
<td>one C person</td>
<td>one C de person</td>
</tr>
<tr>
<td>'one person'</td>
<td></td>
</tr>
<tr>
<td>yi gen huanggua</td>
<td>*yi gen de huanggua</td>
</tr>
<tr>
<td>one C cucumber</td>
<td>one C de cucumber</td>
</tr>
<tr>
<td>'one cucumber'</td>
<td></td>
</tr>
</tbody>
</table>

On the other hand, *de* is allowed between the measure and the head noun. For example,

<table>
<thead>
<tr>
<th>Numeral + Standard measure (+ de) + Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>yi bang rou</td>
</tr>
<tr>
<td>one M meat</td>
</tr>
<tr>
<td>'one pound of meat'</td>
</tr>
<tr>
<td>liang chi bu</td>
</tr>
<tr>
<td>two M cloth</td>
</tr>
<tr>
<td>'two (Chinese) foot of cloth'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numeral + Container measure (+ de) + Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>yi xiang shu</td>
</tr>
<tr>
<td>one case book</td>
</tr>
<tr>
<td>'one case of book'</td>
</tr>
<tr>
<td>liang her yuebing</td>
</tr>
<tr>
<td>two box moon cake</td>
</tr>
<tr>
<td>'two boxes of moon cake'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numeral + Temporary measure (+ de) + Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>yi shen xue</td>
</tr>
<tr>
<td>one body snow</td>
</tr>
<tr>
<td>'a whole body of snow'</td>
</tr>
<tr>
<td>yi duzi qi</td>
</tr>
<tr>
<td>one stomach anger</td>
</tr>
<tr>
<td>'a whole stomach of anger'</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Numeral + Group measure (+ de) + Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numeral + Quasi measure (+ de) + Noun</td>
</tr>
<tr>
<td>-------------------------------------</td>
</tr>
<tr>
<td>yi zuo cai</td>
</tr>
<tr>
<td>one table dish</td>
</tr>
<tr>
<td>'a whole table of dishes'</td>
</tr>
<tr>
<td>yi tao jiaju</td>
</tr>
<tr>
<td>one set furniture</td>
</tr>
<tr>
<td>'one set of furniture'</td>
</tr>
</tbody>
</table>

As a general rule, there is a semantic difference between noun phrases involving measures with and without *de*. The difference lies in whether the speaker intends to emphasize the quantity: The phrase with *de* shows more emphasis than that without *de*. For example, in order to show a child ate a lot, sentence (a) is more appropriate than sentence (b):

(a) Xiao Li jintian chi le san wan de fan.
small Li today eat P three bowl de rice
'Today Little Li did eat three bowls of rice.'

(b) Xiao Li jintian chi le san wan fan.
'Today little Li ate three bowls of rice.'

In some cases, the insertion of *de* would render odd expressions. It seems that in these cases, there is no need to emphasize the quantity. For example,

Lai yi wan fan.
come one bowl rice
'Please bring a bowl of rice'
*Lai yi wan de fan.

Notice that if there are modifiers (*da* 'big', *xiao* 'small', *man* 'full', etc.) before the measure word, *de* becomes acceptable. This is consistent with the observation that the speaker can insert a *de* to emphasize the amount either relatively larger or smaller. For example,

yi da wan de fan
one big bowl de rice
'a big bowl of rice'

yi xiao he de yuebing
one small box de moon cake
'a small box of moon cake'
manman yi ping de jiangyou
'fully one bottle of soy sauce'
'a full bottle of soy sauce'

12 More examples are as follows:

<table>
<thead>
<tr>
<th>Classifier</th>
<th>Specific Classifier</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>yi wei keren</td>
<td>yi ge keren</td>
<td>'a guest'</td>
</tr>
<tr>
<td>yi tiao chuan</td>
<td>yi ge chuan</td>
<td>'a boat'</td>
</tr>
<tr>
<td>yi jian shiqing</td>
<td>yi ge shiqing</td>
<td>'a matter'</td>
</tr>
<tr>
<td>yi liang che</td>
<td>yi ge che</td>
<td>'a car'</td>
</tr>
</tbody>
</table>

In some cases, however, the use of ge sounds odd to adult native speakers. Perhaps in these cases native speakers are too accustomed to the specific classifiers required. For example,

<table>
<thead>
<tr>
<th>Classifier</th>
<th>Specific Classifier</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>yi tiao he</td>
<td>yi ge he</td>
<td>'a river'</td>
</tr>
<tr>
<td>yi zhang zhi</td>
<td>yi ge zhi</td>
<td>'a piece of paper'</td>
</tr>
<tr>
<td>yi ben shu</td>
<td>yi ge shu</td>
<td>'a book'</td>
</tr>
</tbody>
</table>

The substitution by ge in the above examples seems, however, to be frequently found in children's language. Erbaugh (1986) reports that children never used specific classifiers before the age of 2.6 (p.417). One informant in her study even used ge for kaishui 'boiling water' (p.415).

13 Notice the different meaning of chang when it is used for play:

\[
yi \text{ chang } xi = \text{ 'an act of play'} \neq \text{ 'a play'}
\]

14 To avoid the ambiguity in those cases, a specific classifier is expected even in listing items:

liang dui yumao qiupai  
yumao qiupai  2 dui
'two pair badminton racket'
'five pairs of sport-shoe'

wu shuang qiuxie  
qiuxie  5 shuang
'five pairs of sport-shoe'
For example,

**Group Measures:**
- yidui xuesheng  
  one line student  
  'a line of students'
- yilianshijing  
  one company soldier  
  'a company of soldiers'

**Temporary measures:**
- yishen ni  
  one body mud  
  'a whole body's mud'
- yizuozi cai  
  one table dish  
  'a table of course'

**Container Measures:**
- yilanzi yu  
  one basket fish  
  'a basket of fish'
- yixiangshu  
  one box book  
  'a box of books'
- yiwuzi zuozi  
  one house table  
  'a house of tables'

We should make another observation here concerning the collocation between conjoined head nouns and measure words. That one measure word modifies more than one noun in the above phrases happens only in the case that speakers focus on joint quantity of two kinds of objects. In order to specify each kind of object, separate measure words must be used:

- ban kuang pingguo he ban kuang li  
  half basket apple and half basket pear  
  'a half basket of apple and a half basket of pear'

or

- duo ban kuang pingguo he xiaoban kuang li  
  more half basket apple and less half basket pear  
  more than one half basket of apples and less than one half basket of pears'
1. *一塊的肉;  yī kuài de ròu  
    yi kuài de ròu
    yi da kuài de ròu
    one piece de meat
    one big piece de meat  'a big piece of meat'
  *一串的葡萄  yī chuàn de putāo 
    yi chuan de putao
    yi da chuan de putao
    one bunch de grape
    one big bunch de grape  'a big bunch of grape'
  *一滴的血;  yī dī de xuè 
    yi di de xue
    yi da di de xue
    one drop de blood
    one big drop de blood  'a big drop of blood'

2. *一塊月餅  yī kuài yuēbǐng  
    yi kuai yuebing
    yi ge yuebing
    one piece mooncake
    one C mooncake
    'a piece of mooncake'
    'a (whole)mooncake'
  *一塊肉  yī kuài ròu  
    yi kuai rou
    yi ge rou
    one piece meat
    one C meat
    'a piece of meat'
    'a dish of meat' (in restaurant)
  *一塊餅干  yī kuài bǐnggān  
    yi kuai binggan
    yi ge binggan
    one piece cracker
    one C cracker
    'a cracker'

3. 再來一個飯  zài lái yī gè fàn  
    zai lai yi ge fan
    again come one C rice
    again come one bowl rice
    'one more rice'
    'one more rice'

4. 一共有三串葡萄, 他送掉倆  yì gōng yǒu sān chuàn putāo, tā sòng tiào liángr.  
    yigong you san chuan putao, ta song tiao liangr.
    altogether have three bunch grape, he sent out two.
    'Altogether three bunches of grape. He sent out two of them.'

5. 一共有三出戲, 我看了倆  yì gōng yǒu sān chū xì, wǒ kàn le liángr.  
    yigong you san chu xi, wo kan le liangr.
    altogether have three act play, I saw two.
    'Altogether three acts of play. I watched two of them.'

6. 這三堆廢鐵, 有倆是退休工人撿的  zhē sān duì fèi tī, yǒu liǎng shì tuì shū gōng rén jiǎn de  
    zhe san dui feitie, you liang ge shi tuixiu gongren jiande.
    this three pile scrap iron, have two be retired worker picked-up
    'Of these three pile of scrap iron, two are picked-up by retired workers.'
7. 一共有三雙襪子,有兩雙破的
yigong you san shuang wazi, you liangr shi pode.
altogether have three pair sock, have two be worn-out
'Of the three pair of socks, two are worn-out.'

8. 一盒月餀  ≠  一個月餀
yi he yuebing  yi ge yuebing
one box mooncake  one C mooncake
'a box of mooncake'  'a mooncake'
一共四盒月餀,  倆是你的,  倆是我的
yigong si he yuebing, liangr shi nide, liangr shi wode.
altogether four box mooncake,two be yours, two be mine.
'Of these four boxes of mooncake, two are yours, two are mine.'

9. 一頭大汗  =  大頭汗
yi tou da han  yi da tou han
one head big sweat  one big head sweat
'a full head of sweat'

10. 一根多鋼筆  ≠  一根多香腸
yi gen duo gangbi  yi gen duo xiangchang
one C more pen  one C more sausage
'more than a piece of sausage'
一根多鋼筆那麼長
yi gen duo gangbi name chang
one C more pen that long
'longer more than one pen'

17 First, it categorizes the members as root-like long shaped items: pen, string, cucumber, stick, etc. For example,
yi gen gangbi (yagao, xiangyan, ...)
one C pen (toothpaste, cigarette, ...)
'a pen, (toothpaste, cigarette, ...').'.

Secondly, it meets all of the syntactic / semantic criteria required for a classifier, as shown below:
(1) De is not allowed between gen and the following items:
yi gen gangbi  *yi gen de gangbi
one C pen  one C de pen
'a pen'

(2) Gen can be replaced by ge:
yi gen gangbi = yi ge gangbi
one C pen = one C pen
'a pen' = 'a pen'

(3) Modifiers da and xiao can only be inserted between gen and the following noun, but not between the numeral and the classifier gen:

yi gen xiao gangbi *yi xiao gen gangbi
one C small pen one small C pen
'a small pen'

(4) In listing items, gen can be omitted:
gangbi 1, qianbi 2
pen pencil
one pen, two pencils'

(5) Gen can modify only a head noun in the numeral phrases with yi 'one':
yi gen gangbi he yi gen qianbi *yi gen gangbi he qianbi
one C pen and one C pencil one C pen and pencil
'one pen and two pencil'

If the numeral is larger than one, then it is acceptable for gen to modify more than one noun as in the following phrase:

san gen gangbi he qianbi
three C pen and pencil
'three pen and pencil'

18 The only exception is the position of modifiers.

19 That pian is a classifier here can be seen from the fact that it neither allows de insertion nor can it be modified by the adjective da,

*yi pian de shuye
one C de leaf
yi da pian (de) shuye (≠ 'a leaf')
one big C (de) leaf (='a vast leaf')
*yi pian de wa
one C de tile
yi da pian wa (≠ 'a tile')
one big C tile (='a lot of tiles')
but it can be substituted by general classifier ge:

\[
\begin{align*}
yi \text{ pian} & \quad shuye = yi \text{ ge} \text{ shuye} \\
one \text{ C leaf} & \quad one \text{ ge leaf} = \text{ a leaf} \\
yi \text{ pian} \text{ wa} & \quad ( = yi \text{ ge} \text{ wa}) \\
one \text{ C tile} & \quad one \text{ ge tile} = \text{ a tile}
\end{align*}
\]

If we apply the proposed ge substitution criterion, we see the following results:

\[
\begin{align*}
yi \text{ pian} \text{ mianbao} & \quad yi \text{ ge mianbao} \\
one \text{ slice bread} & \quad one \text{ C bread} \\
'a \text{ thin piece of bread}' & \quad \neq 'a \text{ bread}' \\
yi \text{ pian xiangchang} & \quad yi \text{ ge xiangchang} \\
one \text{ slice sausage} & \quad one \text{ C sausage} \\
'a \text{ thin piece of sausage}' & \quad \neq 'a \text{ sausage}'
\end{align*}
\]

On the one hand, pian functions as a classifier. First, both the two pian in the above examples meet the semantic criterion that they classify some kind of nouns: all the head nouns in the above examples, thin piece of bread and thin piece of sausage, are slice­like in physical appearance. Thus, objects with similar shapes can be put in this pian category:

\[
\begin{align*}
yi \text{ pian} & \quad rou = '\text{ a slice of meat}' \\
jingpian & \quad '\text{ a piece of lens}' \\
yao & \quad '\text{ a tablet of medicine}'
\end{align*}
\]

Secondly, pian meets some of the syntactic criteria for being a classifier. For example, de is not allowed before the head noun:

\[
\begin{align*}
*yi \text{ pian de jingpian (rou, yao, caodi, ...)} \\
one \text{ C de lens (meat, medicine, meadow, ...)}
\end{align*}
\]

It can be replaced by liangr:

\[
\text{Yigong san pian mianbao, wo chi le liangr.} \\
\text{altogether three C bread, I eat P. two} \\
\text{'There are altogether three pieces of bread, I ate two of them.'}
\]

It can modify only a single head noun. Thus, the following phrases are not acceptable in Beijing Mandarin:

\[
\begin{align*}
*yi \text{ pian jirou he niurou} \\
one \text{ C chicken-meat and beef-meat}
\end{align*}
\]
62

*yi pian caodi he shui
one C meadow and water

On the other hand, *pian is also functioning as a measure, that is, a portion of meat (bread, sausage). Based on syntactic/semantic criteria (2), (3) and (4), *pian behaves more like a measure. Specifically, it cannot be replaced by *ge in the examples discussed earlier:

\[
\begin{align*}
yi & \text{ ge rou} & \neq & \text{ 'a slice of meat'}  \\
xiangchang & \neq & \text{ 'a piece of sausage'}  \\
mianbao & \neq & \text{ 'a piece of bread'}  \\
\end{align*}
\]

The position of attributes in pian phrases are the same as measure words:

\[
\begin{align*}
yi \text{ da pian rou} & \text{ 'a big piece of meat'}  \\
mianbao & \text{ 'a big piece of bread'} (\neq yi \text{ pian da mianbao})  \\
xiangchang & \text{ 'a big piece of cloth'} (\neq yi \text{ pian da xiangchang})  \\
\end{align*}
\]

In listing items, *pian cannot be omitted, otherwise the quantification will be unclear:

\[
\begin{align*}
*Rou & 1  \\
*mianbao & 1  \\
*xiangchang & 1  \\
\end{align*}
\]

21 *Zhang and *kuai are another two examples. As classifiers, *zhang categorizes items which are slice-like, such as in *yi *zhang *zhi "a piece of paper', and *kuai is for chunk, lump, or cube-like pieces of objects such as in *yi *kuai *shitou 'a piece of stone'. Both *zhang and *kuai fit the syntactic criteria (1), i.e., *de is not allowed between *zhang, *kuai and the following nouns *zhi 'paper' and *shitou 'stone':

\[
\begin{align*}
*liang & \text{ zhang de zhi}  \\
two C & \text{ de paper}  \\
*yi & \text{ kuai de shitou}  \\
one C & \text{ de stone}  \\
\end{align*}
\]

However, they are not classifiers if we look at criteria (3). The positions of modifiers are the same as measure words: *da 'big', and *xiao 'small' etc. can precede *zhang and *kuai:

Measures

\[
\begin{align*}
\text{liang da zhang zhi} & \text{ Compare: } *\text{liang da zhi niao}  \\
two \text{ big C paper} & \text{ two big C bird}  \\
'two big pieces of paper' & \text{ 'yi xiao kuai shitou'}  \\
*yi xiao kuai shitou & *\text{yi xiao zhi niao}  \\
\end{align*}
\]

Classifiers
one small C stone
'one small piece of stone'

22 For example, the morpheme *di 'drop' is used to create units for water, blood, ink, etc. It meets syntactic features (1) and (5) of a classifier:

(1) De is not allowed to precede the head noun:
*yi di de xue
one C de blood
(5) Modify only a single head noun:
*yi di danshui he yanshui
one C fresh water and salted water

However, *di does not meet the other three criteria for classifiers. Therefore, *yi di xue 'a drop of blood' does possess a measurement meaning quantitatively different from *yi tan xue 'a pool of blood'. *Di partly gives a measuring sense and partly a classifying sense. The native speaker can tell the difference in quantity of these two phrases: *yi di xue 'a drop of blood' is quantitatively less than *yi tan xue 'a pool of blood'. At the same time, they present two different imagery and semantic effects. Therefore, *di is a fuzzy member between classifiers and measure words.

23 For example,

<table>
<thead>
<tr>
<th>Count Nouns</th>
<th>Ge</th>
<th>Mass Noun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ge</td>
<td>ren 'people'</td>
<td>* Ge</td>
</tr>
<tr>
<td></td>
<td>zhuo 'table'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>che 'car'</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bi 'pen'</td>
<td></td>
</tr>
</tbody>
</table>

Notice that some classifiers can be replaced by *ge in some cases, but not in other cases. *Pian is such a classifier.

| 一片草地 | = 一片草地 | 一片肉 ≠ 一個肉 | 一片肉 ≠ 一個肉 |
| yi pian caodi | = yi ge caodi | yi pian rou ≠ yi ge rou | yi pian rou ≠ yi ge rou |
| 'a tract of meadow' | | 'a piece of meat' | 'a piece of meat' |
| 一片樹林 | = 一片樹林 | 一片水 ≠ 一個水 | 一片水 ≠ 一個水 |
| yi pian shulin | = yi ge shulin | yi pian shui ≠ yi ge shui | yi pian shui ≠ yi ge shui |
| 'a forest' | | 'a vast sheet of water' | 'a vast sheet of water' |
| 一片樹葉 | = 一片樹葉 | 一片面面包 ≠ 一個面面包 | 一片面面包 ≠ 一個面面包 |
| yi pian shuye | = yi ge shuye | yi pian mianbao ≠ yi ge mianbao | yi pian mianbao ≠ yi ge mianbao |
| 'a leaf' | | 'a piece of bread' | 'a loaf of bread' |
For example, if someone wants to patch clothes, s/he may say:

Zhe jian yifu pole, na kuai bu lai buyibu.
this C clothes torn take C cloth come patch.
'This clothing is torn. Take a piece of cloth to patch it.'

In this case, the gross quantity of kuai serves the purpose better than a precise amount, say, yi chi 'one foot' or san chun 'three inches', because the precise quantity does not need to be indicated in this case. Thus, the following sentence where the quantity is accurately indicated would seem odd to native speakers:

*Zhe jian yifu pole, na yi cun bu lai buyibu.
this C clothes torn take one inch cloth come patch
'This clothing is torn. Take *one inch of cloth to patch it.'

This example shows that the fuzziness in quantity reflects the reality where exact quantity is not needed.

Professor Diffloth Gerard at Cornell University mentioned to me that classifiers in Khmer are presented by the noun stems which are immediately preceding and cognate with the following nouns. He further suggests that the optionality of classifiers may be because of their predictability, the classifiers in Khmer are optional, since the speaker feels it redundant. I am hereby grateful for his kindly discussion with me.
1. Introduction

Several hypotheses have been put forward concerning the origin of classifiers in Chinese. The nature of the argument can be understood from two aspects: (1) the origin of classifiers in this particular language focusing on whether there were any classifiers in Proto-Chinese and how and when this language formed its grammatical system of classifier, and (2) the origin of classifiers as an area linguistic feature focusing on whether the classifier system is native to Chinese or borrowed from its neighbor languages.

The issue of whether there were any classifiers in Proto-Chinese (hereafter PC) has been debated also from two different starting points of view: syntactic distribution and etymological origin. In analyzing the syntactic structures in the 卜辭 Buci (divine-word, i.e., oracle inscriptions for divination) in the Shang period, Chou (1962), followed by Shen (1992), argues that since there were no syntactic structures such as "Numeral (Nu) + Classifier (CL) + Noun (N)" in that time; it is therefore impossible to find any genuine classifiers in PC.
From the point of etymological origin, two controversial opinions are found regarding the earliest classifiers in Chinese. Wang Li (1958) and Liu (1965) hold that $kai$ 卞 in PC is not the origin of the classifier $ge$ in modern Chinese. On the other hand, G. Wang (1959), Guo (1962), Guan (1953) and Huang (1964) and other scholars believe in the existence of classifiers in PC in one way or another.

In this chapter I will review the issue as to whether there were any genuine classifiers in PC from both the syntactic and etymological point of view.

First we need to decide on which classifier(s) our discussion should focus. There are almost 140 classifiers in modern Chinese (cf. Lu 1981)². This is similar to other classifier languages in Southeast Asia, Burmese, Thai, Vietnamese, to name some of them. In seeking the genetic origins of classifier languages in this area, T'sou (1976) suggests that a study of classifiers needs to begin with "more traditionally established and fundamental objects". For example, airplane is not a traditionally established object, thus the divergent classifier variations of different dialects may be misleading in searching for possible genetic sources. T'sou thus studies the classifiers for body parts in both Chinese and Malay (p. 1236). His suggestion works well for a comparative study of classifier systems in seeking area features of classifiers. In studying the origin of classifiers, however, we should focus on historical sources available to us. This is even more essential for Chinese, because in the early stage of the language, we found only a few putative classifier(s) and no classifiers for body parts. Taking into consideration the whole classifier system in modern Chinese and the long history of development of the language, it is necessary to focus our study on these earliest putative classifiers, including general classifiers. By general classifiers we mean those which are most commonly used and those which can classify most, if not all, objects (Liu 1965; Chao 1968). The general classifiers,
or the most commonly used classifiers, play a crucial role in this kind of study, partly because almost all classifier languages have one or more such classifier(s). Findings from the study on the general classifiers will not only shed light on the origin of classifiers in Chinese in particular, but also benefit the comparative study of classifier systems in this area as a whole.

For the convenience of verification of the chronology for the origin and development of classifiers in Chinese, a table of Dynasties in the history of China is provided as follows:
Table 4: A Brief Chinese Chronology*

<table>
<thead>
<tr>
<th>Dynasty</th>
<th>Period</th>
<th>Chinese Name</th>
<th>English Name</th>
<th>Notes</th>
<th>Page Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>夏 Xia Dynasty</td>
<td>21th - 16th c.</td>
<td>N. Qi</td>
<td>550-577</td>
<td></td>
<td></td>
</tr>
<tr>
<td>商 Shang Dynasty</td>
<td>16th - 11th c.</td>
<td>西魏 W. Wei</td>
<td>535-536</td>
<td></td>
<td></td>
</tr>
<tr>
<td>周 W. Zhou</td>
<td>11th c. - 771</td>
<td>北周 N. Zhou</td>
<td>537-581</td>
<td></td>
<td></td>
</tr>
<tr>
<td>東周 E. Zhou</td>
<td>770 - 256</td>
<td>Sui Dynasty</td>
<td>581 - 618</td>
<td></td>
<td></td>
</tr>
<tr>
<td>春秋 Spring &amp; Autumn</td>
<td>770 - 476</td>
<td>Tang Dynasty</td>
<td>618 - 907</td>
<td></td>
<td></td>
</tr>
<tr>
<td>西周 W. Zhou</td>
<td>475 - 221</td>
<td>五代 Five Dynasties</td>
<td>907 - 960</td>
<td></td>
<td></td>
</tr>
<tr>
<td>秦 Qin Dynasty</td>
<td>221 - 207</td>
<td>宋Song 北宋 N. Song</td>
<td>960 - 1127</td>
<td></td>
<td></td>
</tr>
<tr>
<td>漢 Han Dynasty</td>
<td>206 B. C - 24 A. D.</td>
<td>南宋 S. Song</td>
<td>1127-1279</td>
<td></td>
<td></td>
</tr>
<tr>
<td>東漢 E. Han</td>
<td>25 - 220</td>
<td>金 Jin Dynasty</td>
<td>1115-1234</td>
<td></td>
<td></td>
</tr>
<tr>
<td>三國 Wei</td>
<td>220 - 265</td>
<td>元 Yuan Dynasty</td>
<td>1271-1368</td>
<td></td>
<td></td>
</tr>
<tr>
<td>蜀 Shu</td>
<td>221 - 263</td>
<td>明 Ming Dynasty</td>
<td>1368-1644</td>
<td></td>
<td></td>
</tr>
<tr>
<td>吳 Wu</td>
<td>222 - 280</td>
<td>清 Qing Dynasty</td>
<td>1644-1911</td>
<td></td>
<td></td>
</tr>
<tr>
<td>西晉 West Jin Dynasty</td>
<td>265 - 316</td>
<td>中華民國 R.O.C.</td>
<td>1912-1949</td>
<td></td>
<td></td>
</tr>
<tr>
<td>东晉 East Jin Dynasty</td>
<td>317 - 420</td>
<td>中華人民共和國 P R C</td>
<td>1949-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>南北朝</td>
<td>南朝 S. Dynasty 420 - 589</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N. &amp; S.</td>
<td>北朝 N. Dynasty 386 - 550</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Emergence of classifiers in Proto-Chinese

As mentioned earlier, the argument over the issue of whether there were any classifiers in PC focuses on syntactic structures and etymological origins. The key point is whether we should treat several morphemes, kai 个, ren 人, pi 匹, fu 夫, shi 士, etc. in PC as classifiers and, if yes, we want to know how they developed into classifiers. In the following we will first examine the history of ge 个, which qualifies on both of the two criteria established earlier: it is the earliest classifier (see below) and the most commonly used one. Then we will discuss other classifiers in PC.

The classifier ge is the most commonly-used general classifier in modern Chinese. This was, however, not always the case throughout the history. For example, in the period between the Weijin and the Tang, mei 枚 was used more often than ge but declined gradually starting from the Tang period and almost disappeared in modern language. On the other hand, ge has grown into the most commonly used general classifier in modern time. To study the origin of the general classifier ge in modern language is thus profoundly significant for this study.

There are three different characters, 个, 個 and 箇 for the same classifier ge in Chinese. They are treated as free-variations for one single classifier by many scholars (Wang Li 1958; Liu 1965; etc.). The study by Hong (1961), however, points out that they are not the same in origin. Hong claims that the three characters have two origins which divide them into two groups: (a) 个 and (b) 個. 箇 appeared earlier than 個 and 箇. Scholars seem to agree on the origins of the two ges in group (b): 箇 originates in the word zhu 竹 'bamboo' and develops from a specific classifier for bamboo into a general classifier for almost everything. On the other hand, 個 was homophony of jie 界 and 介 (i, e., later
and was created around the Han period as stated in many previous studies (cf. Hong 1961).

Hong is right when he claims that 个 has a different origin from that of 個 and 因. However, Hong has not answered the question: what is the origin of 个 and when did it appear? In the following, I will clarify the origin of ge (个) and of some other classifiers in PC by examining the data from Jiaguwen 'oracle bone script', Jinwen 'bronze script' and Pre-Qin Chinese.

2.1. Classifiers in Jiaguwen

The studies of Jiaguwen so far have provided a few useful data for the discussion of the emergence of classifiers in Chinese. The phrases consisting of the character 丰*kai from Jiaguwen are often quoted in the studies of the relationship between *kai in Jiaguwen and ge in modern language. However, scholars see 丰 in different ways. Chou (1962), followed by Shen (1992), argues that since there was no syntactic structure of "numeral (Nu) + classifier (C) + noun (N)" in the PC, kai 丰 should not be interpreted as a liangci ‘measure word’. Instead, it should be interpreted as an adjective (Liu 1965: 86) in the following phrases:

... 其貳用三丰犬 羊。  
... qi zhen yong san *kai quan, yang.  
... its divination use three kai dog, sheep.

商承祚 [殷虚佚存]  
帝五丰臣  
di wu kai chen
Both Guan (1953) and Huang (1964) claim that few liangci 'measure-word' were used in Jiaguwen period. Huang (1964) argues that *was a liangci 'measure word' for jade in Jiaguwen. However, since neither Guan nor Huang makes a distinction between classifiers and measure words, their studies often mix classifiers with measure words under the general term liangci. A careful examination of their data shows that most of these liangci are either group measures (ke 筆 for several birds, peng 朋 for several shells), or container measure (you 午 for wine). The few cases of plausible classifiers are kai 丰 for shell (and later for jade), bing 丙 for horse, and ren 人 for people.

In order to determine whether there were any classifiers in Jiaguwen, more specifically, whether the *kai 丰 is classifier or an adjective in Jiaguwen, it is necessary to examine the etyma of *kai 丰 and some related characters in Jiaguwen, and to find out the motivation, if indeed it did function as a classifier.

2.1.1. Nominal bei 贝, yu 玉 and ren 人

Both bei 贝 and yu 玉 are nominal in Jiaguwen. To decode the semantic meaning of kai, some studies have been devoted to uncovering the relationship among peng 朋, jue 玖, bei 贝, yu 玉 and kai 丰, all of which have something to do with ancient monetary units. Wang Guowei (1959) argues that the two characters, peng 朋 and jue 玖 in the Jiaguwen are in fact the same character. Guo Moruo (1962) supports Wang's argument. He further explains that bei 贝 (meaning 'agate, jade' in the Shang culture) was used to refer to 'shellfish' by the nationalities near the coast far away from the Yin-Shang people who were an inland nation. After bei (natural shellfish) was transferred to the Yinzhou
area as valuable ornament, *yu* 玉, an imitation of *bei* (man-made shell), was later created from either bone, stone, or even bronze. Guo further claims that *bei* and *yu* were used for a long time as ornament prior to being used as monetary units, i.e., *peng* and *jue* (1962: 103-110). In other words, both *bei* and *yu* are nominal meaning 'shell, agate, jade' in the Jiaguwen period, and appeared earlier than *peng* and *jue*.

*Ren* 人 is also a noun in Jiaguwen. It was widely used to indicate 'person, human being' as recorded in many documents of Jiaguwen (cf. Xu 1988).

2.1.2. Measure words *peng* 朋 and *jue* 竇 as derived from nominal *bei* 貝 and *yu* 玉

According to Guo (1962), in Jiaguwen *peng* 朋 and *jue* 竇 were created by doubling *bei* 貝 and *yu* 玉. In addition to doubling, a link between the two *bei* and *yu* is added to the new character. Thus *peng* / *jue* is written as 朋. Guo observes that in the Shang period *peng* 朋 or *jue* 竇 'shells' were worn as ornaments, meaning a string of multiple shells. Being used as ornament, the number of shells need not be fixed in a single *peng* or *jue*. He thus infers that *jue* or *peng* might contain two, three, even six pieces of shell/jade (p.105-106). Huang (1964) holds the different view that since jade was a precious item in the Yin-Zhou period, there were only two ways of counting jade: one single jade or a pair of jades (p. 434). Guo's view is more convincing. As argued by Guo, before shells were used as currency, they were used as ornaments and the number of shells in a *peng* or *jue* could vary. Once shells were used as currency, one *peng* or *jue* could have a fixed number, usually five or ten *bei* 'shells'. The point here is that no matter whether there were two or more jades in a single *jue* / *peng*, both *jue* and *peng* were measure words, quantifying two or more pieces of shell/jade. It is thus clear that the two measure words were nominal in origin.
2.1.3. Classifiers *kai 丰and *ren 人 as derived from measure words or nouns

From the discussion in 2.1.2. and 2.1.2., we can see that the measure words *peng 朋 and *jue 诬 were created by doubling the nominal *bei 貝 and *yu 玉. In other words, the measure words *peng and *jue are nominal in origin. Now we go back to the question whether *kai 丰 is a classifier in the phrases 其貞 用三丰犬羊 and 帝五丰臣 quoted earlier in 2.1.1.

As mentioned in 2.1.1, Chou (1962, followed by Shen 1992) does not agree with treating *kai 丰 in these two phrases as a classifier. Instead, he considers it an adjective (Liu 1965). We see some problems in both Chou and Liu’s argument. First, we should not exclude the possibility of *kai 丰 being a classifier based on the pre-set conclusion that there is no such syntactic structure (Nu + CL + N) in Pa. Instead, a conclusion should be reached following a careful examination of the documents concerned, not prior to that. In other words, the logic in Chou and Liu’s argument is problematical. Second, if *kai 丰 is an adjective, as Liu states, it is difficult to make sense of the semantic meaning of the phrases (sentence) quoted above. The above two phrases apparently put quan yang ’dog-sheep’ and chen ‘deity’ in the same nominal category occupying the same syntactic position. It is hard to imagine what the adjective meaning could be. Liu does not indicate any possible semantic meaning of *kai either.

Then, what is *kai? We would argue that *kai was a classifier in Jiaguwen for the following reasons.

First, in etymology, according to some studies (G. Wang 1959, Guo 1962), a half of the character *jue/peng 玿 is *kai 贡 in Jiaguwen. Different opinions are found on whether *kai in Jiaguwen is the same as the character *yu 玉 (cf. Xu 1988: 34, Guo 1965:
However, it is clear that *kai (or yu) was often put after a numeral in the pattern “N1+ Nu + *kai (or N2, such as 玉)” where Nu is a numeral. In Jiaguwen we see quite a few nominals in the same position as *kai or yu, such as ren 人 ‘people’, qiang 羊 ‘qiang people’, yang 羊 ‘sheep’, niu 牛 ‘cow’, ... Some treat these N2 as classifiers, or as nouns, while others consider them something between classifier and noun (Shen 1992, Peyraube 1991, etc.) It may be difficult to reach an agreement on this issue, because the examples available to us are so few and the uses are so uncertain. However, the following language fact is obvious and thus important at this point. In Jiaguwen, among those nominal mentioned, only *kai (or yu) can be put prior to different nominals, such as chen 臬, quan 犬, yang 羊. On the other hand, we never see other nominals (qiang 羊, quan 犬, yang 羊, for example) placed prior to other nominals. In other words, the following phrases have not been found in Jiaguwen:

*五臣玉 (wu chen yu: five-deity-jade)

or,

*五羊臣 (wu yang chen: five-sheep-deity)

or

*三羌臣 (san qiang chen: three-Qiang-deity)

This language fact in Jiaguwen clearly indicates that *kai or yu is different from other nominals. We can assume that the uniqueness of *kai or yu being a monetary unit in the Shang period makes it possible for *kai or yu to function differently from other nouns (see below).

Second, semantically, since both peng and jue were for a quantity of more than two shells (or jades), in order to avoid quantity confusion in counting, human beings needed to have something opposite to plural measure words peng and jue. At this point, *kai 丰 ‘shell’ (or yu ‘jade’), half of peng 朋 or jue, 璑, would seem to be the logical and
the ideal choice, because a *peng or a *jue consist of several individual shells or jades. In other words, *kai is an individualized ‘measure word’, or ‘individual measure’, while *peng and *jue are ‘plural measures’ or ‘group measures’ (cf. Chao 1968). One can imagine that such an innovation would have been necessary for human communication since shells were used as currency in that time, and as pointed out by Guo (1962), the accurate counting of currency is always important for human beings.

Third, historical documents show that *kai is a classifier in Jinwen, a writing system immediately following Jiaguwen. Moreover, it continued to be used as a classifier with a variation form *ge in Pre-Qin Chinese and developed into a general classifier in the Weijin period. For detail, see 2.2.

In considering the above-mentioned reasons, we would suggest that *kai in *kai and *kai in Jiaguwen be treated as a classifier, and at least as the ancestor of the classifier *kai in the Jinwen period.

Besides *kai, ren is also a very unique morpheme related to the development of classifiers in Chinese. In the following, we will illustrate how ren has developed directly from nominal into an echo classifier. Let us examine the example below:

俘人十又六人。

Fu ren₁ shi you liu ren₂.

catch person ten and six C

'caught 16 people.'
Hashimoto (1977) calls ren₂ an 'echo-classifier', because ren₂ is simply a repetition of the ren₁. Peyraube (1991) on the other hand says that ren₂ should not be a classifier. Throughout history, *san ren xuesheng ‘three-ren-student’ is ungrammatical in Chinese. However, we would prefer to consider ren₂ as a classifier in the embryonic stage of the development of classifiers. This consideration is based on the fact that ren₂ did function as one of the very few frequently used 'classifiers' or 'echo-classifiers' in the Jinwen 'bronze script' (Guan 1981) and in Pre-Qin Chinese (Yang 1990). Even in the Weijin period when there were about 119 classifiers in use, ren still often appears in the ren₂ position. For example,

太學生三千人上書...

tai xue sheng san qian ren shang shu...

university student three thousand C send document

'3,000 university students sent in a memorial.'

[世說新語]

Even in the Tang period, ren was still a common classifier used in the same position as those in the Jinwen and in the Weijin periods:

... 有妓女四人,...

... you ji nu si ren,...

have dancing girl four C

'... have four dancing girls,...'

[博物志]
Based on the etymon of the two classifiers *kai* and *ren* discussed so far, one can see the sources of classifiers in Jiaguwen. First, a part of a character which is a measure word can develop into a classifier as in the *kai* case. Second, a noun can serve as a classifier of itself as in the *ren* case. This is very similar to the so-called "semantic transparency" in other classifier languages where the classifiers are either identical to nouns, shortened forms of nouns, or compound forms (Craig 1986).

2.1.4. Whether *bing* 丙 is a classifier in Jiaguwen

*Bing* appeared in numeral phrases in Jiaguwen several times. Similar to the argument on *kai*, two different views are found. Wang Li defines it as a group measure. He claims that "several horses make one *bing*" (1958: 236).

Huang (1964) agrees with Wang that *bing* is a measure word for horse in the Jiaguwen, since, logically, four horses draw a carriage. However, he also argues that *bing* is a classifier for carriages and writes "it is not necessary to count carriages by group measures". He further reasons that the *bing* in a phrase such as that in "che ruo gan bing" (cart-how many-bing) must be a classifier (p. 433). He quotes the following inscriptions from Jiaguwen:

癸未... 于□, 奴馬廿丙有□。

**Gui wei... in □, slave horse twenty bing and □.**

羅振玉 [殷虛書契前編]

This is a record of captured slaves and horses in the war in the Yin period. Huang argues: "since it records the number of slaves and horses; and further more, since a
fractional amount (有 □ "and-how many") is involved, ... so bing here must be an individual-unit measure (classifier)" (1964: 433).

Huang’s argument is questionable. In my opinion, bing here should be a measure rather than a classifier. As also observed by Huang himself, since four horses draw a carriage, "ma yi bing: horse-one-bing" should be "four horses"; bing is a group measure word. Thus 癸未... 于□亥馬廿丙有□ should be interpreted as "In the year of Guiwei, ... (captured) more than eighty slaves and horses in □".

2.1.5. Measure words in Jiaguwen

As mentioned earlier, in analyzing Jiaguwen, scholars often grouped measure words with classifiers into one single liangci ‘measure word’. In Jiaguwen, the number of measure words is far more than that of classifiers. Besides peng and jue mentioned above, there are more measure words in the Jiaguwen, some of which developed into classifiers in the later Jinwen period. For convenience of further discussion, a list of measure words in Jiaguwen is given as follows.

<table>
<thead>
<tr>
<th>Measure Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>jue (珏)</td>
<td>a pair of jade</td>
</tr>
<tr>
<td>peng (朋)</td>
<td>a pair of shell</td>
</tr>
<tr>
<td>pi (匹)</td>
<td>a pair of skeleton of (cow and tortoise)</td>
</tr>
<tr>
<td>you (丷)</td>
<td>container measure for wine</td>
</tr>
<tr>
<td>sheng (升)</td>
<td>cubic measure</td>
</tr>
<tr>
<td>ke (窾)</td>
<td>group measure for several birds</td>
</tr>
</tbody>
</table>
2.2. Classifiers in Jinwen

The number of classifiers in the Jinwen 'bronze script', a continuum of Jiaguwen and a more systematic writing system than Jiaguwen, slightly increased from Jiaguwen. Guan (1981) lists 33 liangci 'measure words' in Jinwen. Like other previous studies, he does not differentiate classifiers from measure words. In fact only about 1/5 of his liangci can be considered as classifiers: kai 釜 (for shell or jade), pi 匹 (for horse), ren 人 / pin 品 (for humans in general), bai 白 (for humans of high status such as officers), fu 夫 (for humans of lower status such as slaves), liang 兩 (for vehicles). For example,

易臣三品。

Yi chen san pin
grant official three CL.

"Grant (you) three officials."

[兩周金文辭大系 周公好]

易尸辭王臣十又三白。

Yi shi ci wang chen shi you san bai
grant key king ten and three CL.

"Grant the king thirteen officials."

[兩周金文辭大系 大孟鼎]

田七田，人五夫。

tian qi tian, ren wu fu.
field seven field, person five person.
'seven fields and five people.'

人千又五十夫。

ren ge qian you wu shi fu

person slave thousand and fifty CL

"one thousand and fifty slaves."

2.2.1. Classifier *pi* 匹 in Jinwen

The most frequently used classifier in Jinwen was 匹 *pi*. It appeared 15 times in Jinwen (Guan 1981). For example,

王易兮甲馬四匹。

wang yi Xijia ma si pi

king grant Xijia horse four CL

"The king granted Xijia four horses."

Just as the classifier *kai* in Jiaguwen originates from a nominal measure word, *pi* also originates from a measure word in Jiaguwen. Hu (1944) studies how *pi* was used as a measure word in Jiaguwen. He observes that *pi* in Jiaguwen means 'a pair' usually for both halves of a tortoise shell, or both halves of a cow skeleton, which were used for writing inscriptions in that period, i. e., Jiaguwen (p. 596). In addition to his analysis on
the pi in Jiaguwen, Hu (1944) also quotes some documents which indicate the meaning of pi 匹 as "two, couple". For example,

"楚辭懷沙·獨無匹兮，注：雙也。二人為匹。"

Chu Ci Huai Sha Du wu pi xi zhu shuang ye, er ren wei pi
Chu Ci Huai Sha 'alone no pair' note 'couple, two people make pi'

"A note to the Chu Ci Huai Sha 'Single without mate (pi)' says that pi means couple(mate), and two people makes a pi."

公羊傳宣公三年無匹不行注匹合也。
Gong-yang Zhuan Xuan-gong san nian Wu pi bu xing Zhu Pi, he ye.
Gong-yang bibliography Xuan-gong three year no pi no walk note pi, mate P

"A note to the phrase 'No pi will not go' in the third year of the Xuan-gong in the bibliography of Gong-yang says that pi means 'mate'."

Then Hu concludes that:

蓋牛胛骨有左右二骨，龜背甲必中刻為二而後用之，皆二骨為一對，故刻辭之中，唯牛骨刻辭及背甲刻辭獨以匹計也。

"Every cow has two skeletons on the right and on the left. The tortoise shells must be divided into two and then to be used. All these mean that two skeletons make a pair. Therefore the pi is for counting the divination bones of cows and tortoises."

Hu's observation indicates that similar to classifier kai in Jiaguwen, classifier pi in Jinwen also originates in a measure word in Jiaguwen.

In the previous studies, scholars hold two different opinions on the origins of classifier pi. Some argue for the verbal origin, while some others argue for the nominal origin. Liu (1965) argues that as a verb, it means 'to match' as in the following sentences:

馬一匹，俗説相馬比君子，與人相匹。
Ma yi pi, su shuo xiang ma bi junzi, yu ren xiang pi.

horse one C, folks say look at horse in comparable to gentleman, with people resemble.

'There is a horse. People say a horse resembles a gentleman. This is to compare the horse with people.'

宋 [侯鴻鑿六] from 漢 應劭 [風俗通]

Since pi was also a measure word for measuring cloth, Kong Anguo (Western Han) also argues in his annotation of 詩召南甘棠 Shi: Shaonan Gantang that the measure word pi has a verbal origin:

每卷兩丈，合為二十尺，今謂之匹。尤匹偶之云與?

Mei juan liang zhang, he wei ershi chi, jin wei zhi pi, you pi you zhi yun yu

every bolt two MW, join as twenty MW, now call it pi, as compare pi to saying P

"Every bolt has two zhang, which equal twenty chi. Now people call it pi. Isn't it reasonable to assume that it (pi) relates to pi'ou 'to pair'?

Obviously the above two hypotheses regarding the origins of pi do not refer to the origin in the Jiaguwen observed by Hu (1944). It is true that the meaning of 'a pair' as found in Hu's study also relates to the later meaning as explained by the above-mentioned studies. Abstracting from these studies, we would suggest that classifier pi has a nominal origin meaning 'a pair' as recorded in Jiaguwen, and was also used as a verb meaning 'to pair'.

2.2.2. Classifier 丰 in Jinwen
The classifier 丰 in Jiaguwen continues to be used as a classifier in the Jinwen. In the following sentence from Jinwen, 丰 is in the same position as other classifiers such as $pi$ (for horse) and $fu$ (for people), and we see no reason not to treat *kai as a classifier:

王易赐玉十丰.

wang yi Yi yu shi kai

emperor grant Yi jade ten CL

"The emperor granted Yi ten pieces of jade."

As a classifier, *kai is the same as classifiers $pi$, $pin$ and $fu$ in the 王易兮亚马匹, 易臣三品 and 人五夫 quoted in 2.2.1. By comparing these three phrases (sentences), we see a very clear structural pattern as below:

Noun + Numeral + CL

horse four CL  “four horses”

officer three CL  “three officers”

people five CL  “five people”

jade ten CL  “ten jades”

Liu argues that $pi$ in the phrase yi pi ma 一匹马 can be explained as an adjective meaning "yi pi you pou ou de ma 一匹有配偶的马 (a horse which has its mate)" (1965:
If so, it will be very difficult to explain the \( pi \) in 西四匹. In other words, why does the same \( pi \) change from a classifier (in "ma si pi") to an adjective (in "si pi ma")? It is even harder to exclude \( pin \) and \( fu \) as classifiers in the above examples. So how can we deny the fact that \( *kai \) is a classifier in sentence 王易肆玉拾丰? Consequently, if we agree that \( kai \) is a classifier in Jinwen and that the same character appears in both Jiaguwen and Jinwen, then the following statement is questionable: "before we are sure what character the \( kai \) is, it would be safe (to follow Liu) to treat \( kai \) as an adjective (Shen 1992: 205)."

We cannot see a reason why it will be safer to treat \( pi \) as an adjective rather than as a classifier.

It is true that the structure "Numeral + Classifier + Noun" as exemplified by 五丰臣 (\( wu kai chen \): five deities) seldom appeared in PC. This is partly because of the fact that classifiers in PC were quite limited. We would suggest that this structure in PC provided a base for the future development and dominance of the pattern "Nu + CL + N" in Chinese. As we will see in further discussion in Chapter IV, it took more than three thousand years for Chinese to create, develop and finally form an obligatory classifier system with the structure "Numeral + Classifier + Noun" as in the modern language. It is not surprising that we would find 'immature' even 'ungrammatical' phrases like 五丰臣 and 三丰犬 羊 in the language of more than three thousand years ago.

2.2.3. Measure words in Jinwen

In Jinwen, similar to Jiaguwen, there were more measure words than classifiers. As we have discussed in Chapter II, while the measure words are quite different from classifiers, they are related in one way or another. Among the 33 liangci (Guan 1981), most are measure words. Some of these measure words existed in Jiaguwen and
continued to be used as measure words in Jinwen, while some new measure words appeared for the first time:

Group measures:

- cheng 乘 for four carriages
- peng 朋 monetary unit, consisting of several bei 'shell'
- shu 束 a bunch of (rice)
- jue 琻 a pair of jade
- lu 旅 unit for people (=500 people)
- jia 家 for families
- ju 具 a pair

Measures for length, capacity and weight:

- lu 河 equal to 20 liang (weight)
- you 午 container measure, for wine
- cun 寸 for length, ~ 1/3 decimeter
- dou 斗 measure for grain, ~ deciliter
- liang 兩 for weight
- yi 銆 equal to 20 or 24 liang
- jun 釱 equal to 30 jin
- li 里 distance measure
- zi 秤 100,000,000 shafts of rice
- qun 口 container measure: barn for grain.
Temporal measures:

- guo 鼬: left-ears cut when captured in the war time
- chun 鼹: a kind of music instrument
- shu 竹: bamboo weapons
- yang 羊: sheep
- niu 牛: cow
- yi 邑: city
- tuo 枳: bamboo

2.3. Classifiers in Pre-Qin Chinese

The number of classifier increased from 5-7 in Jinwen to about 10 - 15 in Pre-Qin Chinese. The development was slow but stable. This can be seen from the fact that many of the classifiers from this time have been used for more than two thousand years up to the modern language. Moreover, the earliest classifier 篇 kai in Jiaguwen continues to be used widely as a classifier in Pre-Qin period.

2.3.1. New classifiers in Pre-Qin Chinese

Wang (1958) argues that in the Pre-Qin period, there were only several classifiers in use: 四 pi (for horse), 乘 cheng or 兩 liang (for vehicle), 張 zheng (for curtain) and 個 ge (for arrow) (p. 236-7). According to my survey, the number of classifiers in the Pre-Qin period were higher than Wang’s claim. For example, the classifying function of 領 ling (for clothes), bian 編 (for villas), mei 枚 (for general objects), pian 篇 (for articles or books), lie 坪 (for meat), ting 廷 (for dry meat), ben 本 (for tree), etc. in the Pre-Qin
period are very clearly stated. Besides those classifiers from the Jinwen, some new classifiers were used for the first time in this period. The following examples are gathered from *Ci Yuan* (Word Origins, 1979) and *Zhonghua Da Cidian* (Comprehensive Dictionary of Chinese, 1986):

衣衾三领，足以覆恶。

Yi qin san ling, zu yi fu e.

cloth quilt three CL, enough take cover stink

'Three pieces of clothes are enough to take (them to) cover the stink.'

**墨子 (ca. 468 -376 BC) [節葬]**

子產以幄幕九張行。

Zi Chan yi wo mu jiu zhang xing.

Zi Chan take tent curtain nine CL go

"Zi Chan marched with curtains and coverings for 9 tents.

[左傳 昭公十三]

或取一編箠焉。

Huo qu yi bian jian yan.

some take one CL villas there

"some took a villas (rope) there."

[左傳 昭公二十七]

槍二十枚。

Qiang er shi mei.
weapon twenty CL.

"Twenty weapons."

墨子 [備城門]

伊尹作[太甲]三篇。

Yi Yin zuo Taijia san pian.

Yi Yin write Tai Jia three CL

'Yi Yin (an officer in the Shang Dynasty) wrote three articles on Taijia (a Shang ruler).'

[尚書序]

瓜桃棗李一本數以盆鼓。

gua tao zao li yi ben shu yi pen gu.

melon peach date plum one CL number with MW MW.

'Melon (of one vine), peach (of one tree), date (of one tree), and plum (of one tree) can be measured by pen and gu.' [one pen =12 dou 'Chinese peck' 8 sheng 'dry pint'; one gu = one hu (=5 pecks)]

荀子(313 - 238 BC) [富國]

嘗一埀肉而知一範之味。

chang yi lie rou er zhi yi huo zhi wei.

taste one CL meat then know one wok P taste

"Taste the flavor of a piece of the meat (from a wok), then (you) know the flavor of the whole wok."

[呂氏春秋 察今]
Gao Zi hold bamboo-container food and four CL dry-meat

"Gao Zi held a bamboo-basket of rice and four pieces of dry meat."

[公羊傳 昭公二十五]

According to Guan (1981), 夫 $fu$ (cf. 2.2.) was used eight times and only next to the most popular classifier $pi$ (for horse), in the West Zhou period. His data are from 208 bronze inscriptions in the Western Zhou.

However, neither Wang nor Guan mentions $shi$ in the Pre-Qin period as a classifier. In my opinion, $shi$ is also a classifier:

不用一鎧甲, 不苦一士民。

bu yong yi ling jia, bu ku yi shi min.

not use one CL coat, not hurt one CL person.

'Did not use a coat of mail, did not make a single person suffer.'

韓非子(280-233 BC) [初見秦]

The same as $ling$ 'collar' in 衣衾三領 'yi-qin-san-ling: three clothes and quilts' quoted earlier, the $ling$ in the above example is a classifier. A question remains: how should we treat $shi$ in $bu ku yi shi min$. Is it a noun or a classifier? It is argued here that $shi$ is a classifier for the following reasons.
Firstly, in this five-character regular poem, the correspondence between the two halves is explicit: the classifier ling in the first half corresponds to the shi in the second half. If shi was a noun, the whole sentence will lose the symmetry as shown below:

不用一领甲  不著一士民
Adv+ V+Nu+CL+N Adv+ V+ Nu+N+N

Secondly, to treat shi as a classifier does not change the meaning of the numeral phrase. In PC, shi was a nominal meaning 'man; intellectual; soldier' which are all human beings. As pointed out previously, a classifier is usually a noun which categorizes objects to be counted. Ling-jia is not a nominal compound and neither is shi-ming. Instead, shi here is functioning as a classifier for humans similar to classifier ming or ge for humans in modern language. Thus, yi shi ming is a classifier structure "Nu + C + N".

Even though I disagree with Wang (1958) and Guan (1981) about the number of classifiers in the Pre-Qin period, I do agree with these and other works (e.g. Liu 1965) that the classifier system was not yet fully-developed in Pre-Qin period. This is because there were at least four or five ways to count objects at that time (Peyraube 1991). More importantly, the ways of counting without classifiers were more common than those with classifiers. In most cases a noun was put immediately after a numeral without a classifier:

乃卜三龜。
nai bu san gui
then divine three turtle
‘Then used three turtles to divine.’
The second way was to put numerals after nouns without classifiers:

nai she yu xin yu, niu yi, yang yi, shi yi.

thus worship in new town, cow one, sheep one, pig one.

'Thus (he) worshipped the earth deity in the new town with one cow, one sheep, and one pig (as sacrificial oblation).'

The third way was to repeat the noun being counted after the numerals:

ren shi you liu ren

person ten and six person

'sixteen people'

Notice that there is a parallelism between tian qi tian and tian qi kuai in modern Chinese. The second instance of
tian is parallel to classifier kuai. Similar to ren, tian is treated as echo-classifier in this study (cf. 2.1.3).

We can draw a conclusion based on the discussion so far in this section; that is, that the classifier as an obligatory grammatical category did not exist in the West Zhou period.

One significant observation should be made here; that is, that most of the newly appeared classifiers in Pre-Qin Chinese have now been used for more than two thousand years up to modern Chinese. Pian, pi, zhang, mei and ling (in Min dialect) are some of the examples.

2.3.2. Classifier jie 介 in Pre-Qin Chinese and its relation to *kai and ge 个

Some historical documents indicate that jie was put in the position similar to classifier in modern Chinese:

若有一介臣。

ruo you yi jie chen

as if have one CL officer

‘As if there is an officer.’

[尚書秦誓]

In the Weijin period, jie was also used as a classifier:

夫以一介貧人,七年直省。
fu yi yi jie pin ren, qi nian zhi sheng

I as one CL poor person, seven year always save

‘Now as a person in poverty, I was on government duty in the past seven years.’

Several divergent opinions are found regarding whether jie is a classifier in those sentences. Liu (1965: 85) argues that jie was not a classifier in Proto-Chinese, and that to write jie in the classifier positions is a mistake of scholars and had nothing to do with spoken language in the Weijin period. On the other hand, some scholars (Hong 1961, Guo 1962, etc.) treat jie as a classifier. However, the question whether jie was a classifier has not been examined carefully from the etymological point of view.

In Jiaguwen, we found the following examples where jie 介 was used before nominals:

zhen wu you quan duo jie fu

divine not offer dog to every jie father (or elder generation)

‘In divination, don’t offer dogs to the ancestors.’

yu duo jie zhu wu

in many jie ancestor wu (the fifth of the Heavenly Stem)
to many ancestors (? in the wu period)

羅振玉 [殷墟書契前編]

貞侑于多介兄。

zhén yǒu yú duō jiè xiōng

divine offer to every elder brothers

‘In divination, offer (something) to elder brothers.’

葉玉森 [鐵雲藏龜拾遺]

All these phrases above make use of the character jie 介. Jie is explained as zhu 諸 ‘all, every’ by some scholars. However, its original meaning is ‘clothes or shells connected together’ (Xu 1988). A significant point is that jie in Jiaguwen shares a semantic property with two other group measure words in Jiaguwen, peng and jue. That is, they all consist of several individual ‘units’. It is reasonable to ask whether there was any relationship between jie and *kai.

As a matter of fact, jie and *kai not only are similar in writing, but also share the semantic property of ‘individual unit’. Because of the similarity in writing, Guo states that *kai is later jie (1965:351-352).

A related question is whether there is any relationship between jie 介 and ge 个, which was widely used as a classifier in Pre-Qin Chinese. To better understand the relationship between the two, let us examine the following sentence in Pre-Qin Chinese:

譬如群獸然，一個員矢，將百群皆奔。

pi ru qun shou ran, yi ge yuan shi, jiang bai qun jie ben
like group beast so, one CL suffer arrow, will hundred group all run

"Like a group of beasts, if one animal was shot by arrow, then all animals in this group will run away."

[國語 楚語]

韋昭 Wei Zhao (204-273) made a note about the above sentence as follows:

其中一个被矢，則百群皆走 'Qi zhong yi ge bei shi, ze bai qun jie zou: One of them was shot then all animals will run away'. 王引之 Wang Yinzhi (1766-1834) reads 个 in Wei's annotation as jie 介. Wang’s annotation is further explained in [經義述聞 通說]:

[方言] 介，特也。物無偶曰特，獸無偶曰介。一个貳矢，正所謂獸無偶曰介也。

一介與百群相對，群以寡言之，介與寡言之也。

[Fang Yan]: jie, te ye. Wu wu ou yue te, shou wu ou yue jie. Yi ge fu shi, zheng suo wei shou wu ou ye jue ye. Yi ge yi bai qun xiang dui, qun yi zhong yan zhi, jie yi gua yan zhi ye.

"Fang Yan writes: jie means te ‘special’. Anything without a mate is called te ‘special’, and any animal without a mate is called jie. Yi ge fu shi ‘one ge was shot by an arrow’ simply means that an animal without a mate is jie. So one jie ‘individual’ is contrasted with hundred qun ‘groups’. Qun means ‘crowd’, while jie means ‘individual’.

This record clearly indicates that 介 jie 'individual' is opposite to ou 偶 'two, couple' or qun 群 ‘crowd’. From the documents quoted above we can see that the semantic property of ‘individual’ of 介 jie in Pre-Qin is the same as its original meaning in Jiaguwen. In other words, jie is very similar to *kai, an ‘individual measure’ opposite to ‘group measures’ peng and jue in Jiaguwen.

Based on the discussion above, I would assume that the similarity in both semantics and writing between jie and ge 个 made it possible to regard ge as derivative of jie. This assumption is supported by a note regarding the writing of jie in Qin Li (Li
writing in the Qin Dynasty). In Li Writing the character *jie* is written as ᵃ, which can be easily simplified as *ge* 个.

In Pre-Qin Chinese, 个 was widely used to classify different items such as bows, vehicles, human beings, and animals:

三耦皆執弓, 舉三, 而挾一個。

San ou jie zhi gong, jin san, er xia yi ge.

three double all hold bow, insert three, and grip one CL

"all six people hold bows, (each) inserts three and grips one (animal)."

[儀禮 竄射禮]

國君七介, 騎車七乘, 大夫五介, 騎車五乘。

Guo jun qi ge, qian che qi cheng, dai fu wu ge, qian che wu cheng.

nation ruler seven CL send vehicle seven CL; official five CL, send vehicle five CL

"To put seven sacrificial livestock and send seven vehicles for rulers of a state; to put five sacrificial livestock and send five vehicles for officials."

[禮記 榮弓下]

其禮, 少牢則以羊左肩七介, ...

Qi li, ... shao lao ze yi yang zuo jian qi ge, ...

its ceremony, ... small prey then take sheep left shoulder seven CL, ...

"According to Li, ... for the small ceremony, take seven pieces of sheep left shoulders, ..."
又弱一个焉。
you ruo yi ge yan, ...
again die one CL there ...
"One more person died there, ..."

[左傳 昭公三年]

鹿皮四个。
lu pi si ge.
deer skin four CL.
'four pieces of deer skin.'


The classificatory function of *ge* 个 as a general classifier in the above documents is explicit. The quotations are from documents not later than Li Ji (ca 5th c. ad) 礼记. In these historical documents, classifier *ge* 个 was never written as *ji* or *ju* This is another piece of evidence that *ge* 个 has a different origin from *ji* and *ju* (see Chapter IV, section 3 for detail)

Similar to *kai* in Jiaguwen, the use of classifiers *ge* 个 and *jie* 介, being a new grammatical phenomenon, might have been treated as "ungrammatical" in its early stage. However, whenever a usage becomes a typological feature of the language and whenever such usage is motivated by semantic principles internal to the language, it will gradually become more and more acceptable to native speakers. The evolution of *jie* and *ge* in Chinese is thus another piece of evidence in point.
The above statement is supported by the fact that one can find contemporary yet divergent interpretations of the same document. For example, Liu (1965) states that jie in the phrase 一介行李 (yi jie xing li: one jie envoy) should not be treated as classifier. Instead, it should be treated as an adjective. Thus, 一介行李 should be interpreted as 'a single envoy'. Liu’s argument could be right for this particular phrase. However, his analysis cannot explain jie in other phrases in later times such as 三介 san jie (three jie) and 壬介 jia yi jie (grip one jie). If jie is an adjective, then we cannot interpret the meaning of the two phrases. Hong (1961) made a good argument that 一介行李 should be 壬介行李 (one-CL envoy) rather than 一介行李 (one single-envoy). Later development of ge supports Hong’s statement: the phrases of “numeral + ge (or jie) + Noun” became more and more wide-spread as quoted earlier in this section.

2.3.3. Measure words in Pre-Qin Chinese

Just as the number of classifiers increased in the Pre-Qin, the number of measure words also increased slightly, building on repertoire base of measure words in the Jinwen. Some new measure words were used in this period. For example,

十錦之布, 一豆之食, ...
shi zong zhi bu, yi dou zhi shi, ...

ten MW (eighty-strand) of cloth, one MW (container) of food

"eight hundred strands of cloth and a pot of food."

[晏子春秋 内雜篇下]

冉子為其母請粟, 子曰: "與之釜。"

Ran Zi wei qi mu qing su, zi yue "yu zhi fu."
Ran Zi for his mother ask millet, Confucius say give her MW(cauldron).

"Ran Zi asked some millet for his (公西赤 Gongxi Chi's) mother. Confucius said: 'Give her a fu (=6.4 dou) of millet.'"

[論語 雍也]

In addition to the new measure words zong, dou and fu as quoted above, there were other new measure words in this period. (cf. Yang 1988, 1990)

2.4. Proto-classifiers in Chinese

Based on our discussion so far of classifiers in Jiaguwen, Jinwen and Pre-Qin Chinese, we would point out that what we have called 'classifier' should appropriately be thought of as 'proto-classifier' because they were not used systematically or consistently. Often they were not used in numeral phrases. The numeral phrases without classifiers were more numerous than those with classifiers. In fact we will observe that until the syntactic category 'classifier' becomes obligatory the number of classifiers remains small. As introduced earlier, there were only one or two 'classifiers' in Jiaguwen and 3-5 in Jinwen. The number increased to about 15 in Pre-Qin Chinese. It took almost two thousand years to increase to about 50 in the Han and then to about 110 in the Weijin period (Liu 1965). Only after the Han and Weijin can the classifiers in Chinese be considered a system (see Chapter IV)

In the Han time, classifier numbers had increased just as their usage became more systematic and consistent (Huang 1961). Right after the Han, i.e., in the Weijin period, classifier usage became increasingly consistent, and classifiers began to class nouns based on the shape, size, and function of the noun referents (Liu 1965). Simultaneously, the number of classifiers increased rapidly from fifty to more than one hundred in about five
hundred years, simply because once the categorical function was established more and more classifiers were needed to classify nouns denoting objects of different shapes and sizes.

3. Semantic motivation for the emergence of classifiers in PC

Any new grammatical phenomenon arises because of some internal motivation. Even when an external pressure exists, the internal motivation is decisive. The emergence of classifiers in Chinese is no exception. There must have been some initial internal conditions under which "numeral classifier systems may be conjectured to arise" (Greenberg 1972: 167). The rise of classifiers in the early stage of Chinese shows that the initial semantic motivation for classifiers was to avoid quantifying ambiguity between single and plural measure terms, rather than to categorize items as a classifier does in modern language. This can be evidenced from both the quantifying function of proto-classifiers in the early stage as well as the categorical function of classifiers in the later time.

3.1. Quantifying function of Proto-classifiers

Even though proto-classifiers are very few and their categorical function is not clearly established, they do play an important role in the development of the Chinese classifier system. Most of those classifiers have developed into the frequently used classifiers in modern language. The earliest classifiers kai in the Jiaguwen and the most frequent classifier pi in Jinwen have been used for more than three thousand years. More strikingly, kai and jie have developed into the most general classifier ge in modern Chinese.10 The echo-classifier ren in Jiaguwen has also remained intact throughout the
history. Thus examining the motivation of these proto-classifiers will answer the question why Chinese needs classifiers.

It stands to reason to hypothesize that the initial motivation of classifiers is to disambiguate between singular and plural measure terms in order to count items individually. In historical texts, the existence of group (multiple) measures together with the absence of singular measures/classifiers was a source of quantifying confusion. The use of two proto-classifiers *kai* and *ren* reflects this motivation, as further illustrated below.

In the Jiaguwen *peng* 朋 or *jue* 瑣 *jue* (for two to ten shells or jades) are group measures. In order to count a single shell or jade, the classifier *kai* was created from the measure word *peng/jue* as illustrated in detail in Chapter 2.1. and 2.2. In the beginning when *kai* was created, it might have functioned as an ‘individual measure’(cf. Chao 1968), because the motivation for putting *kai* after a numeral was to make a quantifying distinction between ‘individual measure’ *kai* and ‘group measure’ *peng* and *jue*.

The quantification function of *ren* can be better understood when we check the documents in the Pre-Qin Chinese. In Zuozhuan, for example, there were several measure words denoting different numbers of people: *ou* 輒, *wu* 伍, *hang* 行, *zu* 卒, *lu* 旅 and *jun* 军 for 2, 5, 25, 100, 500 and 12,000 people/soldiers, respectively. To indicate numbers of people not exactly the same as one of those numbers, a classifier was needed to count individuals of people. Otherwise, the quantity would be ambiguous. For example, in the following phrase:

...登者六十人。

... deng zhe liu shi ren
... reach person 60 CL

'... (when) 60 (of them) had got up.'

[左傳 昭公十九]

if classifier $ren_2$ was missing, the quantity could be either 120 ($60\ ou\ 繝$), 300 ($60\ wu\ 伍$), ...

Similarly, quantity ambiguity would appear in counting horses if a classifier for individual horse was not used along with group measures $si\ 驃$ and $cheng\ 乘$ (both for four horses).

見子產以馬四匹。

jian Zichan yi ma si pi

see Zichan give horse 4 CL

'Saw Zichan with an offering of four horses.'

[昭公六年]

If classifier $pi$ was missing, the sentence would be *見子產以馬四 jian Zichan yi ma si (see-Zijian-with-horse-four). Then the readers would not be able to know exactly how many horses were involved.

齊桓公妻之, 有馬二十乘。

Qihuangong qi zhi, you ma er shi cheng.

duke Huan wife him have horse 20 MW

'Duke Huan gave him a lady to wife, and he had 80 horses (in 20 teams).'
Again, if the measure words *cheng* was missing to become *you ma er shi* (have-horse-twenty), readers would be confused about the quantity (80 or 20) of the horses in the phrase.

The quantity ambiguity arises not only when a classifier is absent, but also when an ambiguous classifier is used. We can use the following sentence from *Han Shu* to illustrate the point.

選精兵三十弩，

*Xuan jing bing san shi nu*  
select excellent soldier 30 crossbow

[漢書段會宗傳]

Li Qi's annotation explains that since every soldier holds a crossbow, then the sentence should be translated as 'selected 30 excellent soldiers'. On the other hand, Liu (1965) argues that a soldier could bring two or three crossbows, then the number of soldiers is not clear (p. 64). Similarly, ambiguity arises in counting cows or sheep by different classifiers *tou* "head", *ti" hoof" and *zu" foot". For example, the phrase "羊八蹄 yang ba ti (sheep-eight-hoof)" could mean either "eight sheep" or "two sheep", because every sheep has four hoofs. However, the phrase "牛八頭 niu ba tou (cow-eight-head)" will not be ambiguous, since every cow has only one head; thus the phrase will certainly mean "eight cows" and not "two cows". This accounts for the fact that classifiers *ti* and *zu* disappeared, while 'tou' is kept up to the modern language.

Examining the emergence of Chinese classifiers from a cognitive point of view, Yau (1988) argues that the motivation for creating classifiers is to help people in remembering, especially when long phrases are involved, "then the speaker feel it
necessary to repeat what he has said in the beginning" (p. 364). The historical text does not always support Yau's argument, however. It is true that in PC, many classifiers appear in phrases with 'long-number' as quoted by Yau from 小孟麟 *Xiao Yu Ding*. Yau uses those 'temporary' classifiers (e.g., Hashimoto's echo-classifiers) as examples. He argues that the function of temporary classifiers is the same as individual classifiers, i.e., to repeat the referent which has been mentioned. However, Yau's theory is not compatible with the fact that many classifiers in PC appear in short phrases, as we have seen earlier in our discussion.

In this section, we will propose that the initial semantic motivation for the emergence of classifiers in PC was to meet the need for accurate quantifying expressions, specifically, to disambiguate between singular and plural and even multiple measure terms. As the number of classifiers increased, however, the function of classifiers gradually turned to focus on categorization, as happened from the Han and Weijin periods on.

3.2. Categorical function of the proto-classifiers

The number of proto-classifiers is quite small, and the function of those classifiers is more for quantification than categorization. This situation remained almost unchanged for more than two thousand years from the Jiaguwen in the Shang down to the Pre-Qin period. It is true that some of those proto-classifiers were used for certain objects. However, since the number of proto-classifiers was so small, and more importantly, in most cases numeral phrases were without any classifiers, it would be improper to argue for the categorical function of these proto-classifiers. In the Han and Weijin periods, however, the situation changed remarkably. First, the number of classifiers increased rapidly from fifteen in Pre-Qin Chinese to approximately fifty in the Han and about one hundred in the Weijin period, a time span of only about five hundred years. Second, since
the number increased significantly, it became possible for classifiers to tentatively put
different objects into different groups according to the shapes and functions of different
objects, as we will discuss in detail in Chapter IV.

Notes to Chapter III

1 The pronunciation of 丰 is recorded in some historical documents. According to Guo
(1965), 丰 is the same as jie and the later 个. In his annotation of Li Ji 榮記, Zheng
Xuan 鄭玄 highlights the phonetic difference between 傢 (固) and 个. He writes that they
are phonetically close, but not the same. Wang Yinzhi 王引之 further points out that jie
介 is a variation of ge 介 in the Li script 踪書, thus they are synonyms. He concludes that
the pronunciation of 丰 is indicated by gu bai qie 古拜切. To follow Guo Xiliang (1986)
AC system, classifier 个 in AC is reconstructed as kai (X. Guo 1986:38). For convenience
of discussion, the sound value of kai 丰 in PC is written as *kai.

2 See Lu (1981: 630-636). Lu provides a table of correlation between nouns and what he
calls 'special measure words', which should in fact be named as classifiers in our study.

3 Also quoted as 其鼎用三丰、犬羊.

4 The meaning of chen is not clear to scholars. Quo (1965) quotes Shiji Feng chan shu
史記 封禅書 as “jiu chen, shi si chen 九臣, 十四臣 (nine deities, fourteen deities)” where
chen means deity.

5 Guo's adjustment is supported by recent discoveries in archeology in China. The
archeologists have found that shells were widely used as currency in the Shang and Zhou
Dynasties. Renmin Ribao 人民日報 (Overseas version, January 6, 1994) reports under the
title "The Sea-shells in the Southern Silk Road" ("南絲綢之路上的海貝") as follows. The
recent archeological studies in China have discovered thousands of bei 'shell' as monetary
units from the ancient tombs in southern China. Those tombs have been distinguished as
early as in the Shang, West Zhou and the Han periods. These shells as monetary units are
mostly found in the tombs of emperors and nobles. The archaeologists have excavated 17
tombs in the Dianchi 滇池 area. More than 400 kg. monetary bei 'shells' with an amount
of approximately 150,000 pieces have been unearthed. These tombs in the Yunnan
province nowadays include those for the King Dian Wang 滇王 and his nobles. Archaeologists have also found some monetary shells with colorful painting on the back,
some of which are as big as 3 cm, in Guanghan County, Sichuan province. More convincingly, some of these shells have big holes similar to the currency in the later times. Yunnan and Sichuan provinces are believed to have encompassed “The Southern Silk Road” in East China. Through the “Southern Silk Road”, the inland people in the Yinzhou area might have exchanged goods with people in the southern coast of China. These discoveries in archaeology have in fact supported the argument by Guo (1962) as quoted in this study that the sea-shells had been used as currency in the Jiaguwen and Jinwen ages.


7 Quotations of Jinwen in this dissertation are from Guan 1981, except when otherwise indicated.

8 Xu (1988: 70) explains jie in Jiaguwen as follow:

多介為多塊革聯之甲。
duo jie wei duo kuai ge lian zhi jia
many jie be several piece connect P. shell
‘Duo jie mean several connected shells.’

9 The whole sentence is from Zuo Zhuan (Xianggong Year 8):

亦不使一介行李告於寡君
yi bu shi yi jie xing li gao yu gua jun
also not made one JIE envoy tell to me
“Not sent an envoy to tell me either.”

10 Wang (1992) quotes Duan Yucai’s annotation that ge in modern Chinese might relate to either bing ‘merge’ or zhu ‘bamboo’. In addition to that, classifier ge also relates to classifier kai in Jiaguwen. However, the later classifier ge, written as 個 and 圓, is not a result of the evolution of classifier kai in Jiaguwen. Instead, the later two ge have different origins. For details, see 2.1.
CHAPTER IV
DEVELOPMENT OF CLASSIFIERS IN CHINESE

In Chapter III we have discussed the origin of classifiers in Proto-Chinese. It has been observed that a couple of classifiers emerged in Jiaguwen and the number of classifiers increase slightly in Jinwen and in Pre-Qin Chinese. However, since those classifiers were not used systematically and consistently, they were named "proto-classifiers'.

In this chapter we will first examine how classifiers in Chinese developed from the Han (200 B.C.) to the Weijin period and down to the modern Chinese in the Ming and Qing. We separate classifiers in the Han from those proto-classifiers for two reasons. First, the number of classifiers significantly increase to fifty in the Han and approximately 110 in the Weijin period; Second, the categorical function of classifiers from the Han on has been roughly established. It was in this period that proto-classifiers started a transition into a classifier system.

Even though the proto-classifiers in PC were quite few, they set up some patterns for new classifiers to develop. That is, classifiers can be created from nouns, verbs or
measure words which are nominal in origin. To see how the classifiers from the Han on follow these patterns, we will examine the classifier use in the following order. We will give a general review on the use of classifiers in the Han (section 1) and in the Weijin period (section 2). Section 3 will search for the etymological source of classifiers in the Han and Weijin period; Section 4 discusses the semantic development of classifiers in the Han and Weijin in terms of human categorization introduced in chapter II (Background). Section 5 will review the development of classifiers after the Weijin period and further propose three criteria for determining when such phenomena may be regarded as a proper classifier system in the language. Based on these criteria, this study will answer the important question: when and how did those proto-classifiers diachronically develop into an obligatory grammatical system? We will show that while the quantifying motivation continues to justify the employment of classifiers, categorization of nouns according to their referents has emerged as the primary motivation for the development of the Chinese classifier system.

1. Classifiers in the Han — a transitional period for classifiers in Chinese

We have discussed the "proto-classifiers" in PC and stated that those classifiers were quite few and, more importantly, used only occasionally and inconsistently. However, the motivation of avoiding quantifying ambiguity became more and more outstanding. Along with the growth of human civilization, the necessity of clarity and accuracy in quantification became more and more pressing. Thus the classifiers in the Han Dynasty greatly increased from 10 to 15 in the Pre-Qin period to approximately fifty in the Han. Recall that the number of 'proto-classifier' remained unchanged for almost two thousand years from the Jiaguwen down to the Pre-Qin. In only about two or three hundred years the number of classifiers increased greatly in the Han. The
socio-economic conditions along with population and territorial expansion must have played an important role in the language change in this period.

1.1. Social factors in the development of classifier in the Han

Having recovered from the so-called "burning-book-burying-intellectuals" movement in the Qin Dynasty, the Han Dynasty turned into the most powerful one to date in the history of China. Its domestic economy had grown greatly. It enlarged its territory to occupy Korean, Vietnam and further expanded its influence to western countries such as Persian, India and Rome. The population quickly grew to 60 million (cf. Fairbank 1973). Under this social condition, international trade spread broadly. Such social development required more accurate communication. The Han Dynasty was a great period for Chinese linguistics as well. For the first time in history, works specializing in linguistics appeared. Four important books, i.e., *Shuo Wen Jie Zi* by Xu Sheng 言子, *Fang Yan* 方言 by Yang Xiong 揚雄, *Shi Ming* 誡名 by Liu Xi 劉熙 and *Er Ya* 尔雅 (author unknown) were all written in this short historic period to meet growing needs in linguistics. Those works are still often mentioned, even in modern Chinese linguistics. Under such social and linguistic environments, classifiers had increased to about fifty in number and set a foundation for their systematic development in the Weijin period.

1.2. Categorical function of classifier in the Han

It is true that the proto-classifiers were used for certain objects. For example, *kai* is usually for jades and for animals. However, the categorization is questionable, since it is almost impossible to fit out the categories of proto-classifiers in PC, simply because in most cases classifiers were not used at all. In the Han Dynasty, since the
number of classifiers had increased significantly, we are in a better position to
determine the categorical function of classifiers based on the categorical members of
each classifier. For example, a list of the categorical memberships of classifiers in the
Han can be roughly outlined as following:

kou 口 people; cauldron

tou 頭 big animal (horse is excluded), such as cow, sheep, ...

pi 匹 horse

liang 輛 vehicle

zhi 只 small animals such as bird

tiao 條 long-shape objects

feng 封 letter, book or document

ji 劑 medicine

fa 發 arrow

......

The categorical function of classifiers in the Han can be best seen in structures
where the referred nominal is absent from the sentence. For example,

徙家于鄒, 又作一篇。

Xi jia yi Zou, you zuo yi pian

move family to Zou, again write one CL
"Moved to Zou, again wrote an article."

[漢書 韋賢傳]

各受一篇，文辭不既。

ge shou yi pian, wen ci bu ji.

each receive one CL, literary word not end

"Received one article from each, and the words have not (been) exhausted."

[越絕書 外傳第十八]

In the above two sentences, the referred nominal "article" (or book, document) does not show up at all. However, since the classifier 'pian' has been assigned to classifying articles, documents or books in that period, or, in other words, somehow conventionalized, readers can pick up what the classifier pian refers to.

1.3. Uncertainty of membership of classifiers in the Han

While we argue for the categorical function of classifiers in the Han period, we should at the same time realize that the categorization is not always strict (e.g., book can be classified by three different classifiers, see below). This is because of the following two reasons. First, many new classifiers appeared in the Han for the first time and their members are not as stable as they were to become in the later time. Examine the sentence just quoted above one more time: "又作一篇 you zuo yi pian: again-write-one-CL." We have interpreted it as "... wrote another article". But it could mean "wrote another book", because books were classified by several different classifiers one of which is pian:

出一篇書。
take out one CL book

"Took out a book." [史記 留侯世家]

The classification of Chinese classifiers always involved conventionalization to some degree (cf. Tai & Wang 1990). The membership of a classifier will be conventionalized after a certain period of time, but not in the very beginning. It is therefore not surprising to see this uncertainty of membership of classifiers in the Han, a "transitional period" for the classifier system in the history of Chinese.

In comparison with proto-classifiers in PC, the classifiers in the Han have stepped forward both in number and in their categorical function.

2. Classifier in the Weijin period

The development of classifiers in the Weijing period has been considered as a turning point in the history of Chinese classifiers (Liu 1965). This can be seen from the following facts. First, in the very short time of about two hundred years, the classifier number had enlarged from about fifty in the Han to approximately 110 in the Weijing period. Second, along with the increase in number, the categorical function of classifiers in this period had been tentatively established.

2.1. Classifiers in the Weijin period -- the beginning of Chinese classifier system

According to Liu (1965), the number of classifiers in the Weijin period had reached 119, which is very close to the number of classifiers in modern Chinese. Most importantly, more than 90 percent of these classifiers have been used down to the
modern language. Thus it is fair to say that the Weijin period is the beginning of the classifier system for Chinese.

The above claim is further supported by the fact that categorization functioned as the motivation for creating new classifiers, as is further illustrated in 2.2.

2.2. Categorical function as a basic motivation in creating new classifiers

The increase in the number of classifiers in the Weijin period makes it possible to assign all the objects in the world into different categories. This is a fundamental difference between proto-classifiers and the classifiers in the Weijin period. Only in this period, has the categorical function of classifiers become independent of the quantification function.

Even though he also mixes classifiers with measure words as a general term liangci "measure-word", Liu (1965) lists 109 classifiers called 陪伴詞 Pei ban ci "company words" separated from other measure words such as 陪伴 稱量詞 pei ban-cheng liang ci "company-measure-word" and 稱量詞 cheng liang ci "measure word". His study in fact demonstrates the categorical function of these pei ban ci, or classifiers in our term. For more detailed discussion, see Liu (1965: 76-191).

In the following sections, we will focus on whether classifiers in the Han and Weijin follow the primary principles identified in the emergence of proto-classifiers presented in Chapter III.

3. Etymological origins of classifiers in the Han and Weijin periods

Similar to the origins of classifiers in the Jiaguwen, Jinwen and Pre-Qin Chinese, classifiers in the Han and Weijin usually originate in measure words, nominals or verbs.
Measure words also usually have nominal origin. Thus most classifiers in this period may be regarded as having nominal origins.

3.1. Nominal origin of classifiers in the Han and Weijin

In seeking the origins of classifiers in Jiaguwen and Jinwen, we have focused on the most commonly used general classifier ge, since ge has more representative significance throughout the history of Chinese classifiers. It is found that classifier 个ge had two other variants 億 and 竹 in the Han and Weijin period.

The general classifier ge was the most commonly used classifier followed, by mei in the Weijin period. Recall that there are three characters for the same ge. We divided the three characters of ge into two groups: (a) 億; (b) 億 and 竹 (Hong 1961). We have illustrated how the 億originates in Jiaguwen in Chapter III. Now we turn to the origins of 億 and 竹.

There is no connection between 億 and bamboo. However, this is not well recognized. An annotation from 周禮 考工記 Kao Gong Ji (ca. 600 B.C.) writes "个作'竹 (个 is the same as 竹)." Apparently Kao Gong Ji does not realize the different origins of 億 and 竹. The reason is very simple: since Jiaguwen was discovered only about one hundred years ago, it was impossible for anyone to relate 億with kai until recently. In fact, 竹 is a specific classifier for bamboo. 竹 itself also originates in nominal bamboo as recorded in Shuowen:

"竹，竹枚也。"

Ge, zhu mei ye.

Ge - bamboo - trunk - P:
"Ge means trunk of bamboo."

箥 is a nominal. Its radical is bamboo while its phonological representation is gu. It was first used as a specific classifier for bamboo:

買竹二千三百五十箥。
mai zhu er qian san bai wu shi ge
buy bamboo 2,350 CL
'Bought 2,350 pieces of bamboo.'

Similar to tiao and other classifiers, ge箥 expanded its membership and gradually developed into a general classifier. Because ge箥 is phonologically close to ge个, once箥 became a general classifier, these two general classifiers joined together as one.

Now the next question has to do with the classifier ge个 and its relation to ge个. 个 appeared for the first time in the end of the Han Dynasty, as recorded in Zheng Xuan’s Li Yi Zhu (Annotation of Li Yi) where Zheng uses 个 to interpret 个. Zheng writes, 俗呼個為箥 Su hu ge wei ge ‘Folk call 个 as 箥.’ Yu Pian玉篇 (ca. 5th c. in the Nan Dynasty) records the semantic meaning of 个 as follows:

個，加賀切，偏也。
ge, jia he qie, pian ye

Ge, (initial of) jia (final of) he, partial P.

‘個, a phonological combination of jia’s initial and he’s final, means ‘partiality’.’

Since 個 has a meaning of ‘partiality’, it is in fact semantically related to ge个 whose ancestor is jie meaning ‘a part of several connected shells or one of several pieces
of cloth. The similarity in semantic and in grammatical function made it possible for ge 个 and ge 個 to join as one. This was exact what happened in the Eastern Han period, as observed by 鄭玄 Zheng Xuan in his annotation. He writes,

个,尤枚也。今俗或名枚曰個。

Ge, you mei ye. Jin su huo ming mei yue ge, ... zi sui bu tong, yin sheng xiang jin, tong shi yi ge zhi yi.

“Ge 个 is the same as mei. Now folks also customarily call mei as ge 個.”

賈公彥 Jia Gongyan’s annotation states:

俗或名枚曰個者,人旁着固。字雖不同, 音聲相近, 同是一個之義。

“Folk also call mei as ge, which is with a ren radical attached to guo 此. Even though the two characters are different, the pronunciations are close. They both mean yi ge ‘one general thing’.”

Zheng uses 個 rather than 築 when he explains 个 in 梯記 Li Ji. This is another piece of evidence that 個 is different from 築. In other words, 個 is a continuation of 个, while 築 is not.

It has been observed that besides the general classifier ge, tiao 梯 is the most commonly used classifier in modern Chinese (Tai and Wang 1990). Liu (1965) has also grouped tiao with some other classifiers for long-shape objects and his data shows that tiao is used for a wide range of objects in the Wei晋 period. In this section we will examine the nominal origins of those classifiers. We will survey diachronically how the classifiers in the tiao 'long shape' group including 枝 zhi, 彈 tīng, 根 gen, 朶 zhu, 本 ben, 管 guān, 棵 ke, 絲 si, 精 lu, 釣 liu and 莘 jīng extended their categorical
memberships. Our examination shows that these Chinese classifiers started with some concrete objects as their "central members"; then extended their members from the central one to naturally extended ones, and finally made use of metaphorical extension to further include some abstract members.

The classifier *tiao* became quite popular as early as the Weijn period and continued to develop into the most popular specific classifier in modern times. From a concrete object 'trunk', *tiao* evolved into a classifier with three dimensional concrete objects having long shape as central members; the classifier *tiao* further expanded through natural extension to include long objects in two dimensions; and finally *tiao* is used metaphorically through the creative mind of human beings to include abstract objects in its membership.

We may name those classifiers denoting long-shaped objects as 'tiao group'. Most classifiers in this group have *mu* 'wood' or *zhu* 'bamboo' as the semantic radicals in written characters. Historical documents show that these classifiers are nominal in origin as recorded in 説文 Shuo Wen and in other historical works (to be specified):

凡條直者曰挺。

Fan tiao zhi zhe yue ting.

any branch straight thing call ting 'Any branch which is straight is called ting.'

根木株也。

Gen, mu zhu ye.

root, wood stem P 'Gen is a wooden stem.'

旁根為株。
Pang gen wei zhu.

side root be zhu. 'The side root is called zhu.'

木别生枝也。

Mu bie sheng zhi ye.

tree other grow branch P. 'Sides of trees grow into zhi 'branches'.

木下曰垄。

Mu xia ye ben.

tree under call basis. 'The underground part of a tree is called ben.'

桼, 斷木也。

Ke, duan mu ye.

ke, break tree P. 'Ke means the broken tree.' [廣韵]

枉, 椹木也。

gan, tan mu ye.

trunk, wingceltis P. 'Gan means wingceltis (a type of Chinese tree).' [玉篇]

Guan is a classifier with bamboo as radical. Its original meaning is 'flute':

簫箏備舉。

xiao guan bei ju.

flute tube all raise.

'All flutes (the vertical flute and the horizontal one) are raised (before playing).'
Shuo Wen explains guan as below:

ru chi, liu kong, ... gu wei zhi guan.

as flute, six hole, ... so call it tube.

'(It) is like a flute with six holes, so it is called a flute.'

Another basic meaning of guan was 筆 bi 'Chinese writing brush) pen' as recorded in Shi Jing:

jing nu qi luan, yi wo tong guan.

beautiful girl me miss, give me red brush pen.

'The beautiful girl missed me and gave me a red brush pen as a gift.'

Zheng Xuan 鄭玄(127-200) made a note to 彫管 tongguan as follows:

tong guan, bi yi guan ye

red tube, pen also tube P.

'Tongguan means brush pen which is also a tube.'
Some classifiers in the *tiao* group matched with the silk radical representing silk-like or silk items. For example, *lu* 纏 'thread', *si* 织 'silk' and *liu* 髠 'tuft' are paired with the 'silk' radical which are also long in appearance, as recorded in the following annotations:

繊，縷也。

Lu, xian ye.

Lu, thread P. 'Lu means thread.' [説文]

繭，蠶所吐也。

Si, can suo tu ye.

silk, silkworm of spin P. 'Silk is what spun out from the silkworm' [説文]

繭十為絨，繭倍為緞。

Si shi wei lun, lun bei wei liu.

silk ten be lun, times be liu.

'Ten thread of silk makes a 'lun', two 'luns' make a 'liu.' [集韻]

Besides these "long-shape" classifiers with *mu* 'tree', *zhu* 'bamboo' or *si* 'silk' as radicals, there were some other classifiers with other radicals but these also are for "long-shape" objects: *jing* 萍, *dao* 道, *long* 長, and *gu* 股.

萍 *jing* is the only classifier matched with the grass radical in this group. It meant post as annotated in *Shuo Wen* and was further explained as blade of grass in *Yu Pian*.
jing, cao mu gan ye.

jing grass plant blade P.

'Jing is the blade of grass and the stem of a plant.' [五篇]

dao, suo xing dao ye.

road, of walk road P

'Dao is a road for walking.' [説文]

hui tian da yu, dao bu tong.

there upon heaven big rain, road not through

'It was just raining, so the road is out.' [史記 陳涉世家]

long, tian lie.

ridge, field ridge.

'Long means a ridge in the field.' [集韵]
gu is a body-part noun classifier used for road, thread, and spring water in modern language, such as liang gu dao 'two-long- road: two roads'. Gu meant 'leg' in ancient language:

Gu wu wan fu.

leg no intact skin.

'No intact skin on the leg.'  

The nominal origin can be seen not only from those annotations quoted above, but also from their own nominal uses in many historical documents. The following examples are found in documents of the Pre-Qin or Wei Jin period.

zhong nan he you? You tiao you mei.

Zhongnan what have? Have catalpa have plum.

'What are there in Zhongnan? There are catalpa and plum.' [詩 秦風]

ruo qu zhi, ze ben gen wu suo bi hu yi.

if off it, then base root no of defense P.

'If (the soil is) taken off, then the base will not be defended.' [左傳: 文公七年]
啾啾巢於林, 不過一枝矣。

zhou jiao chao yu lin, bu guo yi zhi yi.

wren nest in forest, only one branch.

'A wren uses only one branch to nest in the forest.' [吕氏春秋 求人]

徒勞脫寶劍, 空掛墓頭枝。

tu lao tuo bao jian, kong gua long tou zhi.

futile take off sword, useless hang grave branch.

'Isn't it futile to take off (my, [author's]) sword to hang on the branch of a tree where Mao left?' 徐陵(507-582). [别毛永嘉]

旌旗垂旒, 旒纖於杆; 杆東則旒隨而西。

jing qi chui liu, liu chuo yu gan; gan dong ze liu sui er xi.

tail flag droop tassels, tassels stop at pole; pole east as jewelry follow P west.

'The flag has been decorated with tassels, and attached to the shaft; when the shaft goes east, the tassels flutters west.' 王充(27-97) [論衡 變動]

西方有木, ... 茎長四寸。

Xi fang you mu yan, ... jing chang si cun.

west side have plant there, ... trunk long four inch.

'There is a kind of plant in the west, ... whose stem is four inches long.' 荀子(313-238BC) [勸學篇]
Yanzhòu jù gòng qí sì.

Yanzhòu so tribute paint silk.

'Yanzhòu (place) then contributed patented silk (improved by paint).'

麻織織絮輕重同, 則買相若。

hemp thread silk cotton light weight same, then price the same.

'Hemp, thread, silk, and cotton are the same in weight, but the prices are not the same.'

孟子 [滕文公上]

道聽而途說。

Dao ting er tu shuo.

road hear and road speak.

'Hearsay [heard from the way and told to (others) on the way].'

耦耕之壉上。

Chuo geng P lóng shàng.

stop plough go up to the embankment.

'Stopped ploughing and went up to the embankment.'
The above examples show that all classifiers in the *tiao* group were used as nouns. Wang (1955) also argues for the nominal origins of classifiers in his *Zhongguo Yufa Lihun* (The Theory of Chinese Grammar). He writes, 'They themselves are nouns, or evolved from nouns' (p. 116).

The nominal *tiao*, *gen*, *zhi*, *guan*, *si*, *zhu*, *ting*, *jing*, *long*, *dao*, *lu*, *liu* presented above are all classifiers used for long-shaped objects in modern language.

Besides those classifiers for long-shape, many other classifiers in this period also have nominal origins. For example, 腳 *shou*, 束 *duo*, 所 *suo*, ... are all nominal in origin. For detail, see Liu (1965).

3.2. Classifiers derived from nominal measure words

While most classifiers have nominal origins, some classifiers in the Han and Weijin period originate from measure words, usually group measures. Some of the following measure words developed into classifiers in the Han or Weijin period. Others were in the process of development. It was not until later that they became real classifiers.²

具 *ju*: "a pair ...". It is used for things which are usually in a pair as Kong An-guo clearly stated in his annotation for Shi Jing:

履以兩只為具。

*lu yi liang wei ju*.

shoe take two CL as MW 'pair'

"Two pieces of shoe make a *ju*." [孔疏 詩 齊風 南風]
His interpretation is supported by the usage in that period. For example,

 granting a bed with a mosquito net one MW ‘pair’

 "Granted a bed with a mosquito net." [全晉文卷六]

 now then grant you a set of cups and a tray one MW ‘pair’

 "Now then grant you a set of cups and a tray." [全晉文卷四十六]

 In the two sentences above, since the two nominal (bed and mosquito net, cups and tray) are usually in pairs, the measure word ju is thus used. However, the meaning of "a pair" changed over time into "a single object". And only in this case can ju be considered a classifier, as in the following example,

 "Rest (your) head with a musk bag close to neck, all the bad dreams are gone."

 [真誥 甄命]
In modern Chinese it is a pure classifier as in the phrase 一具棺材 yi ju guan cai "a piece of coffin."

fa. As a group measure word, fa means "12 units of (arrow)". However, some divergent annotations are found regarding its exact quantification. For example,

賜以 ... 弓一張, 矢四發。

ci yi ... gong yi zhang, shi si fa.

grant P. ... bow one CL, arrow four fa [漢書 匈奴傳]

For the same fa in "shi si fa", 服虔 Fu Qian and 李賢 Li Xian translate as "12 arrows"; On the other hand, 鄭玄 Zheng Xian interprets it as "4 arrows". The quantifying ambiguity would certainly affect communication. Therefore, the meaning of either "12" or "4" gradually disappeared and fa thus gradually become a pure classifier for bullet in the modern time.

cong. As a measure word, cong means "a clump of (tree or grass)". For example,

又能隱三軍之衆, 使成一叢林木。

You neng yin san jun zhi zhong, shi cheng yi cong lin mu.

also can hind three army P. crowd, make become one M. forest tree

"(It) can also hide thousands of troop and make them look like a forest."

[神仙傳 卷八]
Notice that *cong* is still used as a measure word in Beijing Mandarin, while it is a classifier for tree (bamboo, grass, ...) in Southern Min dialect (see Tai 1992).

There are more classifiers which also developed from measures in the Han and Weijin period. For example, 椽 *xuan* (for uncertain bunches) 架 *jia*, (for 16 *mei*), 乘 *cheng*, (for 4 vehicles), ...

3.3. Verbal origins of classifiers in the Han and Weijin

Some classifiers in this period have verbal origins. For example, *zhang* was one of the few classifiers used in the Pre-Qin and Han period. It was a verb meaning 'to open, to draw (a bow).' The verbal meaning of *zhang* is shown in the following examples:

張, 施弓纜也。

Zhang, shi gong xian ye.

zhang, open bow string P.

'Zhang is to draw the string of a bow.' [説文]

既張我弓, ...

Ji zhang wo gong, ...

and open I bow, ...

'Then to draw my bow, ...' [詩 吉日]

As mentioned earlier, classifier *fa* originates in the measure word *fa*. However, measure word *fa* is a verb by nature:
Fa, she fa ye.

"Fa means sending out."

Besides zhang and fa, there are other classifiers in the Han and Weijin period which also originated as verbs, such as "feng" "to seal", "pu" "to spread", "fen" "to divide", "dun" "to stop", etc.

4. Semantic expansion of classifiers - a diachronic point of view

The historical development of Chinese classifiers can be seen from two different aspects: the increase in the total number of classifiers in the language and the expanding membership of each individual classifier. As a matter of fact, tiao was quite common in the early stage, compared with other members in this group: gen, zhi, guan, zhu, ke, ting. In the following we will examine how the classifier tiao expanded its membership from a diachronic point of view. The result of the examination will help us better understand historically how Chinese classifiers enlarged their membership to meet the growing demand for human categorization in this culture.

4.1. Central members of the classifier tiao in the early stage

Based on available historical documents, the members of the classifier tiao in its early stage were those nouns denoting concrete items being used in daily life:

... 取一盤縷, 若布內武, 垂下為織。

... qu yi tiao sheng, ruo bu nei wu, chui xia wei ying.
... take one C string, as arrange inside arm, hang down as tassel.

'... take a string as to arrange the inside string and put it downwards as the tassels.'

[禮記 齊記]

......懸千縷玉佩。

... xuan qian tiao yu pei

... hang thousand C jade-belt ...

'... hang one thousand jade belts, ...' [金樓子 箴戒篇] (梁 Liang: 502-557)

舍其七縷衮祿, 助費開頂。

she qi qi tiao jia sa, zhu fei kai ding.

give him seven C garment, help fee open head.

'To give seven garments to him as a support for opening.'

[高僧傳 興福篇] Gao Seng Zhuan: Xing Fu Pian (Nanchao: 4-5th C)

楊柳拂地數千縷。

yang liu fu di shu qian tiao.

willow stroke earth several thousand branch.

'Thousand branches of willow stroking the earth.'

[王褒 燕歌行] Wang Bao: "Yan Ge Xing"

The objects classified by tiao in the above examples, i. e., string, belts, garments, stamen, branches, are all concrete objects with three dimensions. These objects can be
picked up by the human hand, thus they interact closely with the human body. Therefore, we treat the nouns denoting these objects as the central members of *tiao*.

### 4.2. Natural extension of *tiao*

The natural extension includes "noun classes denoting entities which possess a visible long shape, but which have only two dimensions." (Tai and Wang 1990: 41) Examples include *jie* 'street', *he* 'river', *lu* 'road', *yingzi* 'shade' and *shanmai* 'mountain range'.

By the same principle, we can examine the natural extension of the classifier *tiao* from the diachronic point of view. We found that in the Wei Jin period, *tiao* was used for those natural extension members, such as street, river, road:

争攀四照花 競戲三條術。

zheng pan si zhao hua, jing xi san tiao shu.

struggle break four radiant flower, compete play three road.

'Contend in breaking the radiant flowers, compete in playing on the three roads.'

顧野王(519-581)燕歌行 Gu Yewang Yan Ge Xing

采桑三市路 卖酒七叠酤。

Cai sang san shi lu, mai jiu qi tiao qu.

pick mulberry three town road, sell wine seven street.

'To pick mulberry in the town road, to sell wine along seven streets.'
The 街 shu 'road' and 街 qu 'street' in the above examples are two dimensional long-shaped entities. In terms of their interaction with the human body, they are not as close as the central members. (Cf. 4.2.2.) We cannot pick up a street or a road in our hands, even though we walk on it.

4.3. Metaphorical extension of tiao

The metaphorical use of the classifier tiao in most instances came later than its use for concrete and visible objects. Liu reported "有事轉虛的痕跡 you shi zhuan xu de hen ji" 'have a trace from concrete to abstract' by providing many examples from 漢書 Han Shu, 宋書 Song Shu, 南齊書 Nan Qi Shu, and 魏書 Wei Shu in the Wei Jin period. (Cf. Liu 1965: 102-103)

One typical example given by Liu is the use of tiao for 事故 shi 'event, affair' in Han Shu (History of the Han Dynasty). This use of tiao as a classifier for events and affairs seems to have originated from the nominal expression 'long article' which refers to events and affairs recorded in vertical writing in books, as shown in: 廣雅 釋古訓 Guang Ya: Shi Gu Xun by Zhang Ji (220-265 AD):

tiao, shu ye.

trunk, book P.

"Tiao 'trunk' means book."

嚴師古 Yan Shigu (581-645 AD) annotated Zhang’s explanation as follow:
Fan yan tiao zhe, yi yi shu ju zhi, ruo mu tiao ye.

'all talk CL P, one one separate list P, as wooden piece P.

'All those talking about *tiao* are listing events one by one, as (arranging) long-shaped twigs.'

[Tiao was also used as a noun to refer to books made of long and narrow bamboo slips:

lí ren tiao shu xiang gao.

'officer long book to report'

'The officers sent long-strip books to report.'

The above examples show that before *tiao* was used metaphorically as a classifier for nouns denoting events and affairs, it had been used as a noun denoting events, affairs or books which are written down vertically in books. The process of extension involves the 'chaining principle' proposed by Lakoff (1986:17) for the analysis of noun classification in the Dyirbal language. The principle represents one of the ways human categorization works. It states that "central members are linked to other members, which are linked to other members, and so on." The linking is through the human creative mind rather than based on objective physical resemblance. The chaining
principle is in fact one of the most important principles in human categorization as illustrated in detail in Lakoff (1986).

According to Liu, the metaphorical use of *tiao* appeared later than its use for concrete objects. However, it is not clear from his data whether all the usage for abstract objects emerged later than those for concrete things. One piece of evidence available shows that *tiao* was used quite late (the Yuan Dynasty) for spirit, which is very abstract even in view of classifier use in the modern language. The document reads as follow:

休一條直氣，海內無雙，...學問重疊。

Xiu yi tiao zhi qi, hai nei wu shuang, ... xue wen chong cuo.

Xiu a C straight spirit, sea inside no double, knowledge meticulous.

'Xiu is lofty. There is no second person (like him) all over the world. He is always in high spirit. His knowledge is meticulous.'

[元]辛文房 唐才子傳 [Yuan] Xin Wenfang  *Tang Caizi Zhuan*

As stated above, to use *tiao* for events and affairs involves metaphorical extension based on some visible activities in the everyday world. On the one hand, the spirit is an imagined entity in the human mind, which is abstract. On the other hand, the 'air, steam, cloud, fog, ...' indicated by the character 氣 are visible. 3 We can see that to use 'air' to refer to the human spirit is similar to the metaphorical extension of *tiao* in modern language: *yi tiao yijian* 'one-long-opinion: an opinion', *yi tiao xinwen* 'a-long-shape-news: a piece of news'. Therefore the use can be considered a proper metaphorical extension. In the very early stage when *tiao* became a classifier we do not find any examples which use *tiao* for such abstract entities. However, admittedly more
careful studies are needed to ensure the correct chronology in regards to the use of *tiao*.

5. The criteria for the formation of Chinese classifier system

Many studies have been devoted to the issue of when Chinese formed its classifier system. Wang argues that classifiers began to appear in the Pre-Qin period (770-221 BC), were used widely in the Han (221 BC - 24 AD), and developed to be an obligatory grammatical category after the Song (960-1270 AD) (Wang 1958: 237; 1955: 119). Liu (1965) believes that Chinese classifiers as a system emerged as early as in the Wei Jin period. Peyraube (1991) suggests that "The grammaticalization process ... is completed only in Late Medieval Chinese for a majority of these classifiers." (p. 119)

The disagreement on the issue of when Chinese formed its classifier system may be caused by divergent criterion having been followed. It is suggested here that we should set some standards for a "classifier system" in order to make sure we are all discussing it from the same angle.

5.1. Categorical function of classifiers

The first criterion is that classifiers must be performing a categorical function in the language. This is essential since it sets a semantic base for the classifiers to be named as classifiers. We realize that languages may need different amounts of classifiers to meet the categorical function for the language in question. For example, while modern Chinese has about 140 classifiers in use, Dyirbal language has only four classifiers for male, female, edible plants and "other things", respectively (Dixon 1982). One can see that the number itself is not crucial. As long as the classifiers in a language
can satisfy the categorical demand in the specific culture, the classifier system is a
perfect one for that language. However, in determining whether a classifier system is
established in a specific language in a specific period of time, one has to consider both
the number of classifiers in the period concerned and whether these classifiers fulfill the
categorical function in that same period.

With this criterion, we can reach a tentative conclusion regarding the formation
of the Chinese classifier system based on the discussion of Chinese classifiers so far.
That is, the proto-classifiers in the Jiaguwen, Jinwen and Pre-Qin Chinese are not a
system but an embryonic stage of Chinese classifiers. As for the Han period, we view it
as an infant stage. We have provided some detailed reasons for the above conclusion
(see Chapter III and section 1 in this chapter).

For the classifiers in the Weijin period, if we apply only the criterion of having
categorical function of classifiers, we would suggest the Chinese classifier system was
fully established in this period for the following reasons. First, the number of classifiers
remained almost unchanged from the Weijin down to the Ming and Qing. Even in
modern Chinese, there are only about 140 classifiers at the most, which is quite close to
the 119 in the Weijin. More importantly, most classifiers in the Weijin have been used
down to the modern language. Second, the categorical function of classifiers was
obvious in that every classifier has its core members such that objects are assigned to
certain classifiers. This was not true of the proto-classifiers.

5.2. New classifier structures - numeral phrases

The second criterion for the formation of a classifier system in a language is that
there must be evidence of innovation in classifier structures. The classifiers from the
Han period on developed not only with respect to the number of classifiers, but also with respect to the syntactic structures in which they appeared. New classifier structures appeared in this period for the first time and continue to be used in later periods.

5.2.1. Classifier duplication

In the numeral phrases in archaic Chinese, there were no structures like "classifier + classifier" used independently. However, in the Han period, this structure appeared for the first time:

... 南書二封, 封封皆囊佗...

... Nan shu er feng, feng feng jie tuo tuo.

... south letter two CL, CL CL all sonorous

"... (there are) two letters from the South, and every letter sound sonorous."

Sometimes, the classifier is used to mean "every" or "each" without doubling the classifier:

... 馬三匹, 匹二吏。

... ma san pi, pi er li.

... horse three C, C two official

"... (there are) three horses, and each horse serves two officials."

The above examples show that classifiers in this period can be used independently and still keep the semantic meaning as a classifier.
5.2.2. Noun omission

Another development is noun omission: the nouns classified by classifiers in numeral structures are omitted. In proto-classifier uses, whenever a classifier is used, the nominal is always in the same phrase with the classifier such as "noun + numeral + classifier" or "numeral + classifier + noun". However, in the Han period, we see quite a few structures like "noun 1, noun 2 + numeral + classifier + ... " where noun 1, although it is not immediately follow the classifier, is actually the one being referred to by the classifier:

宋代之文選，此兩篇最善。
Suo zhi wen ci, ci liang pian zui shan.
Suo’s literary words, this two CL most good
"Of Suo’s writings, these two are the best."

[漢書 東方朔傳]

In the above sentence, the noun wen ci "writings" is referred to by the classifier pian. Some classifier usage goes even farther: the nominal referred to is at the discourse level. The noun referred to by the classifier does not even show up in the same sentence:

徙家于鄭，又作一篇。
Xi jia yu Zou, you zuo yi pian.
move home to Zou, again make one CL
"(After) moved to Zou, (Wei Xian) again wrote one (article)."

[漢書 韋賢傳]
Even though the nouns which are classified by the classifier are absent, readers can still know what the nouns are. The significant point of the above examples is that classifiers in the Han period had become somehow independent. This is an indicator that classifiers started to develop into an independent word category in Chinese. However, this category was not yet stabilized in the Han and Wei Jin period. One can see this structure more often in later times, especially after the Song:

拾鈔一束，... "不過一二疋而已，豈有盡一束之理?"

shi chao yi shu, ... "bu guo yi er zhang er yi, qi you yi yi shuo zhi li

pick-up money one bunch, ... only one two C P. P have one bunch P reason

"Picked up one bunch of money.... 'only one or two pieces, that's all. How could one lose one bunch of money?"

(元) 楊 禹 [山居新話 聶以道]

猴王)將那跑不動的拿住一個。

(hou wang) jiang na pao bu dong de na zhu yi ge

monkey king take that run not able P catch one C

"The Monkey King caught one from those who cannot run."

(明) 吳承恩 [西遊記]

是世人都是為名為利之徒, 更無一個為身命者。

shi shi ren dou shi wei ming wei li zhi tu, geng wu yi ge wei shen ming zhe

be people all for fame for gain P people, even no one C for humanity P

"All people are for their fame and gain, even no one care about humanity."

(明) 吳承恩 [西遊記]

5.2.3. Modifier insertion
Another new grammatical phenomenon involves the insertion of a modifier between classifiers and their nouns. The modifier can be a verb phrase, adjective or a nominal. In the Weijin period, the modifiers are put prior to the numeral + classifier, but not between classifiers and nouns:

五尺刀兩口。

wu chi dao liang kou
five Chinese-foot knife two CL
'two five-foot long knives.'

[魏志 東夷傳]

After the Song, however, the insertion become well-established. For example,

見一座小小酒店在村口。

Jian yi zuo xiao xiao jiudian zai cunkou
see one CL small bar in village front
'saw a small bar in front of the small village.'

[水浒傳會評本] 第八回

梁山泊內, 添幾個弄風白額大蟲。

Liangshanbo nei, tian ji ge nong feng ba e da chong.
Lianshanbo in, add several CL play trick white forehead big insect (i.e., tiger)
‘In Liangshanbo, there come several big masters.’

[水浒傳會評本] 第十回

尋出一塊透明的羊脂美玉來。

xun chu yi kuai tou ming de yang zhi mei yu lai
search out one C translucent P sheep-suet jade out
"To have found a piece of translucent pure white jade."

有個閩西延州延安府的人。

you ge Guanxi Yanzhou Yannan fu de ren

have C Guanxi Yannan prefecture de person

"There is one person from the Yannan Prefecture of Yanzhou in Guanxi."

5.3. Whether classifier use is obligatory

The third criterion we would suggest here is that classifier use must be obligatory. In modern Chinese, in a numeral phrase a classifier must be used. However, this is not the case in Archaic Chinese or even in ancient Chinese. By this criterion, an examination of classifier use from the Weijin period on shows the following crisscross situation in different historical periods.

From the Weijin down to the Tang, classifier use in general is optional rather than obligatory. For example, in the Weijin period, the classifier is omitted in most numeral phrases:

jian yi ( ) lu, bian fang quan, quan xing shen chi, ...

see one ( ) deer, then release dog, dog run very slowly, ...

"Saw a deer and then released the dog, but the dog ran very slowly, ..."

[幽明錄 妙音續] You Ming Lu (Miao Yin Xu)

洛下有一 ( ) 洞穴，其深不測。

luo xia you yi ( ) dong xue, qi shen bu che
In Luo there has one cave, its deep not test
"There is a cave in Luo whose depth is unknown."

[幽明錄 洛下洞穴]

 忽見三（）驄皆赤負，同來...  
hu jian san（）zou jie chi ze, tong lai  
sudden see three groom all red scarf, come together, ...
"Suddenly saw three grooms wearing red scarves coming in together, ..."

[述異記 費慶伯]

 見一（）宅，...有一（）青衣女子在門。  
jian yi zhai, ... you yi qing yi nu zi zai men  
see one, ... have one black clothes female in door  
"Saw a house where a female with black clothes was in front of the door."

[搜神記 辛道度]

賞以二（）婢。  
chang yi er bi  
grant P. two servant girl  
"Granted two servant girls."

[世說新語 言語]

手不輟筆，俄得七（）紙。  
shou bu chuo bi, e de qi zhi  
hand not stop pen, shortly get seven paper  
"(He) did not stop writing and shortly (he) got seven sheets of paper finished."

[世說新語 文學]
The classifiers *kou, tou, qiang, ge, zhi, mei* and *zhang* would be appropriate for the above phrases according to the data presented in Liu (1965). However, no classifiers are used. This means that classifier use is still an option rather than an obligation. Or, to say in another way, the use of classifiers is still not consistent. This continues to be the case in the Tang. In general, the spoken language (as evidenced in the vernacular fiction, *xiaoshu*) uses classifiers more often than formal documents do. However, in the 傳奇 *chuangqi* (short stories, fiction) in the Tang period, the phrases without classifiers are still more numerous than those with classifiers:

絵一 ( ) 琵琶, 大小與真不異

*huá yì pí pa da xiǎo yù zhēn bù yì*

draw one pipa (instrument), big small with real not differ

"Drew a pipa whose size has no difference from a real one."

黄甫氏 [太平廣記 原化記 畫琵琶]

有五六( ) 賊自叢薄間躍出。

*you wú liú ( ) zuì zi cong bó jiàn yuè chu*

have five six thief from bush among jump out

"Five or six thieves jumped out from the bush."

王仁裕 [太平廣記 玉堂閒話 鄚僕妻]

僕有一( ) 劍, 可以自衛。

*pu yóu yī jiàn, ke yì zì wěi.*

I have one sword, can self defend

"I have a sword and can defend myself."

黄甫氏 [太平廣記 原化記 京都僕士]
In fact, for a long time after the Tang, i.e., the Song, Yuan and Ming even in the early Qing, the phrases without classifiers are still popular in *wen yan wen* 'classical style of writing'. The following are only some examples:

### 三山中，效蓬莱，方丈，瀛州。

zhong you san shan, xiao Penglai, Fangzhang, Yingzhou.

in have three hill, follow Penglai. Fangzhang, Yingzhou

"There are three hills following the sample of Penglai, Fangzhang and Yingzhou."

[宋] 陶宗儀《書史會要》

妻臨行，以所穿繡鞋一（ ），易程一（ ）履。

qi lin xing, yi suo chuan xiu xie yi, yi Cheng yi lu

wife before leave, with P wear embroider shoe one, exchange Cheng one shoe

"(Cheng's) wife used one embroidered shoe of hers to exchange with Cheng's shoe."

[元] 陶宗儀《書史會要》

果得一（ ）男子，...

guo de yi nan zi

surely get one boy

"Surely (he) got a boy."

[明] 顧 佑《剪燈新話 愛卿傳》

二（ ）人亦私以此自許。
er ren yi si yi ci zi xu

two person also take this self engage

"Two people also took this as the engagement."

[明] 麹 佑 [剪燈新話 翠翠傳]

翠翠家有一( ) 舊僕。

Cuicui jia you yi jiu pu

Cuicui home have one old servant

"The family of Cuicui has an old servant."

[明] 麹 佑 [剪燈新話 翠翠傳]

老農賣一 ( ) 刀以易我。

lao nong mai yi dao yi yi wo

old farmer sell one knife for exchange I

"The old farmer sold one knife to own me."

[明] 馬中錫 [東田集 中山狼]

Sometimes in the same paragraph we can see inconsistent uses, where a classifier is used in one case but not in another, even though the two numeral phrases have the same structure. For example, we see two phrases, one with and one without the classifier ge in a sample of fiction from the Song period:

乃見一個孩子, .... 偶然一個孩子出來, ...

nai jian yi ge hai er, ... ou ran yi hai er chu lai.

then see one C little boy, ... accidental one little boy come out

"Then (one) saw a little boy, ... by chance a little boy came out, ...."

[宋] 大唐三藏取經詩話
The above discussion in this section does not mean, however, that the classifiers were less used after the Han and Wei Jin. As a matter of fact, classifier use has continued to grow since then. For example, some classifiers used in fiction from the Song onward are very similar to those used in modern language:

只得把你典與一個客人。
zhì de bǎ nǐ diǎn yù yī gé kè rén
have to take you pawn give one C guest
"Have to pawn you to a guest."

宋 [京本通俗小說 錯斬崔寧]

一陣風對一聲長嘆氣。
yī zhèn fēng duì yī shēng zhǎng tàn qì
one C wind against one C long sigh
"A gust of wind comes while you have a deep sigh."

(元) 關漢卿 [拜月亭]

待嫁一個老實的 ...; 待嫁一個聰明的 ...。
dài jià yī gé lǎo shí de, ...; dài jià yī gé cōng míng de ...
if married one CL honest P, ...; if married one CL smart P, ...
"If (you) should marry an honest person, ...; If (you) should marry a smart person, ..."

(元) 關漢卿 [油葫蘆]

The classifiers in the following paragraph are so natural that we hardly believe they were used more than five hundred years ago:

只見 ...一個人家, 門前出着一面招牌, ... 鋪里一個老兒, 引着一個女兒.
Zhi jian ... yi ge ren jia. men qian chuzhuo yi mian zhaopai, ... pu li yi ge lao'r, yinzuo yi ge nuer.

only see ... one CL house, front door show one CL mark, ... store in one CL elder, bring one CL girl

"One saw... there is a house where a shop sign is hanging in front of the door.... There is an elder leading a daughter."

明 [京本通俗小說 碑玉觀音]

這塊玉上尖下圓，甚是不好，只好礙一個南海觀音。

Zhe kuai yu shang bian xia yuan, shen shi bu hao, zhi hao nian yi ge nan hai guan yin.

this C jade up sharp down round very be not good, only can grind one C Nanhai Guanyin

"This piece of jade is sharp at the top and round at the bottom, not good at all. (It) can only be ground into a Nanhai Guanyin (the Avalokitesivata Bodhisattva)."

明 [京本通俗小說 碑玉觀音]

只見兩扇門關着，一把鎖鎖着，一條竹杆封着。

Zhi jian liang shan men guan zhuo, yi ba suo suo zhuo, yi tiao zhu gan feng zhuo.

only see two CL door close P, one CL lock lock P, one CL bamboo pole close P.

“One saw the two doors closed, locked, and barred.”

(明) [京本通俗小說 碑玉觀音]

有一條河，... 河邊有兩個魚翁，一個喚張権，...
you yi tiao he, ... he bian you liang ge yu weng, yi ge huan Zhang-Shao ...

have one CL river, ... river side have two CL fishermen, one called Zhangshao ...

"There is a river,... two fishermen living by the river. One of them is called Zhang Shao, ..."

(明) 吳承恩 [西游記]

It is mentioned in some previous works (Liu 1965; Peyraube 1991) that when the numeral is yi "one", classifiers are often omitted. This can be seen even from the fiction or essays in the Ming and Qing:

bei yi nu zi duo zhu, ... you yi shao nian wen dao, ...

P one female catch P, ... have one young boy ask, ...

"(Someone was) stopped by a female, ... a young boy asked, ..."

(明) 吳承恩 [西游記]

胸懸一牌云:" ...

Xiong xuan yi pai yun
chest hang one card say

"(Someone) put a card in front of his chest saying ..."

(清) 王士禎 [池北偶談 某中丞]

堂中惟設一榻。

tang zhong wei she yi ta

hall center only set one bed

"Only one bed is put in the center of the main hall."
(清) 王士禎 [池北偶談 某中丞]

擇一良匹以汝。
yi yi liang pi yi ru
chose one good horse for you
"Chose a good horse for you."

(清) 蒲松齡 [聊齋志異 婦寧]

窗內撿一紙出, ... 馴養一蟲 ... 一鶏瞥來。
Chuang nei zhi yi zhi chu, ... xun yang yi chong, ... yi ji pie lai.
window in throw one paper out, ... tame raise one insect, ... one chicken sudden come

"A piece of paper was thrown out from the window, ... tame an insect, ... a chicken suddenly jumped in."

(清) 蒲松齡 [聊齋志異 促織]

However, the above statement is not always true. Sometimes we can see sentences where both the numeral one and numbers greater than one required a classifier:

君胸中高頭講章一部, 墨卷五六百篇。
jun xiong zhong gao tou jiang zhang yi bu, mo juan wu liu bai pian
You chest in stereotyped writing one CL, model article five six hundred CL

"You only know one set of stereotyped writing and five to six hundred model essays."

(清) 紀曉嵐 [閱微草堂筆記 老學究]
It is also true that when the noun is ren "people", classifiers are usually omitted, even when the numbers are not yi "one". This is similar to the use in the modern language:

七八人, 壹酒何能遍給?
qi ba ren, hu jiu he neng bian gei?
seven eight person, pot wine how can all give?

"(We) have about seven people, how can one single pot of wine be given to everybody?"

(清) 蒲松齡 [聊齋志异 勞山道士]

三人大笑。
san ren da xiao
three person big laugh

"Three people laughed loudly."

(清) 蒲松齡 [聊齋志異 勞山道士]

5.4. When Chinese formed its classifier system

Now we can return to the question of when Chinese formed its classifier system. The crisscross usage of classifiers in different historical periods presented so far tells us that Chinese classifiers have been employed in divergent ways for a very long time throughout history from the Jiaguwen, Jinwen, the Han and Weijin, ... and down to the modern language.

However, it is not easy to give a clear-cut answer as to whether the Chinese classifier system was established in the Weijin (Liu 1965), in the Tang (Peyraube 1991) or in the Song (Wang 1955, 1958). We have suggested three criteria for testing when
Chinese formed its classifier system: that classifiers perform a categorical function, that there be evidence of structural innovation; and that classifier usage be obligatory. We have argued that if we apply only the first criterion the classifiers perform a categorical function of classifiers, then the Weijin period can be considered as the time of establishment. If we combine the first criterion with the second criterion, that there be evidence of structural innovation, the Weijin period can still be seen to meet the criteria. However, if we take the third criterion - that the classifier usage be obligatory in numeral phrases, as a necessary criterion to define when Chinese established its classifier system, we have to say that the Weijin period should not be treated as the time of the establishment of classifiers in Chinese. Instead, we would follow Wang (1958) and agree that Chinese formed its classifier system very late at least as late as the Song period.

We understand that both the criteria and the conclusion are quite broad. For example, even though we see some new classifier structures in the Weijin as well as in other later periods in Chinese, the frequency of use of those new structures varies. The same can be said for the obligatory use of classifiers in different historical periods as well as in different register, such as the spoken vs. written language, and formal vs. informal language, to name some of them. In order to properly decide when the classifier system was formed in Chinese, a statistical study is needed. However, this is not a concern of this study at the present time.
Notes to Chapter IV

1 固 in Pre-Qin was in *yu* 鱼 rhyme, while *ge* 个 was in *tai* 泰 rhyme. Both of them are with the same initial, i.e., *jian* 见 initial. Later on *ge* was merged into *ge* 歌 rhyme. The phonological similarity is examined by Wang Yinzhi in his *经义述聞 通说*. He writes,

> "Jie yin gu bai fan, you yin gu he fan, you da zhi yin tang zuo fan, nai zhi yin nu gu fan, jie zhuang yin ye. Hou ren yu gu bai fan zhe ze zuo jie, yu gu he zhe ze zuo ge, er bu zhi ge ji jie zi Li shu zhi sheng, fei er zi ye."

> "Jie 介 is gu bai 古拜 fan (fan is to use the initial of the first character, here 古, and the rhyme and medial element including the tone of the second character, here 拜, to indicate pronunciation of the third character, here 介. (Cf. Norman 1988: 27), and also gu he 古贺 fan. For example, da 大 is indicated by tang zuo 唐佐 fan, while nai 奈 is mu gu 奴固 fan. The pronunciation of both of them are interchangeable. People in later times will read it as jie 介 if they use gu bai fan, and as ge 个 if they use gu he fan. They do not know they are in fact the same character, not two different characters."

2 Further study is needed to confirm when those measure words totally changed into classifiers. This chapter will only examine the status of those measure words in the Han and Weijin period.

3 列天子傳 explains *qi* as 虹霓也, 雲霧也, 風雨也, 四時也 (Hong ni ye, yun wu ye, feng yu ye, si shi ye: *Qi* means rainbow, clouds, fog, and four seasons).
CHAPTER V
ON THE INDIGENOUSNESS OF
CHINESE CLASSIFIERS

Some previous studies claim that the classifier system is not native to Chinese and that Chinese classifiers were borrowed from Tai (Jones 1970, Erbaugh 1986, etc.). For example, Jones claims that "the use of classifiers was not native to Chinese." (1970: 4) The main linguistic criteria given in support of the borrowing accounts, i.e., the suspicion that Chinese did not use classifiers during some earlier periods, the word order in numeral-classifier phrases, and the lack of classifiers for animals, are either less relevant to the issue, or can be accounted for by the structural development of Chinese. In this chapter we will argue for the indigeneousness of Chinese classifiers based on the internal development of Chinese classifiers as well as the history of ethnic contact between Tai and Chinese. The discussion in Chapter III and IV have in fact challenged the above-mentioned claim. In the following we will focus on some new evidence while also occasionally mentioning what we have found earlier in this study. In addition to the linguistic evidence, we will also examine the ethnic contact among the
peoples involved. We believe that a history of a certain kind of ethnic relationship is necessary before any claim about linguistic borrowing can be made.

1. Internal development of Chinese classifiers

If we want to argue that classifiers are indigenous to Chinese and not borrowed, then we need to present evidence in at least two areas: 1) etymological evidence showing that classifiers originate in the lexicon of the language; 2) diachronic/evolutionary evidence that these lexical items did indeed develop into a classifier system.

1.1. Etymological origins of Chinese classifiers

In modern Chinese, there are about 140 classifiers in use (Lü 1981). An examination shows that all these classifiers can be traced back as early as to the Shuowen 説文 period, even to the Qinzhuan ‘qinzhuan Scripts’ 秦篆, Liuguo Wenzi 六國文字, Jinwen 金文 and Jiaguwen 甲骨文 (cf. Gao 1980).

However, in order to show that those characters in ancient writings have in fact contributed to the creation of a classifier system native to Chinese, we need to examine how these characters performed in the language as classifiers and became components of the classifier system. That is, we need to show how they developed into a classifier system by internal means and not by means of following some other languages.

The first crucial aspect regarding the internal development of Chinese classifiers is whether Chinese classifiers were derived from Chinese vocabulary, or borrowed from other languages, Tai, in particular.
The discussion of the origin of Chinese classifiers in Chapter III has shown that Chinese classifiers either originate in Jiaguwen (ge, ren, pi, ...), Jinwen (fu, liang, ...) or in Pre-Qin Chinese (zhang, pian, ben, mei...). These classifiers are named proto-classifiers in this study. The discussion in Chapter IV has also indicated that Chinese classifiers had expanded significantly after the Han and Weijin and finally developed into an obligatory grammatical category in about the Song period. All those classifiers had originated either from nouns, verbs, or measure words. In addition to the findings from the discussion in chapter III and IV, we will examine some related facts which are crucial to the argument of whether the classifier is native to Chinese.

1.2. Classifier mei and its relation to classifier ge

Again, we will focus our review on the commonly used general classifiers. The oldest commonly used classifiers in historical Chinese include ge (个, 个 and 个), jie 介, pi 皮 and mei 枚. We have demonstrated how proto-classifiers ge, jie and pi developed from PC. If we further find out how 枚 mei, the most popular classifier in the Weijin period, evolved also from Chinese etyma, rather than from borrowing the classification idea or system from another language, Tai, in particular, then we are in a good position to argue for the indigenousness of Chinese classifiers.

The character 枚 mei appeared in the Jiaguwen: (Guo 1965 殷契検編) as well as in the Jinwen, Liuguo Wenzi (States Scripts, 770-221 BC) and Qinzhuan (Seal Scripts, 221-207 BC). Mei was a noun meaning 'twig of tree' as recorded in Shijing (see Chapter III). Since twigs can be easily counted one by one and are conveniently available, it was often used as a chouma 'chip, counter' in daily counting. Beside the nominal meaning, mei can also be used as a verb meaning 'to line up something one by
one'. This is recorded in a phrase in Shang Shu Dayumo: Mei bu gong chen. The annotation by 孔穎達 (547-648) states:

周禮有衡枚氏。所衡之物。状如箸。今人數物云一枚。兩枚。則枚是籌之名也。枚卜謂人人以次歷申卜之。似老枚數然。


"There is a person who holds a piece of twig (mei) in his mouth as described in Zhou Li (Zhou Institutions). The twig (he holds) looks like chopsticks. Now people count things as yi mei 'one piece' liang mei 'two piece'. Thus mei is in fact a unit in counting. Therefore, mei pu means to arrange people one by one such as those twigs lined up there."

Xu Kai 徐鑒 (ca 910-970), one of the commentators of Shuowen, also holds a similar view:

枚之本義為杆，引申之，則凡物一個謂之一枚。

Mei zhi ben yi wei gan, yin shen zhi, ze fan wu yi ge wei zhi yi mei.

mei of origin meaning be twig, extend it, then every object one ge call one CL

‘The original meaning of mei is twig; To extend this meaning, any single item can be call as yi mei (one single item).’
Kong and Xu’s annotations indicate that based on the primary meaning of *mei*, speakers used *mei* as a counter unit to count those objects which are countable one by one, such as eggs, clothes, boxes, ....

Interestingly enough, one never finds a case where *mei* was used for uncountable objects, such as water, coal, cotton, .... Another outstanding point about classifier *mei* is that it was used in classifier structure exactly the same as the modern language, as in the following example:

妃手中握三枚枣。

fei shou zhong wo san mei zao

concubine hand in hold three CL date

‘the concubine holds three dates in her hand.’

[真説 從象篇]

Similar to the use of *kai* as a classifier in Jiaguwen, the structure of *san mei zao* (numeral + CL + Noun) was quite rare at that time.

After *mei*, *ge* was the second most commonly used classifier in the Weijin, and the most commonly used one in later times, as well as in modern language. In Chapter III we have searched for the origin of the three different *ges* in Chinese. We have shown that the 个 is from *kai* in Jiaguwen and from *jie* in Pre-Qin Chinese; The other two, 個 and 固, appeared later. 固 Ge, meaning ‘bamboo’ in ancient Chinese, was used as a specific classifier for bamboo in the beginning (cf. chapter III). 個 was created in the Han period to replace 个. Throughout history, scholars argued over the
issue of where the three ge came from. Reviewing those arguments will help us better understand the nature of the development of classifiers in Chinese.

Duan Yucai (1735-1815) argues that ge 个 related to the character 井 bing or 竹 zhu. Since 井 and 竹 are written as 井 and 竹 in Shuowen, Duan argues that:

"Merging (two ) will make a ; If only one, then (it) is 个 ge. The character looks like (two) standing tree, (thus) yi jing 'one stem' is then yi ge 'one object'."

Since the character zhu 竹 in Shuowen looks like two standing trees, Duan argues that a half of character of zhu 竹 is 个. Thus 个 became a unit, i.e., a classifier in counting bamboo, trees and other similar objects. Duan’s argument is quoted here:

"竹 竹枝也。今或作个。半竹也。"  ge, zhu mei ye. Jin huo zuo ge, ban zhu ye.

Duan is right when they argue that 竹 is from bamboo and also a specific classifier for bamboo in the beginning. However, he is wrong to regard the three characters as having one single origin. As we have presented in Chapter III, 个 ge originates in Jiaguwen bei /yu 'shell, jade' and jie. It is understandable, though, that since the Jiaguwen was discovered only about one hundred years ago, earlier scholars would have difficulty discovering the true origin of ge 个. As hypothesized in Chapter III, the specific classifier 竹 had expanded its members to become the general
classifier after the Weijin period. From the discussion in this section, we see that the three most commonly used general classifiers in the Weijin period, *ge* (個 个) and *mei* 枚 all originated in Chinese vocabulary.

A related question is why in the Han period Chinese needed to create another general classifier *mei* 枚 while there were already several general classifiers *jie* 介 and *ge* (個 个 and 固) in use? To explain this seemingly redundant phenomenon, we should refer to the development of classifiers. As concluded in chapter IV, all these general classifiers were created in the emergence period when classifier as a system was not established. Whether a classifier can remain in use depends on some divergent factors. One of the factors is whether the classifier in question fulfills the requirement of avoiding quantity ambiguity. For example, *ti* and *zu* for cows and sheep disappeared because they may cause counting confusion (cf. chapter IV, 3.1.). Another reason may be due to various dialects in Chinese. In modern Chinese, not only some specific classifiers are different from dialect to dialect (Tai 1993), the general classifiers in different dialects also differ from each other significantly. For example, while Beijing Mandarin uses *ge*, Wu dialect prefers *zhi*, and Hainan dialect uses *mei* (cf. chapter II, note 4). It is therefore reasonable to assume that dialectal difference was one of the reasons for Chinese to have about four different general classifiers in the transitional period of the Han, Weijin and Tang dynasties. However, partly because Chinese writing system has been consistent from the Qin Dynasty down to modern language, those general classifiers finally joined together as a single one, *ge*, in modern language, especially in writing.
1.3. Initiative and expanded membership of classifiers

In Chapter IV, we have examined from a diachronic point of view how classifier *tiao* and other classifiers in the *tiao* group 'long-shape' expanded their membership. In fact, such expansion also happened with other classifiers. For example, since every animal has a head ‘tou’, the nominal *tou* 数 was primarily used for most animals, such as cow, tiger, deer, rabbit, dog, pig, snake, fish, .... It was not proper to use *tou* for human beings. However, in those cases when human beings are slaves or criminals, who are treated as animals by their masters, *tou* can be used:

有數頭男, 皆如奴僕。

you shu tou nan, jie ru nu pu.

have several C man, all like slave

"There are several men who all look like slaves."

虞翻 [與弟書]

The extension above is a functional, or metaphorical one. Other specific classifiers also follow this functional path to expand their membership (see chapter IV).

The discussions in Chapter III, IV and this chapter so far have shown how Chinese developed its classifier system. That is, classifiers emerged in Proto-Chinese in Jiaguwen, Jinwen and Pre-Qin Chinese, and expanded their members significantly in the Han and Weijin period. Classifiers took another one thousand years to develop into a grammatical category in the Song.

These nominals (or verbs, or nominal measure words) existed much earlier than the appearance of the classifier system itself. Even if one could prove that these nominals were cognates of Tai or borrowings from Tai, one still could not conclude
that Chinese borrowed the classifier system from Tai, since the primary meaning of those nominals had existed before Chinese speakers used those nominal as classifiers. Unless one can prove that 1) those characters in Jiaguwen, Jinwen (ge, pi, zhang, ...) were members of a classifier system which already existed in the Jiaguwen and 2), those characters were borrowings from Tai into Jiaguwen and Jinwen, the hypothesis that the classifier is not native to Chinese is questionable.

2. History of ethnic contact between Tai and Chinese - An anthropological perspective

In addition to the language internal development discussed above, the historical relationship between Chinese and Tai also disfavors the borrowing accounts. Tai languages has not had sufficient impact on Chinese language to have such a significant effect.

2.1. Ethnic contact between Chinese and Tai

Tai is the name for a group of ethnics with similar cultures and of the same language family spread through southwest China and southeast Asia, Thailand, Laos, Vietnam and Burma. Anthropologists hold two different hypotheses on the immigration history of the Tai group. Some argue that Tai are originally from southern China, while others claim that Tai emigrated from today's Thailand towards the north. Both hypotheses accept that the territory of Tai ethnics was limited to the area south of the Yangtze River, while the Han people were centered around the Yellow River in the north. What is more notable is that Tai ethnics were always under strong influence from the Chinese, i.e., the Han people of China.
The ethnic groups that inhabited the area south of the Yangtze River were called 'barbarian' in Chinese annals from the sixth century B.C. onwards. They were also listed in Chinese annals as Baiyue 百越 'hundred Yue'. Yue, meaning 'far away' in Chinese, was used to indicate the minorities south of the Yangtze River, far away from the center of the Han people. In the Qin Dynasty (221-207 B.C.), Tai was included under one of the 36 Jun 郡 or 'provinces'. In the Tang period (618 - 907 A.D.), Tai was referred to as Nan Zhao 南詔 'South State' in what is now approximately Yunnan province in China.

Over quite a long period of time, successive wars between the Tai and the Han from north of the Yellow River drove the Tai farther and farther south until finally the Tai settled down and established their own kingdoms in Indo-China. Not all the Tai escaped from the sphere of Chinese dominance, and those left behind formed the minorities such as Dai 傣, Tho 土, Nung 傣, Buyi 布依, etc. in southwestern China and present northern Vietnam. The relationship between Chinese and different Tai ethnics was always the same: the Chinese were rulers or tribute-collectors. The Tai kingdom regularly sent their tribute to China up to the end of the Qing Dynasty. The last mention of tribute by Siam to China occurred in the earliest years of the 19th century A.D. in the reign of King Ramal I (Cf. Graham 1924: 213 cited in London 1941: 4).

2.2. Linguistic impact between Tai and Chinese

History also shows that Chinese was not under any cultural or linguistic pressure from source languages in general or from Tai in particular. China was the first literate nation in that area and strongly influenced the Tai languages as well as other Asian languages by loaning to several neighbors either the Chinese writing system, and/or the
spoken forms. The linguistic impact on Tai languages can be seen from two aspects: the Tai writing system, and the large number of Chinese loan words in Tai languages.

In the early time, Tai did not have their own writing system. Thus divergent modified Chinese writings, which may date back at least several hundred years, were created among different Tai ethnics. These writings are very loose in representing the Tai sound system and are commonly used in writing down songs. Since Chinese was a cultural and political power in that area, many high ranking officials, intellectuals and merchants in the Tai group were fluent in Chinese and even in Chinese writing. As a result of this kind of linguistic contact, many Chinese loan words, even the numeral system are found in Tai languages (Yu and Luo 1984).

It is true that Chinese has been surrounded by non-Han languages. For a long period of time, the Chinese were ruled by northern Altaic-speaking nationalities, such as those in the Yuan (Mongolian, 1271-1368) and the Qing (Manchurian, 1644-1911) Dynasties which lasted for altogether approximately 400 years. However, we find very few Mongolian and Manchurian loan-words in modern Chinese. On the other hand, Mongolian and Manchurian, the ruler's languages, borrowed many Chinese words. The history of language contact between Chinese and other languages suggests that it is fair to view Chinese as a "monolithic ethnic and linguistic entity, highly resistant to any sort of outside cultural or linguistic influence" (Norman 1988: 16).

The classifier as a grammatical category would be subject to borrowing only if it had been preceded by a significant quantity of lexical borrowing to fill cultural gaps. One can hardly believe that from such a relationship with the Tai group, Chinese should have borrowed classifiers in any significant amount. If it cannot be believed that single classifiers were borrowed from Tai in significant number, how then can it be argued
that the entire grammatical classifier system was borrowed from Tai or other languages in this area.

3. Relevant issues on the indigeneousness of Chinese classifiers

Supporters of the borrowing account have presented the following evidence: 1) the suspicion that very often Chinese did not use classifiers in early times, 2) certain fact about the word order in the numeral structures, 3) the lack of animal classifiers in Chinese, and 4) the fact that the Chinese southern dialects have more classifiers than northern dialects. The following will discuss those observations.

3.1. The issue as to when classifiers as a system appeared in Chinese

Jones (1970) mentions the appearance time of classifiers in Chinese to support his argument for "the influence source of Tai classifiers". He writes, "(In Chinese) in earlier period sequences of noun-numeral and numeral-noun without a classifier were quite common." (p.4) Peyraube (1991) also asserts that real (Chinese) classifiers appeared not earlier than the Han times (2nd c. B. C. - 3rd c. A. D.) or even later in Early Medieval Chinese. (p.106) It seems to me, however, that the real time of appearance is not crucial to deciding the indigeneousness of classifiers; instead, whether classifiers derived from the lexicon in the language, or were borrowed from a neighboring language, is the key point in determining whether the classifier is native to the language. Logically, even if classifiers appeared as early as archaic Chinese (11th - 6th c. B. C.) or even Proto-Chinese (16th c. - 11 c. B. C.) as Dobson (1962) and others claim, we cannot conclude that the classifier is native to Chinese if those classifiers were evidentiary borrowings from other languages; by the same token, even if classifiers appeared as late as the Tang Dynasty, as Peyraube (1991) claims,
classifiers should be treated as native to Chinese if we find evidence showing that those classifiers were derived from Chinese own vocabulary and developed into a classifier system individually, provided that no evidence is found that those nominals were under linguistic pressure from outside Chinese to be used as classifiers.

It could be true that Chinese formed its obligatory classifier system as late as the Tang Dynasty or even later in the Song as hypothesized in this study. A relevant question remaining to be answered here is, were classifiers used in Tai significantly earlier than in Chinese? None of the borrowing accounts present any evidence in this regard. Chinese historical documents showing occasional classifier usage can date back as early as the Jiaguwen period in the Shang Dynasty (16-11c B.C.). As presented earlier, most Chinese classifiers are etymologically related to nominals found in those Jiaguwen and later documents from the Jinwen on. It is very natural that before classifiers were used obligatorily, some individual classifiers had been used occasionally as in the *kai case (cf. chapter III). On the other hand, the earliest known Thai writing available to us is the Sukhathai script invented by King Ram Kamhaeng in 1283 A.D. (Danvivathana 1987). As a grammatical system, however, we have no evidence to show that the Tai language used classifiers much earlier than Chinese did.

The borrowing hypothesis assumes that the classifier system might have been brought into Chinese through historical contact, and exchange of tribute and goods (Erbaugh 1986: 406). As mentioned earlier, the Tai never had the chance that the Mongolia or the Manchuria did to influence the Chinese community to any significant degree. In relation to the daily activities of the Han people, the exchange of tribute and goods are not worth mentioning. Tribute events happened only once or twice a year and were limited to the imperial court. The most one could expect under such
circumstance would be a few individual borrowings. One would hardly expect the wholesale borrowing of an entirely new grammatical category, here, the classifier system.

3.2. Classifier structure and their relationship to the indigeneousness of classifiers

The structure of classifier, or numeral phrases, have been attached to the issue of whether a classifier is native to the language(s) involved. Jones (1970) suggests the Tai languages as "a possible source of influence in the spread of the use of classifiers in Southeast Asia and China." (p.11) He partly bases his assumption on the nuclear structures of the classifier phrase of the languages in this area. He observes that there are two basic types of classifier structures, i.e., type A, 'numeral + classifier + noun', and type B, 'noun + numeral + classifier'. Since Chinese interchangeably used both two types of structures, along with the fact that Chinese did not use classifiers in early times, he hypothesizes that "the use of classifier was not native to Chinese." (p. 4)

The fact of word order change, however, can be used to show that classifier development was internal to Chinese. In early Chinese, type B was used more often than type A, while in later times type A has become dominant. As a matter of fact, even in the modern language, the written form often uses type B and the structures without a classifier (Wang 1991). In some languages in the same family, type A and B are also sometimes interchangeable. Greenberg suggests a diachronic word order, Q (quantifier) ↔ C (classifier). He reasons that in regard to general word order properties, Q ↔ C within the classifier structure conforms to generalizations of characteristics of Q ↔ N in non-classifier languages. He further assumes that the order of N in relation to the classifier phrase is often in the process of undergoing a shift, i.e., in the early time, N - (Q ↔ C) rather than (Q ↔ C) - N. (1975: 30-31) What he
suggests here is that the word order changes have little to do with the nativity of classifiers in a language. Jones has realized this point as tendered in his conclusion: "The amount of structural variation within languages both synchronically and diachronically also suggests that structural studies alone may not provide definitive conclusion, ..."(1970: 11). He points out immediately that "investigation of area distribution of individual classifiers, especially across language families, will undoubtedly help to clarify the situation."

3.3. The lack of classifiers for animals in Chinese

Another reason held in support of the borrowing hypothesis is that Chinese lacks classifiers for the distinction between animate/inanimate and human/non-human (Erbaugh 1986: 401). First, this relates to some theoretical consideration about the classifier languages in general. It has been observed that most classifier languages distinguish animals from non-animals. However, the classification of animates varies from one language to another. Moreover, among classifier languages, classifier systems are universal on one hand, and culture-specific on the other. For example, some languages divide humans into several subcategories according to social status, some classify humans in one category and other living creatures as one category. Some languages follow one classification sometimes, but shift to another at another time. For example, in some languages, women are alternatively classified with humans, men, animals, or in a general class (Allan 1977).

Secondly, Chinese does have classifiers for those distinctions. For example, in modern Beijing Mandarin, the classification of animacy can be roughly drawn as follows:
Even in ancient Chinese, the animal/non-animal distinction also existed. *Tou* in early times was a classifier for animal. Only in extreme cases can it be used for human beings (cf. 1.2). On the other hand, *gen, zhi, li*, ... never classify animals. However, *tiao* is in between, for animal and for non-animal. Therefore, to deny the indigenousness of Chinese classifiers by the assumption that Chinese lacks the distinction of animacy is theoretically weak, and practically untrue.

3.4. The issue of Chinese southern dialects having more classifiers than northern ones

Peyraube (1991) assumes that the borrowing hypothesis could explain why southern Chinese dialects have more classifiers than Mandarin (p. 121)

First, whether southern Chinese dialects have more classifiers than northern ones is still questionable. Zhou (1985) reports that there are 382 classifiers in the Xiamen dialect (Southern Min). However, about half are measure words. It is true that some classifiers that exist in southern dialects do not exist in northern Mandarin. This fact may indicate that the Chinese southern dialects have had more contacts with Tai and other minority languages than Mandarin. Consequently, those southern dialects might have borrowed some individual classifiers from their neighbor languages. In the Yue
dialect in Guangdong and Guangxi, for example, we find some loan words from the Zhuang language, a member of the Kam-Tai family. Yuan (1960) makes an assumption that the classifier *gou* 'piece' (similar to *kuai* in Mandarin) in the Yue dialect was borrow from Kai-Tai. However, these individual borrowings, which occupy a small percentage of the total classifiers, do not necessarily indicate that Chinese borrowed the classifier system from the Tai. As family members of Chinese, southern Chinese dialects are more likely to follow Chinese grammatical features, here, the classifier system, rather than to borrow this system from other languages, here, the Tai group. Once a grammatical category is established, it would be possible that some individual classifiers complementary to this category could be borrowed from neighboring languages.

From the discussion in this chapter, we see no need for Chinese to borrow the classifier system, or the classification idea from Tai. To argue that the Chinese classifier system was borrowed from Tai, one should prove that most, if not all, classifiers in Chinese were etymologically existing in Tai but not in Chinese, and/or that in some period of time, classifiers as a system entered Chinese along with ethnic impact. However, neither is supported by studies conducted so far. We see no evidence to show that the Tai classifier system entered Chinese during the Han or Weijin or through the Song period when the Chinese established its classifier system. It is certainly impossible for the Tai classifier system to have been borrowed into Chinese before Jiaguwen. If that had happened, then Chinese would have to have been using classifiers and a classifier system prior to Jiaguwen. This, as we have seen, is not the case.
Notes to chapter V

1 In Jiaguwen, *mei* appears along with *zhou* as in the following phrase:
   
   約已卜復枚舟
   
   *mei zhou* 枚舟 appears in Jiaguwen two times. Guo (1965) interpretes it as *cao zhou* 操舟 ‘to operate a boat’.

2 This coincides with the findings in the studies of classifiers in modern languages such that for uncountable objects a measure word is usually used. (Greenberg 1972)

3 Tai’s alphabetic writing system did not appear until very late when Tai migrated southward and were influenced by Mon (5th - 10th c. A. D.) and later Khmer (Cambodians, from 10th c. A. D.), two comparatively civilized races in this Peninsula. Mon and Khmer adopted southern and northern schools of Buddhism which used Pali and Sanskrit, respectively, as their communication vehicle. (Danvivathana 1987) Thus, the alphabetic writing systems based on Indic source were created among different Tai groups. In terms of accuracy of representing the Tai sound system, the Siamese 'Thai' writing is the best one. The earliest recorded Siamese writing called "The Sukhothai Script" was invented by King Ram Khamhaeng in 1283 A. D. No evidence is found to indicate that there was any earlier version than the Sukhothai script. Siamese writing is quite different from the modified Chinese systems “*tu zi* or *shu zi* ‘folk characters’”. 
CHAPTER VI
CONCLUSION

1. Conclusion

This study has conducted an in-depth investigation of the origin and development of classifiers in Chinese based on the historical data from the Jiaguwen period in the Shang Dynasty down to modern Chinese. The following conclusions have been reached.

First, since classifiers bear syntactic and functional similarities to measure words, an all encompassing term for both classifiers and measure words, liangci 'measure-word', has been employed in the study of Chinese classifiers, leading to a confusion in terminology and in theory for grammar as well. Based on the fact that classifiers are in fact a reflection of human categorization and by nature different from measure words, a semantic/syntactic distinction between these two grammatical categories has been proposed. The proposal consists of seven criteria. By applying these criteria, one can differentiate classifiers from measure words in Chinese.

Second, one striking finding from the investigation is that the general classifier ge in modern Chinese has a root in group measure words. According to the data in Jiaguwen, Jinwen and Pre-Qin Chinese, the group measure words in Chinese appeared
prior to the use of classifiers in Chinese. The earliest classifier found in the ancient writings is 丰 *kai, which appeared in the Jiaguwen in the Shang-Zhou period (16-11th c. BC). Based on the data related to several of the most commonly used general classifiers (ge 个 篱 個 and jie 介) in the Jiaguwen, Jinwen and Pre-Qin Chinese, this study hypothesizes that the appearance of classifiers was motivated in order to avoid ambiguity in counting things. For example, *kai was used as an ‘individual measure word’ in opposition to the ‘multi-measure’ or ‘group measure words’ 朋 peng and 矇 jue. In the course of development through more than three thousand years, *kai was joined with another general classifier jie 介 and was written as ge 个 in a later time, around the Pre-Qin period. Jie also originates in a group measure-like noun in Jiaguwen meaning ‘one of the several connected shells or several pieces of cloth’. Another classifier ge (個) appeared in around the Han and was used as a general classifier to replace 个. 個 has a meaning of ‘part of a whole, partiality’, similar to the meaning of jie in Jiaguwen. The 固, phonologically and semantically different from 个 and 個, was a specific classifier for bamboo and then developed into a general classifier. Because of the semantic similarity and the phonological development, these three general classifiers have joined together and developed into the most commonly used classifier, or ‘general classifier’, ge, in modern Chinese. The most commonly used general classifier from the Weijin down to the beginning of the Tang is mei 枚, which also has a nominal origin in Jiaguwen, Jinwen and Pre-Qin Chinese.

Third, besides those most commonly used general classifiers mentioned above, many nominals (or nominal group measure words) and verbals in Chinese have evolved into specific classifiers in different historical periods to meet the demand of human categorization in this culture. For instance, similar to the general classifiers, the earliest specific classifier pi also originates in group measure words pi (for a pair of skeletons of
cows or tortoises) in the Jiaguwen. It is found that most specific classifiers are produced directly from nominals, such as gen 根 ‘root’, tiao 條 ‘branch’, tou 頭 ‘head’, kou 口 ‘mouth’, ben 本 ‘stem’, etc.. The fact that general classifiers derived more from group measure words, while specific classifiers developed more directly from nominals suggests that once some general classifiers have been introduced into a language, the specific classifiers might be brought in by the classification idea inspired by these general classifiers. Since the group measures or other measure words are also nominals in nature, most specific classifiers might develop directly from nominals (or verbs in few cases).

Fourth, this study has proposed three criteria for determining the periodicization for the development of classifiers in Chinese. The three criteria are: that classifiers perform a categorical function; that there be evidence of structural innovation; and that classifier usage be obligatory. Based on the three criteria, this study suggests the following periodicization in the development of classifiers in Chinese:

I. Emergence period (Todo’s Periods I and II)

II. Transitional Period (Todo’s Periods III, IV and V)

III. Mature period (Todo’s Period VI)

Table 6 and 7 are given below as a conclusion of the study of the origin and development of classifiers in Chinese.
Table 5: Origin and Development of Chinese Classifiers

<table>
<thead>
<tr>
<th>Shang</th>
<th>Zhou</th>
<th>Qin-Han</th>
<th>Weijin</th>
<th>Song</th>
<th>Qing</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Jiaguwen)</td>
<td>(Jinwen)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1,600</td>
</tr>
<tr>
<td>1,600 BC.</td>
<td>1,100 BC.</td>
<td>200 BC</td>
<td>200 AD</td>
<td>1,000 AD</td>
<td>1,900 AD</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergence Period</th>
<th>Transition Period</th>
<th>Maturity Period</th>
</tr>
</thead>
<tbody>
<tr>
<td># of CL</td>
<td>1-2(?)</td>
<td>7-10</td>
</tr>
<tr>
<td></td>
<td>40-50</td>
<td>100-110</td>
</tr>
<tr>
<td></td>
<td>130</td>
<td>130-140</td>
</tr>
<tr>
<td></td>
<td>~140</td>
<td></td>
</tr>
</tbody>
</table>

Ex.
- 丰(个) 丰匹夫
- 介 (?) 白頤介
- 個枚匹 個(个)根枝

Usage Rate
- rare
- increase greatly
- still rare
- continue to develop obligatory

- # of echo-CL.
  - > 10

Ex.
- 人玉犬 人玉邑
- 牛羊田 牛羊田

Table 6: Etymology of Selected Chinese Classifiers

<table>
<thead>
<tr>
<th>Shang</th>
<th>Zhou</th>
<th>Qin-Han</th>
<th>Weijin</th>
<th>Song</th>
<th>Qing</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Jiaguwen)</td>
<td>(Jinwen)</td>
<td></td>
<td></td>
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<td></td>
<td>1,600</td>
</tr>
<tr>
<td>1,500 BC.</td>
<td>1,100 BC.</td>
<td>200 BC</td>
<td>200 AD</td>
<td>1,000 AD</td>
<td>1,900 AD</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Element</th>
<th>Nominal Meaning</th>
<th>Shang</th>
<th>Zhou</th>
<th>Qin-Han</th>
<th>Weijin</th>
<th>Song</th>
<th>Qing</th>
<th>Modern</th>
</tr>
</thead>
<tbody>
<tr>
<td>个</td>
<td>nominal meaning</td>
<td>个</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>介</td>
<td>&quot;shell, jade&quot;; 介</td>
<td>个</td>
<td></td>
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<tr>
<td></td>
<td>Proto-CL for 介</td>
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<td></td>
<td>monetary unit. 介</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>&amp; animal, usage 介</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>个</td>
<td>one of several shells</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>介</td>
<td>N. partiality</td>
<td>个</td>
<td></td>
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<td></td>
<td>created to 介</td>
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<td>replace 个</td>
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<td></td>
<td>nominal &quot;bamboo&quot;</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>spec. CL for bamboo</td>
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<tr>
<td></td>
<td>gen. CL for objects</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>&amp; human beings</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>个</td>
<td>nominal, twig</td>
<td>个</td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td>介</td>
<td>&quot;a pair of 介</td>
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<td></td>
<td>skeleton&quot;</td>
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<td></td>
<td>Spec. CL for horse</td>
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<tr>
<td></td>
<td>CL for horses &amp;</td>
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<tr>
<td></td>
<td>of cow or tortoise&quot;</td>
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<td></td>
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<tr>
<td></td>
<td>a measure</td>
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<td></td>
</tr>
<tr>
<td>个</td>
<td>nominal, tree branch</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>介</td>
<td>Spec. CL for long-shape</td>
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<td>objects</td>
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<tr>
<td>个</td>
<td>CL for long-shape</td>
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<tr>
<td>介</td>
<td>objects, physically</td>
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<td>&amp; metaphorically</td>
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</table>
Fifth, by reference to the fact that classifiers in Chinese were motivated to avoid quantification ambiguity in counting and gradually developed into a system reflecting the human categorization in this culture, and by reference to the history of the ethnic contact between Chinese and its neighbors, the Tai group in particular, this study states that classifier as a typological feature is indigenous to Chinese. This statement does not deny the borrowings from neighboring languages, including individual classifiers as claimed by some previous studies. As a system, however, the classifiers result from the internal development of Chinese.

2. Problems

While this study has reached some conclusions regarding the origin and development of classifiers in Chinese, I feel it necessary to point out some problems which need to be further investigated.

First, the data base for this study partially relies on the research of the Jiaguwen, which was only discovered less than one hundred years ago. Many questions remain unanswered in interpreting the Jiaguwen (Wang Yuxin 1989). As a result, the data used in the present study may be lacking in some sense. Some important points regarding the classifiers in Jiaguwen may have been ignored. For example, in Jiaguwen, we can only find several examples containing the use of *kai as a proto-classifier. It is my intention, therefore, to watch closely any new development in the study of Jiaguwen and to be ready to revise my conclusion whenever necessary.

Second, the time span covered by this study is from the Shang in the 16th century BC down to modern Chinese. Even though Chinese has more well-preserved documents than many other languages, the accuracy of the documents and the interpreting various
interpretations are often debated among scholars. In choosing data related to the origin and development of classifiers, I have experienced some difficulties in making decisions in accepting one opinion over another. While I am confident in some arguments presented in this study (e.g., the origin and the development of classifiers in Chinese), I am hesitant to make any conclusion in some other aspects, even though they are important for the present study. For example, \textit{de} 的 insertion is the most important criterion in telling classifiers from measure words. However, the question of when and how \textit{de} began to be able to be inserted between a numeral and a measure word is unclear at the present time. The timing of \textit{de} insertion might have a coherence with the formation of the classifier system in Chinese. At this point, a study of the development of \textit{de} as a modifier marker from the Shijing period down to the modern language is desirable.

Third, the periodicization in the development of classifiers in Chinese presented in this study is only a rough outline. It would be more reliable if we could provide some statistical data to support the proposed periodicization. We are happy to see some attempts have been made. For example, Zhang & Feng (1993) conducted a statistical study on the measure words (including classifiers) in \textit{Hong Lou Meng 红楼梦} (The Dream of the Red Chamber), the most famous fiction in the Qing Dynasty. Some interesting results have been shown. Regretfully, their study confuses classifiers with measure words, therefore the value of their statistics is reduced. In order to reach an accurate timing table, in addition to making a difference between classifiers and measure words, some statistical studies of classifier uses in different historical periods are highly desirable.
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Abreviation

JCLTA    Journal of Chinese Language Teachers Association
ZGYW    Zhongguo Yuwen (Chinese Language and Linguistics, in Chinese)

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and Asian Subfamilies of Austroasatic. Ph. D. dissertation. The University of
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