Chinese Linguistics

MODERN CHINESE PARTS OF SPEECH

SYSTEMS RESEARCH

Guo Rui

ROUTLEDGE

Modern Chinese Parts of Speech

Classification of parts of speech in Chinese is tough due to the lack of morphological differences and thus is short of in-depth investigation and exploration. Based on the analysis and research of nearly 40,000 Chinese characters, this book elaborates on the system of Chinese parts of speech and proposes a set of criteria on their classification, contributing to relevant theoretical and methodological studies.

To begin with, it examines the common characteristics and internal hierarchies of parts of speech, as well as the relationship between grammatical functions and parts of speech in modern Chinese. Then, it puts forward the criteria on the classification of Chinese parts of speech, with a descriptive explanation of around 20 parts of speech. Additionally, it illustrates the statistical studies on Chinese parts of speech, offering data support and corpus verification to the criteria. Also, it analyses the system of Chinese parts of speech from the perspective of typology. Specifically, it elucidates the correspondence between syntactic positions and parts of speech, functional differentiation of Chinese word items, etc.

This book will be a valuable reference to researchers and students in Chinese linguistics. Learners of Chinese will also be attracted by it.

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Chinese Linguistics

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1 The system of parts of speech in modern Chinese

1.1 Commonality of parts of speech and their different levels

Words of different parts of speech have their own characters to differ from one another, but this is not to say that they have nothing in common (Zhu Dexi, 1985a). In terms of grammatical function, the commonality of parts of speech are reflected in two aspects: First, different parts of speech can have same grammatical functions, such as verbs and adjectives functioning as predicates being followed by compliments, as well as being modified by adverbial modifiers. Second, different parts of speech possess commonality in some more abstract grammatical functions. For example, though with greatly different functions, verbs, adjectives, nouns and quantifiers can function as syntactic constituents, due to which the commonality is proved to exist among them and further differs them from prepositions, conjunctions, modal particles and auxiliary words.

Because of the commonality of different parts of speech, basic ones can be included into bigger categories, such as verbs, adjectives and state words as predicates, and nouns, time words, locational words, locatives and quantifiers as nominals. That is to say, certain basic parts of speech are classified into a big category with different levels, which is adopted as a principle in this book, *Studies on Parts of Speech in Modern Chinese*. This classification can not only fully embody the relationship and systematicness among different parts of speech, but also identify the position of a certain part of speech in the whole system as well. Classifying basic parts of speech is the first important step in the classification of parts of speech, but further classifying big categories that contain different levels does matter actually. Therefore, the classification of parts of speech can be carried out from top to bottom, according to the hierarchy of parts of speech.

The big category is mainly related with abstract grammatical functions but not directly with their common distributions in a sentence. For example, nouns and verbs can be classified into the big category of kernel words because they are of the more generalised function of being main constituents, instead of functioning as subjects, for some verbs can be subjects, such as “去[qù](go)” and “学习[xué xí](study)”, and some cannot, such as “是[shì](yes)” and “等于[děng yú] (be equal to)”.

The parts of speech in the same category share the commonality, which doesn't mean their grammatical functions are completely identical. Therefore, the basic parts of speech can be classified into sub-categories further. For example, verbs can be classified into transitive verbs and intransitive ones, according to whether they are followed by real objects.

1.2 Generalisation level of grammatical functions and the hierarchy of parts of speech

Degrees of the generalisation level of grammatical functions agree with how big these categories are.

As mentioned previously, big categories are classified according to their grammatical functions with different generalisation levels. Therefore, in order to display the hierarchy of parts of speech clearly, the upper level in one big category needs to be more general enough to cover the lower one, as shown in following figure on the criteria of the classification of big categories (Figure 1.1):

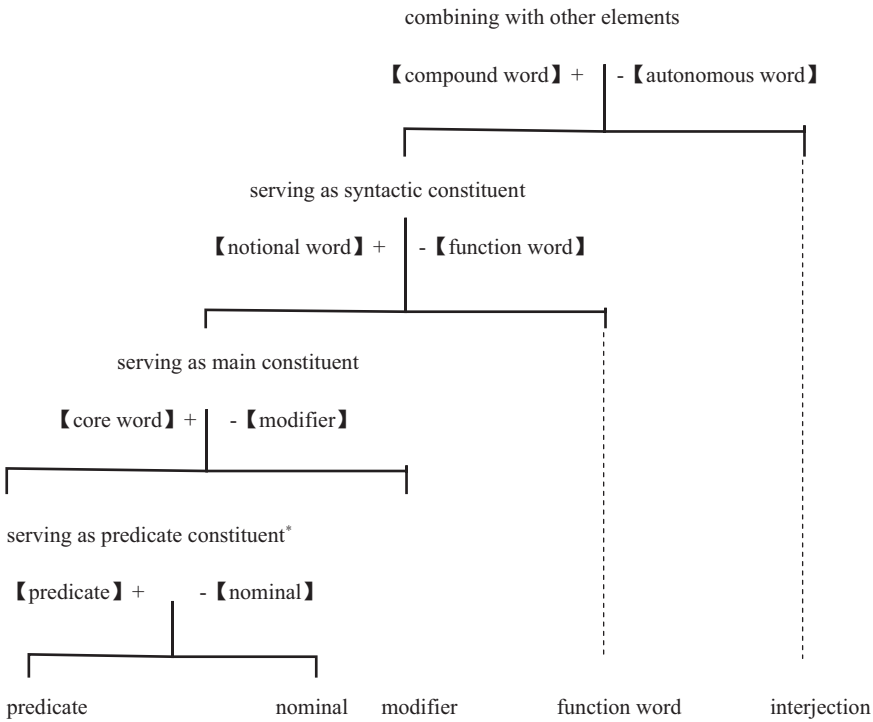


Figure 1.1 The criteria of the classification of the big categories

* Predicate constituents are of predicate property, mainly including不[bù](not) ~ | 没[méi](no) ~ | 很[hěn](very) ~ | ~ < object > | ~ < complement > |

The principles should be followed in classifying big categories.

I There should be an inclusion relation[1] between a certain upper level and its lower one (Shi Anshi, 1980), which is taken as the criterion of classifying four big categories of parts of speech in this book. For example:

> Compounding with other constituents <syntactic constituent> <main constituent> < predicate constituent >

II The grammatical functions at the smallest generalisation level[2] cannot be separated further, as distinctive features of different big categories for the sake of ensuring that all parts of speech in a certain big category share enough commonalities. For example, the words functioning as subjects, predicates, objects, headwords and attributes used to be classified as notional words, including distinctive words only as attributes, while adverbs as adverbials used to be classified as function words. In fact, both of attributes and adverbials are modifiers at the smallest generalisation level.[3] Therefore, if these grammatical functions were separated as the distinctive features between notional words and function words, it would break principle two, for the inside commonality of function words would not be clear enough to be identified.

III The order of the generalisation levels of grammatical functions cannot be broken through bypassing a level. For example, if "<main constituent>" was taken as a classifying criterion for the second level instead of the third level, it could meet the first two principles; however, the lack of the level of "syntactic constituent" as the criterion at the higher generalisation level would make function words and modifiers fall into the same level, which would break the order of hierarchy as a result.

IV The classifying criterion of the same level should reflect the same properties of parts of speech. For example, "很[hěn](very)～" and "<attribute>" cannot be taken as a disjunctive criterion of the same level at the same time.

V The classification criteria of these big categories should base on the conventional functions of words, excluding unconventional functions with greater limitations. Nouns can also be used as predicates but are highly restricted. Therefore, they are not classified as predicates. Distinctive words, numerals and numeral-quantifier phrases can function as subjects and objects, but they are also highly restricted and need transferred reference in syntactic meaning, which is considered as an unconventional use. So, they are not classified into nominals. Some adverbs can be used as predicates, such as "你赶快[nǐ gǎn kuài] (quickly), 不[bù] (not)", which are still heavily restricted and cannot be predicates for their unconventional use.

1.3 How to choose the criteria of classifying parts of speech

Grammatical functions are the foundation of classifying parts of speech, that is to say, from these functions, some of them with the same properties are chosen as the

criteria of classifying parts of speech. Then, how to choose these functions? The following principles need considering:

I. The completeness principle

This criterion of classifying parts of speech is supposed to be exhausted and exclusive, depending on which the words that ought to be classified in a category cannot be excluded, while the ones that ought to be classified in other categories cannot be included.

There is no relationship of one-to-one correspondence between grammatical functions and parts of speech. In other words, a certain same grammatical function for all the words with a certain part of speech cannot be found, nor is there a certain grammatical function only for a certain part of speech. Therefore, the chosen grammatical functions need to share a relationship of conjunctive or disjunctive, which decides the criteria of classifying parts of speech.

Why do grammatical functions with conjunctive relationships matter so much? It is because the limitation for some positions of grammar constituents is not very precise, resulting in the permission of different parts of speech. For example, nouns, verbs and adjectives can be put in the position of subjects; adjectives and verbs can appear in "不[bù](not)～" or "很[hěn](very)～". Such situations cannot embody exclusiveness of the criterion of classifying parts of speech. For those suitable for the same grammatical position, they possibly differ from one another in other grammatical functions. For example, both adjectives and some of verbs are suitable for "很[hěn](very)～", but "很[hěn](very)～<宾(object)>" is only suitable for the verbs in the previous structure mentioned above. That is to say, "很[hěn](very)～<宾(object)>" includes verbs but excludes adjectives. Therefore, "很[hěn](very)～∧*(很[hěn]～<宾(object)>)" can distinguish adjectives from verbs and it can be used to classify adjectives but not verbs.

Why does disjunctive relationship matter for the criteria of classifying parts of speech as well? Since a single grammatical function universal inside a category cannot be found, several grammatical functions need relating by a disjunctive relationship for the sake of identifying the criterion with the commonality inside. For those grammatical functions that share compatibility, they reflect the same properties in grammar; therefore, a disjunctive relationship can be related to them. For example, some adjectives cannot be put in "很[hěn](very)～", and some others cannot be put in "很[hěn](very)不[bù](not)～". Due to the compatibility between these two positions, most of those are suitable for both "很[hěn](very)～" and "很[hěn](very)不[bù](not)～", which proves the same properties of these two grammatical positions, and the disjunctive relationship can be related to them as well.

Based on two aspects mentioned above, the criterion of classifying adjective is "很[hěn](very)不[bù](not)～∧*(很[hěn](very)～<宾(object)>)".

There are many Chinese grammar books that have taken "很[hěn](very)～∧*～< 真宾(real object)>) as the criterion of classifying adjectives, which doesn't strictly satisfy the completeness principle. On one hand, not all adjectives can be modified by "很[hěn](very)", such as "景气[jǐng qì] (prosperous)", "耐烦[nài

fán] (patient)" and "平衡[píng héng] (balanced)"; on the other hand, not all adjectives cannot be followed by objects, such as "高他一头[gāo tā yī tóu] (taller than him a height of a head)" and "熟了一个[shú le yī gè] (something is ripe)". So this criterion is not of completeness.

Some grammar books have also taken "数(numeral)～" as the criterion of classifying quantifiers, which doesn't strictly satisfy the completeness principle, neither. For example, some nouns can be modified by numerals such as "三兄弟[sān xiōng dì] (three brothers)", "十亿人民[shí yì rén mín] (billion people)", "这一地区[zhè yī dì qū] (this district) and so on, which means this criterion is not of exclusiveness. However, if it is changed into "数(numeral)～∧*(<主(subject)>｜一个[yī gè](a/one)～)", incompleteness or non-exclusiveness in the above can be avoided.

II. The convenience principle

It means that the chosen grammatical functions as the criteria of classifying parts of speech are supposed to be common, understandable and operational.

This principle intends to make it easy and convenient to classify parts of speech. Generally speaking, it is easier to handle and operate the compounding ability among words or between words and phrases than to handle and operate the ability of words being syntactic constituents. Therefore, it is better to depend on the convenient compounding ability as much as possible, after meeting the principle of completeness.

III. The simpleness principle

It means to choose those grammatical functions at the biggest generalisation level as the criterion, and the overlap between two criteria with a disjunctive relationship is supposed to be as small as possible, which aims to make the criterion simple and economical.

The principles mentioned above are not of equal importance. In this study, the completeness values matter most and then convenience and simpleness, which means the first principle is a precondition and the other two are complementary conditions. Actually, a contradiction exists between completeness and simpleness, for the more complete, the more complicated, and vice versa. Since the completeness principle is especially emphasised in the criteria, comparatively speaking, the criteria of classifying parts of speech are more complicated in this book than in other grammar books.

1.4 The criteria of classifying the hierarchy of parts of speech in modern Chinese

1.4.1 The criteria of classifying the hierarchy of parts of speech

According to their hierarchy, different parts of speech are classified from top to bottom. The criteria of classifying the hierarchy of parts of speech in modern

Chinese are displayed in the following figure (Figure 1.2), from which the criteria of each level can be extracted. The criteria of all the levels for the different parts of speech will be discussed concretely in 1.5.

Explanations of Figure 1.2 are as follows:

I The explanations of symbols

"～": grammatical position
"｜": or
"∧": and
"*": cannot
" ()": level
" []": selective constituent
"< >": the names of parts of speech or the names of syntactic constituents in the distribution environment;
"【 】": name of a big category
"〖 〗": descriptive statement
"+": satisfying the criterion
"—": unsatisfying the criterion

II The explanations of literal words

1 The names of syntactic constituents, such as "<主(subject)>" and "<补(complement)>"; the names of parts of speech, such as "<数(numeral)>"; concrete words or phrases, such as "很[hěn] (very)" and "一[yī] (one)"; predicative statements, such as "compounding with other constituents" and "being used alone".
2 Shortened forms of syntactic constituent names, such as "主(主语subject)", "谓(谓语predicate)", "宾(宾语object)".
3 Shorten names for basic parts of speech, such as "名(名词noun), 数(数词numeral)" and "量(量词quantifier)"; full names for big categories, such as "谓词(predicate)", "体词(nominal)", "核词(kernel word)"and "饰词(modifier)".

III The explanations of grammatical functions

1 Syntactic constituents refer to immediate constituents of six types of syntactic constructions. They are subject-predicate, predicate-object, construction consisting of a modifier and the word it modifies, predicate-complement, coordinate relation and complex predicate. The immediate constituents include subject, predicate, predicate$_1$ with object, predicate$_2$ with complement, object, complement, modifier (including attribute and adverbial), headword (including headwords with attribute and adverbial) and other immediate constituents of coordinate constructions and complex predicate constructions without special names.
2 Main constituents refer to other syntactic constituents, except for modifiers, including subject, predicate, predicate$_1$, predicate$_2$, real object,

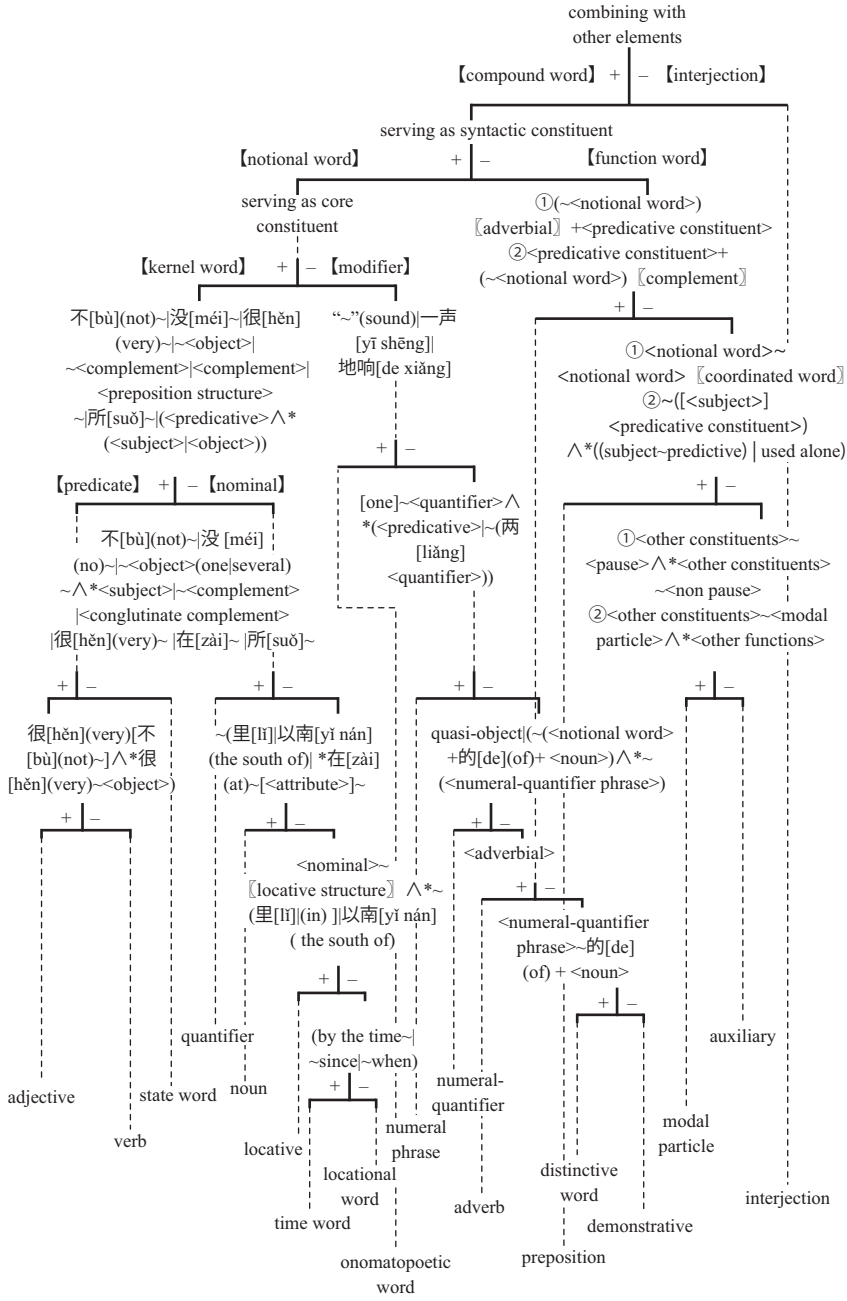


Figure 1.2 The criteria of the hierarchical division of parts of speech in modern Chinese

complements, except for complements of prepositional structures, and the immediate constituents of complex predicate structures. Compared with main constituents, modifier constituents include attributes and adverbials. Whether the immediate constituents of coordinate constructions are regarded as main constituents or modifiers depends on whether the whole coordinate construction is considered as a main constituent or a modifier. Quasi-objects of numeral-quantifier phrases and complements of preposition structures are also regarded as modifier constituents.

3 The range of syntactic constituents is roughly similar to that mentioned in *Teaching Material of Grammar* (Zhu Dexi, 1982b), except for two different points.

1 When a prepositional structure appears before or after a predicate constituent, the whole compound construction is considered as a construction of successive predicates in *Teaching Material of Grammar*. When a prepositional structure appears before a predicate constituent, this book prefers to name the compound construction as "adverbial-headword construction consisting of a modifier and the word it modifies", the prepositional structure of which is considered as adverbial; when a prepositional structure appears after a predicate constituent, the combined structure is named as "an adverbial-headword construction consisting of a modifier and the word it modifies" in the postposition of adverbial, the prepositional structure of which is considered as adverbials.
2 The criterion in classifying real object is different from that of quasi-object. Real object in this book refers to a typical object with two characteristics, one of which is that it indicates a concrete thing semantically and the other of which is that it is free to match with a verb. Non-typical object refers to quasi-object, including two situations, one of which is that it doesn't indicate a concrete thing and the other of which is that it is not free to match with a verb. There are three types of quasi-objects.

The first type is an object of empty reference, which refers to neither a concrete thing nor a quantity. It includes four sub-categories:

A "什么[shén me](what)" as an object means entire negation. For example:

(21) a 好什么 [hǎo shén me] (nothing is good)
b 看什么看[kàn shén me kàn] (nothing is worth looking at)

B "他[tā](he)"as an object means indifferent and relaxing. For example:

(22) a 喝他三天三夜[hē tā sān tiān sān yè] (to drink for three days)
b 睡他几天再说[shuì tā jǐ tiān zài shuō] (to sleep for several days)

C in the form of "他说他的，我看我的"[tā shuō tā de, wǒ kàn wǒ de] (he does what he does; I do what I do)

For example:

(23) a “他说他的，我看我的”[tā shuō tā de, wǒ kàn wǒ de] (he does what he does; I do what I do)
b 你走你的[nǐ zǒu nǐ de] (you leave as you want)

D the expression of speaking rudely

For example:

(24) a 好你个头[hǎo nǐ gè tóu] (no good at all!)
b 懂个屁[dǒng gè pì] (knowing nothing at all!)

The second type is object of numeral-quantifier phrase, which specially refers to the object of quantifier, different from a real object served by a numeral-quantifier phrase, such as “买一个[mǎi yī gè] (buy one), 看两本[kàn liǎng běn] (read two books). “One” and “two” in the examples are real objects. There are three types of quantifiers in quasi-objects.

A object of a verbal quantifier

(25) 看一下[kàn yī xià] (have a look)
笑了两声[xiào le liǎng shēng] (make two laughs)
踢一脚[tī yī jiǎo] (give a kick)

B object of a time quantifier

(26) 看一天[kàn yī tiān] (watching for a whole day)
踢一小时[tī yī xiǎo shí] (playing for one hour)
笑了半天[xiào le bàn tiān] (laughing for a half-day)

C object of a degree quantifier

(27) 好一点儿[hǎo yī diǎn ér] (a little better)
大一些[dà yī xiē] (a little big)
降了一厘米[jiàng le yī lí mǐ] (one centimeter down)

The third type is a special object. Generally speaking, it is nominal constituent that is not free to make up a verb-object collocation with verb or appear in the position of an object due to certain special reasons. It can be sub-categorised in the following.

A tool object (e.g. 写毛笔[xiě máo bǐ] (to write with a Chinese writing brush))
B reason object; (e.g. 笑什么[xiào shén me] (why to laugh))
C goal object (e.g. 跑经费[pǎo jīng fèi] (to rush about for expenditure))
D manner object (e.g. 吃食堂[chī shí táng] (to eat in restaurant))
E comparison object (e.g. 大他一岁[dà tā yī suì] (one year older than me))
F agent object (e.g. 死了一头牛[sǐ le yī tóu niú] (a cow died))
G consequence object (e.g. 跑了一身汗[pǎo le yī shēn hàn] (sweating all over after running))

H damage object (e.g. 吃他一个苹果[chī tā yī gè píng guǒ] (one of his apples is eaten))
I gain object (e.g. 跑了个冠军[pǎo le gè guàn jūn] (he won a championship in running))

IV The explanations of the criteria

The criteria in the above are decided preferentially based on the homo-type strategy; those that are decided based on the hetero-type strategy will be specially discussed in 1.5. A list of parts of speech based on the hetero-type strategy is displayed in advance for the sake of the reader's better understanding.

a Words such as "胜利[shèng lì] (win)", "区别[qū bié] (distinguish)", "连续[lián xù] (continue)"and "破例[pò lì] (break a rule)" not only have features of general verbs but also can function directly as adverbials without "地[dì · de] (-ly)", based on which they are classified into the conversional words of verbs and adverbs.
b Words such as "冷静[lěng jìng] (calm)", "暖和[nuǎn huo] (warm)", "高兴[gāo xìng] (happy)", and "轻松[qīng sōng] (relaxed)" can be modified by "很[hěn] (very)" without being followed by objects. They are definitely adjectives. Also, they fit in the overlapping form of ABAB, which reflects the feature of verbs, so they are classified into the conversional words of adjectives and verbs.
c Words, such as "小时[xiǎo shí] (hour)", "组[zǔ] (group)" and "星期[xīng qī] (week)" can be modified not only by numerals but also by quantifiers, so they are classified into the conversional words of nouns and quantifiers.
d Words such as "临时[lín shí] (temporary)", "长期[cháng qī] (long-term)" and "真正[zhēn zhèng] (real)" can function as attributes and adverbials but not as others, so they are classified into the conversional words of distinctive words and adverbials.
e Words such as "许多[xǔ duō] (many)", "若干[ruò gān] (several)" and "很多[hěn duō] (plenty of)" can modify nominal constituents directly and be followed by quantifiers as well, so they are classified into the conversional words of numeral-quantifier phrases and numerals.
f Words, such as "每[měi] (every)", "另外[lìng wài] (other)" and "另[lìng] (another)" not only fit in "～<数量(quantity)>+<名(noun)>" but also function as adverbials, so they are classified into the conversional words of demonstratives and adverbials.
g "大量[dà liàng] (a great quantity)" as a numeral-quantifier phrase, can function as an attribute in "～(<核词(kernel word)>+的[de] (of)+<中心语(headword)>)" but cannot fit in "～数(numeral)+量(quantifier)+名(noun)"; it also can function as adverbial, unlike those numeral-quantifier phrases for time, such as "片刻[piàn kè] (awhile)" or "很久[hěn jiǔ] (for ages)", so it is classified as an adverb.

h "众多[zhòng duō] (numerous)" as a state word and "个别[gè bié] (individual)" as an adjective can function as attributes before "X的[de] (of)", so the former is classified as the conversional word of a state word and numeral-quantifier phrases and the latter as the conversional word adjective and numeral-quantifier phrases.

1.4.2 The criteria of classifying the big categories and the explanations of the big categories

Parts of speech are considered as a system of hierarchy, based on which the parts of speech of modern Chinese are classified into four big categories, including 18 basic categories. Next is how these four big categories are classified.

I. Compound words and interjections

The parts of speech are firstly classified into two big categories of compound words and interjections according to whether they have compounding ability. Generally speaking, all grammatical functions can be grouped into two: compounding with other constituents and being independent constituents. Therefore, "compounding with other constituents" as the grammatical function can maximise its generalisation level. In the past, the parts of speech used to be classified into notional words and function words first, excluding interjections, which is essentially the same as classifying interjections into the first big category in this book.

One thing that needs clarifying is that the compound words with compound ability are also capable of being independent constituents; actually, most of them can be independent constituents.

II. Notional words and function words

The compound words can be classified into notional words and function words according to whether they can function as syntactic constituents. Notional words can, but function word can't. Therefore, function words include prepositions, conjunctions, modal particles and auxiliary words but exclude adverbs functioning as adverbials.

III. Kernel words and modifiers

The notional words are classified into kernel words and modifiers according to whether they can be main constituents. Kernel words can be main constituents but modifiers cannot be. They can be modifying constituents only. However, this criterion, if not restricted by certain requirements, tends to classify some distinctive words, adverbs, numerals and quantifiers into kernel words due to their possibility of being main constituents as well. For example:

(1) 急性好治，慢性不好治。[jí xìng hǎo zhì, màn xìng bù hǎo zhì.]
(*The acute* disease is easy to cure while *the chronic* disease is hard to cure.)

(2) 生男生女都一样。[shēng nán shēng nǚ dōu yī yàng.]
(Giving birth to *a boy* or *a girl* is the same.)
Distinctive words function as subjects or objects in the above two sentences.
(3) 我不。[wǒ bù.]
(I *don't*.)
(4) 我马上! [wǒ mǎ shàng.]
(I'll be *right now*!)
Adverbs function as predicates[4] in the above two sentences.
(5) 一切从头开始。 [yī qiè cóng tóu kāi shǐ]
(*Everything* starts from the very beginning)
(6) 来了不少。[lái lē bù shǎo.]
(*Lots of people* are coming)

Numeral-quantifier phrases function as subjects or objects in the above two sentences.

(7) 一加一等于二。 [yī jīa yī děng yú èr.]
(*One* and *one* is *two*.)
(8) 十个十是一百。[shí gè shí shì yì bǎi.]
(*Ten* and *ten* is *one hundred*.)

Numerals or numeral phrases function as subjects or objects in the above two sentences.

All the words listed above, such as distinctive words, numeral-quantifier phrases, numerals and adverbs, are classified into modifiers, although they can function as main constituents. There are two reasons.

One is that being modifiers, instead of being main constituents, is taken as the criterion of classifying these distinctive words, numerals, numeral-quantifier phrases and adverbs because this criterion is universal inside the category and should be treated as their commonality. It is better to depend on it in classifying the big category, just taking their function of being main constituents as an exception. The other is that there are just special cases for these words functioning as main constituents. For instance, (7) and (8) are statements about calculation or conversion in mathematics; (1), (2), (5) and (6) are the transferred references in the syntactic sense as the conversions of part of speech; (3) and (4) are obvious omissions of headwords.

For the above reasons, the criterion of classifying kernel words and modifiers needs restricting, which means if the special cases in the above occur, those words are still classified as modifiers instead of kernel words.

Some numeral-quantifier phrases can function as quasi-objects, such as "休息片刻[xiū xi piàn kè] (rest awhile)" and "等候许久[děng hòu xǔ jiǔ] (wait for a long time)". Even for such cases, these quasi-objects are still treated as modifying constituents, so these numeral-quantifier phrases still meet the criterion of modifiers.

Besides being main constituents, kernel words are also capable of being attributes, actually for most of kernel words. This is due to the low degree of

differentiation between distinctive words and kernel words in Chinese (see 7.3.3 in *Modern Chinese Parts of Speech: Classification Theory* and 3.1.3).

IV. Predicates and nominals

Kernel words can be classified into predicates and nominals according to whether they can function as predicate constituents as the general term for some syntactic functions reflecting predicative functions, including "不[bù](not)～｜没[méi](no)～｜很[hěn](very)～｜～<宾(object)>｜～<补(complement)>｜<补(complement)>｜所[suǒ](all that)～｜<介宾(preposition-object)>～｜(<谓(predicate)>∧*(<主(subject)>｜<宾(object)>))".

The main function of predicates is being a predicate. In the past, classifying predicates and nominals was mainly based on whether they fit in "不[bù] (not)～｜<谓(predicate)>". "不[bù] (not)～"was regarded as the grammatical function at the biggest generalisation level. However, there are still many predicates that cannot be modified by "不[bù] (not)", so it is necessary to complement it further with other functions to narrow this criterion. Although any of these functions in this criterion may not be precise enough to classify predicates, all of them being related together by a disjunctive relationship can include most of the predicates. If the function of being predicates is adopted as the criterion of classifying predicates and nominals, many nominals can also be included into predicates because many nouns and time words can function as predicates as well. In that case, the extra restriction of not functioning as subjects or objects can exclude these nominals from predicates further, which unfortunately excludes some predicates as well. Consequently, it is necessary to take "<谓(predicate)>∧*(<主(subject)>｜<宾(object)>)" as one item of disjunctive criterion to classify those words only functioning as predicates, such as "奇缺[qí quē] (lack)", "不等[bù děng] (inequality)", "参半[cān bàn] (mix)", "闪闪[shǎn shǎn] (shine)" and "旖旎[yǐ nǐ] (grace)", into the category of predicates.

The main functions of nominals are being subjects and objects, being modified by attributes, which are also shared by most predicates as well.

1.5 Predicates

Predicates belong to a predicative part of speech whose main function is be a predicate constituent (predicate and complement). Predicates include verbs, adjectives and state words.

1.5.1 Verbs

Verbs are the most important part of speech in predicates. In the sense of meaning, a verb indicates behavior. The basic function of a verb is to be a predicate or complement, and it belongs to a predicative part of speech. Examples of verbs are as follows:

> 打[dǎ] (hit), 吃[chī] (eat), 看[kàn] (look at), 坐[zuò] (seat), 病[bìng] (fall ill), 死[sǐ] (die), 是[shì] (yes), 有[yǒu] (have), 来[lái] (come), 进 [jìn] (enter),

能[néng] (can), 会[huì] (grasp), 休息[xiū xi] (rest), 散步[sàn bù](stroll), 学习[xué xí] (study), 喜欢[xǐ huan] (like), 打扫[dǎ sǎo] (sweep), 进来[jìn lai] (come in), 回去[huí qu] (go back), 可以[kě yǐ] (may), 可能[kě néng] (possible).

1.5.1.1 The criteria of classifying verbs

There are two simplified and complicated criteria of classifying verbs. Here is the simplified one first.

"不[bù](not)～∧(*很[hěn](very)～｜(很[hěn](very)～<宾(object)>))" or "(不[bù](not)｜没[méi](no))～(∧*很[hěn](very)～｜(很[hěn](very)～<宾(object)>))"

But some situations need paying attention to in the following:

86% of verbs (8806) can be modified by "不[bù] (not)";
89% of verbs (9142) can be modified by "没[méi] (no)";
93% of verbs (9552) can be modified by both "不[bù] (not)" and "没[méi] (no)";
7% of verbs (747) are in exception.

If "～宾(object)" is added in the above simplified criterion like this "((不[bù](not)｜没[méi](no))～｜～<宾(object))(∧*很[hěn](very)～｜(很[hěn](very)～<宾(object)>))", the new form can satisfy 97% of verbs (9,969); otherwise, only 76% of verbs (7,856) followed by real objects and quasi-objects can be satisfied.

"Predicate" doesn't appear in the above criterion because it is too broad, as some nouns functioning as predicates. In order to cover as many verbs as possible, the functions of being predicates and complements are needed necessarily.

Some words cannot be modified by "不[bù](not)" or "没[méi](no)", even cannot be followed by objects, so they cannot be categorised simply into verbs by the simplified criterion above. However, they can serve as predicates, such as "交加[jiāo jiā] (accompany each other)" and "参半[cān bàn] (half-and-half)"; and some words can serve as complements, such as "停当[tíng dang] (ready)", or can be followed by"着[zhe]｜过[guo]", such as "惦记[diàn jì] (remember with concern)", or by the function words"所[suǒ](all that)", such as "必需[bì xū] (indispensable)". These words should be classified into verbs due to their behavior meanings.

The following complicated criteria are used to address these verbs that are not covered by the simplified criterion:

The criterion is (不[bù](not)～｜没[méi](no)～｜～<宾(object)>｜～<补(complement)>｜所[suǒ](all that)～｜<黏合式补语(complement of bound form)>｜(～着[zhe]｜过[guo])｜((<谓(predicate)>｜<状(adverbial)>～)∧*<主(subject)>))∧(*很[hěn](very) [不[bù]](not)～｜(很[hěn](very)～<宾(object)>)). The explanation is as follows:

The verbs in this category can be negated by "不[bù] (not)～" or "没[méi] (no)～", be followed by "～<宾(object)>" or "～<补(complement)>", be pre-modified by "所[suǒ] (all that)～"or be "<黏合式补语(complement of bound form)>" and be followed by "(～着[zhe]｜过[guo])". They can function as "<谓(predicate)>" or be modified by "<状(adverbial)> ～"; but they cannot function as "<主(subject)>" or be modified by "很[hěn] (very)[不] [bù] (not)～". Or, they can fit in "(很(very)～<宾(object)>)", even though they are being modified by "很[hěn] (very)[不] [bù] (not)～".

The front part of the criterion depends on many items with disjunctive relations of the same value as the universal commonality inside, for there exists no single grammatical function shared by all verbs. However, adjectives also share some of grammatical functions in this criterion, such as "不[bù] (not)～", "没[méi] (no)～", "～<补(complement)>" and "<黏合式补语 (complement of bound form)>", so more disjunctive items, such as "*很[hěn] (very)[不](not)～｜(很[hěn](very)～<宾(object)>)", are needed to exclude those adjectives.

This criterion is so precise that it can meet 99% of verbs.

Verbs are the most important in the category of predicates, and their grammatical functions may diverge greatly as well.

Among 43,330 words, the total number of verbs is 10,300, with a percentage of 24%.

1.5.1.2 The conversional situations between verbs and nouns and their distinctions

From the discussion in the previous chapters, conversional words can be divided into two groups: the homo-type and the hetero-type. The homo-type refers to the conversional words with the same meanings, and the hetero-type refers to the conversional words with different meanings. In the following, the situations on conversional words of the homo-type will be discussed only, considering there is no problem understanding the hetero-type words as conversional words due to their different meanings.

In the discussions on conversional words, the conversional situations on verbs and nouns cause disputes, which are focused on whether the "verb", functioning as an object, a subject or being modified by attribute, can be regarded as a noun. Here are two cases of verbs functioning as an object and a subject, respectively. One, even in the position of subject or object, a "verb" not only keeps its part of speech but also persists in its general verbal properties, such as being modified by "不[bù] (not)" or an adverbial, and having its own object or subject. Take "去[qù] (go)" as an example:

(1) a 去不合适 [qù bù hé shì.]
(Going is not proper.)
b 不去不合适 [bú qù bù hé shì.]
(Not-going is not proper.)
c 去广州不合适[qù guǎng zhōu bù hé shì.]
(Going to Guangzhou is not proper.)

d 你去不合适[nǐ qù bù hé shì.]
(You are not proper to go.)
e 马上去不合适[mǎ shàng qù bù hé shì.]
(Going right now is not proper.)

Two, a "verb" loses its general verbal properties but gains the general properties of nouns when in the position of a subject or an object. To take "调查[diào chá] (investigate)" as an example:

(2) a 进行调查[jìn xíng diào chá.]
(Investigating is going on.)
b *进行不调查[jìn xíng bú diào chá.]
(Non-investigating is going on)
c *进行调查这个问题[jìn xíng diào chá zhè gè wèn tí.]
(Investigating this issue is going on.)
d *进行他们调查[jìn xíng tā mēn diào chá.]
(Investigating them is going on.)
e *进行马上调查[jìn xíng mǎ shàng diào chá.]
(Immediate investigating is going on.)
f 进行仔细的调查[jìn xíng zǐ xì de diào chá.]
(Elaborative investigating is going on.)
g 进行社会调查[jìn xíng shè huì diào chá.]
(Social investigating is going on.)

"调查[diào chá] (investigate)" in the above examples only reflects the properties of nouns, so it can be regarded as having two parts of speech, a verb and a noun, at the same time.

Here are another two cases of a "verb" being modified by attribute. One, when modified by an attribute, a "verb" still keeps its general verbal properties, and its attribute is generally followed by "的[de] (of)". To take "出版[chū bǎn] (publish)" as an example:

(3) a 这本书的出版[zhè běn shū de chū bǎn.]
(the publishing of this book)
b 这本书的及时出版[zhè běn shū de jíshíchū bǎn.]
(the timely publishing of this book)
c 这本书的不出版[zhè běn shū de bù chū bǎn.]
(un-publishing of this book.)

Two, when modified by an attribute, a "verb" loses its verbal properties. Again, to take "调查[diào chá] (investigate)" as an example:

(4) a 社会调查[shè huì diào chá.]
(social investigating)
b *社会不调查[shè huì bú diào chá.]
(social un-investigating)

c *社会调查这个问题[shè huì diào chá zhè gè wèn tí.]
(social investigating on this issue)
d *社会他们调查[shè huì tā men diào chá]
(social investigating on them)
e *社会及时调查[shè huì jí shí diào chá.]
(immediate social investigating)

(5) a 仔细的调查[zǐ xì de diào chá.]
(elaborative investigating)
b *仔细的及时调查[zǐ xì de jí shí diào chá.]
(elaborative immediate investigating)
c *仔细的不调查[zǐ xì de bú diào chá.]
(elaborative un-investigating)

This case is almost same as "调查[diào chá] (investigate)" in (2), so "调查[diào chá] (investigate)" only reflects properties of nouns.

Based on the above cases, if a "verb" still keeps its general verbal properties, it should be regarded as itself instead of as a conversional word, such as "去[qù] (go)" in (1) and "出版[chū bǎn] (publish)" in (3). This phenomenon is regarded as the conversion of parts of speech at the syntactic level (referring to 4.3.5 and 4.7 in *Modern Chinese Parts of Speech: Classification Theory*). As for "调查[diào chá] (investigate)", which has properties of both verbs and nouns, it can be treated by different strategies. According to the principle mentioned in Chapter 7 of *Modern Chinese Parts of Speech: Classification Theory*, the simplicity in three aspects, namely parts of speech, syntactic rules and psychological acceptance, decides whether the homo-type strategy or the hetero-type strategy goes first, for the sake of the minimum cost. The total cost of a certain strategy mainly depends on the quantity of conversional words, which means the larger it is, the better the homo-type strategy is; the smaller it is, the better the hetero-type strategy is. Therefore, the quantity of "调查[diào chá] (investigate)" with properties of both a verb and a noun, decides whether it is a conversional word by the hetero-type strategy or just a verb by the homo-type strategy.

It is better to decide the criterion of classifying words with properties of verbs and nouns before knowing the quantity of such type of words, such as "调查[diào chá] (investigate)". Three positions are important in deciding whether a "verb" has properties of nouns. They are the position of the object, the position of being modified by an attribute and the position of subject. However, it is not definite to say that all "verbs" suitable for these three positions are those of having properties of nouns, so some restrictions are needed in such a situation.

A "verb" in the position of an object is supposed to be the quasi-predicate object. If so, this "verb" has the properties of nouns. Such verbs include "有[yǒu] (have)", "进行[jìn xíng] (being)", "加以[jiā yǐ] (add)", "予以[yǔ yǐ] (give)", "作[zuò] (do)", "受[shòu] (bear)" and so on. In the position of being modified by an attribute, a "verb" is supposed to be modified directly by nouns, distinctive words, adjectives and verbs (without being followed by "的[de] (of)"). If so, this "verb" has the properties of nouns. It is hard to find out a restriction for the position of

subject, due to which it is hard to judge whether this "verb" has the properties of nouns or not. Base on the above, two disjunctive items are ensured in deciding whether a "verb" has the properties of nouns.

I. Being the quasi-predicate object, for example:

(6) a 有研究[yǒu yán jīu]
(have investigation)
b 予以解决[yǔ yǐ jǐe júe]
(offer a solution)
c 作贡献 [zuò gòng xìan]
(make contribution)

II. Being directly modified by nouns, distinctive words, adjectives and other verbs, for example:

(7) a 技术改造[jì shù gǎi zào]
(technical reform)
b 语言研究[yǔ yán yán jīu]
(language research)
c 财务管理[cái wù guǎn lǐ]
(financial administration)
The above is about verbs being modified by nouns directly.

(8) a 日常管理 [rì cháng guǎn lǐ]
(daily administration)
b 临床研究[lín chuáng yán jīu]
(clinical research)
c (进行)定量分析 [jìn xíng dìng liang fēn xī]
((doing) quantitative analysis)
The above is about verbs being modified by distinctive words directly.

(9) a (实行)民主管理[shí xíng mín zhǔ guǎn lǐ]
((practicing) democratic administration)
b (进行)认真研究[jìn xíng rèn zhēn yán jīu]
((doing) careful research)
c (进行)全面调查[jìn xíng quán miàn diào chá]
((doing) overall investigation)
The above is about verbs being modified by adjectives directly.

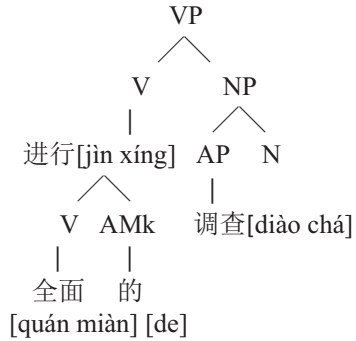
(10) a 生产管理[shēng chǎn guǎn lǐ]
(production administration)
b 发酵研究[fā jiào yán jīu]
(fermentation research)
The above is about verbs being modified by verbs directly.

Based on the above disjunctive items, a large quantity of "words" with the properties of both verbs and nouns are found, with the evidence of 2,381 (23%) among

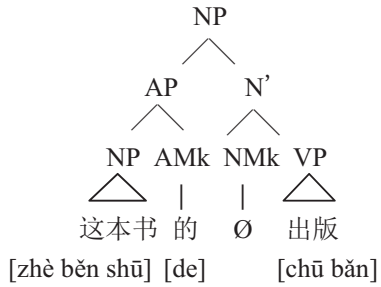
10,300 verbs, and 1,220 (31%) among 3,925 verbs with the highest frequency. And then, according to the priority of the homo-type strategy, these "verbs" are firstly classified as verbs instead of verbs having the properties of nouns, which are named as "noun-verbs" by Zhu Dexin. For the very few words often used as nouns more than as verbs, they are named as nouns having the properties of verbs, such as "比赛[bǐ sài] (contest)" and "行动[xíng dòng] (act)".

In the system of generative grammar, the "noun-verbs" such as研究[yán jīu], 调查[diào chá] and 学习[xué xí], are classified as the conversional words of verbs and nouns based on the hetero-type strategy. Only in this way can it exactly describe the conversion from word to syntactic structure and further differs this conversion from that of parts of speech at the syntactic level. For example:

(11) a 进行全面的*调查* [jìn xíng quán miàn de diào chá]
(To have an overall *investigation* (noun))



b 这本书的出版 [zhè běn shū de chū bǎn]
(the publishing of this book) ("Publish", as a verb, is changed into a referential constituent at the syntactic level.)



In the investigation of this book, there are 476 verbs with properties of nouns, taking the percentage of 4.6% in total. In fact, real verbs with the properties of nouns are those verbs which differ from nouns in the sense of meaning.

1.5.1.3 The conversional situations between verbs and adverbs and their distinctions

Besides general verbal properties, some verbs also can function as adverbials without being followed by "地[dì · de](-ly)", similar to English suffix "ly", such as "胜利[shèng lì] (win)", "区别[qū bié] (distinguish)" · "持续[chí xù] (continue)", "优先[yōu xiān] (precede)", "讽刺[fěng cì] (satirize)", "附带[fù dài] (attach)" · "抢先[qiǎng xiān] (forestall)", "着重[zhuó zhòng] (emphasize)", "尽力[jìn lì] (try)" and "轮流[lún liú] (take turns)". Since they only take 1.3% in the total number of verbs in the investigation, they are classified into verbs with the properties of adverbs based on the hetero-type strategy and are treated as adverbs when functioning as adverbials.

There are 171 such words in the investigation, taking the percentage of 4.6% of total verbs.

For some words functioning as verbal constituents, they cannot be used independently but can function as adverbials only, just ahead of other verbal constituents. They are simply regarded as adverbs, such as "按期[àn qī] (on time)", "分批[fēn pī] (in batches)", "借故[jiè gù] (find an excuse)", "凭空[píng kōng] (without foundation)", "伺机[sì jī] (await an opportunity)", "无故[wú gù] (for no reason)", "fl面[yíng miàn] (face to face)" and "埋头[mái tóu] (immerge)".

Some verbs can function as adverbials after being followed by "地[dì · de](-ly)", such as "担心[dān xīn](worry)", "怀疑[huái yí](distrust)" and "结巴[jiē ba](stammer)". Based on the discussion in 4.7.5 in *Modern Chinese Parts of Speech: Classification Theory*, the function of "地[dì · de](-ly)" is to change a constituent of a predicate or a nominal into one of an adverb. For example, "V+地[dì · de](-ly)" in the adverbial position has the properties of adverbs in general, in which "V" still keeps its verbal properties.

1.5.1.4 The ordinary grammatical functions of verbs and other features

1. 99.8% of verbs can function as predicates alone. However, only if they are accompanied by other constituents, such as adverbials, objects, modal particles and "着[zhe]", "了[le]" and "过[guò]", indicating the perfect tense in English, can the subject-predicate construction function as an individual sentence. The subject-predicate construction with a single predicate is usually in inclusive situations, such as being contained in "～的", functioning as an object or a subject, or is used to imply an imperative meaning, a comparative meaning or an answer.
2. Most verbs can be modified by negative adverbs, such as "不[bù] (not)"(86%) and "没[méi] (no)"(89%).
3. 76% of verbs can be followed by real objects and quasi-objects. For those verbs only followed by real objects, they only take up about 59%. Verbs can be divided into transitive verbs and intransitive verbs, based on whether they can be followed by real objects or not.

4 Only 2.2% of verbs can be modified by "很[hěn](very)" alone and fit in "很[hěn]～<真宾(real object)>". For example:

"很喜欢—很喜欢他"[hěn xǐ huān—hěn xǐ huān tā]
like very much—like him very much
"很重视—很重视这个问题"[hěn zhòng shì—hěn zhòng shì zhè gè wèn tí]
value very much—value this issue very much
"很可能—很可能下雨"[hěn kě něng—hěn kě něng xià yǔ]
very possible—very possible to rain

Adjectives can also be modified by "很[hěn] (very)" but cannot be followed by real objects at the same time, based on which verbs and adjectives can be divided.

5 Most verbs can be followed by complements, but only 47% of verbs can be with conglutinate complements.

6 46% of verbs can function as compound complements, but only 3.1% of verbs, most of which are directional verbs, can function as conglutinate complements, along with verbs such as "到[dào] (arrive)", "完[wán] (finish)", "死[sǐ] (die)", "伤[shāng] (hurt)", "哭[kū] (cry)", "跑[pǎo] (run)", "走[zǒu] (walk)", "醒[xǐng] (wake)", "瘸[qué] (limp)", "跨[kuà] (stride)", "断[duàn] (break)", "翻[fān] (turn)", "着[zháo](touch)", "反[fǎn] (reverse)", "倒[dǎo] (topple)", "懂[dǒng] (understand)", "会[huì] (know)", "住[zhù] (live)", "掉[diào] (fall)" and so on, among which "着[zháo](touch)" and "住[zhù] (live)" only function as complements.

7 99.3% of verbs can be modified by adverbials.

8 About 85% of verbs can be with "着[zháo]", "了[le]" and "过[guò]", which indicate the perfect tense in English.

9 46% of verbs function as subjects and objects alone, and this percentage will increase if other constituents (object, adverbial and subject) are added. Actually, for verbs in the positions of subjects or objects, some of them embody their nominal properties as "noun-verbs", while some keep their pure verbal properties as verbs.

10 51% of verbs can be modified by adjectives, but some of them actually embody their nominal properties (6.1%) as "noun-verbs", while some keep their pure verbal properties as verbs.

11 31% of verbs can function as adjectives directly. There only exists a certain overlapping part between "noun-verbs" and those verbs as adjectives. For example, verbs such as "到达[dào dá] (arrive)" and "成立[chéng lì] (establish)" can function as adjectives directly but don't have general properties of nouns; "保持[bǎo chí] (keep)", "尝试[cháng shì] (try)", "制止[zhì zhǐ] (stop)" and "威胁[wēi xié] (threaten)" are "noun-verbs" but cannot function as adjectives directly. Among those verbs as adjectives directly, 45% of them are "noun-verbs"; among those "noun-verbs", 60% of them can be adjectives directly.

12 12% of verbs have overlapping forms. Monosyllabic verbs have the overlapping form of "AA", such as "看看[kàn kàn] (see)", "试试[shì shì] (try)",

while disyllabic verbs have the overlapping form of "ABAB", such as "研究研究[yán jiū yán jiū] (research)" and "商量商量[shāng liang shāng liang] (discuss)".

13 Some verbs can be extended and named as "separable phrasal words", taking up 20% in total. There are two kinds of "separable phrasal words". One is the verb-object structure, such as "结婚[jié hūn] (marry)", "睡觉[shuì jiào] (sleep)" and "游泳[yóu yǒng] (swim)". In the middle of each, some constituents can be put in, such as "着[zháo]", "了[le]" and "过[guò]", complements, numeral-quantifiers phrases and other attributes. Sometimes, the rear constituents can be moved forward, such as "觉也睡不着[jiào yào shuì bú zháo](也睡不着觉[yě shuì bú zháo jiào])(cannot sleep)". Such verbs take up 85% in the total number of "separable phrasal words". The other is the verb-complement structure, such as "看见[kàn jiàn] (see)", "完成[wán chéng] (finish)", "离开[lí kāi] (leave)" and "上来[shàng lái] (come up)". "得[de]" and "不[bù]" can be put in the middle of each, such as "看不/得见[kàn bù /dé jiàn](cannot/can see)", "完不/得成[wán bù/ dé chéng](cannot/can finish)", "离不/得开[lí bù/ dé kāi](cannot/can leave)" and "上不/得来[shàng bù/ dé lái](cannot/can come up)". Such verbs take up 15% in the total number of "separable phrasal words".

1.5.1.5 Real objects after verbs can be distinguished into predicate objects and nominal objects

Transitive verbs can be further divided into verbs of nominal object and verbs of predicate object, according to whether verbs can be followed by predicate objects or nominal objects. Verbs of nominal object take up 96% of transitive verbs, such as "洗[xǐ] (wash)", "采取[cǎi qǔ] (adopt)" and "买[mǎi] (buy)", while the percentage of verbs of predicate object is 26%, such as "认为[rèn wéi] (think)", "觉得[jué de] (feel)" and "企图[qǐ tú] (attempt)". Quite a lot of transitive verbs (14% of transitive verbs and 78% of verbs of predicate object) can be followed by both nominal objects and predicate objects, which are regarded as conversional words of properties of both, such as, "喜欢[xǐ huan] (like)", "同意[tóng yì] (agree)", "看[kàn] (see)" and "知道[zhī dào] (know)". In addition, some objects after verbs of predicate object, such as "进行[jìn xíng] (proceed)", "加以[jiā yǐ] (give)", "予以[yǔ yǐ] (grand)", "作[zuō] (do)" and "有[yǒu] (have)", are actually "noun-verbs". Strictly speaking, such verbs can not be classified into verbs of predicate object. However, since "noun-verbs" have already been grouped into verbs, the objects of such type are considered as predicate objects. For the purpose of distinguishing verbs of ordinary predicate object from others, the verbs, such as "进行[jìn xíng] (proceed)", "加以[jiā yǐ] (give)", "予以[yǔ yǐ] (grand)" and "作[zuō] (do)", are named as verbs of quasi-predicate object. The verbs of ordinary predicate object are called verbs of real predicate object. The verbs of quasi-predicate object take up 4.2% of transitive verbs, such as "有[yǒu] (have)", "进行[jìn xíng] (proceed)", "加以[jiā yǐ] (give)", "予以[yǔ yǐ] (grand)", "作[zuō] (do)", "受[shòu] (suffer)", "遭受[zāo shòu] (suffer)", "受到[shòu dào] (receive)", "保持[bǎo chí] (keep)",

"获得[huò dé] (gain)", "发生[fā shēng] (happen)", "出现[chū xiàn] (appear)", "接受[jiē shòu] (accept)" and so on.

1.5.1.6 Auxiliary verbs

Generally speaking, auxiliary verbs are classified as a minor category of verbs in some grammar books, but no criterion of grammatical function in classifying auxiliary verbs is proposed in this book. Rather than considered as a grammatical category in Chinese, they are supposed to be a syntactic category or a logical category, depending on which classifying auxiliary as a minor category is helpful in understanding and analysing the meaning of a certain sentence and its logical structure. An auxiliary verb is one of the constituents in expressing the modal meaning, if a sentence meaning can be divided into the ideational meaning and the modal meaning.

So, only taking grammatical function as a criterion of classifying auxiliary verbs doesn't make any sense because it is very hard to distinguish auxiliary verbs from ordinary verbs, adverbs and adjectives. Based on this reason, it is first and foremost crucial to find a criterion of classifying auxiliary verbs from adverbs and adjectives, and then from ordinary verbs. The criterion is that auxiliary words can be followed by real predicate objects to express the modal meaning. For example, "一定[yī dìng] (must)" can be modified by "不[bù] (not)", which means it is not an adverb, and, at the same time, it cannot be modified by "很[hěn](very)", which means it is not an adjective, either. Consequently, it is supposed to be a verb and more exactly to be an auxiliary verb because it can be followed by a real predicate object to express the modal meaning. For another example, "容易[róng yì] (easy)" in "容易生锈[róng yì shēng xiù] (easy to rust)" and "容易感冒[róng yì gǎn mào] (easy to get a cold)" can be modified by "不[bù] (not)", which means it is not an adverb, and it also fits in "很[hěn] (very)～<宾 (object)>", which further proves it is not an adjective, either. Here comes the same consequence that "容易[róng yì] (easy)" is an auxiliary verb because it also can be followed by a real predicate object to express the modal meaning. Although "必须[bì xū] (must)，大概[dà gài] (probable)，准[zhǔn] (for sure)" express the modal meaning as well, they don't satisfy the criteria of verbs, so they are not auxiliary words.

1.5.2 Adjectives

Adjectives are also the main part of predicates. In the sense of meaning, adjectives indicate the degree property. The basic function of adjective is to be a predicate and complement, and it belongs to a kind of predicative part of speech.

Examples of adjectives are as follows:

> 大[dà] (big), 小[xiǎo] (small), 新[xīn] (new), 高[gāo] (tall), 深[shēn] (deep), 轻[qīng] (light), 饿[è] (hungry), 痛[tòng] (painful0,干净[gān jìng] (clear), 优秀[yōu xiù] (excellent), 高兴[gāo xìng] (happy), 认真[rèn zhēn] (serious), 荣幸[róng xìng] (honored), 缓慢[huǎn màn] (slow).

1.5.2.1 The criterion of classifying adjectives

The criterion of classifying adjectives is很[hěn](very)[不[bù](not)] ～Λ* (很[hěn] (very)[不[bù] (not)] ～<宾(object)>)

The word "很[hěn] (very)" in this criterion represents absolute degree adverbs, and such adverbs include "很[hěn] (very)", "挺/顶/满/怪[tǐng /dǐng /mǎn /guài] (quite)", "十分/非常[shí fēn/fēi cháng](much)", "格外/极/极其[gé wài /jí /jí qí] (extraordinarily)", "分外/无比/甚[fèn wài /wú bǐ /shèn] (greatly)", "特别[tè bié] (particularly)", "颇/颇为[pō /pō wéi](especially), "极为[jí wéi](perfectly)", "较/较为[jiào/ jiào wéi](relatively)", "太[tài](extremely)", "真[zhēn](really)" and the like. However, not all adjectives can be modified by these degree adverbs, such as "耐烦[nài fán](patient)", "相同[xiāng tóng](same)" and "景气[jǐng qì](prosperous)". Nevertheless, the negative forms of such adjectives can be modified by "很[hěn](very)", such as "很不耐烦[hěn bú nài fán] (not very patient)", "很不相同[hěn bú xiāng tóng](not quite same)" and "很不景气[hěn bù jǐng qì](not very prosperous)". For this point, they are as same as other ordinary adjectives; therefore, "[不[bù](not)]" is added to complete this criterion to differentiate them from ordinary adjectives.

Some verbs also conform to "很[hěn](very) [不[bù] (not)] ～", such as "喜欢[xǐ huān](like), 重视[zhòng shì](value), 照顾[zhào gù](care)". In the past, "*～<宾(object)>" as the conjunctive criterion was adopted to separate adjectives from these verbs. In fact, some adjectives can also be followed by objects, such as "高他一头[gāo tā yī tóu] (a head taller than him)" and "大我一岁[dà wǒ yī suì](one year older than me)", and, consequently, this conjunctive criterion can exclude some adjectives also. Therefore, to add "* (很[hěn] (very)[不[bù] (not)] ～<宾(object)>) to the criterion of classifying adjectives is properly strict to separate adjectives from those verbs modified by "很[hěn] (very)", because those adjectives can be followed by objects but cannot be modified by "很[hěn] (very)" at the same time.

Among 43,330 words, there are 2,355 adjectives, taking up 5.4%.

1.5.2.2 The conversional situations between adjectives and verbs and their distinctions

The following is about the confusing conversional situations between adjectives and verbs.

I. "端正[duān zhèng] (upright/correct), 丰富[fēng fù] (rich/enrich), 充实[chōng shí] (substantial/enrich), 弯[wān] (bent/bend), 紧[jǐn] (tight/tighten), 饿[è] (hungry/hunger), 歪[wāi] (crooked/skew), 乱[luàn] (disordered/disorder), 热[rè] (hot/heat)"

The above words can be modified by "很[hěn] (very)" and followed by real objects as well, such as "端正态度[duān zhèng tài dù](correct one's attitude toward)", "充实生活[chōng shí shēng huó](enrich one's life)", "弯胳膊[wān gē bo](bend one's arm)", "紧一下弦[jǐn yī xià xián](tighten a music wire)" and "饿他一顿[è tā yī dùn](make him miss a meal)". They don't fit in "很[hěn] (very)[不[bù] (not)] ～<宾(object)>". However, as mentioned in 2.2 in *Modern Chinese Parts of Speech:*

Classification Theory, the "causative" meanings reflected by them when followed by real objects are supposed to be their intrinsic meanings. Therefore, they are supposed to be regarded, due to their different parts of speech, as the different conversional words of adjectives and verbs at the different generalisation levels.

II. "可怜[kě lián] (poor)，奇怪[qí guài] (strange)"

Besides being modified by "很[hěn] (very)" and followed by real objects, the above words can also fit in "很[hěn] (very)[不[bù] (not)] ～<宾(object)>". When followed by real objects, they can reflect the "conative" meanings, which are supposed to be considered as their intrinsic meanings. So, they should be regarded as the conversional words of adjectives and verbs.

III. "孝顺[xiào shùn] (/being filial/filial), 节约[jié yuē] (save/economical), 浪费[làng fèi] (waste/wasteful), 迷信[mí xìn] (being superstitious/superstitious, 像[xiàng] (assume/alike)"

Besides being modified by "很[hěn] (very)" and followed by real objects, the above words can also fit in "很[hěn] (very)[不[bù] (not)] ～<宾(object)>". Without the "causative" meaning or the "conative" meaning when followed by real objects, they can reflect different parts of speech when modified by "很[hěn] (very)". For example, "节约[jié yuē] (save/economical)" in "节约粮食[jié yuē liáng shi] (save food)" means "consume little or no food" while "节约[jié yuē] (save/economical)" in "他很节约[tā hěn jié yuē] (he is very economical)", means "frugal". So they should be regarded as the conversional words of adjectives and verbs.

IV. "革命[gé mìng] (revolute/revolutionary), 凝固[níng gù] (solidify/stable), 吃亏[chī kuī] (suffer losses/ being in losses), 下饭[xià fàn] (stimulate appetite/appropriate to go with rice), 响亮[xiǎng liàng] (resounding)"

The above can be modified by "很[hěn] (very)" but cannot be followed by real objects. Actually, they have different meanings when modified by "很[hěn] (very)". For example:

(12) [5]a 人民要革命[rén mín yào gé mìng]
(People desire to revolt.)
b 他很革命[tā hěn gé mìng]
(He is very revolutionary.)

(13) a 蛋白受热会凝固[dàn bái shòu rè huì níng gù]
(Protein solidifies when heated.)
b 结构很凝固[jié gòu hěn níng gù]
(The construction is very stable.)

(14) a 这样会吃亏[zhè yàng hùi chī kuī]
(It will suffer losses.)
b 这样很吃亏[zhè yàng hěn chī kuī]
(It will be in losses.)

(15) a 用辣椒下饭[yòng là jiāo xià fàn]
(Chili stimulates appetite.)
b 辣椒很下饭[là jiāo hěn xià fàn]
(Chili is appropriate to go with rice.)

(16) a 电铃还在响[diàn líng hái zài xiǎng]
(The bell still rings.)
b 电铃很响[diàn líng hěn xiǎng]
(The bell sounds loud.)

(17) a 电灯一直亮着[diàn dēng yī zhí liàng zhe]
(The electric lamp still lights.)
b 电灯很亮[diàn dēng hěn liàng]
(The electric lamp is quite light.)

Modified by "很[hěn](very)", the words in group b reflect different meanings compared with those meanings in group a. They are supposed to be regarded as the conversional words of verbs and adjectives at the different generalisation levels. Take "凝固[níng gù](being solidification/solidify)" in (13)a as an example. It means a kind of physical phenomenon, while "凝固[níng gù] (being solidification/solidify)" in (13)b means "稳固[wěn gù](steady/stable)", reflecting a certain property.

V. "负责[fù zé] (take charge/be responsible for), 挑剔[tiāo tì] (nitpick/be hypercritical), 小心[xiǎo xīn] (take care/be careful), 忙[máng] (hasten/busy)"

Although they can be modified by "很[hěn] (very)" and followed by real objects, the above words cannot fit in "很[hěn] (very)[不[bù](not)] ～<宾(object)>". They reflect different meanings when followed by real objects or modified by "很[hěn] (very)". For example:

(18) a 他负责施工[tā fù zé shī gōng]
(He takes charge of the construction.)
b 他很负责[tā hěn fù zé]
(He is very responsible.)

(19) a 他总是挑剔别人的毛病[tā zǒng shì tiāo tì bié rén de máo bìng]
(He always nitpicks.)
b 他很挑剔[tā hěn tiāo tì]
(He is rather hypercritical.)

(20) a 小心敌人破坏[xiǎo xīn dí rén pò huài]
(Take care to avoid damage by enemy.)
b 他很小心[tā hěn xiǎo xīn]
(He is very careful.)

(21) a 他在忙论文[tā zài máng lùn wén]
(He hastens the article.)
b 他很忙[tā hěn máng]
(He is busy.)

These words have different meanings in groups a and b; therefore, they are supposed to be regarded as the conversional words of verbs and adjectives.

VI. "暖和[nuǎn huó] (warm/get warm), 轻松[qīng sōng] (easy/ease), 热闹[rè nào] (boisterous/get boisterous), 凉快[liáng kuài] (cool/being cool)"

The above words can be modified by"很[hěn](very)", but cannot be followed by real objects. They fit in the overlapping structure of "ABAB" without being followed by "的[de]$_2$(of)", which is different from those state words after "的[de]$_2$" in the same structure, such as "雪白[xuě bái] (snowy-white), 笔直[bǐ zhí] (straight), 漆黑[qī hēi] (pitch-dark)". They actually keep accordance to the disyllabic verbs after "的[de]$_2$ (of)" in the same structure. So, they should be regarded as the conversional words of adjectives and verbs.

VII. "红[hóng] (red), 白[bái] (white), 硬[yìng] (hard)"

Beside modified by "很[hěn](very)", the above words can be used in certain special cases, such as "红脸[hóng liǎn](get angry with/being shy)", "红眼[hóng yǎn](get angry with)", "白眼[bái yǎn](look at sb contemptuously)" and "硬着头皮[yìng zhe tóu pí](manage with an effort)". "红脸[hóng liǎn] (get angry with/being shy)" has double meanings. One means someone is very angry, such as "we never get angry with him", and the other means someone is very shy or embarrassed, such as "he speaks shyly". "红脸[hóng liǎn] (get angry with/being shy)" cannot be changed into "脸红[liǎn hóng](blush)" for certain reasons. "红眼[hóng yǎn](get angry with)" means being very angry. "白眼[bái yǎn]" means one looks at someone else contemptuously because of unhappiness. "硬着头皮[yìng zhe tóu pí]" means to manage with an effort. Actually, "红脸[hóng liǎn] (get angry with/being shy), 红眼[hóng yǎn](get angry with), 白眼[bái yǎn] (look at sb contemptuously)" are separable phrasal words, while "硬着头皮[yìng zhe tóu pí]" is not a consecutive phrase. "红[hóng](red), 白[bái](white), 硬[yìng](hard)" are considered as morphemes and cannot be regarded as verbs.

VIII. "肥[féi] (fat), 瘦[shòu] (thin), 苍白[cāng bái] (pale)"

"肥[féi] (fat), 瘦[shòu] (thin), 苍白[cāng bái](pale)"among certain expressions can be followed by objects, such as "肥了个人，瘦了国家[féi le ge rén, shòu le guó jiā](to maximize individual's interest but to minimize the nation's)" and "苍白了你的头发[cāng bái le tóu fa](get oneself consumed)", which is one kind of flexible usage and is supposed to be considered as a certain rhetorical phenomenon.

IX. "热心[rè xīn] (earnest)", "忠诚[zhōng chéng] (faithful)", "有利[yǒu lì] (beneficial)" can be followed by objects, such as "热心公益事业[rè xīn gōng yì shì yè] (be earnest to public welfare establishment)", "忠诚教育事业[zhōng chéng jiào yù shì yè] (be faithful to education career)" and "有利人民健康[yǒu lì rén mín jiàn kāng] (be beneficial to people's health, in which the preposition "于[yú] (to/at/for)" is omitted. Therefore, these words can be classified as adjectives.

There are 171 conversional words of adjectives and verbs, taking up 7% of adjectives in total.

1.5.2.3 The conversional situations between adjectives and nouns

Some words meet the criterion of classifying adjectives. They can be objects of "有[yǒu](have)" and other verbs of quasi-predicate objects, and they can be modified by nouns directly as well, such as "平衡[píng héng] (balanceable), 安静[ān jìng] (quiet), 苦恼[kǔ nǎo] (distressed), 痛苦[tòng kǔ] (painful), 努力[nǔ lì] (hard-working), 特殊[tè shū] (special), 疲劳[pí láo] (tired), 曲折[qū zhé] (tortuous), 遗憾[yí hàn] (regretful) and 幸福[xìng fú] (happy)". These words are considered to have the properties of nouns. Such words take up a small 5% of adjectives and are regarded as the conversional words of adjectives and nouns, according to the principle in Chapter Seven. Since words with the properties of verbs and nouns are classified into verbs, and adjectives and verbs belong to predicates, the words above are classified into adjectives according to the homo-type strategy.

In addition, words such as "困难[kùn nán](difficulty), 危险[wēi xiǎn](danger), 麻烦[má fan](trouble), 矛盾[máo dùn](contradiction), 耐心[nài xīn](patience), 热情[rè qíng](enthusiasm) and 秘密[mì mì](secret), 典型[diǎn xíng](representative)" in expressions such as "有不少困难[yǒu bù shǎo kùn nán](have many difficulties), 生命危险[shēng mìng wēi xiǎn](in danger of life), 有麻烦[yǒu má fan](have troubles), 主要矛盾[zhǔ yào máo dùn](principle contradiction), 有耐心[yǒu nài xīn](have patience), 热情高[rè qíng gāo](great enthusiasm), 保守秘密[bǎo shǒu mì mì](keep secret) and 树立典型[shù lì diǎn xíng](establish a representative)" present different parts of speech when being modified by "很[hěn](very)" or functioning as predicates. They belong to the words with different generalisation levels, so they are considered as the conversional words of adjectives and nouns.

There are 67 conversional words of adjectives and nouns, taking up 2.8% of adjectives in total.

1.5.2.4 The conversional situations between adjectives and adverbs and their distinctions

Words such as "认真[rèn zhēn](earnest), 完全[wán quán](complete), 仔细[zǐ xì](careful), 全面[quán miàn](overall), 疯狂[fēng kuáng](crazy), 简要[jiǎn yào](brief), 刻苦[kè kǔ](assiduous), 和睦[hé mù](harmonious), 充分[chōng fèn](sufficient), 光荣[guāng róng](honorable), 残酷[cán kù](cruel), 安全[ān quán](safe) and 坚决[jiān jué](resolute)" meet the criteria of classifying adjectives and can function as adverbials directly. These words take up 12% of adjectives in total. Among the 468 most commonly used adjectives, they take up a rather high percentage of 37%. Therefore, they are classified into adjectives instead of the conversional words of adjectives and adverbs, according to the homo-type strategy.

However, some words present different parts of speech when functioning as adverbials. For example:

(22) a 样子很特别[yàng zi hěn tè bié] (The appearance is particular.)
b 特别干净[tè bié gān jìng] (It is particularly clean.)

(23) a 说得很干脆[shuō de hěn gān cuì] (What is said is straightforward.)
b 干脆不去了[gān cuì bú qù le] (Simply don't go)

(24) a 这人很实在[zhè rén hěn shí zài] (This person is honest.)
b 实在不行[shí zài bù xíng] (It doesn't work indeed.)

(25) a 消息很确实[xiāo xi hěn què shí] (This news is quite true.)
b 确实来了[què shí lái le] (It comes up truly.)

(26) a 说的很绝对[shuō de hěn jué duì] (What is said is definite.)
b 绝对没问题[jué duì méi wèn tí] (There is no problem definitely.)

The words in the above examples belong to the words with different generalisation levels and are classified into the conversional words of adjectives and adverbs.

There are 38 conversional words of adjectives and adverbs, taking up 1.6% of adjectives in total.

1.5.2.5 The distinctions between adjectives and distinctive words

Many grammatical books used to consider attributes and predicates as the main grammatical functions of adjectives. Therefore, words such as "干净[gān jìng](clean), 认真[rèn zhēn](earnest) and 漂亮[piào liang](beautiful)", which could be modified by "很[hěn](very)" but didn't fit in "很[hěn] (very) ～<宾(object)>", were classified into adjectives, including words such as "急性[jí xìng](acute), 公共[gōng gòng](public) and 日常[rì cháng](daily)", which could only function as attributes. However, if one is simply considering the condition of being modified by "很[hěn](very)", these two groups of words above can embody the great differences in grammatical properties. For example, they can also function as predicates, be followed by complements or be modified by "不[bù](not)" or other adverbials, and even some of them can function as complements and fit in the overlapping structure of AABB. In other words, "很[hěn] (very) ～" and the grammatical functions mentioned above share compatibility to very high degree. The following displays the degrees of compatibility between "很[hěn] (very) ～" and some of the grammatical functions.

很[hěn] (very)～/<谓语(predicate)>：99.3%;
很[hěn] (very)～/不[bù] (not)～：98.3%
很[hěn](very)～/～<补语(complement)>：83.4%;
很[hěn](very)～/<补语(complement)>：88.4%

If they are not being modified by "很[hěn] (very)", except for several words modified by "最[zuì](most/-est)", such as "最基本[zuì jī běn](most basic), 最亲爱[zuì qīn ài](dearest), 最根本[zuì gēn běn](most essential) and 最主要[zuì zhǔ yào](most primary)", they don't embody other grammatical functions, which indicates that "很[hěn] (very) ～" can represent the grammatical properties of adjectives and reflect the contradiction between adjectives and distinctive words. The basic reason is that the distinction of degree property and non-degree property is the distinction of distinctive words. The distinctive words of degree property are coded

as predicates and those of the non-degree property as modifiers (see 3.2.3). Therefore, some of the words modified by "很[hěn] (very)" are classified into adjectives, while some not modified by "很(very)" are classified into distinctive words.

Another group on the degrees of compatibility is as follows:

很[hěn] (very)～/<定语(attributive)>：3%;
<定语(attributive)>/很[hěn] (very)～：2.9%

The degrees of compatibility in this group are far lower than those in the above two groups. More percentage data will be discussed in Table 2.1. For example, among some adjectives frequently used, there are 61% functioning as attributes directly; among those adjectives not frequently used, there are only 9% functioning as attributes directly. Therefore, the foundational function of adjectives is the conversional function instead of being attributes. These words mentioned above have the properties of distinctive words, but they are classified into adjectives according to the homo-type strategy.

1.5.2.6 The common functions of adjectives and their other characteristics

1 99.7% of adjectives can function as predicates.
2 98% of adjectives can be modified by absolute degree adverbs, such as "很[hěn] (very)" as a typical representative.
3 94% of adjectives can be negated by "不[bù](not)", but, comparatively speaking, the number of adjectives negated by "没(有)[méi yǒu](no)" is less.
4 97% of adjectives can be modified by other adverbials.
5 83% of adjectives can be followed by complements.
6 69% of adjectives can function as complements, 67% of which can function as compound complements and 8% of which as conglutinate complements.
7 Only ten adjectives can be followed by objects of notional reference, with quasi-objects on quantity generally indicating the meanings of comparison and occurrence, such as "高他一头[gāo tā yī tóu](a head taller than him)" and "大我一岁[dà wǒ yī suì](one year older than me)". These objects of notional reference are much restricted in use, and they are categorised as quasi-objects. This phenomenon reflects a kind of unconventional collocation.
8 72% of adjectives can be followed by auxiliary words of "了[le]" or "着[zhe], 过[guò] ", among which few of them can be followed by "着[zhe]".
9 93% of adjectives can function as subjects and objects, which happens in two situations, similar to those verbs functioning as subjects and objects. One is that adjectives still keep their own properties when they are in the positions of subjects and objects. For example:

(27) a 认真不好[rèn zhēn bù hǎo] (Being serious is not good.)
b 不认真不好[bù rèn zhēn bù hǎo] (Not being serious is not good.)

c 太认真不好[tài rèn zhēn bù hǎo] (Being too serious is not good.)
d 办事认真不好[bàn shì rèn zhēn bù hǎo] (Being serious in working is not good.)

Two is that adjectives embody the properties of nouns when functioning as subjects and objects. For example:

(28) a 追求幸福 [zhuī qiú xìng fú] (pursuing being happy/happiness.)
b *追求很幸福[zhuī qiú hěn xìng fú] (pursuing is very happy.)
c 追求自己的幸福[zhuī qiú zì jǐ de xìng fú] (pursuing happiness of oneself.)

(29) a 保持平衡 [bǎo chí píng héng] (keep balanced/balance.)
b *保持很平衡 [bǎo chí hěn píng héng] (keep balanced well.)
c 保持身体的平衡[bǎo chí shēn tǐ de píng héng] (keep one's balance.)

In the second situation, the adjectives are still classified into the category of adjectives instead of conversional words, namely as "noun-adjectives".

10 32% of adjectives can be modified by attributes, which also happens in two situations. One is that the adjectives still keep their own properties when modified by the attributes with "的(of)". For example:

(30) a 形势的稳定有利于经济发展[xíng shì de wěn dìng yǒu lì yú jīng jì fā zhǎn]
(The stable situation benefits economic development.)
b 形势的不稳定不利于经济发展[xíng shì de bù wěn dìng bù lì yú jīng jì fā zhǎn]
(The unstable situation goes against economic development.)
c 形势的迅速稳定有利于经济发展[xíng shì de xùn sù wěn dìng yǒu lì yú jīng jì fā zhǎn]
(The rapidly stabilising situation benefits economic development.)

Two is that adjectives (0.43%) embody their properties of nouns only when modified by attributes, such as 经济困难[jīng jì kùn nán] (Economy is worse. and 生命危险[shēng mìng wēi xiǎn] (Life is in danger).

All the adjectives in the second situation are "noun-adjectives".

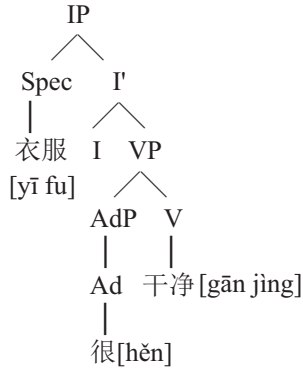
11 Many adjectives can function as attributes, but their total number is far less than that expected in the past, only taking up 29% of adjectives in total. The first function of adjectives was considered as being attribute in the past. Nowadays, adjectives in Chinese are regarded as predicates,[6] and they reflect their properties of distinctive words when they function as attributes directly. However, they are not classified into conversional words just because of the homo-type strategy. (See Chapter 7 in *Modern Chinese Parts of Speech: Classification Theory*, and 1.5.2.5.)

An adjective has a predicate property as a predicative constituent; it has the property of a distinctive word as an attribute. In the structure analysis of

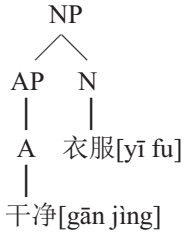
generative grammar, it is classified as the conversional word of predicates and distinctive words. For example:

(31) a 衣服很干净。(谓词)[yī fu hěn gān jìng] (“干净” is a predicate.)

(The cloth is very clean)



b 干净衣服[gān jìng yī fu]



12 12% of adjectives can function as adverbials directly. For those that cannot function as adverbials unless being followed by “地[de]” similar to “-ly” in English, they take up 40% of adjectives. Since 12% is not very high, it is properly possible to classify these adjectives as conversional words of adjectives and adverbials.

13 2.73% of adjectives are separable phrasal words which only fit in the verb-object structure, such as “吃惊[chī jīng](surprise)—吃了一惊[chī le yī jīng](surprise)” and “称心[chèn xīn](satisfied)—称他的心[chèn tā de xīn](satisfied)”.

14 15% of adjectives fit in overlapping structures, such as AA for monosyllabic adjectives (红红[hóng hóng](red), 胖胖[pàng pàng](fat)) and AABB for disyllabic adjectives (干干净净[gān gān jìng jìng](clean), 大大方方[dà dà fāng fāng](generous), 端端正正[duān duān zhèng zhèng](straight)). AA demands “的[de](of)” after adjectives, while AABB is flexible for such a demand. No matter what, they are just a kind of word formation, and they don’t share an identity with their original forms. These overlapping structures

are different from grammatical functions of adjectives. AA can be divided into two cases, such as "慢慢[màn màn](slowly), 好好[hǎo hǎo](well), 大大[dà dà](largely)" as adverbs and "胖胖[pàng pàng](fat), 瘦瘦[shòu shòu](thin), 绿绿[lǜ lǜ](green)", which cannot be regarded as certain types of words. Monosyllabic adjectives can be changed into state words when followed by "的[de]$_2$(of)", while disyllabic adjectives in AABB can be regarded as state words directly without adding anything. As for state words, more discussions will be done in 1.5.3.

0.1% of disyllabic adjectives fit in ABAB, such as "暖和暖和[nuǎn huó nuǎn huó](warm), 轻松轻松[qīng sōng qīng sōng](relaxed), 热闹热闹[rè nao rè nao](boisterous) and 高兴高兴[gāo xìng gāo xìng](happy)", which is as the same as AABB. Actually, the adjectives in such overlapping structures have already changed their meanings compared with those of their original forms. Therefore, they can be treated as the words with different generalisation levels and classified into verbs. And, "暖和[nuǎn huó](warm), 轻松[qīng sōng](relaxed) and 热闹[rè nao](boisterous)" are supposed to be considered as the conversional words of adjectives and verbs.

1.5.3 State words

In the sense of meaning, state words describe certain states whose basic function is to be predicates and complements, and they belong to a kind of predicative part of speech.

1.5.3.1 The criterion of classifying state words

The criterion of classifying state words is (<组合式补语(complement of compound form)>｜(<谓(predicate)>∧* (<主(subject)>|<宾(object)>)))∧* (<动词(verb)｜形容词(adjective)>). Except for those classified into predicates, the rest which cannot be classified into verbs or adjectives belong to state words.

The words functioning as complements can be classified into predicates; besides predicates, there are some nominals that can function as predicates as well. In addition, nominals can also function as subjects and objects. Therefore, those words that satisfy "<组合式补语(complement of compound form)>｜(<谓(predicate)>∧*(<主(subject)>｜<宾(object)>)) should be predicates, and the rest which cannot be classified into verbs or adjectives should be state words. A more exact criterion of classifying state words is as follows:

(<组合式补语(complementofcompoundform))>｜(<谓(predicate)>∧*(<主(subject)>｜<宾(object)>))) ∧* (不(not)～｜很(very)～|～ <宾(object)>｜～<补(complement)>｜<黏合式补语(complement of bound form)>｜所～)

Generally speaking in the sense of meaning, state words are of significance of degree, which is different from adjectives.

Among 43,330 words, there are 395 state words, taking up 0.9% in total.

1.5.3.2 The function of state words

1 50% of state words can function as compound complements. State words cannot function as conglutinate complements, which is regarded as an obvious difference between verbs and adjectives.
2 86% of state words can function as predicates.
3 15% of state words can function as adverbials.
4 4% of state words can function as attributes directly.

1.5.3.3 Other situations and state words

State words can be further divided into the following sub-categories, due to their divergence inside.

A (1) 胖胖的[pàng pàng de](fat), 红红的[hóng hóng de](red), 甜甜的[tián tián de](sweet), 干干净净[gān gān jìng jìng](clean), 大大方方[dà dà fāng fāng](generous), 端端正正[duān duān zhèng zhèng](straight)
(Note: A is entirely overlapped, such as "AA" and "AABB")

马里马虎[mǎ lǐ mǎ hu](careless), 流里流气[líu lǐ líu qì](rascally), 稀里糊涂[xī lǐ hú tú](muddleheaded)
(Note: A is not completely overlapped, such as "A in AB")

黑咕隆咚[hēi gu lōng dōng](pitch-dark), 黄不拉唧[huáng bù lā jī](unpleasant yellow), 黑不溜秋[hēi bu liū qiū](unpleasant black)
(Note: A + BCD)

甜丝丝[tián sī sī](pleasant sweet), 皱巴巴[zhòu bā bā](wrinkled), 绿油油[lǜ yóu yóu](shiny green), 顶呱呱[dǐng guā guā] (tip-top)
(Note: A + BB)

A (2) 丁丁当当[dīng dīng dāng dāng](jingle-jangle), 滴滴答答[dī dī dā dā](tick-tack), 吱吱呀呀[zhī zhī yā yā](squeak)
(Note: AABB)

叽里咕噜[ji li gu lu](gabble), 稀里哗啦[xi li huā lā](rustling), 丁零当啷[dīng ling dāng lāng](jingle-jangle)
(Note: ABCD)

扑通扑通[pū tōng pū tōng](splash), 丁当丁当[dīng dāng dīng dāng](jingle-jangle), 哗啦哗啦[huā lā huā lā](clatter)
(Note: ABAB)

The sub-category A is followed by "的[de]$_2$ (of)", which can be further divided into A(1) and A(2). A(1) consists of the overlapping structures of adjectives and the varied forms of theirs, including some other original forms unidentified in other categories, such as "疙疙瘩瘩[gē ge dā dā](rough), 磨磨蹭蹭[mó mó cèng cèng](dawdle), 比比划划[bǐ bǐ hua hua](gesticulate), 哩哩啦啦[lī li lā lā](scattered) and堂堂正正[táng táng zhèng zhèng](upright)". The state words in A(1) mainly function as predicates, complements and also as adverbials and attributes.

A(2) contains some words depicting sounds as onomatopoeic words in the past. However, their grammatical functions are different from those of ordinary

onomatopoeic words, only functioning as modifiers or independent constituents, such as "咚[dōng](rub-a-dub), 哗啦[huā lā](clatter), 当当[dāng dāng](bong)". The state words in A(2) can function as predicates or complements and be followed by "的[de]$_2$ (of)", satisfying the criterion of classifying state words. Besides, A(1) and A(2) have a common word formation, and, therefore, the words in A(2) should be classified into state words.

State words are closely related to the onomatopoetic constituents. In "A+BCD", "BCD" as the trisyllabic attachment is actually the onomatopoetic constituent which is expanded by disyllabic onomatopoetic constituent, such as "-咕隆咚[gu lōng dōng] from隆咚[lōng dōng]". In "A+BB", "BB" as an attached constituent is also an onomatopoetic constituent, such as "顶呱呱[dǐng guā guā]". The reason for onomatopoetic constituents appearing in state words is that "synaesthesia" helps people to experience related senses, such as sight, smell, taste, touch, body feeling, through hearing and images, so as to finish the state description. For instance, the sound of "咕隆咚[gu lōng dōng]" is matched with黑[hēi] (dark), which causes one to imagine a stone falling in a deep cave to reach the "dark" state in a visual image. Also, "飕飕 [sōu sōu] (whiz)" is the onomatopoetic constituent of imitating the sound of wind, which can make people feel "cool". In the Altaic languages such as Japanese, Korean and Mongolian, the onomatopoetic constituent can be used simply to describe a certain state. For example:

(32) 喉がからからだ。
Nodo-ga karakara-da.
throat-nominative case: the throat is very dry.

(33) 財布がからからだ。
Saihu-ga karakara-da.
purse- nominative case: the purse is empty.

"からから(karakara" is an onomatopoetic word for the sound of dead wood friction. It is uses to indicate the states of a dry throat and an empty purse.

B 雪白[xuě bái](snow-white), 通红[tōng góng](very red), 稀烂[xī làn](pulpy), 笔直[bǐ zhí](upright), 飞快[fēi kuài](very fast), 精光[jīng guāng](with nothing left), 崭新[zhǎn xīn](brand new), 冰凉[bīng liáng](ice-cold), 死沉[sǐ chén](very heavy), 烂熟[làn shóu](thoroughly cooked)

Such state words are disyllabic and mainly function as compound complements. Some of them can function as predicates but cannot function as attributes or adverbials directly, only if they are being followed by "的$_3$(of)/地[de](的$_1$(of))"but not "的$_2$ (of)". Most of ABAB can be followed by "的$_2$(of)", such as "雪白雪白的[xuě bái xuě bái de](snow-white), 笔直笔直的[bǐ zhí bǐ zhí de](upright), 死沉死沉的[sǐ chén sǐ chén de](very heavy)". For the aspect of word formation, they are characterised by "X + morpheme of monosyllabic adjective", and all "X" are the comparison constituents.

C 巨大[jù dà](giant), 繁多[fán duō](various), 大好[dà hǎo](excellent), 严寒[yán hán](severe cold), 酷热[kù rè](extremely hot), 众多[zhòng duò](numerous), 广大[guǎng dà](vast)

Such state words usually function as predicates in the four-character form, such as "数额巨大[shù é jù dà](a huge amount of), 品种繁多[pǐn zhǒng fán duō](a great variety of)". They also can function as attributes but not adverbials. They are also characterised by "X + morpheme of monosyllabic adjective" in the word formation, and "X" is the degree constituent but not the comparison constituent. Such state words cannot be followed by "的$_2$(of)" nor have overlapping forms.

D 灰白[huī bái](ashen), 瘦长[shòu cháng](lanky), 细长[xì cháng](gracile), 矮胖[ǎi pàng](dumpy), 优良[yōu liáng](fine), 花白[huā bái](grey), 干瘦[gān shòu](skinny), 干冷[gòn shòu](dry and cold)

Such state words can function as predicates and as attributes directly. Since they cannot be modified by "不[bù](not)"nor "很[hěn](very)", they are classified into state words. In the word formation, the roots of two adjectives are in parallel, while the whole word meaning comes from the combination of these two root meanings. Such state words cannot be followed by "的[de]$_2$(of)", either. They can have their own ABAB followed by "的[de]$_2$(of)", such as "灰白灰白的[huī bái huī bái de](grey), 矮胖矮胖的[ǎi pàng ǎi pàng de](dumpy) or 干瘦干瘦的[gān shòu gān shòu de](skinny)".

E 闪闪[shǎn shǎn](sparkling), 皑皑(ái ái)(white), 悠悠[yōu yōu](long), 滔滔[tāo tāo](surging), 潺潺[chán chán](babbling) (AA)
旖旎[yǐ nǐ](graceful), 滂沱[pāng tuó](torrential), 婆娑[pó suō](whirling), 逶迤[wēi yí](winding), 绰约[chuò yuē](graceful)(AB)

Such state words are the remaining state words of classical Chinese in two forms of AA and AB. They can usually function as predicates and as attributes directly. Several of them can also function as adverbials but not as complements; nor can they be followed by "的[de]$_2$(of)".

1.5.3.4 The property of "的$_2$ [de] $_2$" and the function of "的$_2$ [de] $_2$"

Three types of state words can be followed by "的$_2$ [de] $_2$ " as suffix (Zhu Dexi, 1961). They are Type A, such as "干干净净[gān gān jìng jìng](clean), 红红[hóng hóng](red) and 甜丝丝[tián sī sī](sweet)"; Type B in the overlapped form of ABAB, such as "雪白雪白的[xuě bái xuě bái de](snow-white) and 通红通红[tōng gong tōng góng](very red)"; and Type D in the overlapped form of ABAB, such as "花白花白[huā bái huā bái](grey) and 瘦长瘦长[shòu cháng shòu cháng](lanky) ". The constituents with other word properties can gain the same property as state words through being attached to "的$_2$ [de] $_2$", such as "挺干净的[tǐng gān jìng de] (rather clean), 蛮有意思的[mán yǒu yì si de] (rather interesting) and 你一言我一语" [nǐ yī yán wǒ yī yǔ](A conversation goes on with everybody joining in.)".

1.6 Nominal

1.6.1 Quantifier

In the sense of grammar, quantifiers represent units, degrees and number units in measurements.

A quantifier itself does not contain the meaning of a quantity, but, when combined with numerals to form numeral-quantifier phrases, they can indicate quantity. Due to this, it is more precise to take quantifiers as "unit words".

Quantifiers can be divided into four categories: noun quantifier (one, catty, some), behavior quantifier (time, turn, trip), time quantifier (day, year, later) and autonomous quantifiers (points, times and sections).

1.6.1.1 The criterion of classifying quantifiers

The criterion of classifying quantifiers is ((一[yī](one/a)|几[jǐ] (several))～)∧*<主(subject)>. "一[yī] (one/a)|几[jǐ](several)～" in the criterion means "一[yī] (one/a)" and "几[jǐ] (several)" as the representatives of quantifiers can function as modifiers; "*<主(subject)>" is added to exclude those nouns modified by quantifiers and digital words[7] (1.6.3.2).

From the aspect of grammatical significance, quantifiers are the unit of measurement or the unit of degree or number. They don't embody the meanings of numbers unless they are being combined with concrete numerals. In other words, a numeral-quantifier phrase can indicate a certain quantity, so "unit words" seems to be more exact for quantifiers.

Among 43,333 words, there are 259 quantifiers, taking up 0.6% in total.

1.6.1.2 The functions of quantifiers

The functions of quantifiers are as follows:

1 Quantifiers can be modified by numerals or numeral phrases, which is the most important function they have. When "一[yī](one/a)" is not the focus of information and the"一[yī] (one/a)+noun" structure is in the position of an object or after a demonstrative, "一[yī] (one/a)" is often omitted. For example:

(1) 买(一)瓶汽水[mǎi yī píng qì shuǐ]
(to buy a bottle of soda water)

(2) 前面来了(一)个老太太 [qián miàn lái le yī gè lǎo tài tài]
(Here comes an older woman.)

(3) 每(一)张纸[měi yī zhāng zhǐ]
(every piece of paper)

(4) 这(一)些东西[zhè yī xīe dōng xi]
(these things)

(5) 某(一)个领导[mǒu yī gè lǐng dǎo]
(certain leader)

When "一[yī](one/a)" does actually mean a concrete number, it cannon be omitted. For example:

(6) a 只用买一瓶汽水，两瓶喝不了。 [zhǐ yòng mǎi yī píng qì shuǐ, liǎng píng hē bù liǎo]
(Simply to buy one bottle of soda water for two is too many.)

b *只用买瓶汽水，两瓶喝不了。[zhǐ yòng mǎi píng qì shuǐ, liǎng píng hē bù liǎo]
(Simply to buy *bottle of soda water for two is too many.)

2 Seemingly, demonstratives can modify quantifiers directly, such as "这种[zhè zhǒng](this kind)", "每张[měi zhāng](every page)" and "某个[mǒu gè](certain)", but actually, a numeral "一[yī]" in the middle of each in the above examples is often omitted, and, in such a case, the omitted part only indicates "one/a" instead of "two" or "three". For example, "这种[zhè zhǒng](this kind)" means this one kind instead of "these two or three kinds", and "每张[měi zhāng](every page)" means every piece of page instead of "these two or three pages".

3 An individual quantifier cannot function as a subject or as an object, except in the following situations.

A being the object of "论[lùn](in terms of) ", such as "论斤还是论两[lùn jīn hái shì lùn liǎng](in terms of Jin or Liang?)"
B being the object in the forms of "把[bǎ]～换算[huàn suàn](变)成[biàn chéng]～(convert～into～)" and "由[yóu]～换算[huàn suàn](变)成[biàn chéng]～(change～into～)", such as "把斤换算成两[bǎ jīn huàn suàn chéng liǎng](convert Jin into Liang)", "把单位由公斤变成克[bǎ dān wèi yóu gōng jīn biàn chéng kè](change unit from kilo into gram)".
C being the object in the forms of "用[yòng]～(来[lái])计算[jìsuàn] (to count in terms of ～)", such as "用公斤计算[yòng gōng jīn jì suàn] (to count in terms of kilo)" and "用小时来计算[yòng xiǎo shí lái jì suàn] (to count in terms of hour)"

Quantifiers cannot function as subjects, which can be used to distinguish quantifiers from those nouns modified by numerals.

4 Quantifiers cannot be modified by numeral-quantifier phrases anymore. "小时[xiǎo shí](hour)", "立方[lì fāng](cube)" in "一个小时[yī gè xiǎo shí](an hour)" and "三个立方[sān gè lì fāng](three cubes)" should be regarded as nouns. "小时[xiǎo shí] (hour)" and "立方[lì fāng](cube)"can also be modified by "一[yī](one/a)", "两[liǎng](two)" or "几[jǐ](several)". Therefore, they are classified into conversional words of nouns and quantifiers, according to the hetero-type strategy.

5 Some quantifiers can be modified by a few of adjectives, such as "大[dà](big)", "小[xiǎo](small)", "满[mǎn](full)", "整[zhěng](whole)", "长[cháng](long)", "厚[hòu](thick)" and "薄[báo](thin)", most of which are mainly the quantifiers for capacity, formation, collection, individual, action measurement and time measurement, such as "一大张[yī dà zhāng](a large piece of)", "两小杯[liǎng xiǎo bēi](two small cups of)", "一满盆[yī mǎn pén](a full basin of)", "一小块[yī xiǎo kuài](a small patch of)", "一大团[yī dà tuán](a big glob of)", "一薄片[yī báo piàn](a thin slice of)", "一大群[yī dà qún](a big group of)", "一小批[yī xiǎo pī](a small batch of)", "一厚本[yī hòu běn]

(a thick pile of)", "一长列[yī cháng liè](a long series of)", "(吓我[xià wǒ]) 一大跳[yī dà tiào](give me a big surprise)", "(转了[zhuàn le]) 一大圈[yī dà quān](turn a big circle)", "一整天[yī zhěng tiān](a whole day)" and "一整夜[yī zhěng yè](a whole night)" (Lu Jianming, 1987).

6 56% of quantifiers can be in the overlapping form of AA. Those in AA form are monosyllabic, which doesn't mean all monosyllabic quantifiers can be in AA. There are 81.62% of monosyllabic quantifiers that can be in AA. When quantifiers are overlapped, their functions are different from those of their individuals but are similar to the functions of related numeral-quantifiers phrases. They can function as attributes and subjects, and some of them can be adverbials. Some pairs of comparative examples are as follows:

(7) 九条大路[jiǔ tiáo dà lù](nine avenues)
条条大路[tiáo tiáo dà lù](every avenue)

(8) 十朵葵花[shí duǒ kuí huā](ten sunflowers)
朵朵葵花[duǒ duǒ kuí huā](every sunflower)

(9) 八个都是好汉[bā gè dōu shì hǎo hàn](eight heroes)
个个都是好汉[gè gè dōu shì hǎo hàn](every hero)

(10) 三次去他家都没找着他[sān cì qù tā jiā dōu méi zhǎo dào tā](I didn't find him when I visited him three times.)
次次去他家都没找着他[cì cì qù tā jiā dōu méi zhǎo dào tā] (I cannot find him when I visit him every time.)

When quantifiers in the overlapping form are in the position of subjects as centres or attributes or when they are in the position of adverbials, their meanings are random. These will be lost when they are in the position of objects or are after demonstratives. For example:

(11) 那朵朵白云仿佛变成了条条的小手絹。[nà duǒ duǒ bái yún fǎng fú biàn chéng le tiáo tiáo de xiǎo shǒu juàn]
(Every white cloud looks like a handkerchief.)

(12) 枝叶被丝丝细雨越浇越青翠。[zhī yè bèi sī sī xì yǔ yuè jiāo yuè qīng cuì]
(Leaves are turned green by drizzling.)

Similar to numeral-quantifier phrases, the quantifiers in the overlapping form can not only indicate the significance of the unit but also the significance of the quantity in the sense of meaning, which embodies their property of being quantified.

Generally speaking, quantifiers in the overlapping form cannot be modified by numerals anymore, except for "一(one/a)". For example:

(13) 一棵棵古松[yī kç kç gǔ sông](every old pine)
一团团洁白的雪[yī tuán tuán jié bái de xuì](every pile of pure, white snow)
一朵朵固体的白云[yī duǒ duǒ gù tǐ de bái yún](every solidified cloud)

Therefore, quantifiers in the overlapping form still keep this distinctive feature of being modified by "一[yī](one/a)" without changing their

properties of quantifiers, even though they are greatly different from their original forms in terms of grammatical function. Such quantifiers in the overlapping forms are named as "overlapped quantifiers".

1.6.1.3 Sub-categories of quantifiers

Quantifier can be divided into the following sub-categories.

A. Noun quantifiers

Noun quantifiers refer to measurement units. The combination of noun quantifiers and numerals can modify nominal constituents, such as "一本书[yī běn shū](a book)", "三斤苹果[sān jīn píng guǒ](three catties of apple)" and "一些钱[yī xiē qián](some money)", and function as objects of verbs as well, such as "买一个[mǎi yī gè](to buy one)" and "看两本[kàn liǎng běn] (read two books)". This is the use of transferred reference. Sometimes, quantifiers can function as predicates, such as "这只羊五十斤[zhè zhī yang wǔ shí jīn] (this sheep is 50 pounds)". Only a small number of them can function as quasi-objects after verbs and adjectives. For example:

(14) 比他矮一寸[bǐ tâ ǎi yî cùn]
(one cun shorter than him)

(15) 增加十斤[zçng jiâ shí jîn]
(to increase ten jin)

(16) 高一些[gâo yî xiç]
(a bit higher)

(17) 下降了一点儿 [xià jiàng le yî diǎn ìr]
(to decrease a bit)

Noun quantifiers can be further divided into sub-categories based on their meanings.

I Individual quantifiers: They are the measurement units for objects to be measured in an individual status, such as "个[gè]", "只[zhî]", "位[wèi]", "本[bìn]", "支[zhî]" and "辆[liàng]".
II Collective quantifiers: They are the measurement units for objects to be measured in a collective status, such as "双[shuâng]", "对[duì]", "副[fù]", "批[pî]", "伙[huǒ]", "套[tào]" and "群[qún]".
III Appointed quantifiers: They are the measurement units appointed for objects to be measured from different perspectives, such as "笔[bǐ](一～债[zhài](a debt))", "份[fèn] (一[yî]～礼[lǐ](a gift))", "剂[jì](一[yî]～药[yào](a dose of medicine))", "支[zhî](一～军队[jûn duì](an army))", "宗[zông](一[yî]～交易[jiâo yì](a deal))", "桩[zhuâng] (一[yî]～买卖[mǎi mài](a business))", "套[tào] (一[yî]～把戏[bǎ xì](a game))", "手[shǒu] (一[yî]～本领[bìn lǐng](a skill))" and "项[xiàng](三[sân]～比赛[bǐ sài](three matches))".

IV Measurement quantifiers: They are the artificial but precise measurement units for objects of abstract concepts in terms of "长度[cháng dù](length)", "面积[miàn jî](area)", "体积[tǐ jî](volume)", "容积[róng jî](cubage)", "重量[zhòng liàng](weight)", "频率[pín lǜ](frequency)", "币值[bì zhí](currency value)", such as "尺(chǐ)", "亩(mǔ)", "立方[lì fâng](cube)", "升[shçng](litre)", "斤[jîn](jin)", "赫兹[hè zî](hertz)", "圆[yuán](circle)", "伏特[fú tè](volt)" and "安培[ân péi](ampere)". Some measurement quantifiers, if modified by numerals, cannot be followed by nouns directly but can be used alone, such as "码[mă](yardage)", "海里[hăi lǐ](nautical mile)" and "伏安[fú ân](volt-ampere)".

V Shape quantifiers: They are the measurement units based on the shapes of objects to be measured, some of which don't exist in individual status, and some of which do but cannot usually be measured individually, such as "团[tuán](a ball of)", "块[kuài](一[yî]～土[tǔ](a piece of earth)", "片[piàn](一[yî]～西瓜[xî guâ](a slice of watermelon)", "摊[tân](a pool of)", "滴[dî](a drop of)", "股[gǔ](a stand of)", "堆[duî](a pile of)", "层[céng] (a layer of)", "串[chuàn](a string of)", "节[jié](a length of)", "绺[liǔ](a skein of)", "卷[juàn，juǎn](a roll of)", "捆[kǔn](a bundle of)", "缕[lǚ](a wisp of)", "排[pái](a row of)", "丝[sî](a trace of)" and "条[tiáo](a strip of)".

VI Capacity quantifiers: They are the measurement units for objects to be measured based on their containers or containers' capacity, including type A, such as "杯[bçi](cup)", "箱[xiâng](box)", "瓶[píng](bottle)", "袋[dài](bag)", "盘[pán](plate)", "盆[pén](basin)", "把[bă](bundle)", "捧[pìng](handful)", "担[dân，dàn](bucket)", "挑[tiâo](basket)" and "包[bâo](bale)", and type B, such as "身[shçn](body)(一[yî]～土[tǔ](a whole body in the dust))", "口[kǒu](mouthful)(一[yî]～白牙[bái yá](a mouthful of white teeth))" and "地[dì] (ground)(一[yî]～水[shuǐ](a pool of water on the ground))". The quantifiers in type B can also be named as "full capacity quantifiers" and can only be modified by "一[yî] (one/a)", indicating a situation or condition of "fullness".

VII Partial quantifiers: They take a certain part of a whole entity as measurement unit, such as "部分[bù fen](part)", "半[bàn](half)", "段[duàn](paragraph)(一[yî]～文章[wén zhâng](a paragraph of a text)", "截[jié](section)" and "成[chéng](one-tenth)".

VIII Category quantifiers: They regard category as the measurement unit, such as "种[zhǒng](kind)", "类[lèi](type)" and "样[yàng](kind)".

IX Process quantifiers: They represent a certain process for the objects to be measured, such as "场[chăng](一[yî]～电 影[diàn yǐng](a film show)", "顿[dùn] (一[yî]～饭[fàn](a meal))", "次[cì] (一[yî]～地震[dì zhèn](an earthquake))", "盘[pán](一[yî]～棋[qí](a game of cheese))", "圈[quân](两[liăng]～麻将[má jiàng](two rounds of Marjiang)", "任[rèn](三[sân]～总统[zǒng tǒng](three presidents))" and "出[chû](一[yî]～戏[xì](a show of opera))".

X Serial number quantifiers: They are degrees or number units, such as "等[dìng](class)", "级[jí](degree)" and "号[hào](number)".

XI Unidentified quantifiers: They indicate an unidentified quantity as a measurement unit. There are only two such quantifiers, namely "些[xiç](some)" and "点儿[diǎn ér](little/few)". "些[xiç](some)" can be modified by "一[yî](one/a)" (often omitted). "点儿[diǎn ér](little/few)" refers to a small quantity, as does "些[xiç](some)". However, "些[xiç](some)" can also be used to indicate a large quantity actually after demonstrative pronouns. For example:

(18) 峨眉山上猴子很多，这些猴子经常跟游人要东西吃。[é méi shân shàng hóu zi hìn duô, zhè xiç hóu zi jîng cháng gçn yóu rén yào dông xi chî.] (There are many monkeys on Mount Emei. These monkeys often beg for foods from tourists.)

Besides the sub-categories of noun quantifiers in the above, other noun quantifiers cannot be classified, such as "站[zhàn](stop)" in "三[sân]～路[lù](three stops)".

The examples mentioned above are all professional noun quantifiers. There are some nouns with the properties of quantifiers that are classified into nouns instead of noun quantifiers based on the homo-type strategy. Such nouns mainly indicate the functions of load bearing for the objects to be measured. Their properties are displayed in two situations, one of which is to be showed as capacity quantifiers, such as "一桶水[yī tǒng shuǐ](a pail of water)", "两碗饭[liǎng wǎn fàn](two bowls of rice)", "三车煤[sān chē méi](three trucks of coal)", "一瓶子酱油[yī píng zi jiàng yóu] (a bottle of soybean sauce)" and "两书架书[liǎng shū jià shū](two bookshelves of books)", and the other of which is to be full capacity quantifiers, such as "一头白发[yī tóu bái fà](a head covered with gray hair)", "一脸汗[yī liǎn hàn](a face bathed in sweat)", "一院子人[yī yuàn zi rén] (a yard full of people)" and "一桌子灰[yī zhuō zi huī](a table covered with dust)". There is a condition for their use: They are limited to be the nouns for something, especially like containers. Therefore, these nouns are temporarily used as quantifiers, usually named as borrowed quantifiers or temporary quantifiers.

B. Verbal quantifiers

Verbal quantifiers are the measurement units for actions. The combination of verbal quantifiers and numerals can function as a quasi-object after verbs and adjectives, such as "打一下[dǎ yī xià] (give a hit)", "看一遍[kàn yī biàn] (look over)", "去一次[qù yī cì] (go for once)" and "咬一口[yǎo yī kǒu] (give a bite)". Sometimes, they can function as adverbials when they are in front of verbal constituents, such as "一次也没去[yī cì yě méi qù](never go for once)", "一遍也没看[yī biàn yě méi kàn](never to have a look)" and "曾经三次戒烟[céng jīng sān cì jiè yān](quit smoking for three times)". Verbal quantifiers that are commonly used are as follows:

"下[xià]", "遍[biàn], "趟[tàng]", "回[huí]", "声[shēng]", "次[cì]", "拳[quán]", "眼[yǎn]", "口[kǒu]", "番[fān]".

In addition, some nouns and verbs are still classified into nouns and verbs, respectively, instead of conversional words based on the homo-type strategy, although they still have the functions of verbal measurement quantifiers. For example:

(19) 放一炮[fàng yî pào](fire a gun)
砍两刀[kǎn liǎng dâo](make two chops)
踢几脚[tî jǐ jiǎo](make several kicks)

The nouns in the above examples embody the functions of quantifiers and usually refer to the tools of acts. As "nominal constituents", "拳[quán]", "眼[yǎn]" and "口[kǒu]" are used as morphemes only; if they are used as words, they are supposed to be quantifiers only, instead of nouns with the functions of verbal quantifiers.

(20) 看一看[kàn yî kàn](look) 想一想[xiǎng yî xiǎng](think)
拍一拍[pâi yî pâi](pat) 踩一踩[cǎi yî cǎi](stamp)

In the above example, verbs repeated a second time are used as measurement units. Similar cases used to be popular in the inscriptions on bones or tortoise shells in the Shang Dynasty and the inscriptions on ancient bronze objects in the Western Zhou Dynasty. A similar phenomenon still exists in the Sino-Tibetan languages. Nowadays, it only exists among monosyllabic verbs, and simply "一[yî](one/a)" can be used in the middle.

C. Time quantifiers

Time quantifiers are the measurement units for time. The combination of time quantifiers and numerals can function as a quasi-object after verbs and adjectives, indicating the length of time or modifying nominal constituents sometimes. For example:

(21) 坐三天[zuò sân tiân](sitting for three days)
等一会儿[dìng yî huì ér](waiting for a while)
一年时间[yî nián shí jiân](one year)

Sometimes, they can function as adverbials when put in front of verbs, such as "一天没动[yī tiān méi [dòng] (never move for a whole day)" and "一分钟也等不了[yī fēn zhōng yě děng bù liǎo] (can't wait for a minute)".

Among time quantifiers, some of them are for identified time units, such as "天[tiân](day)", "年[nián](year)", "周[zhôu](week)" and "分钟[fçn zhông](minute)", and some for unidentified ones, such as "会儿[huìr]", "阵儿[zhèn ér]" and "下[xià](等一[dìng yî]～(wait for a while))". Before unidentified quantifiers, only the numeral "一[yî](one/a)" can be used.

D. Independent quantifiers

Usually, such quantifiers refer to the quantity of objects, but they cannot modify nouns nor function as quasi-objects when combined with numerals. They can be used alone, such as "岁[suì](year)", "边[biân] (side)(两[liǎng]～都是人[dôu shì rén](two sides full of people))", "头[tóu](place)(两～跑[liǎng pǎo](run between two places))", "面[miàn](side)(三[sân]～环水[huán shuǐ](surrounded by water on three sides))", "撇[piì]("丿"(a stroke))加一撇[jiâ yî piì](add a stroke))", "课[kè](class) (最后一[zuì hòu yî]～(the last class))", "票[piào](vote) (得了八[dé le bâ]～(gain eight votes)", "章[zhâng](chapter), 倍[bèi](time)", "分[fçn](score) (考了一百[kǎo le yî bǎi]～a hundred scores)", "版[bǎn] (edition) (第一[dì yî]～(the first edition))" and "人[rén] (person)(八[bâ]～迟到[chí dào] (either persons are late))". Among them, "岁[suì](year)" and "倍[bèi](time)" can function as quasi-objects when combined with numerals.

1.6.1.4 Can a quantifier be considered a classifier?

There is a special collocation of individual quantifiers and nouns to be measured, such as "a (条[tiáo]) cucumber, a (个[gè]) watermelon, a (辆[liáng]) car, a (架[jià] plane), a (把[bǎ]) knife" and so on.

Some scholars prefer to name individual quantifiers as classifiers in Chinese when their main function, they think, is to classify nouns. But the following categories of nouns don't exist in the minds of native speakers.

The category of "把[bǎ]": knife, gun, chair, shovel, fan, teapot, spade
The category of "张[zhāng]": face, paper, mouth, bed, table, bow, pasty
The category of "头[tóu]": cow, donkey, pig, camel, elephant
The category of "只[zhī]": bird, mosquito, dog, cat
The category of "匹[pǐ]": horse
The category of "个[gè]": watermelon, person, mobile phone, bowl, apple, class, hour
The category of "条[tiáo]": fish, snake, cucumber, rope, branch, leg, road, news, request

It is a misunderstanding that individual quantifier is mainly used to classify nouns. Then, how should we treat the collocation of an individual quantifier and a noun? The basic function of quantifiers is to measure. Most quantifiers originate from nouns and verbs due to the inner link between objects to be measured and nouns/verbs as measurement units. There exists a close semantic relation between individual quantifiers and nouns/verbs, which can be divided into five degrees.

1 Individual quantifiers are exactly as same as nouns, just like copy ones. For example:

(22) bɑ31 ŋi33 bɑ31 (Naxi language)
flower two flower (two 朵[duǒ]flowers)

2 Individual quantifiers and nouns belong to the same category. That is to say, you can choose a certain category of nouns as a representative to measure nouns. There are two ways to decide this category.

A To use the category to represent individuals in this category

(23) three students

(24) ʑɔ31mv33 te53 mv33 (Lahu language)
Wool a 毛[máo] "a 根[gēn] wool"

B To use an object in a certain typical shape to represent others in similar shapes. For example, as nouns, "根[gēn]"and"条[tiáo]" are used as measurement units for the long shape and the strip shape, respectively. One example in the Naxi language is as follows:

(25) nv55me33 dɯ33 ly33
Heart a 头[tóu] "a 颗[kē] heart"

3 An individual quantifier is a prominent part of something which is expressed by a noun. That is to say, a part is used to measure a whole, such as "one头[tóu]cow, three口[kǒu] people and five 峰[fēng] camels" in Chinese.

4 An individual quantifier is a certain characteristic of a noun, such as "a张[zhāng] net, a 封[fēng]letter". The connection between an individual quantifier and a noun is often built based on the characteristics of verbs.

5 There seems to be no semantic relation between an individual quantifier and a noun, such as "个[gè]" and "只[zhī]"

In the above, the five degrees of semantic relations between individual quantifiers and nouns and verbs are from strong to weak, due to the formations of individual quantifiers. The first four degrees can be considered as the evidence and the means of forming individual quantifiers through establishing connections between the noun/verb and the measurement unit originating from other words by the semantic relation. The fifth degree is just the generalised consequence of the first four ones.

Such a relation between an individual quantifier and a noun produces an indicative secondary effect. Therefore, the "classifying" function is not the basic function of an individual quantifier but simply a secondary function.

1.6.2 Locative, time words and locational words

Words in these categories can function as objects of "在[zài](in)|到[dào](arrive)" directly or after attributes. In the grammatical sense, all of them can indicate a certain location in terms of space, time or both space and time, due to which they share the same name as positional words. Since they share many things in common, they can be discussed together.

1.6.2.1 Locative

In terms of semantic function, locative indicates the reference direction or the relative position, the latter of which can be a space, such as "桌子上面[zhuō zǐ

shàng miàn](above the table), 大树下[dà shù xià](under the tree)" or be a time, such as "春节前[chūn jiē qián](before the Spring Festival), 三天以后[sān tiān yǐ hòu](after three days)". Some individual locatives can only be used for position, such as "以上[yǐ shàng](above), 之下[zhī xià](below)".

The criterion of classifying locatives is as follows:

((在[zài] (in)丨到[dào] (arrive))[<体词(nominals)>]～)∧*(～(上[shàng](above)丨里[lǐ](inside)丨以南[yǐ nán](south of))

"(在[zài] (in)丨到[dào] (arrive))[<体词(nominals)>]～" in the criterion means locatives after a nominal, as a locative structure can function as objects of "在[zài] (in)丨到[dào] (arrive)". A locative structure refers to an attribute and head-word construction consisting of a modifier and the word it modifies, based on the criterion that the front attribute functions as the reference for the rear constituent. Locatives refer to relative locations or directions, which means these locations or directions need references to make them identified.

Some directional verbs have developed their use in showing direction and gradually become into locatives, such as "往回走[wǎng huí zǒu](go back), 往出走[wǎng chū zǒu](go away), 往起拉[wǎng qǐ lā](pull up)". The main grammatical characteristic of a locative is to be the object of preposition or verb that indicates location, such as "在[zài](in)/到[dào](to)", or to be the object of a preposition that indicates direction, such as "往[wǎng](to)/向[xiàng] (forwards)/朝[cháo](towards)". The main function of a locative is to appear after a notional constituent to form a locative structure, such as "大树旁边[dà shù páng biān](beside the tree) or 桌子上[zhuō zǐ shàng](on the table)".

According to the word formation, locatives can be sub-categorised as follows:

a pure locatives: 上[shàng](up), 下[xià](down), 东[dōng](east), 里[lǐ](in), 内[nèi](inside), 外[wài](out), 前[qián](front), 后[hòu](back), 旁[páng](side)

b compound locatives:

b1 前后[qián hòu](front and back), 上下[shàng xià](up and down), 左右[zuǒ yòu](right and left), 里外[lǐ wài](inside and outside), 东南[dōng nán](southeast), 西北[xī běi](northwest), 东北[dōng běi](northeast)

b2 东边[dōng biān](the east side), 前边[qián biān](in front), 左边[zuǒ biān](the left side)
前面[qián miàn](front), 上面[shàng miàn](above), 南面[nán miàn](the south side)
东侧[dōng cè](the east side), 后侧[hòu cè](back side), 左侧[zuǒ cè](left hand)
前头[qián tóu](at the heas), 后头[hòu tóu](back-end), 上头[shàng tóu](at top of)
东方[dōng fāng](east), 前方[qián fāng](the front), 下方[xià fāng](below)

b3 以东[yǐ dōng](to the east), 以前[yǐ qián](before), 以后[yǐ hòu](after), 以下[yǐ xià](under), 之前[zhī qián](under), 之上[zhī shàng](onto), 之下[zhī xià](under)

b4 中间[zhōng jiān](middle), 跟前[gēn qián](in front of), 旁边[páng biān](beside),周围[zhōu wéi](around), 附近[fù jìn](nearby)

1.6.2.2 Time word

A time word refers to a time position, which is usually indicated by "这时[zhè shí](by now) or 那时[nà shí](at that time)" and questioned by "什么时候[shén me shí hòu](when) or 多会儿[duō huì ér](how long)".

Examples of time words are as follows:

今天[jīn tiān](today), 明年[míng nián](next year), 上午[shàng wǔ](morning), 星期三[xīng qī sān](Wednesday), 春节[chūn jiē](the Spring Festival), 现在[xiàn zài](now), 刚才[gāng cái](just now), 将来[jiāng lái](future), 过去[guò qù](in the past), 原来[yuán lái](original)

The criterion of classifying time words is as follows:

(在[zài] (in)丨到[dào] (arrive))～∧(等到[dìng dào](wait until)～|～以来[yǐ lái](since)丨～的时候[de shí hòu](at the time of))

Although some words have a less frequency of being used in "在[zài] (in)丨到(arrive)～" reflecting the meaning of time, such as "原来[yuán lái](previous/in the past), 原先[yuán xiân](previous/in the past), 早先[zǎo xiân](previous/in the past), 本来[bìn lái](original), 起初[qǐ chû](in the beginning) and 平常[píng cháng](usual)", they are still classified as the time words because they often function as subjects (*原来*我们不认识[yuán lái wǒ men bú rèn shi]We didn't know each other before.), objects (现在比*原来*好[xiàn zài bǐ yuán lái hǎo]The present is better than the past.) and attributes (*原来的*朋友[yuán lái de péng yǒu] old friends) or can be asked by "when" and be referred by "this moment or that moment".

1.6.2.3 Locational word

Locational words refer to definite space locations without any references.

The criterion of classifying locational words is as follows:

(在[zài] (in)丨到[dào] (arrive)) ～∧*(～(里[lǐ](in)|上[shàng](above))|<时间词(time words)>)

Examples of locational word are as follows:

当地[dāng dì](in the locality), 远处[yuǎn chù](distance), 空中[kōng zhōng](in the air), 野外[yě wài](field), 原地[yuán dì](initial place), 故乡[gù xiāng]

(hometown), 身上[shēn shàng](on one's body), 眼前[yǎn qián](before one's eyes), 头顶[tóu dǐng](the top of the head), 手下[shǒu xià](under the leadership of), 门口[mén kǒu](doorway), 民间[mín jiān](folk), 中国[zhōng guó](China), 广州[guǎng zhōu](Guang Zhou)

Generally speaking, a simple dividing line can be drawn between time words and locational words. Time words can be asked by "when" and be referred to by "this moment or that moment" and locational words can be asked by "where or in which place" and be referred to by "here or there".

Among 43,330 words, there are 301 time words, taking up 0.7%, 90 locational words, taking up 0.21%, and 123 locatives, taking up 0.28%.

1.6.2.4 Locatives and the property of the locative structure

In the sense of grammatical properties, the locative structure possesses nominal properties; in the sense of a structural relationship, it refers to an attribute and headword construction consisting of a modifier and the word it modifiers. The function of locatives is to identify locations and to be the marks of locations. Locatives are considered as nominals instead of postposition words because of the following reasons:

I The locative structure belongs to the construction consisting of a modifier and the word it modifies, in which "的[de](of)" can be put before disyllabic locatives, such as "桌子的上面[zhuô zi de shàng miàn](on the top of the table)". "的[de](of)" cannot be put before monosyllabic locatives, except for "之[zhî](of)" in classic Chinese, which is similar to "的[de](of)", such as "泥土之中[ní tǔ zhî zhông](inside of the soil)".

II Disyllabic locatives can function as subjects and objects directly, and so do the monosyllabic ones, but only under certain conditions. The locative structure can function as a subject and an object. Sometimes, locatives and locative structure can even function as the objects of common verbs, such as "look back, enjoy staying at home". Postposition words cannot function as subjects and objects, and the main function of a postposition structure is to be adverbial, instead of being a subject or an object.

III Most locatives can be used as attributes, such as "上面的人[shàng miàn de rén](the person above), 底下的水[dǐ xià de shuǐ](the water below)". Postposition words cannot, as a preposition, function as an attribute alone.

1.6.2.5 The functions of locatives, time words and locational words

1 Time words, locational words and most locatives can function as objects of "在[zài] (in)丨到[dào] (arrive)～". The simple locatives cannot function as objects of "在[zài] (in)丨到[dào] (arrive)～"; they can do so only after forming a locative structure with a notional constituent before. However, when

used in a comparative structure, they can function as objects of "在[zài] (in)丨到[dào] (arrive)～" independently. An example is as follows:

(26) 一个在上，一个在下。[yî gè zài shàng, yî gè zài xià]
(One is above; another is under.)

"以南[yǐ nán](south of)", "以外[yǐ wài](outside)", "之南[zhî nán](south of)", "之外[zhî wài](outside)" as compound locatives cannot function as objects of "在[zài] (in)丨到[dào] (arrive)～", either, except if they are being modified by referential attributes.

Some nouns can also function as objects of "在[zài] (in)丨到[dào] (arrive)～" directly, such as "工厂[gông chăng](factory)", "学校[xué xiào](school)", "商店[shâng diàn](shop)" and "教室[jiào shì](classroom)". Actually, they more or less have the properties of locational words, but, due to their large quantity, they are not classified as the conversional words of nouns and locational words, according to the homo-type strategy (see 1.6.3.5).

2 Locatives (100%), time words (50%) and locational words (63%) can be modified by attributes based on different situations. Locatives can follow certain notional constituents, especially nominal constituents as objects of reference, to form locative structures which decide their essential differences from other categories of words. Time words can be modified by the attributes of quantity, description or inclusive subordination, such as "两个下午[liăng gè xià wǔ](two afternoons)", "一个[yî gè]热热闹闹的星期天[rè rè nao nao de xîng qî tiân](one bustling Sunday)" and "今天下午[jîn tiân xià wǔ](today's afternoon)". Locational words can be modified by the attributes of description or subordination, such as "生机盎然的野外[shçng jî àng rán de yì wài](exuberant field)" and "中国民间[zhông guó mín jiân](Chinese folk)".

3 Neither locatives/locative structures nor locational words can be followed by locatives ("上[shàng](above)", "里[lǐ](inside)", "中[zhông](in the middle)"), such as "*当地里[dâng dì lǐ](in the field)", "*野外中[yì wài zhông](in the open)" and "*内地上[nèi dì shàng](above the inland) ". Nouns with the properties of locational words can be followed by locatives ("上[shàng](above)", "里[lǐ](inside)", "中[zhông](in the middle) and 内[nèi](inside)", such as "工厂里[gông chăng lǐ](in the factory)", "操场上[câo chăng shàng]", "商店内[shâng diàn nèi](inside the shop)" and "教室里[jiào shì lǐ](in the classroom)", based on which locational words and nouns with the properties of locational words are distinguished. 69% of time words can be followed by locatives, such as "春节前[chûn jié qián](before the Spring Festival)" and "星期二以后[xîng qî èr yǐ hòu](after Tuesday)", but there is still a number of time words that cannot be followed by locatives, such as "将来[jiâng lái](future)", "过去[guò qù](past)" and "先前[xiân qián](previous)".

4 All time words and locational words can function as subjects and objects freely; except for "以南[yǐ nán](south of)", "之中[zhî zhông](in the middle of) ", compound locatives can have the same function. Generally speaking, simple locatives cannot function as subjects or objects, except that they

appear in comparative structures or after directional oppositions of "朝[cháo](to)", "向[xiàng](toward)" and "往[wǎng](for)", such as "上有老母，下有幼子[shàng yǒu lǎo mǔ, xià yǒu yòu zǐ](There are old and young at home.)", "往前走[wǎng qián zǒu](walk forward)", "朝上看[cháo shàng kàn](look upward)" and "向南飞[xiàng nán fçi](fly southward)".

When locatives function alone as subjects and objects, they cannot be changed into locational words because, on the one hand, most locatives have such functions, and, on the other hand, they actually have their own implied object of reference, appearing in the context or when/where there are speakers or listeners when talking. For example:

(27) 桌子前面有一个椅子，后面有一个书架。[zhuô zi qián miàn yǒu yî gè yǐ zi, hòu miàn yǒu yî gè shû jià]("后面"的参照是上文的"桌子"[hòu miàn de cân zhào shì shàng wén de zhuô zi])
There is a chair before a table, and behind the table, there is a bookshelf. ("The table" is the object of reference of "behind".)

(28) 后面有人! [hòu miàn yǒu rén]("后面"以说话人或听话人的位置为参照[hòu miàn yǐ shuô huà rén huò tîng huà rén de wèi zhi wéi cân zhào])
There is someone behind you! (Position of speaker or listener is the object of reference of "behind".)

(29) 我到北京以前不喜欢吃面食，以后就喜欢了。[wǒ dào bìi jîng yǐ qián bù xǐ huân chî miàn shí, yǐ hòu jìu xǐ huân le]("以后"的参照时刻是上文曾出现的"我到北京"时[yǐ hòu de cân zhào shí kè shì shàng wén céng chû xiàn de wǒ dào béi jîng shí])
Before I went to Beijing, I didn't like cooked wheaten foods, but, after that, I like them now. ("Before I went to Beijing" is the object of reference of "after".)

(30) 以后再说吧。[yǐ hòu zài shuô ba]("以后"的参照时刻是说话人说话时刻[yǐ hòu de cân zhào shí kè shì shuô huà rén shuô huà shí kè])
Talk about it `later. (The time when the speaker talks is the object of reference of "later".)

When locational words function as subjects and objects, they don't have implied objects of reference, and, to be exact, they indicate definite positions. Locatives refer to relative positions with explicit objects of reference no matter when they are in certain locative structures or with implicit ones when being used independently.

Time words also refer to definite time positions without any objects of reference. "以前[yǐ qián](before)", "以后[yǐ hòu](after)" can indicate time, similar to "过去[guò qù](in the past)" or "将来[jiâng lái](in the future)". As a result, "过去[guò qù](in the past)" and "将来[jiâng lái](in the future)" are

considered as time words in some books. However, there are obvious differences between the former and the latter. The former can be compounded with certain notional constituents as their objects of reference, but the latter cannot. For example:

(31) a 春节以前[chûn jié yĭ qián] (before the Spring Festival)/春节以后[chûn jié yĭ hòu] (after the Spring Festival)
b *春节过去[chûn jié guò qù] (the Spring Festival in the past)/*春节将来[chûn jié jiâng lái] (the Spring Festival in the future) b. *春节过去广春节将来

(32) a 三天以前[sân tiân yĭ qián] (three days before)/三天以后[sân tiân yĭ hòu] (after three days)
b *三天过去[sân tiân guò qù] (three days in the past)/*三天将来[sân tiân jiâng lái] (three days in the future)

(33) a 上学以前[shàng xué yĭ qián] (before attending school)/上学以后[shàng xué yĭ hòu] (after attending school)
b *上学过去[shàng xué guò qù] (attending school in the past)/*上学将来 [shàng xué jiâng lái](attending school in the future)

Even if the objects of reference of "以前[yĭ qián](before)" and "以后[yĭ hòu](after)" don't appear, they can have their own implied ones, just like in example (28). Therefore, "以前[yĭ hòu] (before)" and "以后[yĭ hòu](after)" are classified into locatives. Sometimes there are, to a large degree, many things in common between time positions and space positions, so it is not difficult to understand that some locatives can refer to both.

5 Some locatives, locational words and time words can function as adverbials, which tends to cause confusion with when they function as subjects.

6 Locatives (55%), time words (31%) and locational words (96%) can function as attributes. When compound locatives function as attributes, they can be put in front of "指示词(demonstrative word)+(数词(numeral))+量词(quantifier)", such as "里面这个人[lĭ miàn zhè gè rèn](the person inside)" and "外边那棵树[wài biân nà kç shù](the tree outside)". "上[shàng](former/above)", "下[xià](latter/under)", "前[qián](in front of)" and "后[hòu](in back of)" can be put in front of a quantifier as an attribute, to be exact, as a demonstrative, such as "上一个人[shàng yî gè rén](the former person)" and "前两次会议[qián liăng cì huì yì](two previous meetings)".

7 Some time words (23%) can function as predicates, such as "今天*星期天[jîn tiân xîng qî tiân]*(Today is Sunday.)" and "后天*春节[hòu tiân chûn jié]*(Tomorrow is Spring Festival)". Neither locatives nor locational words have such a function.

1.6.3 Nouns

Nouns are the main part of speech in nominals. As a kind of referential constituent, a noun indicates an entity in the sense of meaning, and its basic grammatical function is to be a subject or an object.

Examples of nouns are as follows:

Individual nouns: 人[rén](people), 羊[yáng](goat), 桌子[zhuō zǐ](table), 实体[shí tǐ](entity), 苹果[píng guǒ](apple), 门[mén](door), 纸[zhǐ](paper)
Institutional nouns: 学校[xué xiào](school), 医院[yī yuàn](hospital), 商店[shāng diàn](shop), 邮局[yóu jú](post office), 警察局[jǐng chá jú](police office), 外交部[wài jiāo bù](Ministry of Foreign Affairs)
Place nouns: 教室[jiāo shì](classroom), 操场[cāo chǎng](playground), 房顶[fáng dǐng](roof),阳台[yáng tái](balcony), 过道[guò dào](aisle)
Collective nouns：姐妹[jiě mèi](sister), 兄弟[xiōng dì](brother), 夫妻[fū qī](couple), 父子[fù zǐ](father and son), 师生[shī shēng](teacher and student)(个体性集合名词[gè tǐ xìng jí hé míng cí](collective nouns of individuality));车辆[chē liàng](vehicle), 纸张[zhǐ zhāng](paper), 树木[shù mù](tree), 军火[jūn huǒ](munitions), 信件[xìn jiàn](letter)(集体性集合名词[jí tǐ xìng jí hé míng cí](collective nouns of collectivity))
Material nouns：水[shuǐ](water), 气[qì](gas), 土[tǔ](soil), 灰尘[huī chén](dust), 羊肉[yáng ròu](mutton), 酱油[jiàng yóu](soy sauce), 铁[tiě](iron), 木头[mù tóu](wood)
Abstract nouns：思想[sī xiǎng](thought), 意见[yì jiàn](opinion), 买卖[mǎi mài](sale), 时间[shí jiān](time), 胆量[dǎn liàng](courage), 心情[xīn qíng](mood), 能力[néng lì](ability), 方法[fāng fǎ](method)
Proper nouns：长江[cháng jiāng](Yangtze River), 泰山[tài shān](Mount Tai), 老王[lǎo wáng](Lao Wang), 小刘[xiǎo liú](Xiao Liu), 微软[wēi ruǎn](Softwaree)

1.6.3.1 The criterion of classifying nouns

The criterion of classifying nouns is as follows:

(<主(subject)>丨<宾(object)>丨<定(attribute)>～|～(里[lǐ](in)|以南[yǐ nán](south of)))∧* (<谓词(predicate)>|<方位词(locative)><时间词(time word)><处所词(locational word)>|<量词(quantifier)>)

Actually, nouns refer to the rest of the words excluded from nominals. In other words, those words which are not classified into locatives, time words, locational words or quantifiers are categorised into nouns. The simplified rear part of the criterion "* (<谓词(predicate)>|<方位词(locative)><时间词(time word)><处所词(locational word)>|<量词(quantifier)>)" refers to that it doesn't satisfy the criteria of predicates, locatives, time words, locational words or quantifiers. In order to avoid complexity, the simplified criterion used in teaching is as follows:

(<主(subject)>|<宾(object)>|<定(attribute)>～)∧(～(里[lǐ](in)|以南[yǐ nán] (south of))|*(在(at)[<体词(nominal)>] ～|不(not)～|<补(complement)>|～<宾(object)>))

The above criterion satisfies all nouns but with a weak exclusiveness, for several non-nouns can fit in it, too.

In the grammatical sense, nouns refer to entities.

Among 43,330 words, there are 27,408 nouns, taking up 63% in total.

1.6.3.2 The functions of nouns

The functions of nouns are as follows:

1 The most common functions of nouns are to be subjects and objects, which doesn't mean that all the nouns have such functions: 3% of nouns cannot function as subjects, and 2.4% of nouns cannot function as objects.
2 78% of nouns can be modified by numeral-quantifier phrases, but some cannot, such as "边缘[biân yuán](edge)", "表面[biǎo miàn](surface)", "对方[duì fâng](opposite side)", "列强[liè qiáng](big powers)", "年龄[nián líng](age)", "人事[rén shì](personnel)", "双方[shuâng fâng](both sides)", "私人[sî rén](privacy)", "岁数[suì shù](age)", "行政[xíng zhèng](administration)", "医药[yî yào](medicine)", "主流[zhǔ liú](main trend)", "主权[zhǔ quán](sovereignty)", "总和[zǒng hé](total)" and "自然[zì rán](nature)".
3 Generally speaking, nouns cannot be modified directly by numerals or numeral phrases, except in the following situations:

   A large integral numeral + noun: 十亿人民[shí yì rén mín](1 billion people), 三百万军队[sân bǎi wàn jûn duì](3 million troops), 三千干部[sân qiân gàn bù](3 thousand cadres)
   B coefficient word more than "一[yî](one)"+ certain collective noun: 五姐妹[wǔ jiì mèi](five sisters), 三兄弟[sân xiông dì](three brothers), 两夫妇[liǎng fû fù](a couple)
   C determiner + "一[yî](one)"+noun: 这一地区[zhè yî dì qû](this district), 这一问题[zhè yî wèn tí](this issue), 每一成员[mìi yî chéng yuán](every member), 某一事物[mǒu yî shì wù] (a certain thing), 上一阶段[shàng yî jiç duàn] (the previous stage). Such a situation often appears in the written language, in which the determiner "这[zhè]" is used most frequently.
   D number+ "大[dà](big)"+noun: 十大新闻[shí dà xîn wén](ten pieces of top news), 三大主力[sân dà zhǔ lì](three main forces), 三大工程[sân dà gông chéng](three major projects).

      Strictly speaking, this situation refers to that a numeral modifies a phrase consisting of a modifier and the word it modifies. Since the headword in this phrase is noun, it is discussed here.

E "一(one)"+noun: This situation often appears in spoken language. For example:

(34) 前面来了一老太太。[qián mián lái le yí lǎo tài tài]
(Here comes an old woman.)

(35) 他甮了一瓶子。[tâ bù le yí píng zi]
(He broke a bottle.)

(36) —小孩儿跑丢了。[yí xiǎo hái ér pǎo diû le]
(A child got lost.)

There is one thing to notice. "一[yí](one)" in the above is only pronounced as [yí] instead of [yī] in counting. Therefore, the original complete form of "一[yí](one)" could be "一个[yí gè]", and "个[gè]" here is gradually missed because of its weakened pronunciation.[8]

F number + noun: Such a situation often appears in written language, especially in theses and titles, which can be considered as the remaining influence of classic Chinese. For example:

(37) 两数之和等于2的整倍数[liǎng shù zhî hé dìng yú èr de zhìng bèi shù]
The sum of two numbers is equal to the integral multiple of 2.

(38) 国有资产管理局等三部门[guó yǒu zî chǎn guǎn lǐ jú dìng sân bù mén]
Administration of state-owned assets and three other departments

(39) 马尔马拉海上一渡轮失火(标题)[mǎ ìr mǎ lâ hǎi shàng yî dù lún shî huǒ (biâo tí)]
A ferryboat in the Sea of Marmara catches fire. (Title)

(40) 香港两公司捐赠两千万港元(标题)[xiâng gǎng liǎng gông sî juân zèng liǎng qiân wàn gǎng yuán (biâo tí)]
Two companies in Hong Kong donate twenty million. (Title)

G ordinal numeral + noun: 三食堂[sân shí táng](the third canteen), 二十五中学[èr shí wǔ zhông xué](the 25th middle school), 三十二楼[sân shí èr lóu] (the 32nd building)

H The nouns referring to certain containers or other objects with a loading function can be modified by numerals. The nouns in this situation indicate units for these objects and can be followed by other nouns, reflecting their quantifier functions, such as "一桶水[yî tǒng shuǐ] (a pail of water)", "两碗饭[liǎng wǎn fàn](two bowls of rice)", "一车煤[yî chç méi](a cartful of coal)", "一屋子人[yî wû zi rén](a room full of people)" and "一桌子土[yî zhuô zi tǔ](a table covered with dust)". Therefore, due to their systematic usage, they are classified into nouns based on the homo-type strategy. In addition, nouns with the instrumental function can also be modified by numerals and reflect their quantifier functions, so they are classified into nouns instead of conversional words of nouns and quantifiers based on the homo-type strategy, such as "(踢[tî])一脚[yî jiǎo](make a kick)", "(砍[kǎn])两刀[liǎng dâo](make two chops)" and "(打[dǎ])一枪[yî

qiâng](fire a gun)". These two types of nouns take up 0.4% in total. There are some nouns that cannot function as subjects or objects, such as "杯[bçi](cup)", "盒[hé](box)", "箱[xiâng](case)", "瓶[píng](bottle)", "口[kŏu](bite)", "拳[quán](fist)" and "眼[yăn](eye)". They are supposed to be professional quantifiers instead of nouns, such as "一杯水[yî bçi shuĭ](a cup of water)", "一盒粉笔[yî hé fîn bĭ](a box of chalks)", "两箱书[liăng xiâng shû] (two cases of books)", "三瓶汽水[sân píng qì shuĭ](three bottle of soda water)", "咬一口[yăo yî kŏu] (take a bite)" and "打几拳[dă jĭ quán](take several punches)", "看一眼[kàn yî yăn]" (have a look).

The number of nouns in A and B takes up 0.9% in total.

4 98% of nouns can be modified by other attributes besides numerals and numeral-quantifier phrases, among which the nouns modified by other nouns take up 50% in total.

5 68% of nouns can function as attributes directly, which indicates that differentiation between noun and distinctive word is not very clear.

6 Generally speaking, nouns cannot be the objects of "在(in/be/at)"; they can only do so if there are locatives added. For example:

(41) a *在桌子[zài zhuô zi]—在桌子上[zài zhuô zi shàng] (on the table)
b *在碗[zài wăn]—在碗里/zài wăn lĭ/ (in the bowl)
c *在树[zài shù]—在树上/zài shù shàng/ (in the tree)

Some nouns (3.1% of nouns) can be the objects of "在(in/be/at/on)" directly, such as "教室[jiào shì](classroom)", "工厂[gông chăng](factory)", "操场[câo chăng](playground)", "邮局[yóu jú](post office)" and "学校[xué xiào](school)", named as "nouns with locational functions". They are different from locational words, for they can be compounded with locatives ("上[shàng](above)", "里[lĭ](inside)"), but locational words cannot. For example:

(42) a 在教室[zài jiào shì](in the classroom)
在教室里[zài jiào shì lĭ] (in the classroom)
b 在工厂[zài gông chăng] (in the factory)
在工厂里 [zài gông chăng lĭ] (inside the factory)
c 在操场[zài câo chăng] (on the playground)
在操场上[zài câo chăng shàng] (on the playground)
d 在学校[zài xué xiào] (in school)
在学校里[zài xué xiào lĭ] (inside the school)

(43) a 在当地[zài dâng dì] (in the local area)
*在当地里[zài dâng dì lĭ]
b 在野外[zài yì wài] (in the field)
*在野外上[zài yì wài shàng]
c 在民间[zài mín jiân] (in the folk society)
*在民间里[zài mín jiân lĭ]
d 在远处[zài yuăn chù] (in the distance)
*在远处上[zài yuăn chù shàng]
e 在一旁[zài yî páng] (on the side)
*在一旁里[zài yî páng lĭ]

7 Generally speaking, nouns cannot function as adverbials, except in the following situations:

A noun with locational function + verb: 操场去[câo chăng qù] (go to playground), 图书馆去[tú shû guăn qù](go to liberay), 学校见[xué xiào jiàn](see you at school), 主场fl战对手[zhŭ chăng yíng zhàn duì shŏu](to compete with rivals at home court)

B noun + adjective: 拳头大[quán tóu dà](as big as a fist), 碗口粗[wăn kŏu cû](as broad as a bowl). The nouns in this situation refer to metaphors.

C noun + verbal constituent: 电话采访[diàn huà căi făng] (telephone interview), 公费请客[gông fèi qĭng kè](to entertain guests at state expense) 凉水洗澡[liáng shuĭ xĭ zăo](cold shower), 武力镇压[wŭ lì zhèn yâ](suppress by force), 政治解决柬埔寨问题[zhèng zhì jiì jué jiăn pŭ zhài wèn tí] (to deal with the issue of Cambodia with a political solution). The examples show something is to be done with certain tools or through certain means.

The nouns in the above three situations only take up 0.2% in total, and they cannot be classified into conversional words of nouns and adverbs, based on the homo-type strategy. Except for them, other nouns can be considered as conversional words of nouns and adverbs based on the hetero-type strategy. When they function as adverbials, they are regarded as adverbs, such as "重点[zhòng diăn](emphasis)", "顺序[shùn xù](order)" in "重点解决[zhòng diăn jiì jué](to solve with emphasis)" and "顺序上车[shùn xù shàng chç](queue up for bus) ".

8 Generally speaking, nouns cannot be modified by adverbials, except in the following situations:

A time adverb + ordinal noun (excluding the initial term) + "了[le]"(similar to perfect tense in English): 都大学生了[dôu dà xué shçng le](having been a university student), 已经大人了[yĭ jîng dà rén le](having already been an adult).

B "也[yì](too/also)" + noun of physical characteristics: (他)也双眼皮[tâ yì shuâng yăn pí](He has double-fold eyelids too.), (他)也高个儿[tâ yì gâo gè ér](He is also tall.).

C "也[yì] (too/also)" + status noun: (他)也大学生[tâ yì dà xué shçng](He is a university student too.), (我)也团长[wŏ yì tuán zhăng](I am a regimental commander too.).

D scope adverb for limitation + noun: 就苹果好吃[jiù píng guŏ hăo chî] (Simply apples taste good.), 光飞机就有一百架[guâng fçi jî jiù yŏu yî băi jià] (There are simply one hundred planes.). In this situation, "状语(adverbial)+名词(noun)" should be in the position of the subject.

The number of nouns in A, B and C takes up 1.6% in total.

9 Generally speaking, nouns cannot function as predicates, except in the following situations:

A in "(VP十的(of)) ～":

(44) —你买的什么东西? [nǐ mǎi de shén me dông xi]
(What did you buy?)
—我买的书[wǒ mǎi de shû]。
(books)

B other examples:

(45) 今天阴天。[jîn tiân yîn tiân]
(Today is overcast.)

(46) 他双眼皮。[tâ shuâng yǎn pí]
(He has doublefold eyelids.)

(47) 下午运动会。[xià wǔ yùn dòng huì]
(The sport meeting is held in the afternoon.)

The nouns functioning as predicates in A have a large quantity; the nouns functioning as predicates in B only take up 1.6% of the total number of nouns.

Since some nouns can function as predicates, it is improper to depend on this function to distinguish predicates from nominals. The classification of these two categories mainly depends on whether they fit in these functions, such as "不[bù](not)～", "没[méi] (no)～", "很[hìn] (very)～", "～<宾(object)>", "～<补(complement)>", "<补(complement)>". Most predicates can satisfy at least one of them, but none of the nominals can. However, for those predicates that can function as predicates only, the above functions are not strict enough to distinguish them from nominals. Therefore, the more strict and proper criterion "<谓(predicate)>∧*(<主(subject)> |<宾(object)> | <定(attribute)>～)" is used to further distinguish them from the nominals functioning as predicates, according to the fact that the nouns functioning as predicates can be modified by attributes and function as subjects and objects as well.

10 Nouns cannot overlap. There seems to be some nouns which can be overlapped, such as "人人[rén rén](every person)" and "家家[jiâ jiâ](every family)", but "人[rén] (person)" and "家[jiâ](family)" can be modified by numerals directly, such as "一人[yî rén](1 person)", "三人[sân rén](3 persons)", "一家[yî jiâ](a family)" and "四家[sì jiâ](4 families)". Therefore, "人人[rén rén] (every person)" and "家家[jiâ jiâ] (every family)" should be considered as the overlapped quantifiers. Additionally, some disyllabic nouns have overlapping forms indeed, such as "子孙[zǐ sûn](children and grandchildren)—子子孙孙[zǐ zǐ sûn sûn] (children and grandchildren)", "风雨[fçng yǔ](wind and rain)—风风雨雨[fçng fçng yǔ yǔ] (wind and rain)", "恩怨[çn yuàn](gratitude and resentment)—恩恩怨怨[çn çn yuàn yuàn] (gratitude and resentment)" and "方面[fâng miàn](aspect)—方方面面[fâng fâng miàn miàn] (every aspect)". These overlapping forms embody the meanings of "多[duô](many)" and "每[mìi](every)". Since such nouns take up the minimal percentage in total, they are usually regarded as the phenomena of overlapping word formations. "村村[cûn cûn](country)", "县县[xiàn xiàn](town)" are only typical examples of overlapped nouns, which are often treated as having special usage in classic Chinese.

1.6.3.3 Particularity of individual quantifiers

The words for measurement do exist in many languages, but quantifiers as an independent part of speech only exist in certain languages. It is decided by the necessity of the individual measurement unit in the combination of numerals and nouns. In English and ancient Chinese, numerals and individual nouns are combined directly, without the participation of measurement individual unit, such as "two books", "五马[wǔ mǎ] (five horses) and 三士[sān shì] (three scholars)". However, in modern Chinese, this participation is necessary because numerals cannot be combined with nouns directly, such as "两本书(two本[běn]books and 五匹马(five匹[pǐ]horses)". Since there exist big function differences between nouns and words for measurement, it is necessary to take words for measurement as an independent part of speech.

1.6.3.4 Functional differentiation between nouns and quantifiers

In modern Chinese, nouns and quantifiers have a very close relationship. Quantifiers are characterised by being modified by numerals directly, and nouns also share this characteristic in many situations (see 1.6.3.2). This phenomenon is very closely related to the origin of quantifies as a category. In the pre-Qin period, quantifiers as a grammatical category were not created. Although some collective unit nouns (朋[péng], 丙[bǐng]), forming unit nouns (丿[piì]) and container unit nouns (升[shçng], 卣[yǒu]) were created in the oracle inscriptions of the Shang Dynasty, these unit nouns had the same properties of nouns in the grammatical sense, for nouns could be usually modified by numerals directly. (Guo Xiliang, 1984) For example:

(48) 贝二*朋* [bèi èr péng](A pair of "贝[bèi]" is "朋[péng]") (*Collections of Inscriptions on Bones or Tortoise Shells of Shang Dynasty*, 40073)

(49) 十屯有一丿 [shí tún yǒu yî piì](A pair of bone pieces is "屯[tún]" and a piece of bone is "丿") (*Collections of Inscriptions on Bones or Tortoise Shells of Shang Dynasty*, 17580)

(50) 鬯二*升一卣[chàng* èr shçng yî yǒu*]*("升" is a tool for scooping wine, and "卣[yǒu]" is a vessel for containing wine. Both of them are used as container unit words.) (*Collections of Inscriptions on Bones or Tortoise Shells of Shang Dynasty*, 30937)

In the above examples, the combination of nouns, numerals and unit nouns is just a need in the semantic sense instead of the grammatical sense. The explanation is as follows:

An individual numeral refers to a numerical value, so for an uncountable substance, such as "wine", a measurement unit noun is needed to add in order to clarify the concrete quantity. For those countable things, their individual entity can be used as their measurement unit, so there is no need to add another overt one. For example:

(51) 五人卯五牛于二朋[wǔ rén mǎo wǔ niú yú èr péng]。(*Collections of Inscriptions on Bones or Tortoise Shells of Shang Dynasty*，1052)

In the above example, "人[rén](people)" and "牛[niú](cattle)" refer to both the individual entity and the measurement unit. Therefore, the entity function of nouns and their function of measurement are not clearly distinguished.

However, the direct combination in the above examples doesn't tell us that there is no need of measurement unit in ancient Chinese. Instead, units of individual and category are regarded as covert measurement units, so there is no need for an overt one anymore. It is because of this that individual quantifiers sprouted in the pre-Qin period and developed quickly in the periods of Wei and Jin. For example:

(52) a 拔一毛而利天下 [bá yī máo ér lì tiān xià] (plucking out a single hair to benefit the whole kingdom) *(The Works of Mencius. Jin Xin)*
b 不禽二毛。[bù qín èr máo] (do not capture the elderly) (*The Commentary of Zuo. Xi Gong XXII*)

Although individual quantifiers don't appear in the above examples, "一毛[yī máo]" should be "一根毛[yī gēn máo] (a 根[gēn] hair)", and "二毛[èr máo]" should be "两根毛[liǎng gēn máo] (the elderly)". Thus, it can be seen that covert measurement units exist in them.

Due to the existence of covert measurement unit between numerals and nouns in ancient Chinese, gradually, this semantic need has developed into a grammatical need. In other words, the combination of entity nouns and numerals needs measurement units no matter for which need mentioned above. This evolution is branded by the creation of individual units and their development. Actually, individual units are not necessary in the form, and entity nouns can also function as measurement units. Individual unit nouns appeared in the Western Zhou Dynasty and the Spring and Autumn Period. (Guan Yanchu, 1981; Guo Xiliang, 1984; Wang Li, 1989; He Leshi, 1989)

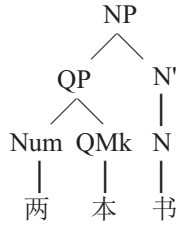
Similar examples from (53) to (57) are omitted with the author's permission.

At that time, the number of individual unit nouns was not large, and most nouns could be compounded with numerals, which proved that adding unit nouns after numerals was not just a semantic need. In Mediaeval China, such a need was accepted widely. Quantifiers as a grammatical category have been admitted, and the differentiation between entity nouns and measurement unit nouns in Chinese has been finished roughly. Nevertheless, the evolution of grammar in Chinese is a long-lasting process, and it still goes on. Even though there are a few nouns modified by numerals directly in modern Chinese, it is only a remaining phenomenon from classic Chinese.

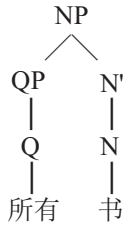
Generally speaking, a numeral cannot modify a noun by itself, unless there is a quantifier as a quantifier phrase (QP) between the numeral and noun. The numeral-quantifier phrases, such as "大量[dà liàng](a large number of), 所有[suǒ yǒu](all) and 一切[yî qiè](everything), 许多[xǔ duô](many)", can directly modify nouns because of their own functions for quantity. Actually, a quantifier can be considered as a quantifier modifying mark (QMk), and a numeral can also be

considered as an invisible one to modify a noun directly. Therefore, the development of individual quantifiers indicates the process of QMk from invisible to visible during the long history from the ancient Chinese language to modern Chinese.

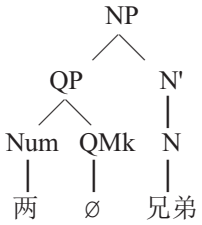
(58) a 两本书[liǎng běn shū] (two books)



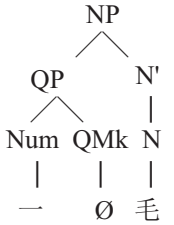
b 所有书[suǒ yǒu](all the books)



(59) a 两兄弟[liǎng xiōng dì] (two brothers)



b 拔一毛而利天下
[bá yî máo ér lì tiân xià] (plucking out a single hair to benefit the whole kingdom)



1.6.3.5 The distinctions between nouns and positional words

To categorise positional words as separate from nouns is to take into account the basic differentiation[9] between entity nouns and positional nouns. In classic Chinese, an individual entity noun could refer to a position after a locational preposition. For example:

(60) 君子藏器於*身*， . . . [jûn zǐ cáng qì yú shçn](“*身*[shçn]” refers to “body” as an entity noun and “*於身*[yú shçn]” means “behind one’s body”) (*Zhou Yi*)

(61) 鸟兽之肉不登於*俎*， . . . [niǎo shòu zhî ròu bù dçng yú zǔ](“*俎[*zǔ*]*” refers to “cutting board” and “*於俎[*yú zǔ*]*” means “on the cutting board”) (*Zuo Zhuan*)

(62) 八佾舞於*庭*， . . . [bâ yì wǔ yú tíng](“*庭[*tíng*]*” refers to “courtyard” and “*於庭[*yú tíng” means “in the courtyard”) (*The Analects*)

A similar example (63) is omitted with the author’s permission.

Since ordinary nouns could appear in “于/於[yú/yú]～”, neither locatives nor locational words were independently divided from nouns in the Chinese of the pre-Qin period. “<名词(noun)> +<方位名词(locative) >” could be put into “于/於[yú/yú]～” at that time mainly due to a semantic need instead of a grammatical one, for without locatives, no concrete locations were identified. For example:

(64) 王遂行，卒*於樠木之下*。[wáng suì xíng, zú yú mán mù zhî xià] (“樠木[mán mù]’” refers to a certain tree and “*於樠木之下[*zú yú mán mù zhî xià]” means “under a tree”) (*Zuo Zhuan*)

(65) 子食*於有丧者之側*， . . . [zǐ shí yú yǒu sàng zhì zhî cè] (“有丧者[yǒu sàng zhì]” refers to someone with a funeral and “*於有丧者之側[*yú yǒu sàng zhì zhî cè]” means “beside someone with a funeral”) (*The Analects*)

(66) 王坐*於堂上*， . . . [wáng zuò yú táng shàng](“堂[táng]” refers to “imperial court” and “*於堂上[*yú táng shàng]” means in the imperial court”) (*Mencius*)

“于/於[yú/yú]+<名(noun)>+上(up)/中(middle)/内(inside)” was also created in the Chinese of the pre-Qin period and indicated that the appearance or the range of a certain entity was not influenced in the semantic sense, no matter if there was a locative or not. Therefore, this usage further explained that to add locatives was not a semantic need but a grammatical one, which also confirmed the differentiation between the entity function of nouns and their positional function.

(67) 龟玉毁於椟中 [guī yù huǐ yú dú zhōng] (a tortoise or piece of jade is injured in its repository) (*The Analects*)

(68) 有业屨於牖上[yǒu yè jù yú yǒu shàng] (a sandal in the process of making had been placed there in a window) (*Mencius*)

A similar example (69) is omitted with the author’s permission.

If the purpose is just to express “在里面[zài lǐ miàn](inside)/在上面[zài shàng miàn](above)” through adding locatives, instead of showing a special position, such usage is not very common in ancient Chinese, but it developed a lot in the Northern and Southern Dynasties. For example:

(70) 贼便弃去，还以儿头著於*身上*[zéi biàn qì qù, hái yǐ ér tóu zhuó yú shēn shang] (when the robbers went away, he tried to put the son’s head back on where it had been.) *(One Hundred Metaphor Stories)*

(72) 便欲停置於其家*中*，自欲弃去。[biàn yù tíng zhì yú qí jiā zhōng, zì yù qì qù] (to leave the body in the house and moved out himself) *(One Hundred Metaphor Stories)*

A similar example (71) is omitted with the author's permission.

Thus, it can be seen that nouns in the pre-Qin Chinese have the functions of both entity and position, while these two functions differentiate in modern Chinese, except for a few of them having both.

This differentiation started in the pre-Qin period and continues to develop to now.

We have observed differentiation between the functions of entity and position through sampling from the database which collects examples in different eras. The changes in the functions are shown in Table 1.1.

The corresponding line graph is omitted with the author's permission.

In modern Chinese, entity nouns need locatives when put after locational prepositions. For example:

在头上[zài tóu shang](on the top of the head)/*在头[zài tóu]
在桌子上[zài zhuō zi shàng] (on the table)/*在桌子[zài zhuō zi]
在屋里[zài wū lǐ] (in the house)/*在屋[zài wū]
在路上[zài lù shàng] (on the way)/*在路[zài lù]

Some nouns still share both the functions of entity and position, including institutional nouns, such as "邮局[yóu jú] (post office), 学校[xué xiào] (school), 医院[yī yuàn](hospital) and 教育部[jiào yù bù]Ministry of Education, and place nouns, such as "教室[jiào shì] (classroom), 操场[cāo chǎng] (playground) and 山脚[[shān jiǎo](the foot of a hill)".

The degrees of this differentiation are successive, for example:

entity	entity/position	position
table	playground, factory, Mount Tai, China	doorway, future, upside

Table 1.1 Diachronic changes on differentiation between entity and position

source \ *position*	*zero tagged*		*tagged*		*standard*	*NW*
	T	*P*	*T*	*P*		
Analects	33	77%	10	23%	于[yú]/於[yú]/乎[hū]/在[zài]～	2.1
Mencius	142	68%	67	32%	于[yú]/於[yú]/乎[hū]/在[zài]～	4.5
Mister Lv's Spring and Autumn Annals (Volume 16–20)	36	67%	18	33%	于[yú]/於[yú]/乎[hū]/在[zài]～	3.6
Lun Heng (Volume 3–7)	113	65%	60	35%	于[yú]/於[yú]/乎[hū]/在[zài]～	5.2
One Hundred Metaphor Stories	21	38%	35	62%	于[yú]/於[yú]/乎[hū]/在[zài]～	2.1
Zhuzi's Language Category (Volume 1–10)	17	13%	118	87%	在[zài]～	10.0
A Dream in Red Mansions (Section 21–30)	32	14%	192	86%	在[zài]～	7.2
Little Red Flowers (1–4)	26	13%	178	87%	在[zài]～	3.2

(Note: NW = number of words counted in ten thousand, T = times, P = percentage)

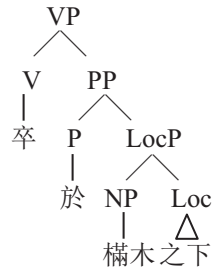
Therefore, based on the above, the criterion of classifying nouns and positional words is as follows:

> Those fitting in "在[zài] (in/be/at/on)～" but not fitting in "～上[shàng](up)丨里[lǐ](inside)丨中[zhông](middle)丨以南[yǐ nán](south of)" are classified into locational words or time words;
>
> Those not fitting in "在[zài] (in/be/at/on)～" but fitting in "～上[shàng](up)丨里[lǐ] (inside)丨中[zhông] (middle)丨以南[yǐ nán] (south of)" are classified into nouns;
>
> Based on the above, "桌子[zhuô zi](table)", "操场[câo chăng](playground)" and "泰山[tài shân](Mount Tai)" can be classified into nouns; "中国[zhông guó] (China)", "门口[mén kŏu](doorway)" and "上面[shàng miàn](upside)" into locational words, time words and locatives, respectively.

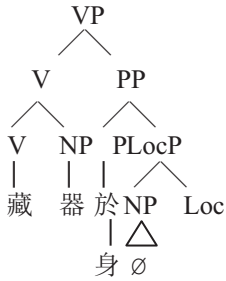
It is admitted that there are two times of differentiation in the semantic functions of nouns. In the pre-Qin period, nouns had functions in terms of entity, position (directly appearing in "于/於[yú/yú]～") and measurement unit (being modified directly by numerals and taking an individual entity as a measurement unit). In modern Chinese, the functions of position and measurement unit disappear, the latter of which has been replaced by quantifiers and the former of which by three types of positional words, namely locatives, time words and locational words. Usually, nouns have an entity function, but they need to match with locatives when showing positions, which indicates that the combination of semantic difference–grammatical function between positional words and quantifiers has already formed. That is why three types of positional words and quantifiers are independently classified from nouns.

In Chinese, nominals can be divided into two categories, one of which is the noun phrase (NP) for entity and the other of which is the locational phrase (LocP) for position. The constituents as the objects of locational prepositions, such as "於[yú], 于[yú] , 乎[hû], 在[zài], 至[zhì] and 到[dào]", are supposed to be locational phrases which need locatives, such as the examples from (62)–(64) and example (71). However, there is an exception for those LocP for adherence ("上[shàng](above)") and boundary ("里[lǐ] (inside)/内[nèi](inside)") because they don't need any marks for position in ancient Chinese, such as the examples from (58)–(61) and example (72). In such situations, the functions of noun for both entity and position are the same or, in other words, the noun and its Loc become one. For example:

(73) 卒於樠木之下[zú yú mán mù zhī xià] (died under a tree)



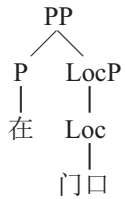
(74) 藏器於身 [cáng qì yú shēn] (hidden behind one's body)



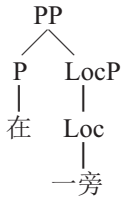
In the Mediaeval period, the functions of noun for entity and position differentiated gradually, which is shown in the following.

1 Locational words for position were produced, and they didn't need any locational marks when functioning as preposition objects.

(75) a 在门口[zài mén kǒu](at the doorway)

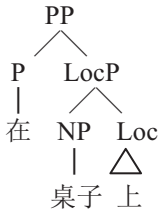


b 在一旁[zài yī páng] (aside)

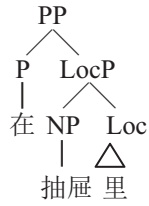


2 Common nouns can indicate position only if there are locational marks, such as locative, noun ("处[chù](place)"), pronouns ("这里[zhè lǐ](here), 这儿[zhèr](here), 那里[nà lǐ](there) or 那儿[nàr](there)"). For example:

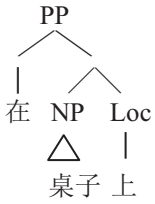
(76) a 在桌子上[zài zhuō zi shàng] (on the table)/*在桌子[zài zhuō zi]



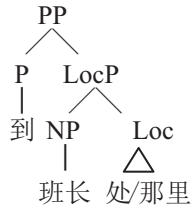
b 在抽屉里[zài chōu tì lǐ](in the drawer)



(77) a 在我这儿[zài wǒ zhèr] (here with me)/ *在我[zài wǒ]



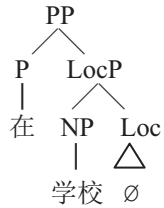
b 到班长处/那里[dào bān zhǎng chù](go to the monitor/there)/ *到班长[dào bān zhǎng]



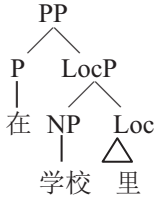
In other words, common words possess the function for entity but not for position anymore.

3 Nouns for institution and place possess the functions of both entities and positions. They fit in "在[zài](at) ~"and can also be followed by locational marks, such as "在学校[zài xué xiào](at school) and 在学校里[zài xué xiào lǐ](in the school)". When words such as "学校[xué xiào](school), 教室[jiào shì](classroom) and 操场[cāo chǎng] (playground)" function directly for position, it is considered that their functions for both entity and position are the same, without differentiation. The nouns for place can be put in "在[zài](at) ~" directly and cannot be added with "上[shàng](above) or 里[lǐ] (inside)", such as "在广州[zài guǎng zhôu](in Guang Zhou) and *在广州里[zài guǎng zhôu lǐ]". In such situations, these nouns can be regarded as positional words at the same time.

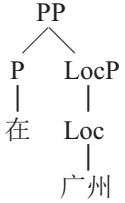
(78) a 在学校 [zài xué xiào](at school)



b 在学校里[zài xué xiào lǐ](in the school)



(79) 在广州[zài guǎng zhôu](in Guang Zhou)



1.7 Modifiers

Modifiers include distinctive words, numerals, numeral-quantifier phrases, demonstratives, onomatopoetic words and adverbs. Modifiers can function as attributes, adverbials or quasi-objects but cannot function as main syntactic constituents, such as subjects, predicates (谓语/述语), real objects, complements and headwords. Except for some special conditions, modifiers can function as subjects, objects and predicates.

Modifiers include nominal modifiers and predicate modifiers, the former of which mainly function as attributes and the latter of which mainly function as adverbials and quasi-objects. Nominal modifiers include distinctive words, numerals and demonstratives; predicate modifiers only include adverbs. Some numeral-quantifier phrases belong to nominal modifiers, such as "大量[dà liàng](a large number of), 所有[suǒ yǒu](all) and 多数[duō shù](majority) "; some belong to predicate modifiers, such as(如"许久[xǔ jiǔ](for long) and 片刻[piàn kè](awhile)"; some belong to both, such as (如"许多[xǔ duō](many), 部分[bù fen](partial), 一点儿[yī diǎnr](a little) and 一些[yī xiē](some)". Onomatopoetic words can function as both attributes and adverbials; therefore, they can be treated as the conversion of nominal modifiers and predicate modifiers.

1.7.1 Distinctive words

In the sense of meaning, distinctive words also indicate property, the same as adjectives. The difference is that the property of distinctive words reflects no degree, and the basic function of distinctive words is to be attributes instead of predicates.

Examples of distinctive words are as follows:

男[nán](male), 女[nǚ](female), 正[zhèng](chief), 副[fù](deputy), 公[gōng](male), 母[mǔ](female), 粉[fěn]pink (color), 高等[gāo děng](advanced), 大型[dà xíng](large-scale), 民用[mín yòng](civil), 袖珍[xiù zhēn](pocket), 野生[yě shēng](wild), 公共[gōng gòng](public), 日常[rì cháng](daily), 现行[xiàn xíng](current), 次要[cì yào](secondary), 大龄[dà líng](above the average age for marriage), 黑白[hēi bái](black and white)

1.7.1.1 The criterion of classifying distinctive words

Distinctive words can follow after numeral-quantifier phrases when functioning as attributes, but other modifiers cannot. Therefore, the criterion of classifying distinctive words can be written as follows:

<数量(numeral-quantifier phrase)>～[的[de](of)]<名(noun)>∧* (<谓词(predicate)> |<体词(notional word)> |<拟声词(onomatopoetic word)>)

If the rear part of the above criterion is written more concretely, the criterion will be changed into the following:

<数量(numeral-quantifier phrase)>～<名(noun)>∧* (不(not)～|～<宾(object)>丨<主宾(subject & object)>丨“～”[的[de](of)]一声[yî shçng])

Distinctive words are those modifiers that can function as attributes directly or after being followed by “的[de](of)”. Simultaneously, they dissatisfy the criteria for kernel words, numerals, numeral-quantifier phrases, onomatopoeic words and demonstratives. So the criterion of classifying distinctive words can also be written more concretely as follows:

～[的[de](of)]<名(noun)>∧* (不[bù](not)～丨～<宾(object)>丨<主宾(subject & object)>丨～<量(quantifier)>|～(<实词(notional word)>+的(of)+<名(noun)>)|“～” [的[de](of)]一声(a sound))

It is “<数量(numeral-quantifier phrase)>～[的[de](of)]<名(noun)>” rather than “being attributes” that are prescribed in the front part of criterion because it can exclude numerals, numeral-quantifier phrases and demonstratives, considering their common function of being attributes.

Among 43,330 words, there are 459 distinctive words, taking up 1.1% in total.

1.7.1.2 The functions of distinctive words

1 There are two situations for distinctive words to function as attributes. One is to function directly, such as “公共[gông gòng](common)”, “常务[cháng wù](routine)” and “日用[rì yòng](daily expenses)” and the other is to function after being followed by “的[de](of)”, such as “亲爱[qîn ài](dear)”, “心爱

[xîn ài](beloved)" and "上好[shàng hǎo](best-quality)". Actually, most distinctive words can function in both situations, such as "大型[dà xíng](large-sized)", "主要[zhǔ yào](main)" and "急性[jí xǐng](acute)".

No matter what, no distinctive words can be followed by the attributes of numeral-quantifier phrases, for these attributes can only appear before the attributes of distinctive words. Therefore, if a modifier fits in "<数量(numeral-quantifier phrase)>～[的[de](of)]<名(noun)>", it should be a distinctive word.

2 Most demonstratives fit in "是[shì](is/being)～的[de]" structure, such as "是急性的[shì jí xìng de](being acute)", "是野生的[shì yì shçng de](being wild)" and "是主要的[shì zhǔ yào de](being primary)", but some don't, such as "公共[gông gòng](public)", "亲爱[qîn ài](dear)" and "日用[rì yòng](daily use)".

3 Generally speaking, demonstratives cannot function as subjects or objects, except in the following two situations:

A Referring to transferred references. For example:

(1) 急性好治，慢性不好治。[jí xìng hǎo zhì, màn xìng bù hǎo zhì.]
(The acute disease is easy to cure, while the chronic disease is hard to cure.)

(2) 男女平等。[nán nǚ píng dìng.]
(equality of men and women)

(3) 生男生女都一样。[shçng nán shçng nǚ dôu yî yàng.]
(to give birth of a boy or a girl is the same.)

Usually, the above situation happens in the comparative structure, which accords with the usage of verbal and adjective constituents as transferred references in classic Chinese.

B Functioning as objects in "从(由)[cóng yóu](from)～到(变为)[dào biàn wéi](to)～. For example:

(4) 从急性到慢性 [cóng jí xìng dào màn xìng](from the acute to the chronic)

(5) 由国营变为私营[yóu guó yíng biàn wéi sî yíng] (from the state-run to the private-run)

(6) 由黑白到彩色 [yóu hçi bái dào cǎi sè](from black and white to color)

Since the above two situations are special, they cannot be evidence to identify the classification of parts of speech. Besides, in the criterion of classifying distinctive words, the function of being modifying constituents is embodied clearly, so distinctive words should be categorised into modifiers, similar to numerals and numeral-quantifier phrases.

4 Several distinctive words can be modified by the degree adverb "最[zuì](the most)", such as "主要[zhǔ yào](main)", "基本[jî bìn](basic)", "心爱[xîn ài]

(beloved)" and "亲爱[qîn ài](love)". Most adjectives and some verbs can also be modified by "最[zuì](the most)", but, differently from adjectives, these distinctive words can function as attributes only after being followed by "的[de](of)" or in the structure of "是[shì]～的[de](is/being)". Furthermore, they cannot function as predicates or complements or be followed by objects or complements. The usage of these distinctive words is just a special exception, probably due to the remaining function of predicates from which these distinctive words originated. For example, "亲爱[qîn ài](love)" and "心爱[xîn ài](beloved)" once functioned as predicates in classic Chinese and modern Chinese.

1.7.1.3 Nouns and verbs as the origination of distinctive words

Many distinctive words originate from those nouns and verbs that lost their functions except for being attributes. For example, "男[nán](male)", "女[nǚ](female)", "金[jîn](gold)" and "银[yín](silver)" changed from nouns, and "亲爱[qîn ài] (dear)" and "心爱[xîn ài](beloved)" changed from verbs.

(7) 亲爱之而已矣[qīn ài zhī ér yǐ yǐ](to regard him with affection and love) (*The Works of Mencius. Wang Zhang I*)
(10) 王都尉见端王心爱 [wáng dū wèi jiàn duān wáng xīn ài] (Duwei Wang felt that King of Duan like it) (*All Men Are Brothers*)

Examples (8), (9) and (11) are omitted with the author's permission.

1.7.1.4 Adjectivisation of distinctive words

Moreover, distinctive words have the tendency of adjectivisation. Lv Shuxiang and Rao Changrong (1981) point out that non-predicate adjectives (similar to distinctive words) tend to be changed into common adjectives. Among the most commonly used 344 non-predicate adjectives[10] illustrated by them, there are 27 in adjectivisation, taking up 7.8%, such as "高级[gāo jí](advanced)", "低级[dī jí](low level)", "积极[jī jí](active)", "消极[xiāo jí](passive)", "直接[zhí jiē](direct)", "间接[jiàn jiē](indirect)", "绝对[jué duì](absolute)", "直观[zhí guān](intuitive)", "绝妙[jué miào](perfect)", "无辜[wú gū](innocent)", "有效[yǒu xiào](effective)", "无效[wú xiào](invalid)", "无私[wú sī](selfless)", "新式[xīn shì](new-style)", "机密[jī mì](confidential)", "意外[yì wài](unexpected)" and "廉价[lián jià](cheap)". It is worth noting that there exist some unbalanced changes among non-predicate adjectives. For example:

"新式[xîn shì]" (adjectivisation)—"旧式[jiùshì]"(un-adjectivisation)；
"绝对[jué duì]" (adjectivisation)—"相对[xiâng duì]" (un-adjectivisation)
"廉价[lián jià]" (adjectivisation)—"高价[gâo jià]" (un-adjectivisation)

These unbalanced changes result in a pair of antonyms belonging to two different parts of speech.

1.7.2 Numerals

Numerals indicate numerical value (cardinal numerals); due to their sequential nature, they can be used to show order or the order of numbers (ordinal numerals). Before ordinal numbers, sometimes "第[dì](auxiliary word for ordinal numbers)" is necessary; sometimes it is not.

The basic function of numerals is to be attributes, belonging to nominal modifiers.

Examples of numerals are as follows:

a coefficient words: 一[yī](one), 二[èr](two), 两(兩)[liǎng](two), 五[wǔ](five), 七[qī](seven), 九[jiǔ](nine), 半[bàn](half)
b digital words: 十[shí] (ten), 百[bǎi](a hundred), 千[qiān](a thousand), 万[mò](ten thousand), 亿[yì](a hundred million)
c approximate words: 几[jī](several), 许多[xǔ duō](many), 若干[rě gān](some)

1.7.2.1 The criterion of classifying numerals

The criterion of classifying numerals is as follows:

([一[[yî](one)]～<量(quantifier)>)∧*(不[bù] (not)～丨～(两[liǎng](two)<量(quantifier)>))

Digital numbers can be put before quantifiers after being added as coefficient words in front, so "[一(one)]～<量(quantifier)>" is chosen to show the positions of coefficient numerals and digital numbers. Since some adjectives fit in "～<量(quantifier)>", "*不(not)～" is chosen to exclude them, and "* (两[liǎng] (two)<量(quantifier)>)" is chosen to exclude some demonstratives that fit in "～<量(quantifier)>"also.

Before adjectives in "～<量(quantifier)>", some other numerals can be added, such as "一大张[yî dà zhâng](a large page)", due to which the criterion of classifying numerals can be decided as follows:

([一[yî] (one)]～<量(quantifier)>)∧* (—[yî] (one)(～<量(quantifier)>)|～(两[liǎng] (two)<量(quantifier)>))

Numerals belong to the closed category, so "二十[èr shí](20)", "三百五十二[sân bǎi wǔ shí èr](352)" and "一万六千一百[yî wàn liu qiân yî bǎi](16100)" should be considered numeral phrases.

"系数(coefficient word)+位数(digital word)" can be regarded as an attribute and a headword construction consisting of a modifier and the word it modifies; "(系数(coefficient word)+位数(digital word))+ (系数(coefficient word)+ [位数(digital word)])" can be regarded as a coordinate structure, such as "一斤二两[yî jîn èr liǎng](1.2 catty)", "三丈五尺八寸[sân zhàng wǔ chǐ bâ cùn](3 zhang

(a unit of length, 3 and 1/3 meters) 5 chi (a unit of length, 1/3 meter) and 8 cun (a unit of length, 1/3 decimeter)) ".

Decimals, such as "三点一四[sân diăn yî sì](3.14)" and fractions, such as "三分之二[sân fçn zhî èr](2/3)" should be considered as numeral phrases, among which "点[diăn]" and "分之[fçn zhî]" are auxiliary words.

When numerals are used to show numerical value or order, the auxiliary word "第[dì](auxiliary word for ordinal numbers)" can be added before them to indicate an order, such as "第[dì]+数(number)" or "第[dì]+数词词组(numeral phrase)", which should be considered as numeral phrases.

Numeral phrases still possess numeral properties, the same as numerals.

Numeral phrases are often followed by "来[lái](about)", "多[duô](over)" or "余[yú](more than)" to show approximate numbers, such as "二十来岁[èr shí lái suì](about twenty years old)", "三十多个[sân shí duô gè](over thirty ones)", "三千余名[sân qiân yú míng](mort than three thousand persons)", among which, "来[lái] (about)", "多[duô] (over)" and "余[yú] (more than)" should be considered as auxiliary words.

Among 43,330 words, there are 42 numerals, taking up 0.1% in total.

1.7.2.2 Two types of numerals

Numerals can be classified into two types as follows:

I Coefficient words: 一[yî](one), 二[èr](two), 三[sân](three), 四[sì](four), 五[wŭ](five), 六[liù](six), 七[qî](seven), 八[bâ](eight), 九[jiŭ](nine), 几[jĭ](several), 数[shù](number), 多[duô](over), 半[bàn](half), 多少[duô shăo](how many/much), 若干[ruò gân](some), 很多[hìn duô](plenty of), 许多[xŭ duô](a lot of), 好多[hăo duô](a lot of), 好几[hăo jĭ](several), 好些[hăo xiç](many), 无数[wú shù](countless)

Coefficient words can modify quantifiers freely, and most of them can also modify a digital number, but they cannot be added as another numeral in front anymore.

II Digital numbers: 十[shí](ten), 百[băi](hundred), 千[qiân](thousand), 万[wàn](ten thousand), 亿[yì](a hundred million), 万万[wàn wàn](a hundred million)

Digital numbers can be modified by a coefficient word but cannot modify quantifiers freely, except for "十[shí] (ten)", but only if they are compounded with a coefficient word to form a phrase of coefficient word, such as "一百个[yî băi gè](a hundred ones)". When "一[yî](one)" is a coefficient word before "十[shí] (ten)", it is often omitted, such as "(一)十个[(yî) shí gè] (ten)", "(一)十六万[(yî) shí liù wàn](sixty thousand)" or "(一)十二亿[(yî) shí èr yì](twelve hundred million) ". However, if there is a digital number larger than "十" in front, "一(one)" should not be omitted, such as "一百一十个[yî băi yî shí gè](one hundred and ten)", "三千零一十六[sân qiân líng yîshí liù yì](three thousand and sixteen)" and "二百一十二亿[èr băi yî shí èr yì](two hundred and twelve hundred million)".

1.7.2.3 The functions of numerals

The functions of numerals are as follows:

1 Numerals can modify quantifiers.

Some adjectives can modify quantifiers, such as "大[dà](big)", "小[xiǎo](small)" in "一大张[yí dà zhāng](a large page)" and "两小杯[liǎng xiǎo bçi](two small cups)", and they can be modified by "不[bù] (not)", "很[méi](very)" as well, due to which the criterion of classifying adjectives can distinguish these adjectives from numerals.

Digital numbers, except for "十[shí](ten)", cannot modify quantifiers freely, only if they are compounded with a coefficient word to form a phrase of a coefficient word, such as "一百个[yî bǎi gè](a hundred ones)", "三万名[sân wàn míng](thirty thousand persons)".

Demonstratives, like "这[zhè](this)", "那[nà](that)", "每[mìi](every)", "某[mǒu](certain)" and "头[tóu](the first)" also can modify quantifiers, such as "这个[zhè gè](this one)", "每张[mìi zhâng](every page)", "某个[mǒu gè](a certain one)" and "头排[tóu pái](the first line)", in the middle of which a numeral can be added, such as "这一个[xuǎn yî gè](this one)", "每两张[mìi liǎng zhâng](every two pages)", "某一个[mǒu yî gè](a certain one)" and "头两排[tóu liǎng pái](the first two lines)". When numerals modify quantifiers, no other numerals can be added in the middle.

2 Numerals and phrases of coefficient word cannot modify nouns directly when they refer to numerical values, except for several special situations (1.6.3.2).

Even though "许多[xǔ duô] (many)", "很多[hìn duô] (plenty of)", "若干[ruò gân](several)", "无数[wú shù](countless)" and "好些[hǎo xiç](a lot of)" can modify nouns directly, such as "许多食品[xǔ duô shí pǐn](many foods)", "很多水[hìn duô shuǐ](plenty of water)" and "若干问题[ruò gân wèn tí] (several issues)", they don't belong to those special situations mentioned in 1.6.3.2, so they are considered as the conversional words of numerals and quantifiers.

3 Most numerals and numeral phrases can function as subjects and objects but only satisfy the following situations:

A in calculation and conversion

(12) 一加一等于二。[yî jiâ yî dìng yú èr]
(One and one is ten.)

(13) 十个十是一百。[shí gè shí shì yî bǎi]
(Ten and ten is a hundred.)

B as a transferred reference

(14) 油库爆炸，一死两伤。[yóu kù bào zhà, yî sǐ liǎng shâng]
(The explosion at the oil depot left one dead and two injured.)

(15) 买一送一。[mǎi yî sòng yî]
(Two for one.)

C in some fixed expressions

(16) —是一，二是二。[yî shì yî, èr shì èr]
(Free translation: to speak honestly)

(17) 八九不离十。[bâ jiǔ bù lí shí]
(Free translation: There is not much difference between two.)

Therefore, based on the above special situations as well as their function of modifying quantifiers in the criterion of classifying numerals, numerals should be categorised into modifiers.

1.7.2.4 Ordinal numerals and other words for the sequence

It is common to use numerals to indicate the sequence in the language structure, such as "一楼[yī lóu](the first floor) or 二等[èr děng](the second-class)".

Not only locatives but also Gan-Zhis are employed to designate the sequence in modern Chinese. These constituents for the sequence have the similar function to ordinal numerals but with lack the cardinal numeral function. Therefore, they are classified as a special category of words for the sequence. For example:

1 Gan-Zhis: 甲级[jiǎ jí](the first-class), 丙区[bǐng qū](the third-section)
2 locatives: 上册[shàng cè](the first volume), 下学期[xià xué qī] (the next semester)

In addition, Latin alphabets can be used with the similar function of the words for the sequence, such as class A and building B.

1.7.3 Numeral-quantifier phrases

1.7.3.1 Types of numeral-quantifier phrases

Generally speaking, numeral-quantifier phrases refer to the phrases of "numeral + quantifier". Here is a discussion of words with the equal functions of numeral-quantifier phrases. In word formation, these words can be divided into the following types:

A the fixed words of "numeral + quantifier", such as "一生[yī shēng](a whole life)", "一小撮[yī xiǎo cuō](a handful)", "一阵[yī zhèn](for a while)" and "一会儿[yī huì èr](a little while)".
B words with the compound pronunciations of "numeral + quantifier", such as "俩[liǎ](two)" and "仨[sā](three)".
C words excluded from the above two types and possessing the same meanings and the same functions of numeral-quantifier phrases, such as "许多[xǔ duō]

(many)", "很多[hěn duō] (plenty of)", "不少[bù shǎo](not a few)", "大量[dà liàng](a large number of)", "部分[bù fēn](part)", "全部[quán bù](all)", "所有[suǒ yǒu](all)", "一切[yí qiè](everything)", "有的[yǒu de](some)", "片刻[piàn kè](awhile)" and "许久[xǔ jiǔ](a long time)". Such words exist in the large majority. Numeral-quantifier phrases mainly function as attributes or quasi-objects and sometimes as adverbials.

The structure of "numerals + quantifiers" almost equals numeral-quantifier phrases in the meaning and grammatical function, except for some minor differences, based on which numeral-quantifier phrases can be divided into three categories.

A. Nominal numeral-quantifier phrases

许多[xǔ duō](many), 大量[dà liàng](a large number of), 少数[shǎo shù](small number), 少许[shǎo xǔ](a little), 绝大多数[jué dà duō shù](most of), 一切[yī qiè](everything), 全部[quán bù](entire), 所有[suǒ yǒu](all), 有的[yǒu de](some), 一些[yī xiē](a number of), 一点儿[yī diǎnr](a bit), 一丁点儿[yī dīng diǎnr](a wee bit), 一带[yī dài](area), 俩 [liǎng](two), 仨[sā](three)

The examples in the above mainly function as attributes and are equal to "numerals + nominal quantifiers" in semantic meaning and grammatical function. Some of them can function as subjects and objects in the transferred condition, such as "大量[dà liàng](a large number of), 多数[duō shù](most), 一切[yī qiè](everything), 全部[quán bù](entire) and 俩 [liǎng](two)". Let's make a comparison between "numerals + nominal quantifiers" and nominal numeral-quantifier phrases.

(18) a 买了三斤苹果 [mǎi le sān jīn píng guǒ] (buy three catty apples)
买了三斤[mǎi le sān jīn] (buy three catty)*
b 买了许多苹果[mǎi le xǔ duō píng guǒ] (buy many apples)
买了许多[mǎi le xǔ duō] (buy many)*

(19) a 三个苹果都烂了[sān gè píng guǒ dōu làn le](three apples are rotten)
三个都烂了[sān gè dōu làn le](three are rotten)*
b 许多苹果都烂了[xǔ duō píng guǒ dōu làn le] (many apples are rotten)
许多都烂了[xǔ duō dōu làn le](many are rotten)*

(20) a 在这一间屋[zài zhè yī jiān wū] (in this room)
在这一间[zài zhè yī jiān] (in this 间[jiān])*
b 在这一带地区[zài zhè yī dài dì qū] (in this area)
在这一带[zài zhè yī dài] (in this 带[dài])*

When "numerals +nominal quantifiers" is transferred to be the subject and object, its function roughly equals that of a noun transferred from itself. For example, when "三斤[sān jīn] (three catty)" is transferred into "苹果 [píng guǒ]", both are equal in function, serving as a common subject and object; when "一间 [yī jiān]" is transferred into "屋[wū](room)", it can function as the object

of “在 [zài](in)” because “屋[wū](room)” is a place noun referring to a position (see 1.6.3.5). Nominal numeral + quantifier phrases share the same function, such as (19)b and (20)a in the above.[11]

B Verbal numeral-quantifier phrases

一番[yī fān], 一气[yī qì], 一通[yī tòng]

They mainly equal “numerals + verbal quantifiers” in semantic meaning and grammatical function, serving as quasi-objects or adverbials, such as “一番[yī fān], 一气[yī qì]”. Let’s compare them in the following examples.

打扮了一下[dǎ ban le yī xià] (have make-up slightly)
打扮了一番[dǎ ban le yī fān] (have make-up carefully)

C Time numeral-quantifier phrases

许久[xǔ jiǔ](a long time), 片刻[piàn kè](awhile), 一生[yī shēng](lifetime), 一会儿[yī huìr](for a little while), 一阵儿[yī zhènr] (for a moment)

They mainly equal to “numerals + time quantifiers” in semantic meaning and grammatical function, serving as quasi-objects or adverbials, such as “许久[xǔ jiǔ](a long time) or 片刻[piàn kè](awhile)”. Let’s compare them in the following examples.

等了三天[děng le sān tiān] (wait for three days)
等了许久[děng le xǔ jiǔ] (wait for a long time)

Numeral-quantifier phrases also belong to the closed category. The criterion of classifying numeral-quantifier phrases is as follows:

<准宾语(quasi-object)>丨((～(<实词(notional word))> + 的[de](of))) + <名(noun)>∧*～<数(numeral) + 量(quantifier) + 名(noun)>)

In this criterion, numeral-quantifier phrases can function as quasi-objects, such as “片刻[piàn kè](awhile)”, “许久[xǔ jiǔ](a long time)”, “良久[liáng jiǔ](a good while)” and “半晌[bàn shǎng](a long while)” or as attributes before those attributes followed by “的[de](of)” but not as attributes before “数(numeral) + 量(quantifier)+名(noun)”, such as “大量[dà liàng] (a large number)”, “所有[suǒ yǒu](all)”, “一切[yí qiè](everything)”, “许多[xǔ duō](many)”, “全部[quán bù](all)” or “部分[bù fēn](part)”. Some demonstratives, such as “这[zhè](this)”, “那[nà](that)”, “惟一[wéi yī](only)” and “任何[rèn hé](any)”, can function not only as attributes before those attributes followed by “的(of)” but also as attributes before “数(numeral)+量(quantifier)+名(noun)”.

Among 43,330 words, there are 72 numeral-quantifier phrases, taking up 0.17% in total.

1.7.3.2 The functions of numeral-quantifier phrases

1 Nominal numeral-quantifier phrases can function as attributes and be put before another attribute with "的(of)", similar to phrases that have a numeral + quantifier. For example:

(21) 许多教师[xǔ duō jiào shī](many teachers)
许多*在农村教书的*教师[xǔ duō zài nóng cūn jiāo shū de jiào shī] (many teachers who teach in the country.)

(22) 一切问题[yí qiè wèn tí](all problems)
一切*不能解决的*问题[yí qiè bù né jiě juě de wèn tí] (all unsolved problems)

(23) 不少书[bù shǎo shū](a lot of books)
不少*刚出版的*书[bù shǎo gāng chū bǎn de shū] (a lot of newly published books)

(24) 大量设备[dà liàng shè bèi](a large number of equipment)
大量*闲置的*设备[dà liàng xián zhì de shè bèi] (a large number of unused equipment)

Based on the above conditions, most numeral-quantifier phrases can be distinguished from numerals, distinctive words, adjectives and state words.

State words without "的[de](of)" as attributes directly cannot be put before another attribute with "的[de](of)", except for "众多[zhòng duō](numerous)". For example:

(25) 众多*高水平的*研究课题 [zhòng duō gāo shuǐ píng de yán jiū kè tí] (numerous high-level research projects)

Actually, "众多[zhòng duō](numerous)" here is a numeral-quantifier phrase, which should be considered as a conversional word of state words and numeral-quantifier phrases.

The demonstratives such as "这[zhè](this)", "那[nà] (that)", "唯一[wéi yī](only)", "任何[rèn hé](any)" and "其他[qí tā](other)" as attributes can not only be put before another attribute with "的[de](of)", but also be followed by another phrase of a numeral + quantifier. For example:

(26) 这高高飘扬的旗帜[zhè gāo gāo piāo yáng de qí zhì]
这*一面*高高飘扬的旗帜[zhè yí miàn gāo gāo piāo yáng de qí zhì]
(this flag floating above)

(27) 那金黄的田野[nà jīn huáng de tián yì]
那*一片*金黄的田野[nà yí piàn jīn huáng de tián yì]
(that golden field)

(28) 唯一通过鉴定的项目[weí yî tông guò jiàn ding de xiàng mù]
唯一*一个*通过鉴定的项目[weí yî yí gè tông guò jiàn ding de xiàng mù]
(the only evaluated project)

(29) 任何违反规定的机关[rèn hé wéi fǎn guî dìng de jî guân]
任何*一个*违反规定的机关[rèn hé yí gè wéi fǎn guî dìng de jî guân]
(any office against rules)

(30) 其他与会的同志[qí tâ yǔ huì de tóng zhì]
其他一些与会的同志[qí tâ yî xiç yǔ huì de tóng zhì]
(other participants of a conference)

Therefore, "*(～数(numeral)+量(quantifier)+名(noun))" is chosen to distinguish these demonstratives from numeral-quantifier phrases.

2 Verbal numeral-quantifier phrases, time numeral-quantifier phrases and some nominal numeral-quantifier phrases can function as quasi-objects. For example:

(31) 等了很久[děng le hěn jiǔ] (waiting for a long time)

(32) 坐了半晌[zuò le bàn shǎng] (seating for a long while)

(33) 高许多[gāo xǔ duō] (much higher)

(34) 小一些 [xiǎo yī xiē] (a little smaller)

The above two functions are the characteristics of numeral-quantifier phrases. As a numeral-quantifier phrase, it should satisfy at least either of them, based on which it is easy to distinguish numeral-quantifier phrases from other parts of speech.

3 Numeral-quantifier phrases cannot modify quantifiers. However, "许多[xǔ duō] (many)", "很多[hěn duō] (a lot of)", "若干[ruò gān](several)", "好些[hǎo xiē] (quite a lot)" and "好多[hǎo duō] (a good many)" can modify quantifiers, and they should be considered as the conversional words of numerals and numeral-quantifier phrases.

4 Generally speaking, numeral-quantifier phrases cannot function as subjects or objects, except for when they are used as transferred references. For example:

(35) 很多(苹果)都坏了。[hěn duō píng guǒ dōu huài le](Many (apples) rotted.)

(36) 没收一切(财产)。[mò shōu yí qiè cái chǎn.](to confiscate all (possessions))

Since the situations of being transferred references are very special, without universality, and the numeral-quantifier phrases in "<准宾语(quasi-object)>" and "～(<实词(notional word)> +的[de](of)+<名(noun)>)" function as modifying constituents, numeral-quantifier phrases are still classified as modifiers.

5 Some numeral-quantifier phrases can function as adverbials without changing their meanings, such as "大量[dà liàng](a large number)", "部分[bù fùn](part)", "全部[quán bù](all)", "许久[xǔ jiǔ](a long while)" and "片刻[piàn kè](awhile)". They can be classified into the conversional words of adverbs and numeral-quantifier phrases, based on the hetero-type strategy. Or, they are only classified into the category of numeral-quantifier phrases, based on the homo-type strategy.

"Numerals + verbal quantifiers" and "numerals + time quantifiers" can function freely as adverbials. For example, "三次从门口经过[sān cì cóng mén kǒu jīng

guò] (pass by the doorway three times)", "他的脸一下变得煞白[tā de liǎn yī xià biàn de shà bái] (his face went white immediately)" and "两天不吃饭[liǎng tiān bù chī fàn] (not to eat for two days).

Based on the homo-type strategy, verbal numeral-quantifier phrases and time numeral-quantifier phrases, both of which function as adverbials, are not treated as adverbials. For example:

(37) a 片刻即到 [piàn kè jí dào](to arrive soon)
b 大家一番议论[dà jiā yī fān yì lùn] (everyone discussed a lot)

Since "numerals + nominal quantifiers" cannot function freely as adverbials, "大量[dà liàng](a large number of), 部分[bù fèn](partial), 全部[quán bù] (all)", all of which function as adverbials, are treated as the conversion of numeral-quantifier phrases and adverbs, based on the hetero-type strategy. For example:

(38) a 大量人员(数量词)[dà liàng rén yuán] (a large number of personnel)
(大量[dà liàng] is a numeral-quantifier phrase.)
b 大量生产电视机(副词) [dà liàng shēng chǎn diàn shì jī] (to produce a large number of television sets)
(大量[dà liàng] is an adverbial.)

1.7.3.3 The distinctions between numeral-quantifier phrases and adjectives or distinctive words, along with others

Some adjectives can function as attributes directly but just after other attributes with "的(of)". They also can co-exist with another structure of "numeral + quantifier". For example:

(39) a 刚买的漂亮衣服 [gāng mǎi de piào liàng yī fú]
(the beautiful clothes just bought)
b *漂亮刚买的衣服[piào liàng gāng mǎi de yī fu]
c 一件刚买的漂亮衣服[yí jiàn gāng mǎi de piào liàng yī fú]
(a beautiful cloth just bought)

(40) a 木头的圆桌子[mù tóu de yuán zhuō zi]
(the wooden round-shaped table)
b *圆木头的桌子[yuán mù tóu de zhuō zi]
c 一张木头的圆桌子[yī zhāng mù tóu de yuán zhuō zi]
(a wooden round-shaped table)

Words such as "许多[xǔ duō] (many)", "大量[dà liàng](a large number)", "少[shǎo liàng]量(a little)", "少许[shǎo xǔ](a few)", "所有[suǒ yǒu](everything)" and "大批[dà pī](amounts of)", as adjectives, cannot be modified by "很[hěn](very)" or co-exist with a structure of "numeral + quantifier". They can be put before attributes with "的[de](of)" when functioning as attributes. For example:

(41) a 许多刚买的衣服[xǔ duō gāng mǎi de yī fú]
(many clothes just bought)
b *几十件许多衣服/许多几十件衣服[jǐ shí jiàn xǔ duō yī fú/ xǔ duō jǐ shí jiàn yī fú]

(42) a 大量新出土的文物[dà liàng xīn chū tǔ de wén wù]
(a large number of newly unearthed cultural relics)
b *几百件大量文物/大量几百件文物[jǐ bǎi jiàn dà liàng wén wù/ dà liàng jǐ bǎi jiàn wén wù]

(43) a 少数吃草的动物[shǎo shù chī cǎo de dòng wù] (a few herbivorous animals)
b *十种少数动物/少数十种动物[shí zhǒng shǎo shù dòng wù](*ten a few animals)/ [shǎo shù shí zhǒng dòng wù] (a dozen of animals)

Therefore, these words should not be considered as adjectives. In addition, they cannot be treated as distinctive words either, for distinctive words can be put only after those attributes with "的[de](of)" when functioning as attributes. For example:

(44) a 能治愈的*慢性*疾病 [néng zhì yù de màn xìng jí bìng]
(the curable chronic disease)
b *慢性能治愈的疾病[màn xìng néng zhì yù de jí bìng]

(45) a 适应能力强的*野生*动物[shì yìng néng lì qiáng de yě shēng dòng wù]
(the wild animals of strong adaptation)
b *野生适应能力强的动物[yě shēng shì yìng néng lì qiáng de dòng wù]

The function of these words is similar to that of the structure of "numeral + quantifier", such as "许多[xǔ duō] (many)", "大量[dà liàng](a large number)" and "所有[suǒ yǒu](everything)" in the examples from (41)–(43), which can be replaced by a structure of "numeral + quantifier". So, they should be classified as numeral-quantifier phrases.

"个别(individual)" can not only be modified by "很[hěn](very)" but also can function as an attribute before another one with "的[de](of)". It is similar to a numeral-quantifier phrase in usage. For example:

(46) 个别违反纪律的同学[gè bié wéi fǎn jì lǜ de tóng xué]
(several individual students against rules)

So "个别[gè bié](individual)" in the above example should be considered as a numeral-quantifier phrase. To be more exact, "个别[gè bié] (individual)" is a conversional word of adjectives and numeral-quantifier phrases.

"部分[bù fēn](part)" can not only be modified by phrases of numeral + quantifier, such as "三个部分[sān gè bù fēn](three parts)", but also by numerals directly, such as "一部分[yí bù fēn](a part)", so it is considered as a conversional word of nouns, quantifiers and numeral-quantifier phrases.

1.7.4 Demonstratives

Demonstratives have the indicative function of mainly being attributes.

1.7.4.1 Two criteria of demonstrative classification

Demonstratives can be classified by two criteria due to their distributions in different times. They are as follows:

I. ～<数量名(numeral-quantifier phrase + noun)>〖定中(attribute + headword)〗∧* (谓语(predicate)丨体词(nominal))
(in modern Chinese, such as "每[mìi](every)", "另[lìng](another)", "任何[rèn hé](any)", "唯一[wéi yî](only)", "这[zhè](this)" and "上[shàng](previous) ")

Usually, demonstratives appear before "数量名(numeral-quantifier phrase + noun)", such as "这一本书[zhè yî bìn shû](this book)", "任何一个人[rèn hé yí gè rén](anyone)" and "上一场电影[shàng yî chăng diàn yĭng](the last film)". Since some predicates and nominals can also fit in this position, such as "雪白一双鞋[xuì bái yî shuâng xié](a pair of pure-white shoes)(state word + numeral-quantifier phrase + noun)"and "他们两个人[tâ men liăng gè rén](they two)(nominal pronoun + numeral-quantifier phrase + noun) ", "(谓语(predicate)丨体词(nominal))" in the criterion is chosen to exclude them from demonstratives. The above criterion can also be further written as follows:

～<数量名(numeral-quantifier phrase + noun)>〖定中(attribute + headword)〗∧* (<谓语(predicate)>丨<补语(complement)>丨<主宾(subject & object)>)

II. ～<名(noun)>〖定中(attribute + headword)〗∧* (<数量(numeral-quantifier phrase)>～<名(noun)>丨<主宾(subject and object)>)
(in classic Chinese, such as "本[bĕn](this)", "该[gāi](this)")

Two types of demonstratives in the above can be classified by a unified criterion:

<定(attribute)>∧*～<数量(numeral-quantifier phrase)>～[的(of)]+ <名(noun)>〖定中(attribute + headword)〗

Distinctive words can appear but just after numeral-quantifier phrases or phrases of numeral + quantifier in "<数量(numeral-quantifier phrase)>～<名(noun)>", such as "一台彩色电视机[yī tái căi sè diàn shì jī](a color TV set)", "不少彩色电视机[bù shăo căi sè diàn shì jī](many color TV sets)". Demonstratives cannot appear simultaneously with numeral-quantifier phrases, such as "本[bĕn] (this)", "该[gāi] (this)" or just appear before them, such as "这[zhè](this)", "那[nà](that)", "每[měi](every)", "某[mŏu](certain)", "任何[rèn hé](any)", "另[lìng](another)", "其他[qí tā](other)" and "唯一[wéi yī](only)" in "～<数量名(numeral-quantifier phrase + noun)>", like the examples of "这一台电视机(this TV set)", "每一台电视机[měi yī tái căi sè diàn shì jī](every TV set)", "上一个礼拜[shàng yí gè lĭ bài](the previous week)", "头两排松树[tóu liăng pái sōng shù](the first two lines of pine trees)".

In the past, demonstratives belonged to pronouns. In consideration of their special distribution with the big semantic difference from pronouns, they should be categorised independently. Lv Shuxiang (1979) points out that it is more appropriate to subdivide pronouns into pronouns and demonstratives, which accords with the classification in this book.

Some demonstratives function as subjects and objects, such as "这[zhè] (this)", "那[nà] (that)", "此[cǐ](this)", which are considered as the conversional words of demonstratives and nominal pronouns.

Among 43,330 words, there are 26 demonstratives, taking up 0.06% in total.

1.7.4.2 Sub-categories of demonstratives

Based on the demonstrative meanings, demonstratives can be sub-categorised into the following:

A the definite demonstratives: 这[zhè] (this), 此[cǐ] (this), 那[nà] (that), 本[bìn] (this), 该[gâi](this)
B the indefinite demonstratives: 某[mǒu](certain)
C the arbitrary demonstratives: 每[měi] (every), 任何[rèn hé] (any)
D demonstratives for others: 另[lìng] (another)，另外[ling wài] (the other)，其他[qí tā](other), 又[yòu](again)
E demonstrative for unicity: 唯一[wéi yī] (only)
F sequence demonstratives: 上[shàng](upper),下[xià](below), 前[qián](front), 后[hòu](behind), 头[tóu](first)
G demonstrative for sameness: 同[tóng] (same)

1.7.5 Onomatopoetic words

Onomatopoetic words are the words for imitating sounds, due to which they are also called mimetic words. Their basic function is to be attributes and adverbials.

Commonly used onomatopoetic words are as follows:

啪[pā](bang), 咚[dōng](rub-a-dub), 吱[zhī](creak), 唰[shuā](swish)
当当[dāng dāng](clang), 哗哗[huā huā] (a sound of gurgling water), 噗噗[pū pū] (puff), 呜呜[wū wū](purr)
叮当[dīng dāng](jingle), 哗啦[huā lā](clatter), 噼啪[pī pā](flif-flop), 呲溜[cī liū](slip)
哗啦啦[huā lā lā](clatter), 叮当当[dīng dāng dāng](jngle), 轰隆隆[hōng long long](rumble)

Some onomatopoetic words originate from interjections, such as "哎[āi], 唔[ńg] (to show doubt) and 哎哟[āi yō](ouch)".

The criterion of classifying onomatopoetic words is as follows:

"～"[的[de]丨地[de]](声音[shçng yîn](sound)丨—声[yî shçng](a sound)丨[作]响[zuò xiǎng])∧*<谓词(predicate)>

Among 43,330 words, there are 22 common onomatopoetic words collected in the research, taking up 0.05% in total, most of which haven't been listed here.

The functions of onomatopoetic words are as follows:

1 Most onomatopoetic words followed by "的[de]" can function as attributes, and some without "的[de]" can have the same function but may not be as flexible as the ones with "的[de]" in use. Different from other modifiers, they often appear with quotation marks as quotation constituents in expressions with "的[de]"or without "的[de]". As attributes, they usually modify "声音[shçng yîn](sound/voice)", "声响[shçng xiăng](noise)", "一声[yî shçng] (a sound)" or ". . . . . 声[shçng](sound)", such as "'当[dâng](ding-dong)'的一声[de yî shçng](a sound of [dâng],']", "'丁当[dîng dâng](jingle)'一声[yî shçng] (a sound of [dîng dâng]", "'哗哗[huâ huâ](a sound of gurgling water)'的声音[de shçng yîn](a sound of [huâ huâ]", "'轰隆轰隆[hông long hông long] (rumble)'的声响[de shçng xiăng](the noise of [hông long hông lóng]", "'嘭嘭[pçng pçng](bang)'的敲门声[de qiâo mén shçng](a knock of [pçng pçng]at the door" and "'呜呜[wû wû](purr)'的哭声[de kû shçng](the cry of [wû wû]".

2 Most oonomatopoetic words followed by "地" can function as adverbials, and a few onomatopoetic words can have the same function without "地". Some of them can appear with quotation marks as adverbials, different from adverbs in use. For example:

(47) 他的心在"噗噗"直跳。[tâ de xîn zài pû pû zhí tiào]("噗噗[pû pû] (puff)" describes the strong heartbeats caused by something unexpected.) (His heart beats faster)

(48) 小王"咯咯"地笑了。[xiăo wáng gç gç de xiào le]("咯咯[gç gç] (chuckle)" describes the sound of smiling)
(Xiao Wang gurgles happily)

(49) 拳头攥得"格崩"[作]响。[quán tóu cuán de gé bçng zuò xiăng]("格崩[gé bçng](crack)" describes the sound caused when hands are clenched tightly.) (Clench one's fist tightly)

(50) "唰"地一鞭子打过去。[shuâ de yî biân zi dă guò qù]("唰[shuâ] (swish)" describes the sound of a whip when it is used to lash something.) (to lash quickly with a whip)

3 Onomatopoetic words can be used independently or as independent constituents. For example:

(51) "*啪*"，门外一声枪响。[pâ, mén wài yî shçng qiâng xiăng]("啪[pâ] (crack)" describes the sound of shooting.) (a gunshot outside the door)

(52) 一只乌鸦从头上飞过，呱、呱、呱 . . . [yî zhî wû yâ cóng tóu shàng fçi guò]("呱[guâ]、呱[guâ]、呱[guâ]" describes the sound of a crow crying.) (A crow is flying over the heat with the sound of "gua . . .")

4 The onomatopoetic words from the sounds of humans or animals can be used as verbs temporarily, indicating the sounds made by these onomatopoetic words. For example, "'哈'了一声 [hā le yī shēng]"means to make a sound

"哈[hā](aha)", which can be regarded as a result of a covert behaviour of making a sound). More examples are as follows:

(53) 小坡*喵*了一声。[xiǎo pô miâo le yî shçng] ("*喵*[miâo](mew)"describes the sound of a cat crying.) (Xiao Po made a cry of "miâo".)

(54) 牛牧师想了想，没法儿回答，只好*咔咔*了两声。 [níu mù shî xiǎng le xiǎng, méi fǎ ér huí dá, zhǐ hǎo kâ kâ le liǎng shçng]("*咔咔*[kâ kâ](clack)"describes the sound of coughing.) (Not knowing how to reply, the Niu clergyman had to make the sound "kaka".)

For those onomatopoetic words similar to the interjections and imitating sounds from humans, almost all of them can be used as verbs temporarily. For example:

(55) 于观看着他"哎"了一声。[yú guân kàn zhe tà âi le yî shçng]("哎[âi](hey)"describes the sound of expressing exclamation.) (Yu Guan made the sound of "ai" when looking at him.)

(56) 她"啧啧"了两声，也叹起气来。[tâ zé zé le liǎng shçng, yì tàn qǐ qì lái]("啧啧[zé zé](click of the tongue)"describes the sound of expressing regret.) (After having made the sound of "zeze", she began to sigh.)

Except for the above, onomatopoetic words cannot function as other constituents. Those in the following three situations are not onomatopoetic words.

A "叽里咕噜[jî li gû lû](gabble)", "丁丁当当[dîng dîng dâng dâng](jingle-jangle)", "扑通扑通[pû tông pû tông](thump)" can be used as predicates and complements regardless of the sense of grammatical function or the sense of word formation, which is as same as state words, so they should be considered as state words. All quadrisyllabic words imitating sounds are state words; onomatopoetic words refer to the ones in monosyllables, disyllables and trisyllables.

B "滴答[dî dâ](tick)", "巴嗒[bâ dâ](rattle)" and "咕嘟[gû dû](bubble)" can be used as the cores of predicates or be followed by objects. However, in this situation, they are different from onomatopoetic words both in phonetic forms and in meanings, for their latter syllables are usually weakened into light tones along with the meanings changed from imitating sounds to expressing certain behaviours. When they are used as onomatopoetic words, the pronunciations of their latter syllables are not changed at all. For example:

(57) a 屋檐上的水往下滴答[dîda]着。[wû yán shàng de shuǐ wǎng xià dîda zhe](The water is dripping from the roof.)
b 滴答[dî dâ]—声响。[dî dâ yî shçng xiǎng](a sound of "[dî dâ]")

(58) a 小狗巴嗒[bâda]着嘴。[xiǎo gǒu bâda zhe zuǐ](The puppy snaps its mouth.)
b 巴嗒[bâ dâ]—声把盖儿盖上。[bâ dâ yî shçng bǎ gài ér gài shàng](Cover a lid with the sound of "[bâ dâ]")

(59) a 把海带咕嘟[gûdu]烂。[bă hăi dài gûdu làn](Stew kelp well-done)
b 咕嘟[gû dû]—口把酒喝光了。[gû dû yî kŏu bă jĭu hç guâng le](Drain the wine in one drink)

Therefore, "滴答[dîda]", "吧嗒[bâda]" and "咕嘟[gûdu]" in group (57)a, (58)a and (59)a should be regarded as verbs and "滴答[dî dâ]", "吧嗒[bâ dâ]" and "咕嘟[gû dû]" in group (57)b, (58)b and (59)b should be regarded as onomatopoetic words.

C "呼噜[hû lû](snore)" and "嘟噜[dû lû](trill)"can function as objects when their phonetic forms and meanings are changed. For example:

(60) a 打了一夜呼噜。[dă le yí yè hûlu]
(snoring for a whole night)
b 喉咙里呼噜响。[hóu lóng lĭ hû lû xiăng]
(The throat grunts)

(61) a 嘴里打了一个嘟噜。[zuĭ lĭ dă le yí gè dûlu]
(make a sound of "dulu" in the mouth)
b 嘟噜—声滑下去。[dû lû yî shçng huá xià qù]
(Slide down quickly)

"呼噜[hûlu]" and "嘟噜[dûlu]" in group (60)a and (61)a should be regarded as nouns, while "呼噜[hû lû]" and "嘟噜[dû lû]" in group (60)b and (61)b should be regarded as onomatopoetic words.

1.7.6 Adverbs

Adverbs don't belong to a unified category, but their main grammatical function is to be adverbials. They belong to the category of predicate-modifiers.

1.7.6.1 The criterion of classifying adverbs

The criterion of classifying adverbs is as follows:

<状(adverbial)>∧*<其他句法成分(other syntactic constituents)>

This criterion can be more concrete.

<状(adverbial)>∧(*不[bù] (not)~|很[hĕn] (very)~|~〈宾(object)〉|〈主宾(subject&object)〉|〈准宾语(quasi-object)〉|〈拟声词(onomatopoetic word)〉))

"*不[bù] (not)~|很[hĕn] (very)~|~〈宾(object)〉|〈主宾(subject&object)〉" The above criterion separates adverbs from nominals and predicates, both of which function as adverbials. "*〈准宾语(quasi-object)〉|〈拟声词(onomatopoetic word)〉" separates adverbs from numeral-quantifier phrases and onomatopoetic words.

Among 43,330 words, there are 999 adverbs, taking up 2.3% in total.

The functions of adverbs are as follows:

1 All adverbs can function as adverbials. Adverbs usually follow after subjects when functioning as adverbials. Some of them can be put before subjects, such as "幸亏[xìng kuî](fortunately)" and "忽然[hû rán](suddenly)".

2 A few adverbs can function as an independent sentence directly or after being added to modal particles, such as "也许[yì xǔ](perhaps)", "不[bù] (not)", "没有[méi yǒu](none)", "大概[dà gài](roughly)", "赶紧[gǎn jǐn](hurriedly)" and "马上[mǎ shàng](immediately)" (Lu Jianming, 1982).

3 "不[bù] (not)" and "没有[méi yǒu] (no)" can function as predicates or be modified by other adverbs, but, due to their insufficient meanings in this function, this usage should be considered as omitting headwords. Therefore, "不[bù] (not)" and "没有[méi yǒu] (no)" cannot be classified as kernel words. For example:

(62) 我不! [wǒ bù](I don't want to)

(63) 他没有。[tâ méi yǒu](He doesn't have)

(64) 我也不。[wǒ yì bù](I don't want to, either)

4 "很[hìn] (very)", "极[jí](extremely)" can function as complements, such as "好得很[hǎo de hìn](very good)" and "大极了[dà jí le](extremely big)", which is usually considered as an exception for the functions of adverbs. From the diachronic perspective, this function comes from the remaining influence from predicates. Although "极[jí] (extremely)" as an adverb of degree and "极[jí](extremely)" as a noun with the meaning of "顶点[dǐng dǐan](top)" have the same origin, the latter gradually develop into a verb, with the meaning of reaching to the top degree. For example:

(65) 疲*极*不得[pí jí bù dé] (too extremely tired to get something)

(66) 穷*极*生计 [qióng jí yî shçng](rack one's brain extremely to find a way)

"极[jí](extremely)" as a complement in modern Chinese continues this usage and often appears in written language, while, when functioning as an adverbial, it is very popular in spoken language. No matter which form it is in, "极[jí] (extremely)" should be considered as a word with a generalisation level, and "极[jí] (extremely)" is a verb when functioning as a complement.

"很[hìn] (very)" originated from the adjective with the meaning of "vicious and malevolent" and used to be written as "狠[hìn] (very)". For example:

(67) 每日行走*狠*辛苦了[mìi rì xíng zǒu hìn xîn kǔ le](walking everyday is very hard.)

(68) 无味的狠[wú wèi de hìn] (to be very boring.)

The function of being a complement for "很(狠) [hìn hìn](very)" seems to come from the remaining influence of adjectives as complements, and it should be considered as an adjective here. If it is so, the exception of an adverb as a complement should not exist at all.

The compatibility degree between adverbials and complements is extremely small, only about 0.03 (see Chapter 6 in *Modern Chinese Parts of Speech: Classification Theory*), which reflects that they don't share the equivalent functions. It is not proper to regard words in the positions of complements as adverbs of degree, such as "绝顶[jué dǐng](utterly)", "死[sǐ](deat)", "远[yuǎn](far)", "坏[huài](bad)", "无比[wú bǐ](incomparable)", "透[tòu](thoroughly)", "透顶[tòu dǐng](thoroughly)", "慌[huâng](flurried)" and "厉害[lì hài](severely)" (Yang Yulin, 1995, 1998; Zhang Yisheng, 2000). In this book, words in the positions of complements can be considered as verbs or adjectives; if they can function as adverbials as well, they should be considered to have the properties of adverbs at the same time.

5 Although "被迫[bèi pò](forced)", "故意[gù yì](deliberately)" and "互相[hù xiāng](each other)" fit in the structure of "是[shì]～的[de](is/being)", they should be considered as adverbs because "的 [de](is/being)" is a mark for a nominal modifier, which can change not only nominals and predicates into nominal modifiers but also predicate modifiers into nominal modifiers.

6 Besides the functions mentioned above, adverbs don't have others anymore. "长期[cháng qî](long-term)", "临时[lín shí](temporary)", "真正[zhçn zhèng](really)" and "自动[zì dòng](automatic)" can function as adverbials and attributes but not as other constituents. Actually, they have the properties of both adverbs and distinctive words at the same time. Their quantity is small and only takes up 7% of adverbs in total; therefore, they are considered as the conversional words of adverbs and distinctive words, based on the hetero-type strategy. "最[zuì](the most)" can function as an adverbial or as an attribute to modify locatives and some nouns, such as "最上面[zuì shàng miàn](top-most)", "最左边[zuì zuǒ biân] (left-most)", "最底层[zuì dǐ céng](bottom-most)", "最高峰[zuì gâo fçng] (the highest peak)" and "最前线[zuì qián xiàn] (the forefront)", so it is also considered as a conversional word of adverbs and distinctive words.

Zhu Dexi (1985a) once said, "distinctive words only modify nouns or appear before '的[de](is/being)'" and "adverbs are defined as words only functioning as adverbials". So, in that way, "长期[cháng qī](permanently) and 临时[lín shí](temporarily)", which can function as adverbials, cannot be distinctive words which "only modify nouns or appear before '的[de](is/being)'"; "长期[cháng qī](permanently), 临时[lín shí](temporarily)", which can function as attributes, cannot be adverbs "only functioning as adverbials". However, the fact is that both are conversional words of distinctive words and adverbs, for they have both functions at the same time. Obviously, Zhu's definitions of distinctive words and adverbs are indeed inadequate, and there is a need to explain them further. "Only functioning as attributes/adverbials" (1985a) aims at distinguishing distinctive words and adverbs from nominals and predicates, the reason of which is that Zhu Dexi (1982a, 1985b) separately included the function of being attributes into nominals and that of being adverbials into predicates, based on a priority of the homotype strategy. When the grammatical functions of distinctive words and adverbs

cross, they are classified into the conversional category, based on a priority of the hetero-type strategy. After this explanation, the definitions of distinctive words and adverbs can be improved: Distinctive words are those that fit in "数量(quantity)~名词(noun)" as attributes; adverbs are those that can function as adverbials but not quasi-objects in modifiers. In that way, modifiers functioning as both attributes and adverbials can be treated as the conversional category of distinctive words and adverbs.

1.7.6.2 Various meanings of adverbs

Adverbs have various meanings, which are listed as follows:

1 to express mood: 难道[nán dào](could it be said that . . .), 究竟[jiû jìng](what actually happened), 简直[jiǎn zhí](virtually)
2 to express modality: 也许[yì xǔ](perhaps), 大概[dà gài](probably), 必须[bì xû](should), 准[zhǔn](must)
3 to express time: 已经[yǐ jîng](already), 刚[gâng](just), 曾经[céng jîng](once)
4 to express location: 到处[dào chù](everywhere), 就地[jiù dì](on the spot), 四处(everywhere)
5 to express repetition: 又[yòu](again), 也[yì](also), 还[hái](still)
6 to express range: 都[dôu](all), 只[zhǐ](only), 光[guâng](alone)
7 to express degree: 很[hìn](very), 十分[shí fçn](completely), 最[zuì](most), 更[gèng](more)
8 to express negation: 不[bù] (not), 没[méi] (no), 别[bié](not)
9 to express quantity: 总共[zǒng gòng](total), 一共[yî gòng](altogether), 足足[zú zú](fully)
10 to express manner: 亲自[qîn zì](personally), 悄悄[qiâo qiâo](quietly), 互相[hù xiâng](mutual), 赶忙[gǎn máng](hurriedly)

1.8 Function words

In the sense of semantic meaning, function words don't indicate a conceptual meaning which reflects the outside world; instead, they mirror various relations, states and functions on the inside of a language or in the subjective implications of speakers. Function words are not independent in grammar, which means they cannot serve as syntactic constituents alone, and they have to be attached to another notional constituent. They belong to the closed category, including prepositions, conjunctions, modal particles and auxiliary words.

1.8.1 Prepositions

The semantic function of a preposition is to introduce different objects related to behaviours or things. For example:

(1) a 对这个问题进行研究[duì zhè ge wèn tí jìn xíng yán jiū](to do research on this issue) (The object after "对[duì](on)" is introduced.)

b 小刘被老师批评了一顿[xiǎo liú bèi lǎo shī pī píng le yī dùn](Xiao Liu was blamed by the teacher.)(The passive agent after "被[bèi](by)" is introduced.)
c 用树枝把帐篷撑起来[yòng shù zhī bǎ zhàng peng chēng qǐ lai](to support the tent with branches of a tree) (A tool is introduced after "用[yòng](with)"; the passive object is introduced after "把[bǎ](to)".)
d 向前跑去[xiàng qián pǎo qù](run forwards) (The direction is introduced after "向前[xiàng qián](towards)".
e 从学校去火车站[cóng xué xiào qù huǒ chē zhàn](from school to train station) (The starting point is introduced after "从[cóng[(from)".
f 给弟弟买了一本书[gěi dì di mǎi le yī běn shū](buy a book for the younger brother) (The recipient is introduced after "给[gěi](for)".)
g 给小朋友讲故事[gěi xiǎo péng yǒu jiǎng gù shì](tell a story to children) (The recipient is introduced after "给[gěi](to)".)

(2) a 关于宇宙起源的学术报告[guān yú yǔ zhòu qǐ yuán de xué shù bào gào] (the academic report on the origin of universe) (The related object is introduced after "关于[guān yú](on)".)
b 对这个问题的意见[duì zhè ge wèn tí de yì jiàn] (the opinion on this issue) (The related target is introduced after "对[duì](on)".)

1.8.1.1 The criterion of classifying prepositions

The criterion of classifying prepositions is as follows:

(～<实词(notional word))> + <谓词性成分(predicate constituent)>)〖状中(adverbial and headword)〗｜(<谓词性成分(predicate constituent)>～<实词(notional word)>〖后状语post-adverbial〗)

Prepositions only have one function, and that is to form preposition structures after being put before notional constituents. Additionally, nominal constituents and predicate constituents can also be put after prepositions, such as "把研究搞好[bǎ yán jiū gǎo hǎo](doing the research well)" and "对学习不感兴趣[duì xué xí bù gǎn xìng qù](having no interest in learning)". Under a certain condition, prepositions can function as modifiers, such as "从急性到慢性[cóng jí xìng dào màn xìng](from the acute to the chronic)".

The preposition structure is a kind of adverbial structure, and their functions are as follows:

1 Preposition structures can function as adverbials directly.
2 Some preposition structures can be put after predicate constituents as postpositive adverbials. For example:

(3) 来自南方[lái zì nán fāng]
(coming from the south)

(4) 生于北京[shçng yú bìi jīng]
(born in Beijing)

(5) 往上海 [yùn wǎng shàng hǎi]
(transport to Shanghai)

(6) 高于一切[gâo yú yî qiè]
(above all else)

(7) 给敌人以打击 [gìi dí rén yǐ dǎ jî]
(to attack enemies)

In the past, preposition structures after predicates were regarded as complements of time and place. However, strictly speaking, the complements of time and place are different from other complements, for the former has the properties of modifiers, while the latter has the properties of predicates. Therefore, it is more proper to treat the former as postpositive adverbials.

3 A few preposition structures can function as attributes after being added to "的[de](of)". For example:

(8) 对他的/意见[duì tā de yì jiàn]
(the opinion of him)

(9) 关于环境保护的/报告[guān yú huán jìng bǎo hù de bào gào]
(the report of environmental protection)

Among 43,330 words, there are 95 prepositions, taking up 0.22% in total.

1.8.1.2 "连[lian](even)" as an auxiliary word

"连[lián](even)" is often used before constituents of notional words and then followed by constituents of predicates, such as "连他*也不知道*[lián tā yě bù zhī dào](he even doesn't know it)". "连他[lián tā] in the example functions as a subject instead of an adverbial, so it should not be classified as a preposition but an auxiliary word.

Most prepositions originated from verbs, and, sometimes, it is very hard to distinguish them clearly. The ways to differentiate them are as follows:

A to see if they can function independently.

Here, to judge whether they are prepositions or verbs is to see if they can function independently as predicates or objects or if they can be modified by adverbials and used alone. If they can, they are verbs, for no prepositions have such functions. By the way, some verbs cannot function independently, either.

B to depend on the situations after they are followed by the constituents of notional words.

In the situation of being followed by notional constituents, if they can be modified by "不[bù](not)" or other adverbials and function as predicates but not adverbials or postpositive adverbials, they should be verbs; if they can function as adverbials

or postpositive adverbials but cannot function as predicates, or if they function as predicates but cannot be modified by "不(not)" or other adverbials, they should be prepositions. For example:

Q: 你给谁写了一封信? [nǐ gěi shuí xiě le yī fēng xìn]
(To whom you wrote this letter?)
A: 我给张三。[wǒ gěi zhāng sān]
(To Zhangsan)
A*: 我不给张三。[wǒ bù gěi zhāng sān]

"给" in the above example is a preposition. In addition, after being followed by the constituents of notional words, "在[zài](in)", "到[dào](at)", "用[yòng](with)" and "朝[cháo](to)" can function not only as predicates after being modified by "不[bù](not)" or other adverbials, but also as adverbials and complements of time and place. Therefore, they can be considered as the conversional words of verbs and prepositions.

"和[hé](and)", "与[yǔ](with)", "同[tóng](and)" and "跟[gēn](with)" are prepositions and conjunctions at the same time. It is still not easy to distinguish them clearly in use. The criterion of differentiating them is as follows. For the sake of convenience in explanation, "和(and)" is chosen as the representative of "和[hé](and)", "与[yǔ](with)", "同[tóng](and)" and "跟[gēn](with)", and "甲[jiǎ](A)" and "乙[yǐ](B)" are chosen to stand for the constituents before and after "和(and)", respectively.

A If the structure of "甲和乙[jiǎ hé yǐ]] (A and B)" can be changed into "和乙[hé yǐ] (and B)", "和[hé](and)" is a preposition; if not, "和[hé](and)" is a conjunction. The examples of prepositions are from (10) to (11) and the examples of conjunctions are from (12) to (13).

(10) *我和他*开玩笑 [wǒ hé tâ kâi wán xiào]
(I joke with him.)
*和他*开玩笑[hé tâ kâi wán xiào]
(to joke with him)

(11) *小王和小李*一样高[xiǎo wáng hé xiǎo lǐ yî yàng gâo]
(Xiaowang is as tall as Xiaoli.)
*和小李*一样高 [hé xiǎo lǐ yî yàng gâo]
(as tall as Xiaoli)

(12) *我和他*是北京人[wǒ hé tâ shì bìi jîng rén]
(Both he and I are from Beijing)
**和他*是北京人 * [hé tâ shì bìi jîng rén]
(and he is from Beijing)

(13) *小王和小李*在看书[xiǎo wáng hé xiǎo lǐ zài kàn shû]
(Xiao Wang and Xiao Li are reading books.)
**和小李*在看书 * [hé xiǎo lǐ zài kàn shû](and Xiao Li is reading a book)

B If "和(and)" in the structure of "甲和乙 [jiǎ hé yǐ](A and B)" can be added with adverbials or verbs in front, "和[hé](and)"is a preposition; if not, "和

[hé](and)" is a conjunction. The examples of prepositions are from (14) to (15) and the examples of conjunctions are from (16) to (17).

(14) 我和他开玩笑[wǒ hé tâ kâi wán xiào]
(I joke with him.)
我刚才/经常/想和他开玩笑[wǒ gâng cái/ jîng cháng/ xiǎng hé tâ kâi wán xiào] (I just/often/want to joke with him.)

(15) 小王和小李一样高[xiǎo wáng hé xiǎo lǐ yî yàng gâo]
(Xiao Wang is as tall as Xiao Li.)
小王过去/会/也和小李一样高[xiǎo wáng guò qù /huì /yì hé xiǎo lǐ yî yàng gâo]
(Xiang Wang used to be/will be/is as tall as Xiao Li)

(16) 我和他是北京人[wǒ hé tâ shì bìi jîng rén]
(Both he and I are from Beijing)
*我也和他是北京人 * [wǒ yì hé tâ shì bìi jîng rén]
(Both he and I are from Beijing.)

(17) 小王和小李在看书[xiǎo wáng hé xiǎo lǐ zài kàn shû]
(Xiao Wang and Xiao Li are reading books.)
*小王*刚才*和小李在看书 *[xiǎo wáng gâng cái hé xiǎo lǐ zài kàn shû]
(Just Xiao Wang and Xiao Li are reading books)

"因[yīn](because), 因为[yīn wèi](because), 为了[wèi le](for) and 由于[yóu yú](due to)" are the conversional words of conjunctions and prepositions. The nominal constituents after them are considered as prepositions; the predicate constituents after them are considered as conjunctions. The examples of prepositions are as follows:

(18) a 他因事未能到会。[tā yīn shì wèi néng dào huì](He failed to attend the meeting because he was engaged in other things.)
b 他这样做都是为了你。[tā zhè yàng zuò dōu shì wèi le nǐ](What he did is just for you.)
c 由于天气原因取消了这趟航班。[yóu yú tiān qì yuán yīn qǔ xiāo le zhè tang háng bān] (The flight is cancelled due to the bad weather.)

1.8.2 Conjunctions

The function of conjunctions is to link words, phrases, clauses and sentences. It builds up logical relations among the connected constituents, such as paralleling, selection, progression, transition, cause and effect and condition and purpose.

The criteria of classifying conjunctions are as follows:

1 (<实词(notional word)>～<实词(notional word)>)〖联合结构(coordinate structure)〗∧*<句法成分(syntactic constituent)>
2 ～([<主(subject)>] + <谓词性成分(predicate constituent)>) ∧*((<主(subject)>～<谓(predicate)>)|<结构单用(structure used singly)>)

The words that satisfy either of them in the above are conjunctions. The first criterion "(<实词(notional word)>～<实词(notional word)>)" stands for that a

conjunction is in the middle of two notional words, forming a combined structure, such as "我和他[wǒ hé tâ](I and him)". The second criterion stands for that a conjunction can be put before a structure of subject-predicate or a constituent of predicates but cannot be put in the middle of subject and object or be used alone. "<结构单用(structure used singly)>" means "～([<主(subject)>]+<谓词性成分(predicate constituent)>)" or "<主(subject)>～<谓(predicate)>" can be used individually without other clauses or sentence groups before and after either of them. For example, "而且[ét qiì](and)" and "但是[dàn shì](but)" satisfy the second criterion, so they are conjunctions. "虽然[suî rán](although)", "不但[bú dàn](not only)" can appear in the middle of a subject and an object, but there should be other clauses or sentence groups added before or after them when they are in use. They are also conjunctions.

There exists divergence in identifying functions of conjunctions, so two disjunctive criteria are offered here. In consideration of this divergence, conjunctions can be further divided into two sub-categories. One is the conjunctions that link words or phrases based on the first criterion, such as "和[hé](and)", "与[yǔ](with)", "同[tóng](and)", "跟[gçn](with)", "及[jí](and)" and "以及[yí jí](as well as)"; the other is the conjunctions that link clauses, sentences or sentence groups based on the second criterion, such as "不但[bú dàn] (not only)", "虽然[suî rán](although)", "尽管[jǐn guǎn](despite)", "何况[hé kuàng](besides)", "但是[dàn shì](but)" and "因此[yîn cǐ](so)".

Among 43,330 words, there are 186 conjunctions, taking up 0.4% in total.

The functions of conjunctions are as follows:

1 to link words or phrases
The first sub-category of conjunctions has this function and fits in "notional constituent～notional constituent".

2 to be used in "～([<主(subject)>]+<谓词性成分(predicate constituent)>)"
The second sub-category of conjunctions has this function.

3 to be used in "<主(subject)>～<谓(predicate)>"
The second sub-category of conjunctions has this function.

Adverbs also have the same functions of No.2 and No.3, but for adverbs, they can appear not only before subjects but also after them. When in the latter situation, the whole combined structure of subject and conjunction can be used independently, based on which adverbs can be distinguished from conjunctions.

"仅[jǐn](only)", "光[guâng](only)" and "就[jiù](only)" can be put at the head of a sentence, but it doesn't mean they fit in "～([<主(subject)>]+<谓词性成分(predicate constituent)>)" because they function at different levels in this structure. For example, "仅[jǐn] (only)", "光[guâng] (only)" and "就[jiù] (only)" in "(仅(光)苹果[jǐn guâng ping guǒ](only apples)(就买了十斤[jiù mǎi le shí jîn](were bought ten Jin)" are adverbs. "连[lián](and)" can also be put at the head of a sentence, but, due to the same reason, it should be considered as an auxiliary word, such as "(连他[lián tâ])(he even)(都不知道[dôu bù zhî dào]) (doesn't know it)".

4 to be used before modal particles

(19) 所以*呢*，我们没有必要这么着急。[suǒ yǐ ne, wǒ men yì méi bì yào zhè me zhâo jí]
(So, we have no need to be so worried.)

(20) 可是*啊*，他吃了一点，就不想吃了。[kì shì a, tâ chî le yî diǎn, jiù bù xiǎng chî le.]
(However, he ate a little and then didn't want to take more.)

1.8.3 Modal particles

Modal particles refer to a kind of postpositive words for moods, which mainly reflect speakers' subjectivity or interactive subjectivity, including emotion, attitude, evaluation, cognition etc. For example:

(21) a 多好的天儿啊! (感叹)[duō hǎo de tiān er ǎ](What nice weather!) (exclamation)
b 你好好做啊。(提醒、敦促)[nǐ hǎo hǎo zuò a](try to do well) (reminding and urging)
c 你是谁啊?(追究)[nǐ shì shéi a](Who do you think you are?) (questioning closely)
d 你干什么啊?(不满)[nǐ gàn shén me à](What are doing?) (dissatisfaction)

(22) 你什么时候来呢? [nǐ shén me shí hou lái ne](When will you come?) (asking for something from speaker)

(23) a 明天的事你还记得吧? [míng tiān de shì nǐ hái jì de ba](Do you still remember tomorrow's thing?) (a guess or uncertainty for something)
b 走吧! [zǒu ba](Please go!) (urging speaker)

(24) 不是自己的孩子呗。[bù shi zì jǐ de hái zi bei](It is not about your own children.) (obvious attitude towards something)

The criteria of classifying modal particles are as follows:

1 <其他成分(other constituent)>～<停顿(pause)>∧*<其他成分(other constituent)>～<非停顿(no pause)>
2 ((<其他成分(other constituent)>～<语气词(modal particle)>〖由标准1分出(divided from the first criterion〗) | <其他成分(other constituent)>～<停顿(pause)>)∧*<其他功能(other function)>

Among 43,330 words, there are 35 modal particles, taking up 0.08% in total. The functions of modal particles are as follows:

1 to be put at the end of sentences
This is the most ordinary function that modal particles have. For example:

(25) 他来*吗*? [tâ lái mâ](Is he coming?)

(26) 现在走*吧*。[xiàn zài zǒu bâ](let's go now.)

2 to be put before a pause in a sentence
Some modal particles can be put before a pause in a sentence.[12] For example:

(27) 他*呢*, 也是一个马大哈。[tâ ne, yì shì yî gè mă dà hâ]
(As for him, he is careless as well.)

(28) 可是*啊*, 王大山没有来。[kì shì a, wáng dà shân méi yŏu lái]
(However, Wang Dashan didn't come.)

3 to be put before another modal particle
For example:

(29) 他来*了吗*? [tâ lái le mâ]
(Did he arrive?)

(30) 还躺着*呢吧*? [hái tăng zhe ne ba](Still reclining on a bed?)

Most modal particles can be put before a pause inside a sentence or at the end of sentence, such as "啊[a]", "吗[ma]" and "来着[lái zhe]". Several modal particles can be put before another modal particle, such as "了[le]" and "呢[ne]", but for those modal particles that appear after "了[le]" or "呢[ne]", they can be put before a pause inside a sentence or at the end of a sentence only. The second criterion is just for this situation.

Usually, modal particles cannot be followed by other modal particles, except for "了[le] and 呢[ne]" because of their special properties. Besides the meaning for mood, they also have the meaning of tense and aspect, such as "了[le]" for appearing something new and "呢[ne]" for a continuous state. Therefore, instead of being typical modal particles, they also possess the properties of an auxiliary of tense.

Since the meaning and the usage of "啦[la]" at the end of sentence are very similar to those of "了[le]", it is considered as a variety of "了[le]".

"啦[la]" for exemplification in a sentence is probably a phonetic change of "啊[a]". For example:

(31) 碗啦、盘啦，饭盒啦，工艺品似的在窗台上摆了一溜。[wăn la pán la fàn hé la gōng yì pĭn shì de zài chuāng tái shàng băi le yī liù]
(Bowls, plates or lunch-boxes are placed like artworks displayed on the windowsill.)

For "的[de]" in the example of "我[是]昨天来的[wŏ shì zuó tiān lái de] (I came here yesterday.)", some people think it is a modal particle. However, it should be considered as an auxiliary word in this book, for no pause can be put after it. For example:

(32) 我[是]昨天来*的*北京。[wŏ shì zuó tiân lái de bìi jîng]
(It is yesterday that I came to Beijing.)

1.8.4 Auxiliary words

1.8.4.1 The criterion of classifying auxiliary words

Auxiliary words belong to the "remaining" part in function words. "Remaining" is just for convenience in naming, which doesn't mean every "remaining" word has the same property. In other words, those that cannot be categorised into prepositions, conjunctions or modal particles, can be classified into auxiliary words, which results in the strongest individualities and the least commonality among auxiliary words inside. In a word, auxiliary words attached to notional constituents have grammatical functions more or less and can be regarded as grammatical marks.

The criterion of classifying auxiliary words is as follows:

> <与别的成分组合(with other constituent)>∧*(<句法成分(syntactic constituent)>|<介词(preposition)>|<连词(conjunction)>|<语气词(modal particle)>)

Since they are the special functional words with a small quantity of 33 that takes up 0.08% in total, auxiliary words are all frequently used.

1.8.4.2 Sub-categories of auxiliary words

Auxiliary words can be considered as positional words which can be divided into three types based on their positions in compounding with other constituents:

1 post-auxiliary words
  Most auxiliary words belong to this type, such as "的[de]", "地[de]", "得[de]", "了[le]", "着[zhe]", "过[guò]", "等[dìng](and so on)", "与否[yǔ fǒu](or not)"
2 pre-auxiliary words, such as "连[lián](including)", "所[suǒ]"
3 centre-auxiliary words

There is only one centre-auxiliary word "之[zhî]", and it is just the remainder of classic Chinese in modern Chinese.

When compounded with other constituents, auxiliary words function differently. For example, some indicate the conversion function of an expression, such as "的[de]", "者[zhì]", "所[suǒ]" and "之[zhî]"; some embody the significance of aspect, such as "了[le]", "着[zhe]" and "过[guò]"; some show enumeration, such as "等[dìng](so on)" and "等等[dìng dìng](so on)", and some mark a comparative item to form a specific sentence structure, such as "连[lián](including)". As for the constituents compounded with auxiliary words, they should be the constituents of notional words, for function words cannot be compounded with auxiliary words.

Based on the functions of auxiliary words, auxiliary words can be divided into five types:

1 structural auxiliary words, such as "的[de]", "地[de]", "得[de]", "之[zhî]" and "者[zhì]"
2 aspect auxiliary words, such as "了[le]", "着[zhe]", "过[guò]" and "来着[lái zhe]"
3 comparison auxiliary words, such as "似的[shì de](-like)" and "一般[yî bân](as . . . as)"
4 numeral auxiliary words, such as "分之[fçn zhî](三[sân]～一[yî] (one third)", "点[diǎn](三[sân]～一四[yî sì](three point and one four))", "又[yòu](一[yî]～二分之一[èr fçn zhî yî](one and one second))", "来[lái](二十[èr shí]～个[lái](about twenty))", "多[duô](十[shí]～个[gè]more than tem))", "余[yú](二十[èr shí]～名[míng](more than twenty persons))" and "第[dì](～二[èr](the second))"
5 special auxiliary words, such as "连[lián] (including)", "等[dìng] (so on)", "等等[dìng dìng] (so on)", "以来[yǐ lái](since)", "来[lái](since)(两年[liǎng nián]～(since two years))" and "所[suǒ]"

The introductions to the above types are as follows:

I. Structural auxiliary words

The function of structural auxiliary words is to be marks of certain syntactic constituents or parts of speech. "的[de]" can be used in two different ways.

1 "的[de]" functions as the mark of an attribute (的$_3$[de] $_3$) and makes the constituent after which it is attached become an attribute.

The structure of a "notional constituent +的[de]" is called a "的[de] structure". Besides the main function of being an attribute, it can also function as a subject, object or predicate. For example, when "的[de] structure" functions as a subject and an object, it can be considered as a kind of "attribute and headword construction" without a headword in it. "的[de] structure" replaces "attribute and headword construction" temporarily, which is regarded as a transferred reference of modifiers.

(33) a 买书的人 [mǎi shū de rén](book-buyer) ("buy" as a verbal constituent is attached to "的[de]".)
b 送信的人 [sòng xìn de rén](letter-sender) ("send" as a verbal constituent is attached to "的[de]".)
c 同学的书 [tóng xué de shū](classmates'books) ("classmates" as a nominal constituent is attached to "的[de]".)

From the transformation of part of speech, "的[de]" is a mark of a nominal modifier, with which a nominal constituent or a predicate constituent can be transformed into a nominal modifier constituent.

2 “的[de]”as a mark of a state word (的$_2$[de] $_2$) can be attached after a state word and makes it more free in use; or it can be attached after some phrases and make them possess the properties of state words. For example:

(34) a 衣服干干净净的。[yī fu gān gān jìng jìng de](These clothes are very clean.)
b 小孩的脸红红的。[xiǎo hái de liǎn hóng hóng de](Children’ faces are nice and pink.) (“红红” cannot be used alone, but with “的[de]”, it can be a predicate or a complement freely.)
c 大家挺高兴的。[dà jiā tǐng gāo xìng de] (Everyone is happy.) (“挺高兴” is an adverbial-headword phrase and with “的[de]”, it is transformed into a state word.)
d 外面敲锣打鼓的，很热闹。[wài miàn qiāo luó dǎ gǔ de hěn rè nao] (it is boisterous outside with beat drums and clang gongs.) (“敲锣打鼓” as a coordinate construction is attached to “的[de]” and becomes a state word.)

“地[de]” as an auxiliary word functions as a mark of an adverbial and makes the constituent after which it is attached become an adverbial.

From the transformation of the part of speech, “地[de]” is a mark of an adverb with which a nominal constituent or a predicate constituent can be transformed into an adverbial constituent. For example:

(35) a 我荣幸地成为其中的一员。[wǒ róng xìng de chéng wéi qí zhōng de yī yuán](I am glad to be one of them.) (“荣幸[róng xìng]”as an adjective is attached to “地[de]” and becomes an adverbial constituent.)
b 你要有计划地学习和复习。[nǐ yào yǒu jì huà de xué xí hé fù xí](You need to learn and review as planned.) (“有计划[yǒu jì huà]” as a verbal constituent is attached to “地[de]” and becomes an adverbial constituent.)
c 应该历史地看待这个问题。[yīng gāi lì shǐ de kàn dài zhè ge wèn tí] (This issue should be analysed from the historical perspective.) (“历史[lì shǐ]”as a noun is attached to “地[de]” and becomes an adverbial constituent.)

“得[de]” as an auxiliary word functions as the mark of complement and makes the predicate of predicate-complement construction after which it is attached become a complement. For example:

(36) a 洗得干干净净[xǐ de gān gān jìng jìng](make them washed cleanly)
b 累得站不起来了[lèi de zhàn bù qǐ lai le](too tired to stand up)

II Dynamic auxiliary words (auxiliary words of tense and aspect)

The function of dynamic auxiliary words is to show the progress of a behaviour or state by the verbs or adjectives after which they are attached. They are also called auxiliary words of tense and aspect or aspect auxiliary words.

“了[le]” represents an accomplishment of a certain behaviour or a state; “着[zhe]” represents the persistence of a behaviour or a state; “过[guò]” is for a behaviour or a state in the past; and “来着[lái zhe]” is for the retrospect of an event or a state in the past.

III Comparison auxiliary words

Comparison auxiliary words function as the metaphor mark when they are attached after metaphorical words, such as “似的[shì de](-like) and 一般[yī bān](as . . . as)”.

IV Numeral auxiliary words

In numeral structures, numeral auxiliary words function as assistant marks, such as “第[dì]” as an ordinal mark, “点[diǎn]” as a decimal mark, “分之[fēn zhī]” as a fraction mark, “百分之[bǎi fēn zhī]” as a percentage mark and “多[duō] and 余[yú]” as remainder marks.

V Special auxiliary words

Except for the types mentioned above, some auxiliary words are not easy to categorise, so they are classified as special ones.

“连[lián]” is the mark for extreme; “等[děng] and 等等[děng děng]” are used as enumerating marks. As a remaining constituent from the classical style of writing in Chinese, “所[suǒ]” functions as the extract mark of objects when verbal constituents function as attributes, referring to that headwords modified by attributes are objects of verbs or prepositions.

1.9 Interjections

Interjections can be independently used for exclamation and response especially. Its semantic functions include expressing emotion and making a response.

1 Emotional interjection

It expresses the speaker’s feelings and attitudes, including admiration, surprise, sudden comprehension, doubt, pain, dissatisfaction with contempt etc. For example:

啊[á,à,a,ā,ǎ], 哎[āi], 哎呀[āi yā], 哎哟[āi yō], 哟[yō], 咳[hāi], 哦[ó,ò], 咦[yí], 哼[hng], 哇[wa], 呸[pēi], 啧[zé]

2 Responsive interjection

It expresses a call, a reminder and a response. For example:

喂[wèi], 嘿[hēi]

1.9.1 The criterion of classifying interjections

The criterion of classifying interjections is as follows:

(<独立成句(used as independent sentence)>丨<独立成分(independent constituent)>) ∧*<其他用法(other usage)>

The functions of interjections are very simple because they cannot be compounded with other constituents and are often used alone as an independent sentence or a constituent.

Among 43,330 words, there are 25 interjections, taking up 0.06% in total. The interjections collected in the vocabulary of this book are those used commonly, while the real quantity of interjections is actually larger than that.

Interjections belong to a special category in language due to the following reasons. In respect of function, they are often used alone, which no other categories of words can satisfy; in respect of semantic meaning, they express emotional meanings only, instead of ideational ones; in respect of phonetic forms, they have their own specialties:

A The sounds and the rhymes of interjections are beyond the phonetic system of general words, such as "啧[zé] (non-airflow from the lung)", "哼[hēng] [hŋ]", "噷[hēn] [hm]", "哟[yō, yo][io]", "呣[mu][m]" and "嗯[ǹg，ńg，ňg] [n] [ŋ]".

B Interjections don't have tones.[13] Generally speaking, except for un-sounded interjections, other interjections have own different pitches which should be regarded as intonations instead of tones. There are three reasons for this understanding.

   a Some interjections don't have changeable pitches, such as "啧[zé]".

   b The changes of pitch are different from the four tones in modern standard Chinese pronunciation; they are called the level tone, rising tone, falling-rising tone and falling tone. For example, "唉" can be pronounced as[ái, âi], neither of which is as same as these four tone pitches. Some interjections' tone pitches seem to be similar to those of these four tones, but they are actually not the same due to the differences in length or in level. For example, "唉[âi，ài]" can be pronounced as [ǎi-] (to show dissatisfaction), but it is different from "矮[ǎi]" in utterance because "唉[âi，ài]" has a prolonged intonation, while "矮[ǎi]" doesn't. For another example, "唉[âi，ài]" can be pronounced as [ài-] (to show a response), different from "爱[ài]", for "唉[âi，ài]" is specialised for its prolongation and mildness in intonation, while "爱[ài]" isn't.

   c Tone has a fixed relationship with Chinese character and doesn't have any meaning in itself but just as a part of a phonetic form of a word. However, the tone pitch of interjections varies, which causes changes in meaning. For example, a high, rising tone pitch expresses a question, such as "啊[á]", "唉[ái]" and "嗯[ñg]"; a high, falling tone pitch expresses an agreement or a sigh with feeling, such as "啊[à]", "唉[à-]" and "嗯[　g]". These are the characteristics of intonations. Therefore, in the past, interjections with different tone pitches were thought of as different, or interjections had no definite tones. Such an understanding, in fact, is attributed to the misunderstanding of intonations as tones.

Since interjections have no tones, there is no necessity to mark tones for interjections in dictionaries. Those listed as different entries based on their different "tones" in dictionaries should be united as one entry.

1.9.2 The relationship between interjections and onomatopoeic words

Interjections have a very close relationship with onomatopoeic words, which can't be attributed to their commonality but to the fact that most interjections have the functions of onomatopoeic words. For example:

(1) a *啊[a](interjection)*, 我明白了[wǒ míng bái le]。
(Ah, I understand.)
b 他"*啊啊(onomatopoetic word)*"地叫了起来。[tâ a a de jiào le qǐ lái]
(Oh-oh, he cried.)

(2) a *哎哟(interjection)*, 疼死了! [âi yô, téng sǐ le]
(Ouch, it hurts!)
b 他*哎哟哎哟(onomatopoetic word)* 直叫。[tâ âi yô âi yô zhí jiào]
(Ow-ow, he cried.)

Such a relationship can be analogised by an example. When a person sneezes, he makes a sound of "a qie" instinctively, so this sound is not an onomatopoetic word. When this sound is used to imitate "阿嚏[â tì](atishoo)", "阿嚏[â tì] (atishoo)" can be considered as an onomatopoeic word. The sounds made by people to express a sigh with feeling or summoning are interjections, such as (3)a in the following, and these sounds can be imitated by their onomatopoeic words, such as (3)b in the following.

(3) a *喂*，小王在吗? [wéi, xiǎo wáng zài mâ]
(Hello, can Xiaowang speak now?)
b 电话里传出*喂喂*的声音。[diàn huà lǐ chuán chû wéi wéi de shçng yîn]
(The voice of "hello" comes from the telephone.)

Just as is mentioned in 1.7.5, most onomatopoeic words for the sounds made by human or animals can be used as verbs temporarily, so those onomatopoeic words with the same origin of interjections can function as verbs temporarily as well (see the examples in 1.7.5).

The relationship between interjections and onomatopoeic words is similar to that between natural sounds and onomatopoeic words. The onomatopoeic word "喂[wéi](hello)" is the sound imitation of the interjections "喂[wéi] (hello)", and both are represented by the same Chinese character "喂[wéi] (hello)". Therefore, with respect to expressive function and grammatical function, there exists a huge difference between both. Interjections are non-compound words, but onomatopoeic words are the modifiers in compound structures, which further proves a big difference for their positions in the grammatical system.

1.10 Pronouns

A pronoun doesn't have a real conceptual meaning; its basic function is to be a special substitution for a person, thing, place, time, quantity, manner, behaviour, nature, state etc. For example:

(1) 小王看见张老师了。[xiǎo wáng kàn jiàn zhāng lǎo shī le] (Xiao Wang saw Mr. Zhang.)
小王看见他了。[xiǎo wáng kàn jiàn tā le] (Xiao Wang saw him.)

(2) 老王坐在门口? [lǎo wáng zuò zài mén kǒu] (Does Lao Wang sit at the doorway?)
老王坐在那里。[lǎo wáng zuò zài nǎ li] (Lao Wang sit there.)

(3) 小刘买了三本书。[xiǎo liú mǎi le sān běn shū] (Xiao Liu bought three books.)
小刘买了多少书? [xiǎo liú mǎi le duō shǎo shū] (How many books did Xiao Liu buy?)

(4) 老李喝醉了。[lǎo lǐ hē zuì le] (Lao Li is drunk.)
老李怎么样了? [lǎo lǐ zěn me yàng le] (How is Lao Li?)

(5) 这本书很好看。[zhè běn shū hěn hǎo kàn] (This book is good.)
这本书怎么样? [zhè běn shū zěn me yàng] (How about this book?)

Strictly speaking, pronouns don't belong to an independent category, for they come from those words which have a special addressing function among notional words, so they cannot be listed with nouns, verbs or adjectives on the same level. Due to the same reason, pronouns can be categorised into nominals, predicates and modifiers without any unified grammatical functions.

Among 43,330 words, there are 105 pronouns, taking up 0.24% in total.

Pronouns include the following types:

1 Personal pronouns

Personal pronouns refer to persons or things in certain utterance activities. The first-person pronoun refers to the addresser; the second-person pronoun refers to the addressee. Except for addresser and addressee, the third side in the utterance activities is called the third-person pronoun. There also exists a reflexive pronoun when one side refers to itself. The main personal pronouns in modern Chinese are as follows:

The first personal pronouns:我[wǒ](I), 我们[wǒ men](we), 咱[zán](I), 咱们[zán men](we)
The second personal pronouns: 你[nǐ](you), 你们[nǐ men](you), 您[nín](you)
The third personal pronouns: 他(她、它)[tā](he, she, it), 他们(她们、它们)[tā men] (they)
The reflexive pronouns: 自己[zì jǐ](myself), 自个儿[zì gě ér](myself)

2 Interrogative pronouns

Interrogative pronouns refer to those pronouns whose interrogative function is to substitute things in certain indefinite forms, such as a person, object, location, time, quantity, behaviour, nature, status, method etc. The main interrogative pronouns include:

> 谁[shuí](who), 什么[shén me](what), 哪里[nǎ lǐ](where), 哪儿[nǎer](where), 几[jǐ](how many), 多少[duō shǎo](how much), 怎样[zěn yàng](how about), 怎么样[zěn me yàng](how about), 怎么[zěn me](why), 多[duō](how much), 何时[hé shí](when), 多会儿[duō huir](when)

3 Demonstrative pronouns

Demonstrative pronouns refer to those having a deixis function and a special addressing function. The deixis function has two specific usages, one of which is to direct a person, object, behaviour, nature and quantity in utterance activities, and the other of which is as an anaphora for a person, object, action, nature and quantity, as mentioned in the above text.

Demonstrative pronouns can be divided into two categories according to space distance or time distance from the things referred.

1 近指代词near demonstrative pronouns：这[zhè](this), 这里[zhè lǐ](here), 这儿[zhè er](here), 这时[zhè shí](by now), 这会儿[zhè huìr] (at the moment), 这样[zhè yàng] (like this), 这么[zhè me](such), 这么样[zhè me yàng] (like this)
2 #x08FDC;指代词far demonstrative pronouns：那[nà] (that), 那里[nà lǐ] (there), 那儿[nàr] (there), 那时[nà shí] (at that time), 那会儿[nà huìr](at that moment), 那样[nà yàng] (like that), 那么[nà me](then), 那么样[nà me yàng] (like that)

Since “每[měi](every), 某[mǒu](some), 任何[rèn hé](any), 另[lìng](another), 各[gè](every)” don’t have the addressing function, they are demonstrative words instead of demonstrative pronouns; “这[zhè] (this)”, “那[nà] (that)” can be regarded as the conversional words of demonstrative words and pronouns, which means when they function as a subject and an object, they are demonstrative pronouns, and when they function as attributes, they are demonstrative words.

In respect of grammatical function, pronouns have different parts of speech, based on which they can be divided into the following types:

1 Verbal pronouns. They can be modified by “不[bù] (not)”, “没[méi] (no)” or general adverbials and function as predicates or complements, but they cannot be modified by “很[hìn] (very)”, such as “这样[zhè yàng] (like this)”, “那样[nà yàng] (like that)”, “怎样[zìn yàng](how)” and “怎么样[zìn me yàng](how)”.

2 Nominal pronouns. They include all personal pronouns, such as "我[wǒ](I)", "你[nǐ](you)" and "他[tâ](he)", interrogative pronouns, such as "谁[shuí](who)" and "什么[shén me](what)", and demonstrative pronouns, such as "这[zhè](this)" and "那[nà] (that)". The type of these pronouns cannot be modified by "不[bù] (not)" or "没[méi] (no)" but can function as subjects and objects.
3 Locational pronouns or locative pronouns, such as "这里[zhè lǐ] (here)", "那里[nà lǐ] (there)", "这儿[zhèr](here)", "哪里[nǎ lǐ](where)" and "哪儿[nǎr](where)"
4 Pronouns of time, such as "这时[zhè shí](by now)", "那时[nà shí] (at that time)", "这会儿[zhè huìr] (at the moment)" and "此时[cǐ shí](right now)"
5 Numeral pronouns, such as "几[jǐ](several)" and "多少[duô shǎo] (how many)"
6 Pronouns that have properties of numeral-quantifier phrases, such as "多少(how many)"
7 Adverbial pronouns, such as "这么[zhè ne](such)", "那么[nà me](then)", "多[duô](much)" and "多么[eduô m](much)"

In respect of grammatical function, some pronouns are conversional words. For example, "多少[duō shǎo] (how many)" is a conversional word between numeral pronouns and numeral-quantifier phrases;[14] "这[zhè](this)" and "那[nà](that)" between nominal pronouns and demonstrative words; "这样[zhè yàng] (like this)" and "那样[nà yàng](like that)" between verbal pronouns and adverbial pronouns.

Pronouns function especially for addressing as their basic function, excluding other ones. Some words can have the addressing function temporarily, such as numeral-quantifier phrases, quantifiers and distinctive words. For example:

Numeral-quantifier phrases: 买了许多[mǎi le xǔ duō](buy a lot), 没收一切[mò shōu yī qiè](confiscate everything)
Quantifier: 一死两伤[yī sǐ liǎng shāng] (one died and two wounded)
Distinctive words: 生男生女都一样[shē nán shēng nǚ dōu yī yàng.] (to give birth of a boy or a girl is the same.)
急性好治，慢性不好治[jí xìng hǎo zhì, màn xìng bìng bù hǎo zhì.](The acute disease is easy to cure, while the chronic disease is hard to cure.)

"Temporarily" in the above means such a function only works under the transferred condition, and it isn't the basic function. Therefore, they are not pronouns.

Some words can substitute participants in utterance activities, such as "本人[běn rén](myself), 大家[dà jiā](all of us), 人家[rén jiā](other), 别人[bié rén](other people) and 前者[qián zhě](the former)". These words belong to nouns. Words, such as "本校[běn xiào] (this school), 贵校[guì xiào](your honorable school) and 其他人[qí tā rén](other people)" can be categorised into nominal phrases. In fact, they are actually nouns or nominal phrases instead of nominal constituents in the substitute forms, even though they indicate the referred objects by their conceptual meanings.

Notes

1 For other classifications, it is accepted to take a non-homogenous criterion to distinguish different levels of a category, which can also reflect the hierarchy of a category. However, it is only to depend on grammatical function as the criterion of classifying parts of speech that the hierarchy of a category can be ensured to satisfy the situation that upper levels have higher generalisation levels than the lower ones.
2 The grammatical functions at the smallest generalisation level refer to a group of ones that is seated in the smallest identical upper level. For example, attributes and adverbials can function as modifiers, which means that they are seated in the smallest identical upper level with the smallest generalisation level.
3 None of prepositions, conjunctions, modal particles or auxiliaries can serve as syntactic constituents, but adverbs can. If adverbs were classified into the category of function words, there would exist a lack of commonality between the adverbs inside and those in other categories.
4 Referring to Lu Jianming (1982).
5 The serial numbers are arranged by section due to the many examples listed in this chapter.
6 The English adjective is regarded as a modifier whose main function is to be attribute, quite different from that in Chinese. Actually, distinctive words in Chinese are very similar to English adjectives in function, which mainly function as attributes and belong to the category of modifiers. Strictly speaking, "adjective" is a proper name for a distinctive word instead of an adjective in Chinese. The reasons for adopting "adjective" here are based on two considerations. One is that there exists a general correspondence in the sense of word meaning between Chinese adjectives and English adjectives, specially for those common ones, such as "红" for "red" and "漂亮" for "beautiful, pretty". The other is that "adjective" has been often used in the educational circle of Chinese grammar since *Newly-published Chinese Grammar* by Li Jin, published in 1924. Therefore, this usage is followed here for the sake of conventional custom.
7 The numeral "十(ten)" can function as a subject in calculation and conversion, which, as mentioned in 2.4 in *Modern Chinese Parts of Speech: Classification Theory*, is considered as a specific situation and not included as one of its grammatical functions.
8 The structure of "'一(one)' +quantifier +noun" has two varieties in spoken language. One is the omission of "一(one)" in 1.5.4.2. The other is the omission of "个[gè]" here. Neither of the two focuses on "一 (one)". Differently, "quantifier" in the former has no limitation, while that in the latter is only limited by "个[gè]". In addition, the former appears in the position of an object only while the latter can also appear in the position of a subject. From the perspective of users, the former is commonly used, while the latter occurs only in the Beijing dialect. For example, neither "车[chē]" nor "病[bìng]" can be matched with "个[gè]" in Mandarin, but expressions such as "前面来了一个车[qián miàn lái le yī gè chē](here comes a car)" and "得了一个病[dé le yī gè bìng](have a disease)" can be heard in the Beijing dialect due to the permission of such a match.
9 The differentiation between entity nouns and positional words is not formed in English, which is similar to ancient Chinese.
10 "101型[101 xíng](type 101)" and "上海式[shàng hǎi shì](Shanghai style)" are excluded for their special reference. Words such as "大量[dà liàng](numeral-quantifier phrase)", "黄金[huáng jīn](state word)" and "任何、惟一[rèn hé, wéi yī](demonstrative)" are excluded, for they belong to other categories of parts of speech.
11 When "屋[wū](room)" is used alone as the object of "在 [zài](in)", it is much restricted, so there needs an attribute before it, such as "在大屋[zài dà wū] (in this big room)".
12 Fang Mei (1994) thinks that the function of modal word is to mark the theme of a sentence.
13 About phonetic features of interjections in Chinese, Zhao Yuanren (1968b) once said: "Interjections have no tone but have definite intonations (1.6.2)". This utterance was

translated by Ding Bangxin as "感叹词没有声调，但有一定的语调". Interestingly, another different Chinese version was offered by Lv Shuxiang as "叹词没有固定的字调，但是有一定的语调", which means that interjections have unfixed tones. Lv's translation reflects his different opinion from Zhao's.

14 In the expressions "多少个[duō shǎo gè] (how many)", "多少斤[duō shǎo jīn](how many Jin)" and "多少[duō shǎo] (how many/much)" is a numeral pronoun; in the expressions of "多少苹果[duō shǎo píng guǒ](how many apples)", "多少油[duō shǎo yóu] (how much oli)" and "多少[duō shǎo] (how many/much)" is a pronoun that has the properties of numeral-quantifier phrases.

2 Statistical study on parts of speech in modern Chinese

2.1 Correlation between word frequency and functions of words

2.1.1 Foreword

There exist big divergences in the quantitative statistics on functions of parts of speech in modern Chinese. For example, it is generally considered that most adjectives can function as attributes, while there only 29% of adjectives can function as attributes directly, based on the statistics in this book. It is thought that 90% of disyllabic verbs can function as attributes directly (Shao Jingmin, 1995), while the statistical percentage in this book is only 35%; about one-third of disyllabic verbs can be modified by nouns directly (Xu Shu, 1991), while the statistical percentage in this book is only 7%. Why such big divergences? The fundamental reason for them exists in the correlation between word frequency and the functions of words.

The correlation between word frequency and the functions of words varies due to the differences among parts of speech and functions. On one hand, the same function for different parts of speech may vary greatly with their word frequencies. For instance, the function of being a subject among verbs greatly weakens along with the decreasing word frequency, but it doesn't vary much among nouns. On the other hand, there may exist a big difference between the different functions of the same part of speech and word frequency. For example, for adjectives, the function of being attributes greatly weakens along with the decreasing word frequency, while that of being compound complements doesn't vary so much. On the contrary, the function of being predicates strengthens when the word frequency decreases.

In this book, the related coefficients between the functions of adjectives, nouns and verbs and their word frequencies are calculated to analyse and discuss the essence of the correlation between word frequency and function. By the way, for some words, their coefficients between word frequency and function are not included here due to two reasons. One is that the quantities of these words are too small to illustrate their correlations between function and word frequency; the other is that due to the oneness of some words in function, such as distinctive words and adverbs, it is not necessary to analyse their correlations

between function and word frequency. Therefore, the related coefficients are not calculated here.

The 43,330 words chosen in the study come from the *Dictionary of Grammar Information in Modern Chinese* (electronic edition) co-edited by the Department of Chinese Language and Literature at Peking University and the Institute of Computational Linguistics. The word frequency tables in the statistics are offered by Prof. Song Rou from Beijing Language and Culture University, which collects 247,487 Chinese characters selected from 200 million in different newspapers from different years. They are as follows:

From the *People's Daily*:

24,051,292 Chinese characters in 1993;
22,318,899 Chinese characters in 1994;
24,353,782 Chinese characters in 1996;
25,098,645 Chinese characters in 1997;

From *Economic Daily*:

17,337,643 Chinese characters in 1992;
21,543,035 Chinese characters in 1993;

From *Market News*:

8,086,394 Chinese characters in 1994;

From the *Xin-hua News Bulletin*:

6,928,847 Chinese characters in 1994;
26, 448,700 Chinese characters in 1995;
24,548,018 Chinese characters in 1996.

Usually, homographs are divided into different entries, and the same is true for polysemes sometimes in dictionaries. However, the homographs and polysemes are not divided by entry in the word frequency tables in this book, which results in the fact that many entries of homographs or polysemes in the *Dictionary of Grammar Information in Modern Chinese* share the word frequency of a certain entry. For example, the word frequency of "委婉[wìi wǎn] (euphemistic)" in the word frequency table is 111 times. In the adjective table of *Dictionary of Grammar Information in Modern Chinese*, it has two entries, i.e. "委婉[wìi wǎn]1" in euphemistic meaning and "委婉[wìi wǎn]2" in the meaning of beautiful cadence. Definitely, the word frequency of 111 times cannot fit in both meanings at the same time, and such a situation has been dealt with by simply depending on the first entry and excluding the others in this book.

2.1.2 Statistics on the correlation between word frequency and function

2.1.2.1 The correlation between word frequencies and the functions of adjectives

There are 2,355 entries of adjectives. If 15 repeated entries of homographs and polysemes are excluded, 2,340 entries are left, which can be divided into five grades with 468 ones for each, based on word frequencies from high to low. Table 2.1 is the graded statistics on functions of adjectives.

In Table 2.1, "r" stands for the "related coefficient"[1] between the word frequency and the number of adjectives with a certain grammatical function, which reflects the degree of linear correlation in the arrays. The value of "r" is $-1 \leq r \leq 1$. The closer the absolute value of "r" approximates to 1, the higher the degree of correlation is. When "r" =1, the two arrays are completely in positive correlation; when "r" = -1, the two arrays are completely in negative correlation;[2] when "r"= 0, the two arrays are not relevant at all. However, the value of "r" cannot simply decide whether the notable significance[3] of the correlation between two arrays exists or not, so a degree of freedom is needed to make the final decision. The calculation formula for the degree of freedom is "the number of pairs of data -2". Since the number of pairs of data in this table is 5, the degree of freedom is 3. It is found from the table that when the degree of freedom is 3, 5% of the critical values for the notable levels are 0.878, and 1% of the critical values for the notable levels is 0.959. If $|r| > 0.878$, the two arrays are notably correlated (marked with "+"), which shows that they are definitely related. If $|r| > 0.959$, the two arrays are highly correlated (marked with "+ +"). But if $|r| \leq 0.878$, the two arrays are not notably correlated (marked with "-"), due to which it is hard to decide whether these two arrays are definitely related or not.

In Table 2.1, the middle word frequency refers to the word frequency for the word in the middle of a certain grade. For instance, the total number of words in the first grade is 468. According to the order of word frequency, the 234th word frequency is the middle word frequency of the first grade.

As can be found from the table, only the numbers of words with the four functions of "不[bù] (not)~", "<predicate>", "很[hìn] (very)~" and "~的[de](of)" increase slightly with the decline of word frequencies (the correlation coefficient is negative). On the contrary, the numbers of words with other functions decrease with the decline of their word frequencies. The numbers of adjectives with functions, such as being an attribute, an adverbial, a quasi-predicate object or an object of "有[yǒu](have)", being modified by a noun directly or being a conglutinate complement, have reached notable levels. In order to show the tendency clearly, the relative quantity is adopted to describe the changes for the number of functions in each grade. In other words, the absolute number of words is changed into the relative number of words. The calculation formula of the relative number of words is as follows:

The relative number of words = the number of words with a certain function/the highest number of words with a certain function.

Table 2.1 The correlation between word frequencies and functions of adjectives

GF	*1*		*2*		*3*		*4*		*5*		*Total*		*r*	*NL*
TNW	*468*		*468*		*468*		*468*		*468*		*2340*			
MWF	*2874*		*406*		*125*		*37*		*4*					
	NW	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*		
不[bù](not)～	417	89%	441	94%	444	95%	444	95%	442	94%	2188	94%	–0.994	＋＋
很[hěn] (very)～	454	97%	464	99%	462	99%	466	100%	442	94%	2288	98%	–0.143	—
predicate	453	97%	466	100%	463	99%	465	99%	468	100%	2315	99%	–0.948	＋
compound complement	324	69%	327	70%	341	73%	306	65%	260	56%	1558	67%	0.292	—
conglutinate complement	85	18%	52	11%	23	4.9%	18	3.8%	8	1.7%	186	7.9%	0.912	＋
followed by complement	408	87%	433	93%	417	89%	369	79%	331	71%	1958	84%	0.325	—
～着了过[zhe le guò]	358	76%	366	78%	364	78%	316	68%	282	60%	1686	72%	0.405	—
～的[de]	439	94%	446	95%	455	97%	462	99%	460	98%	2262	97%	–0.845	—
～地[de]	210	45%	219	47%	219	47%	175	37%	111	24%	934	40%	0.366	—
很[hěn] (very)～的	205	44%	226	48%	223	48%	182	39%	118	25%	954	41%	0.268	—
～quasi-object	326	70%	334	71%	296	63%	223	48%	121	26%	1300	56%	0.506	—
～directional complement	264	56%	285	61%	282	60%	215	46%	153	33%	1199	51%	0.333	—
overlapping	101	22%	82	18%	70	15%	63	13%	37	7.9%	353	15%	0.785	—
attribute	285	61%	160	34%	121	26%	81	17%	41	8.8%	688	29%	0.929	＋
adverbial	172	37%	63	13%	21	4.5%	13	2.8%	8	1.7%	277	12%	0.981	＋＋
quasi-predicate object	40	8.5%	17	3.6%	18	3.8%	4	0.8%	2	0.4%	81	3.5%	0.916	＋
有[yǒu](have)～	22	4.7%	3	0.6%	7	1.5%	0	0%	0	0%	32	1.4%	0.957	＋
noun (attribute)～	6	1.3%	1	0.2%	3	0.6%	0	0%	0	0%	10	0.4%	0.886	＋
conversional category	145	31%	56	12%	25	5%	14	3%	14	3%	254	11%	0.982	＋＋
monosyllabic	96	21%	60	13%	21	4%	10	2.1%	2	0.4%	189	8.1%	0.891	＋

(Note: GF = grade of frequency, TNW = total number of words, MWF = middle word frequency, NL = notable level, NW = number of words, P = percentage)

Table 2.2 shows the relative quantity of correlation between word frequencies and adjectives.

2.1.2.2 The correlation between word frequencies and the functions of nouns

The total number of nouns is 27,408. Excluding the repeated entries of homographs and polysemes, 27,232 entries are left, which can be divided into five grades with 5546.4 for each, based on word frequencies from high to low. Table 2.3 is the graded statistics on the correlation between word frequencies and the functions of nouns. Table 2.4 contains the statistics on the quantity of the correlation.

2.1.2.3 The correlation between word frequencies and the functions of verbs

The total number of verbs is 10,299. Excluding the repeated entries of homographs and polysemes, 9,814 entries are left, which can be divided into five grades with 1962.8 for each, based on word frequencies from high to low. Table 2.5 is the graded statistics on the correlation between word frequencies and the functions of verbs.

Table 2.2 The relative quantity of correlation between word frequencies and adjectives

	1	*2*	*3*	*4*	*5*
不[bù] (not)～	93.90%	99.30%	100.00%	100.00%	99.50%
很[hěn](very)～	97.40%	99.60%	99.10%	100.00%	94.80%
predicate	96.80%	99.60%	98.90%	99.40%	100.00%
compound complement	95.00%	95.90%	100.00%	89.70%	76.20%
conglutinate complement	100.00%	61.20%	27.10%	21.20%	9.40%
followed by complement	94.20%	100.00%	96.30%	85.20%	76.40%
～着了过[zhe le guò]	97.80%	100.00%	99.50%	86.30%	77.00%
～的[de]	95.00%	96.50%	98.50%	100.00%	99.60%
～地[de]	95.90%	100.00%	100.00%	79.90%	50.70%
很[hěn] (very)～的[de]	90.70%	100.00%	98.70%	80.50%	52.20%
～quasi-object	97.60%	100.00%	88.60%	66.80%	36.20%
～directional complement	92.60%	100.00%	98.90%	75.40%	53.70%
overlapping	100.00%	81.20%	69.30%	62.40%	36.60%
attribute	100.00%	56.10%	42.50%	28.40%	14.40%
adverbial	100.00%	36.60%	12.20%	7.60%	4.70%
quasi-predicate object	100.00%	42.50%	45.00%	10.00%	5.00%
有[yǒu](have)～	100.00%	13.60%	31.80%		
noun (attribute)～	100.00%	16.70%	50.00%		
conversional category	100.00%	38.60%	17.20%	9.70%	9.70%
monosyllabic	100.00%	62.50%	21.90%	10.40%	2.10%

Table 2.3 The correlation between word frequencies and functions of nouns

GF	*1*		*2*		*3*		*4*		*5*		*T*		*r*	*NL*
TNW	*5446*		*5446*		*5446*		*5447*		*5447*		*27232*			
MWF	*1055*		*140*		*34*		*6*							
	NW	*P (%)*	*NW*	*P (%)*	*NW*	*P (%)*	*NW*	*P (%)*	*NW*	*P (%)*	*NW*	*P (%)*		
subject	5208	95.6	5268	96.7	5291	97.2	5303	97.4	5336	98	26406	97	–0.905	┼
object	5237	96.2	5308	97.5	5324	97.8	5349	98.2	5371	98.6	26589	97.6	–0.926	┼
numeral-quantifier～	4290	78.8	4196	77	4179	76.7	4214	77.4	4279	78.6	21158	77.7	0.601	—
noun (attribute)～	3897	71.6	3298	60.6	2532	46.5	1918	35.2	1949	35.8	13594	49.9	0.834	—
numeral～	139	2.6	51	0.9	30	0.6	16	0.3	9	0.2	245	0.9	0.982	┼┼
location	434	8	155	2.8	74	1.4	28	0.5	145	2.7	836	3.1	0.985	┼
temporary quantifier	48	0.9	32	0.6	21	0.4	13	0.2	5	0.1	119	0.4	0.866	—
attribute	4115	75.6	3827	70.3	3560	65.4	3335	61.2	3598	66.1	18435	67.7	0.862	—
adverbial	23	0.4	13	0.2	6	0.1			2		44	0.2	0.904	┼
～locative	4738	87	4520	83	4684	86	4739	86	4575	84	23256	85.4	0.415	—
overlapping	24	0.4	6	0.1	1						31	0.1	0.993	┼┼
conversional category	397	7.3	124	2.3	56	1	54	1	12	0.2	643	2.4	0.989	┼┼

(Note: GF = grade of frequency, TNW = total number of words, MWF = middle word frequency, NL = notable level, NW = number of words, P = percentage)

Table 2.4 The relative quantity of correlation between word frequencies and functions of nouns

GF	*1*	*2*	*3*	*4*	*5*	*GPD*	*APD*
subject	97.60%	98.70%	99.20%	99.40%	100.00%	–2.40%	–0.50%
object	97.50%	98.80%	99.10%	99.60%	100.00%	–2.50%	–0.50%
numeral-quantifier～	100.00%	97.80%	97.40%	98.20%	99.70%	0.30%	0.10%
noun (attribute)～	100.00%	84.60%	65.00%	49.20%	50.00%	50.00%	10.00%
number～	100.00%	36.70%	21.60%	11.50%	6.50%	93.50%	18.70%
location	100.00%	35.70%	17.10%	6.50%	33.40%	66.60%	13.30%
temporary quantifier	100.00%	66.70%	43.80%	27.10%	10.40%	89.60%	17.90%
attribute	100.00%	93.00%	86.50%	81.00%	87.40%	12.60%	2.50%
adverbial	100.00%	56.50%	26.10%		8.70%	91.30%	18.30%
overlapping	100.00%	25.00%	4.20%			100.00%	20.00%
conversional category	100.00%	31.20%	14.10%	13.60%	3.00%	97.00%	19.40%

(Note: GF = grade of frequency, GPD = general percentage of decrease, APD = average percentage of decrease)

2.1.3 Discussion and analysis

2.1.3.1 What does the correlation between word frequency and function indicate?

There are three situations of the correlation between grammatical function and word frequency: 1) There is no notable correlation between word frequency and function; 2) word frequency is notably positively correlated with function; or 3) word frequency is notably negatively correlated with function. What is the essence of correlation that is reflected by these three situations?

The essence can be analysed from two related aspects of correlation: 1) the correlation between word frequency and conversional word and 2) the compatibility among functions.

2.1.3.1.1 THE CORRELATION BETWEEN WORD FREQUENCIES AND CONVERSIONAL WORDS

The above statistics on the correlations between numbers of conversional words and word frequencies among nouns, verbs and adjectives indicate that the numbers of conversional words are positively correlated with word frequencies. Table 2.6 is the statistics on the correlation between all conversional words and word frequencies in the study, from which the same tendency can also be found.

Many scholars have noticed the positive correlation between word frequency and changes of linguistic forms and meanings, which can be explained further in other words: Changes always happen in use, which means that the more frequently constituents are used, the greater possibility of changes there are, deriving new meanings and new usages more easily. If the frequency of being used goes in

Table 2.5 The correlation between word frequencies and functions of verbs

GF	*1*	*P*	*2*	*P*	*3*	*P*	*4*	*P*	*5*	*P*	*TN*	*P*	*r*	*NL*
TNW	*1962*		*1963*		*1963*		*1963*		*1963*					
MWF	*3458*		*615*		*218*		*76*		*15*					
不[bù] (not)～	1754	89.40%	1680	85.60%	1656	84.40%	1673	85.20%	1602	81.60%	8365	85.20%	0.875	一
没[méi] (no)～	1771	90.30%	1759	89.60%	1713	87.30%	1742	88.70%	1713	87.30%	8698	88.60%	0.742	一
predicate	1957	99.70%	1961	99.90%	1963	11.00%	1963	100.00%	1962	99.90%	9806	99.90%	–0.969	十十
～着/了/过[zhe le guò]	1688	86.00%	1673	85.20%	1689	86.00%	1692	86.20%	1612	82.10%	8354	85.10%	0.333	一
～real object	1557	79.40%	1283	65.40%	1117	56.90%	982	50.00%	808	41.20%	5747	58.60%	0.874	一
～quasi object	1291	65.80%	1160	59.10%	1074	54.70%	957	48.80%	779	39.70%	5261	53.60%	0.775	一
～conglutinate complement	1187	60.50%	1006	51.20%	929	47.30%	763	38.90%	644	32.80%	4529	46.10%	0.829	一
～preposition complement	204	10.40%	196	10.00%	164	8.40%	117	6.00%	58	3.00%	739	7.50%	0.63	一
conglutinate complement	76	3.90%	68	3.50%	54	2.80%	51	2.60%	30	1.50%	279	2.80%	0.738	一
很[hěn] (very)～	64	3.30%	40	2.00%	49	2.50%	40	2.00%	26	1.30%	219	2.20%	0.833	一
overlapping	483	24.60%	272	13.90%	207	10.50%	131	6.70%	80	4.10%	1173	12.00%	0.943	十
subject	624	31.80%	467	23.80%	396	20.20%	267	13.60%	195	9.90%	1949	19.90%	0.858	一?
object	865	44.10%	793	40.40%	766	39.00%	832	42.40%	804	41.00%	4060	41.40%	0.735	一?
attribute	951	48.50%	743	37.90%	618	31.50%	507	25.80%	337	17.20%	3156	32.20%	0.85	一?
adverbial	51	2.60%	37	1.90%	24	1.20%	12	0.60%	6	0.30%	130	1.30%	0.852	一?
noun (attribute)～	207	10.60%	148	7.50%	92	4.70%	59	3.00%	23	1.20%	529	5.40%	0.863	一?
进行[jìn xíng](being)～	593	30.20%	473	24.10%	386	19.70%	356	18.10%	279	14.20%	2087	21.30%	0.893	十
有[yǒu](have)～	160	8.20%	84	4.30%	42	2.10%	35	1.80%	13	0.70%	334	3.40%	0.954	十
conversional category	314	16.00%	146	7.40%	104	5.30%	75	3.80%	55	2.80%	694	7.10%	0.983	十十
monosyllabic	360	18.30%	223	11.40%	167	8.50%	103	5.20%	28	1.40%	881	9.00%	0.889	十

(Note: GF=grade of frequency, TNW=total number of words, MWF=middle word frequency, NL=notable level)

Table 2.6 The correlation[4] between numbers of conversional words and word frequencies

GF	*1*		*2*		*3*		*4*		*5*		*TN*		*RC*	*NL*
NW	*7622*		*7622*		*7622*		*7622*		*7622*		*38110*			
MWF	*2091*		*401*		*114*		*33*		*6*					
conversional words	NW 1308	P 17%	NW 417	P 5.5%	NW 229	P 3.0%	NW 136	P 1.8%	NW 95	P 1.2%	NW 2185	P 5.7%	0.996	+·+

(Note: GF = grade of frequency, NW = number of words, MWF = middle word frequency, NL = notable level, RC = related coefficient, P = percentage)

the reverse direction, the reverse result will happen. Those with the least changes are the constituents that won't be used anymore. The words with a variety of parts of speech are usually created by their changes in use, with new meanings and new usages appearing along the way. Therefore, it is admitted that how many parts of speech a word has is positively correlated with word frequency.

2.1.3.1.2 THE ESSENCE OF CORRELATION BETWEEN WORD FREQUENCY AND FUNCTION

As what has been mentioned above, there are three relationships between word frequency and function: notable positive correlation, notable negative correlation and non-notable correlation. For a certain part of speech, its functions with notably positive correlations have a small degree of compatibility with its most basic functions; its functions with notably negative correlations or non-notable correlations have a greater degree of compatibility with its most basic functions. It has been mentioned above that word frequency is positively correlated with properties of parts of speech. The functions with a high degree of compatibility reflect the same properties of parts of speech, while those with a low degree of compatibility reflect the different properties of parts of speech. Therefore, generally speaking, those functions that are positively correlated with word frequency are actually the conversional functions of this part of speech, which is considered as the properties of conversional words. However, they are not classified as conversional words due to the homo-type strategy. Those functions that have non-notable correlations or negative correlations with word frequency are actually the basic functions of this part of speech, namely the distinctive functions. Take adjectives as an example: Their basic function of "很[hìn] (very)~" and some other functions, such as being predicate, compound complement or being modified by "不[bù] (not)~" or followed by a complement, have no notable correlation or negative correlation with word frequency. These functions are considered as the equivalent functions, with a greater degree of compatibility among one another. Besides, some functions of adjectives, such as being attributes or adverbials or being modified by nouns are positively correlated with word frequency and are considered as the non-equivalent functions, which have a small degree of compatibility with their basic function of "很[hìn] (very)~". The adjectives with these non-equivalent

functions are actually considered as having the properties of distinctive words, adverbs and nouns.

2.1.3.2 Analysis and discussion of the correlation between functions of adjectives and word frequencies

In Table 2.1, there exists a greater degree of compatibility among those functions upwards from the function of "~ directional complement", so they are considered as the distinctive functions of adjectives. The functions below from "attribute" are not the distinctive functions. As can be seen from the same table, these distinctive functions have no notable correlation or even negative correlation with word frequency, expect for the function of being a "conglutinate complement", while the non-distinctive functions have a notably positive correlation with word frequency.

Here comes the explanation to the exception of being a "conglutinate complement". This is because the number of syllables can affect the ability of adjectives to be a "conglutinate complement". The ability of monosyllabic adjectives to be "conglutinate complement" is much higher than that of disyllabic adjectives (see Table 2.7). In addition, most of monosyllabic adjectives have higher word frequencies. Therefore, very likely due to the interference of the number of syllables, the ability of adjectives as "conglutinate complement" decreases notably with word frequency. In order to exclude the interference of the number of syllables, the functional changes of the disyllabic adjectives are counted, and other functions are also included in the statistics for the sake of comparison (see Table 2.8.)

As can be seen from Table 2.8, the related coefficient between adjectives as "conglutinate complements" and word frequency reduces to 0.361 after excluding the interference of the number of syllables, which is greatly lower than the critical value of the notable level (0.878). Therefore, the ability of adjectives to be "conglutinate complements" still subordinates to the rule that distinctive functions have no correlation with word frequency.

2.1.3.3 Analysis and discussion of the correlation between functions of verbs and word frequencies

From Table 2.5, it can be seen the relationship between functions of verbs and word frequencies is more complicated than those between the functions of adjectives and nouns and word frequencies, with many exceptions marked with "?" in the column of "notable level" of the table. However, some of them can be explained. For example, the exceptions of verbs as attributes, adverbials, subjects and objects and being modified by nouns directly can be explained by the fact that the number of syllables is notably correlated with certain functions of verbs, such as functioning as attributes (see Table 2.9) or being modified directly by nouns (see Table 2.10). Most monosyllabic words are high-frequency words and will interfere with the correlation between word frequencies and functions; therefore, the correlation between the functions of disyllabic verbs and word frequencies is counted only in the statistics; this is considered to eliminate the interference. (See Table 2.11.)

As can be seen from Table 2.11, all the related coefficients between functions, such as being an attribute, an adverbial, a subject or an object and being modified

Table 2.7 The influence[5] of the number of syllables on adjectives as "conglutinate complements"

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	77	8	44	8	12	11	8	10	1	7	142	44
Percentage	80.2%	2.2%	73.3%	2.0%	57.1%	2.5%	80.0%	2.2%	50.0%	1.5%	75.1%	2.1%
No	19	363	16	397	9	432	2	443	1	453	47	2088
Percentage	19.8%	97.8%	26.7%	98.0%	42.9%	97.5%	20.0%	97.8%	50.0%	98.5%	24.9%	97.9%
Total	96	371	60	405	21	443	10	453	2	460	189	2132
$^{\sigma}p^{1}$-p^{2}	0.0414		0.0575		0.1082		0.1267		0.3536		0.0316	
Z/NL	18.872	++	12.409	++	5.050	++	6.141	++	1.371	—	23.129	++
The average value of Z	10.618											
PNL	++											

(Note: PNL = professional notable level)

Table 2.8 The correlation between word frequencies and functions of disyllabic adjectives

GF	*1*		*2*		*3*		*4*		*5*		*Total*		*r*	*NL*	*Change*
NW	*426*		*426*		*426*		*427*		*427*		*2132*				
MWF	*2370*		*406*		*125*		*37*		*3*						
	NW	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*			
不[bù](not)～	374	88%	383	90%	412	97%	409	96%	408	96%	1986	93%	–0.831	—	↓
很[hěn](very)～	418	98%	420	99%	425	100%	425	100%	421	99%	2109	99%	–0.734	—	
predicate	415	97%	425	100%	424	100%	425	100%	427	100%	2116	99%	–0.975	++	
compound complement	298	70%	305	72%	319	75%	280	66%	237	56%	1439	67%	0.271	—	
conglutinate complement	11	3%	6	1%	11	3%	11	3%	5	1%	44	2%	0.361	—	↓
followed by complement	368	86%	391	92%	378	89%	331	78%	300	70%	1768	83%	0.341	—	
～着了过[zhe le guò]	316	74%	326	77%	329	77%	284	67%	254	59%	1509	71%	0.355	—	
～的[de]	418	98%	422	99%	426	100%	423	99%	420	98%	2109	99%	0.683	—	
～地[de]	237	56%	221	52%	214	50%	156	37%	101	24%	929	44%	0.605	—	
很[hěn] (very)～的[de]	224	53%	222	52%	214	50%	160	37%	107	25%	927	43%	0.528	—	
～quasi-object	284	67%	289	68%	257	60%	199	47%	107	25%	1136	53%	0.528	—	
～directional complement	241	57%	259	61%	253	59%	193	45%	140	33%	1086	51%	0.378	—	
overlapping	55	13%	59	14%	59	14%	57	13%	33	8%	263	12%	0.206	—	
attribute	227	53%	130	31%	97	23%	66	15%	37	9%	557	26%	0.939	+	
adverbial	139	33%	39	9%	15	4%	11	3%	7	2%	211	10%	0.998	++	
quasi-predicate object	45	11%	17	4%	14	3%	3	1%	2	0%	81	4%	0.966	++	↑
有[yǒu](have)～	23	5%	7	2%	2	0%	0	0%	0	0%	32	2%	0.990	++	
noun (attribute)～	6	1%	2	0%	1	0%	0	0%	0	0%	9	0%	0.982	++	↑
conversional category	97	23%	37	9%	14	3%	12	3%	14	3%	174	8%	0.990	++	

(Note: GF = grade of frequency, MWF = middle word frequency, NL = notable level, NW = number of words)

Table 2.9 The influence of the number of syllables on verbs as attributes

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	1	950	3	740	2	616	3	504	0	337	9	3147
P	0.3%	59.3%	1.3%	42.5%	1.2%	34.3%	2.9%	27.1%	0.0%	17.4%	1.0%	35.2%
No	359	651	220	1000	165	1180	100	1356	28	1598	872	5785
P	99.7%	40.7%	98.7%	57.5%	98.8%	65.7%	97.1%	72.9%	100.0%	82.6%	99.0%	64.8%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0126		0.0141		0.0140		0.0195		0.0086		0.0061	
Z/NL	–46.926	++	–29.122	++	–23.624	++	–12.394	++	–20.201	++	–56.224	++
The average value of Z	–26.453											
PNL	++											

(Note: PNL = professional notable level)

Table 2.10 The influence of the number of syllables on verbs modified by nouns directly

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	0	307	0	148	2	90	1	58	0	23	3	626
P	0.0%	19.2%	0.0%	8.5%	1.2%	5.0%	1.0%	3.1%	0.0%	1.2%	0.3%	7.0%
No	360	1294	223	1592	165	1706	102	1802	28	1912	878	8306
P	100.0%	80.8%	100.0%	91.5%	98.8%	95.0%	99.0%	96.9%	100.0%	98.8%	99.7%	93.0%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0098		0.0067		0.0099		0.0105		0.0025		0.0033	
Z/NL	–19.489	++	–12.718	++	–3.865	++	–2.051	+	–4.825	++	–19.970	++
The average value of Z	–8.590											
PNL	++											

(Note: PNL = professional notable level)

Table 2.11 The correlation between the word frequencies and the functions of disyllabic verbs

GF	*1*	*2*	*3*	*4*	*5*	*Total*	*P*	*r*	*NL*	*Change*
NW	*1786*	*1786*	*1786*	*1787*	*1787*					
MWF	*2911*	*538*	*191*	*66*	*13*					
不[bù](not)～	1579	1504	1495	1517	1451	7546	84.48%	0.869	—	
没[méi] (no)～	1611	1595	1538	1593	1551	7888	88.31%	0.647	—	
predicate	1786	1785	1786	1787	1786	8930	99.98%	–0.136	—	↓
～着/了/过[zhe/ le/ guò]	1540	1515	1519	1541	1455	7570	84.75%	0.454	—	
～real object	1334	1077	931	846	715	4903	54.89%	0.908	+	↑
～quasi-object	1154	999	901	835	691	4580	51.28%	0.850	—	
～conglutinate complement	993	813	744	641	569	3760	42.10%	0.897	+	↑
～preposition complement	103	101	76	79	45	404	4.52%	0.641	—	
conglutinate complement	31	39	40	46	26	182	2.04%	0.339	—	
很[hěn] (very)～	68	42	47	40	22	219	2.45%	0.858	—	
overlapping	338	147	107	72	57	721	8.07%	0.988	++	↑
subject	605	384	322	217	168	1696	18.99%	0.932	+	↑
object	914	785	761	792	740	3992	44.69%	0.963	++	↑
attribute	1046	735	590	471	305	3147	35.23%	0.902	+	↑
adverbial	55	30	23	11	6	125	1.40%	0.934	+	↑
noun (attribute)～	332	144	75	56	19	626	7.01%	0.977	++	↑
进行[jìn xíng] being～	643	479	371	342	252	2087	23.37%	0.915	+	
有[yǒu](have)～	176	73	41	34	10	334	3.74%	0.980	++	
conversional category	209	107	82	66	47	511	5.72%	0.980	++	↑

(Note: GF = grade of frequency, MWF = middle word frequency, NL = notable level, NW = number of words)

by nouns directly, and word frequencies rise to the notable level after excluding the interference of the number of syllables.

However, the related coefficients between the distinctive functions, such as being followed by a real object and a conglutinate complement, and word frequencies also rise to the notable level, which leads to new exceptions as well. The exception of being followed by a real object can be explained by word formation. In Table 2.12, it is shown that the ability of verbs to be followed by an object in the word formation of the VO case is weaker than that of verbs in the non-VO case. The correlation between the ability of verbs being followed by object in the non-VO case and the word frequency is only counted in Table 2.13.

After eliminating the interference of the word formation of VO case, it can be seen that the ability of verbs having objects has no notable correlation with the word frequencies.

However, unfortunately, the notable positive correlation between the ability of disyllabic verbs to be followed by a conglutinate complement and word frequencies cannot be explained at present.

In addition, from Table 2.3, it can be seen that the distinctive functions of nouns are notably positively correlated with the word frequencies, except for "number～". Most non-distinctive functions of nouns are positively correlated notably with word frequencies, expect for the functions of being an attribute and a temporary quantifier. Unfortunately, the reason for these exceptions has not been found yet.

2.1.4 Brief summary

There are three kinds of relationships between word frequency and function: positive correlation, negative correlation and non-notable correlation. Generally speaking, the functions that are notably positively correlated with word frequency are conversional functions of parts of speech. And those that have a non-notable correlation or a negative correlation with word frequency are the basic functions of parts of speech, namely the distinctive functions.

Then, the question mentioned in the foreword, about why in the statistics, there are big divergences among functions of parts of speech, can be answered here.

According to the investigation in *Verb Usage Dictionary*, Shao Jingmin (1995) believed that 90% of disyllabic verbs can function as attributes directly. But, in fact, the words collected in this dictionary are words used commonly, and this function happens to be one of the conversional functions for verbs, which is positively correlated with the word frequencies, and the percentage of this function is much higher among common words than among uncommon ones. If the uncommon words are also counted in, only 35% of disyllabic verbs can function as attributes directly, far less than the percentage of 90% mentioned above. Xu Shu (1991) believed that about a third of disyllabic verbs can be directly modified by nouns, which is based on the investigation in *Mandarin 3000 Common Words Table* by Chen Aiwen (1986). Likewise, the function of verbs being modified by nouns directly happens to be another one of the conversional functions and is positively correlate with word frequency. If uncommon words are also counted, only 7% of disyllabic verbs can function like this.

Table 2.12 The influence of the word formation of the VO case on verbs with objects (limited to disyllabic verbs)

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*
followed by real object	50	1164	53	1013	37	921	29	856	25	755	194	4709
P	17.9%	88.0%	11.3%	79.7%	6.8%	73.5%	4.6%	69.8%	3.3%	64.5%	7.2%	75.4%
not followed by real object	229	158	416	258	506	332	604	371	740	415	2495	1534
P	82.1%	12.0%	88.7%	20.3%	93.2%	26.5%	95.4%	30.2%	96.7%	35.5%	92.8%	24.6%
Total	279	1322	469	1271	543	1253	633	1227	765	1170	2689	6243
$^{\sigma}p^{1}$-p^{2}	0.0246		0.0185		0.0165		0.0155		0.0154		0.0074	
Z/NL	–28.468	++	–37.040	++	–40.409	++	–41.990	++	–39.798	++	–92.331	++
The average value of Z	–37.541											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.13 The correlation between verbs with real objects in the non-VO case and word frequencies

GF	*1*	*P*	*2*	*P*	*3*	*P*	*4*	*P*	*5*	*Total*	*P*	*R*	*NL*
NW	*1425*		*1425*		*1425*		*1425*		*1425*	*7125*			
MWF	*4616*		*816*		*271*		*96*		*12*				
followed by real object in non-VO case	1281	89.9%	1201	84.3%	1084	76.1%	1043	73.2%	944	5553	77.9%	0.815	—

(Note: GF = grade of frequency, MWF = middle word frequency, NL = notable level, NW = number of words, P = percentage)

There often exist two opinions on which one should be considered as the main function of adjectives: being a predicate or being an attribute? Being an attribute as the main function of adjectives was due to the statistics on the common adjectives. However, according to this book, 99% of adjectives can function directly as predicates, and only 29% of adjectives can function as attributes directly, which is based on the following three points: the negative correlation between the function of beinga predicate and the word frequency, the positive correlation between the function of being an attribute and the word frequency and the small compatibility between both functions. Therefore, the function of being a predicate should be considered as the main function of adjectives, and the function of being an attribute is just the conversional function for them.

2.2 Non-grammatical factors affecting the distribution

As has been mentioned in the previous chapters, some non-grammatical factors affect the distribution of words, including both mandatory and tendentious influences. The statistical approach below will specify the tendencies influencing the non-grammatical factors for the distribution of words. Since word frequency and grammatical function are correlated, the following statistics are also graded to avoid the interference of word frequency with grammatical function.

2.2.1 The influence of the number of syllables on distribution

The number of syllables has a wide influence on the distribution of words. The following statistics in Tables 2.14–2.29 show the influences of the number of syllables on the distributions of verbs and adjectives. Since there are few words with more than two syllables, only monosyllabic words and disyllabic words are counted in the statistics.

Here is the statistical data first.

Due to the notable influence of VO case on verbs followed by objects, only the verbs followed by objects in non-VO case are counted in Table 2.19.

Table 2.14 The influence of the number of syllables on verbs as attributes

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	1	950	3	740	2	616	3	504	0	337	9	3147
P	0.0%	59.3%	1.3%	42.5%	1.2%	34.3%	2.9%	27.1%	0.0%	17.4%	1.0%	35.2%
No	359	651	220	1000	165	1180	100	1356	28	1598	872	5785
P	99.7%	40.7%	98.7%	57.5%	98.8%	65.7%	97.1%	72.9%	100.0%	82.6%	99.0%	64.8%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0126		0.0141		0.0140		0.0195		0.0086		0.0061	
Z/NL	–46.926	++	–29.122	++	–23.624	++	–12.394	++	–20.201	++	–56.224	++
The average value of Z	–26.453											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.15 The influence of the number of syllables on verbs modified by nouns directly

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	0	307	0	148	2	90	1	58	0	23	3	626
P	0.0%	19.2%	0.0%	8.5%	1.2%	5.0%	1.0%	3.1%	0.0%	1.2%	0.3%	7.0%
No	360	1294	223	1592	165	1706	102	1802	28	1912	878	8306
P	100.0%	80.8%	100.0%	91.5%	98.8%	95.0%	99.0%	96.9%	100.0%	98.8%	99.7%	93.0%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0098		0.0067		0.0099		0.0105		0.0025		0.0033	
Z/NL	–19.489	++	–12.718	++	–3.865	++	–2.051	++	–4.825	++	–19.970	++
The average value of Z	–8.590											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.16 The influence of the number of syllables on verbs as conglutinate complements

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	50	26	27	41	14	40	6	45	0	30	97	182
P	13.9%	1.6%	12.1%	2.4%	8.4%	2.2%	5.8%	2.4%	0.0%	1.6%	11.0%	2.0%
No	310	1575	196	1699	153	1756	97	1815	28	1905	784	8750
P	86.1%	98.4%	87.9%	97.6%	91.6%	97.8%	94.2%	97.6%	100.0%	98.4%	89.0%	98.0%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0185		0.0221		0.0217		0.0234		0.0028		0.0107	
Z/NL	6.630	++	4.403	++	2.833	++	1.459	—	–5.520	++	8.424	++
The average value of Z	1.961											
PNL	+											

(Note: PNL = professional notable level, P = percentage)

Table 2.17 The influence of the number of syllables on verbs followed by conglutinate complements

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	283	904	208	798	157	772	94	669	27	617	769	3760
P	78.6%	56.5%	93.3%	45.9%	94.0%	43.0%	91.3%	36.0%	96.4%	31.9%	87.3%	42.1%
No	77	697	15	942	10	1024	9	1191	1	1318	112	5172
P	21.4%	43.5%	6.7%	54.1%	6.0%	57.0%	8.7%	64.0%	3.6%	68.1%	12.7%	57.9%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0249		0.0206		0.0218		0.3000		0.0366		0.0124	
Z/NL	8.890	++	23.024	++	23.449	++	18.452	++	17.617	++	36.506	++
The average value of Z	18.286											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.18 The influence of the number of syllables on verbs followed by real objects

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	342	1164	217	1013	159	921	97	856	28	755	843	4709
P	95.0%	88.0%	97.3%	79.7%	95.2%	73.5%	94.2%	69.8%	100.0%	64.5%	95.7%	75.4%
No	18	158	6	258	8	332	6	371	0	415	38	1534
P	5.0%	12.0%	2.7%	20.3%	4.8%	26.5%	5.8%	30.2%	0.0%	35.5%	4.3%	24.6%
Total	360	1322	223	1271	167	1253	103	1227	28	1170	881	6243
$^{\sigma}p^{1}$-p^{2}	0.0145		0.0156		0.0207		0.0265		0.0140		0.0087	
Z/NL	4.780	++	11.257	++	10.485	++	9.197	++	25.360	++	23.156	++
The average value of Z	12.216											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.19 The influence of the number of syllables on verbs followed by quasi-objects

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	240	1050	184	976	145	929	84	873	27	752	680	4580
P	61.2%	53.0%	76.0%	44.5%	75.9%	40.1%	73.7%	36.3%	90.0%	31.0%	70.2%	40.4%
No	152	932	58	1215	46	1390	30	1534	3	1675	289	6746
P	38.8%	47.0%	24.0%	55.5%	24.1%	59.9%	26.3%	63.7%	10.0%	69.0%	29.8%	59.6%
Total	392	1982	242	2191	191	2319	114	2407	30	2427	969	11326
$^{\sigma}p^{1}$-p^{2}	0.0270		0.0294		0.0326		0.0424		0.0556		0.0154	
Z/NL	3.050	++	10.701	++	11.009	++	8.826	++	10.620	++	19.306	++
The average value of Z	8.841											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.20 The influence of the number of syllables on adjectives as conglutinate complements

Degree of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	77	8	44	8	12	11	8	10	1	7	142	44
P	80.2%	2.2%	73.3%	2.0%	57.1%	2.5%	80.0%	2.2%	50.0%	1.5%	75.1%	2.1%
No	19	363	16	397	9	432	2	443	1	453	47	2088
P	19.8%	97.8%	26.7%	98.0%	42.9%	97.5%	20.0%	97.8%	50.0%	98.5%	24.9%	97.9%
Total	96	371	60	405	21	443	10	453	2	460	189	2132
$^{\sigma}p^{1}$-p^{2}	0.0414		0.0575		0.1082		0.1267		0.3536		0.0316	
Z/NL	18.872	++	12.409	++	5.050	++	6.141	++	1.371	—	23.129	++
The average value of Z	10.618											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.21 The influence of the number of syllables on adjectives as attributes

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	75	209	35	125	12	108	5	76	1	39	128	557
P	78.1%	56.3%	58.3%	30.9%	57.1%	24.4%	50.0%	16.8%	50.0%	8.5%	67.7%	26.1%
No	21	162	25	280	9	335	5	377	1	421	61	1575
P	21.9%	43.7%	41.7%	69.1%	42.9%	75.6%	50.0%	83.2%	50.0%	91.5%	32.3%	73.9%
Total	96	371	60	405	21	443	10	453	2	460	189	2132
$^{\sigma}p^{1}$-p^{2}	0.0494		0.0677		0.1099		0.1591		0.3538		0.0353	
Z/NL	4.408	++	4.060	++	2.981	++	2.088	+	1.174	—	11.780	++
The average value of Z	3.385											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.22 The influence of the number of syllables on verbs modified by "不~"

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	328	1425	212	1468	156	1500	96	1577	26	1576	818	7546
P	91.1%	89.0%	95.1%	84.4%	93.4%	83.5%	93.2%	84.8%	92.9%	81.4%	92.8%	84.5%
No	32	176	11	272	11	296	7	283	2	359	63	1386
P	8.9%	11.0%	4.9%	15.6%	6.6%	16.5%	6.8%	15.2%	7.1%	18.6%	7.2%	15.5%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0169		0.0169		0.0211		0.0262		0.0495		0.0095	
Z/NL	1.244	—	6.326	++	4.690	++	3.218	++	2.307	+	8.817	++
The average value of Z	3.557											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.23 The influence of the number of syllables on verbs modified by "没~"

Degree of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	318	1452	207	1552	159	1554	98	1644	27	1686	809	7888
P	88.3%	90.7%	92.8%	89.2%	95.2%	86.5%	95.1%	88.4%	96.4%	87.1%	91.8%	88.3%
No	42	149	16	188	8	242	5	216	1	249	72	1044
P	11.7%	9.3%	7.2%	10.8%	4.8%	13.5%	4.9%	11.6%	3.6%	12.9%	8.2%	11.7%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0184		0.0188		0.0184		0.0224		0.0359		0.0098	
Z/NL	−1.282	—	1.929	+	4.723	++	3.012	++	2.591	++	3.575	++
The average value of Z	2.195											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.24 The influence of the number of syllables on verbs followed by "~着/了/过"

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	301	1387	200	1473	160	1529	96	1596	27	1585	784	7570
P	83.6%	86.6%	89.7%	84.7%	95.8%	85.1%	93.2%	85.8%	96.4%	81.9%	89.0%	84.8%
No	59	214	23	267	7	267	7	264	1	350	97	1362
P	16.4%	13.4%	10.3%	15.3%	4.2%	14.9%	6.8%	14.2%	3.6%	18.1%	11.0%	15.2%
Total	360	1601	223	1740	167	1796	103	1860	28	1935	881	8932
$^{\sigma}p^{1}$-p^{2}	0.0213		0.0221		0.0176		0.0261		0.0361		0.0112	
Z/NL	–1.420	—	2.274	+	6.054	++	2.836	++	4.016	++	3.781	++
The average value of Z	2.752											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.25 The influence of the number of syllables on adjectives followed by complements

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	89	318	56	374	19	396	10	356	1	324	175	1768
P	92.7%	85.7%	93.3%	92.3%	90.5%	89.4%	100.0%	78.6%	50.0%	70.4%	92.6%	82.9%
No	7	53	4	31	2	47	0	97	1	136	14	364
P	7.3%	14.3%	6.7%	7.7%	9.5%	10.6%	0.0%	21.4%	50.0%	29.6%	7.4%	17.1%
Total	96	371	60	405	21	443	10	453	2	460	189	2132
$^{\sigma}p^{1}$-p^{2}	0.0322		0.0348		0.0657		0.0193		0.3542		0.0207	
Z/NL	2.176	+	0.284	—	0.165	—	11.110	++	–0.577	—	4.665	++
The average value of Z	3.433											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.26 The influence of the number of syllables on adjectives as compound complements

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	70	253	25	299	6	334	3	300	1	253	105	1439
P	72.9%	68.2%	41.7%	73.8%	28.6%	75.4%	30.0%	66.2%	50.0%	55.0%	55.6%	67.5%
No	26	118	35	106	15	109	7	153	1	207	84	693
P	27.1%	31.8%	58.3%	26.2%	71.4%	24.6%	70.0%	33.8%	50.0%	45.0%	44.4%	32.5%
Total	96	371	60	405	21	443	10	453	2	460	189	2132
$^{\sigma}p^{1}$-p^{2}	0.0514		0.0673		0.1007		0.1466		0.3543		0.0375	
Z/NL	0.919	—	–4.779	++	–4.651	++	–2.471	++	–0.141	—	–3.180	++
The average value of Z	–2.746											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.27 The influence of the number of syllables on nouns as attributes

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	306	2895	59	2589	10	2034	14	1485	15	796	404	9795
P	85.0%	70.0%	78.7%	59.3%	52.6%	47.6%	73.7%	36.6%	65.2%	31.1%	81.5%	50.5%
No	54	1238	16	1771	9	2237	5	2574	8	1765	92	9585
P	15.0%	30.0%	21.3%	40.7%	47.4%	52.4%	26.3%	63.4%	34.8%	68.9%	18.5%	49.5%
Total	360	4133	75	4356	19	4271	19	4059	23	2561	496	19380
$^{\sigma}p^{1}$-p^{2}	0.0201		0.0479		0.1148		0.1013		0.0997		0.0178	
Z/NL	7.431	++	4.035	++	0.436	—	3.662	++	3.423	++	17.347	++
The average value of Z	3.798											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.28 The influence of the number of syllables on nouns modified by another noun directly

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*	*Single syllable*	*Two syllables*
Yes	273	2996	61	2902	14	2634	7	2323	3	1401	358	12256
P	75.8%	72.5%	81.3%	66.6%	73.7%	61.7%	36.8%	57.2%	13.0%	54.7%	72.2%	63.2%
No	87	1137	14	1454	5	1637	12	1736	20	1160	138	7124
P	24.2%	27.5%	18.7%	33.4%	26.3%	38.3%	63.2%	42.8%	87.0%	45.3%	27.8%	36.8%
Total	360	4133	75	4356	19	4271	19	4059	23	2561	496	19380
$^{\sigma}p^{1}$-p^{2}	0.0236		0.0456		0.1013		0.1109		0.0709		0.0204	
Z/NL	1.416	—	3.230	++	1.186	—	–1.838	+	–5.875	++	4.377	++
The average value of Z	–0.376											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.29 The influence of the condition of initial consonant on verbs modified by "不~"

Groups	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*c*	*g*	*j*	*x*	*q*	*b*	*s*	*t*	*y*	*z*	*front*	*back*
Yes	710	384	752	464	358	458	701	549	403	923	2924	2778
P	85.4%	88.3%	88.3%	85.0%	88.2%	82.2%	84.0%	91.2%	76.5%	85.5%	84.7%	86.3%
No	121	51	100	82	48	99	134	53	124	157	527	442
P	14.6%	11.7%	11.7%	15.0%	11.8%	17.8%	16.0%	8.8%	23.5%	14.5%	15.3%	13.7%
Total	831	435	852	546	406	557	835	602	527	1080	3451	3220
$^{\sigma}p^{1}$-p^{2}	0.0197		0.0189		0.0228		0.0172		0.0214		0.0086	
Z/NL	–1.441	—	1.741	+	2.612	++	–4.220	++	–4.209	++	–1.792	+
The average value of Z	−1.103											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

The standard values of Z in two sets of data are calculated based on the normal distribution in the above tables. The calculation formula of the standard values of Z is:

$$Z = p^1\text{-}p^2/{}^{\sigma}p^1\text{-}p^2$$

"1" in "p^1" stands for the probability of "yes" in the first set of data, and "2" in "p^2" is the probability of "yes" in the second set of data. "${}^{\sigma}p^1\text{-}p^2$" refers to the standard deviation of two sets of data. The calculation formula of ${}^{\sigma}p^1\text{-}p^2$ is:

$${}^{\sigma}p^1\text{-}p^2 = \mathrm{SQRT}[(p^1 \times q^1/n^1) + (p^2 \times q^2/n^2)]$$

"1" in "q^1" stands for the probability of "no" in the first set of data, and "2" in "q^2" is the probability of "no" in the second set of data; n^1 refers to the total samples in the first set, and "2" in "n^2" is the total samples in the second set.

"+" and "-" for the value of Z represent the positive correlation and the negative correlation in these two sets, respectively. The value of Z shows the degree of differences between two sets of data. When $|Z| > 1.64$, the occasional probability is less than 5%, which indicates that there is a significant difference between these two sets of data. When $|Z| > 2.33$, the occasional probability is less than 1%, which indicates that there is an extremely significant difference between these two sets of data; when $|Z| \leq 1.64$, the occasional probability is more than 5%, which cannot decide the significant difference between them. The criterion for the significant critical value mentioned above just comes from statistics and whether it matters in different professional fields. However, for the purpose of calculating the significant critical value for the influence of non-grammatical factors on the distributions of words in the field of statistics, a comparison of various situations is required, and, therefore, the statistic data for the comparative sets are listed.

From the above tables, many values of Z have reached the significant critical value, such as in Table 2.14, Table 2.20, Table 2.22, Table 2.23 and Table 2.24. Some groups of data in Table 2.29 have also reached that value. Therefore, such a significant critical value in statistics is not strict enough to judge the influence of non-grammatical factors on the distribution of words, which promotes another, stricter criterion to be raised.

There are two ways to advance the criterion. One is to increase the critical value to "4". Obviously, the average values of |Z| in Tables 2.14 and 2.20 are greater than "10", while the average values of |Z| in Tables 2.22, 2.23 and 2.24 are less than "4". Evidently, the first way to advance the criterion is too subjective to be persuasively accepted. The other way is to keep the original critical value in statistics but with an extra condition that the values of Z in the first three grades of frequency should reach the original critical value at the same time. The following is the explanation.

From the above tables, four situations can be found. The first situation is that the value of Z in each grade of frequency among the sets of data has reached the significant critical value with the correlation in the same direction, such as in

Tables 2.14 and 2.16. The second situation is that the values of Z in the higher grades of frequency have reached the significant critical value, while those in the lower grades of frequency haven't reached the significant critical value and do not even have a correlation in opposite direction, compared to those in the higher grades of frequency, such as in Table 2.15 and 2.20. The third situation is that the values of Z in the lower grades of frequency have reached the significant critical value, while those in the higher grades are less than that, such as in Tables 2.22, 2.23 and 2.24. The fourth situation is that there is an irregularity of Z among the grades of frequency, such as in Tables 2.25 and 2.26. Based on the first situation, the number of syllables is proven to have a notable influence on grammatical functions. The second situation may be due to the small quantity of words in the lower grades of frequency, for the smaller the number of words is, the bigger the occasionality is, which results in the differences between the higher grades of frequency and the lower ones. For example, in Table 2.20, 50% of monosyllabic adjectives in the fifth grade can function as conglutinate complements, but, actually, the total number of adjectives in this degree is only 2, which indicates this probability is not reliable. Suppose the interference of such a minor quantity is excluded, and only the first three situations are chosen to be focused on: The same conclusion can be drawn. Up to now, no reasons can be found for the third and the fourth situations, due to which it is hard to judge the influence of the number of syllables on these grammatical functions.

Therefore, the professional criterion for the influence of non-grammatical factors to grammatical functions is as follows:

> The average value of Z in five grades of frequency has reached the significant critical value in statistics ($Z>1.64$, $p<0.05$; $Z>2.33$, $p<0.01$), and the values of Z in the first three of them have also reached the same level.

In the above tables, the average value of Z for the total number of words less than 10 is excluded in the sets for the sake of avoiding the interference of the minor quantity of words. The "professional notable level" labled with "-" refers to that the value of Z in at least one grade of frequency from the first three or that the average value of Z among them has not reached the critical value. The "professional notable level" labled with "+" refers to that the values of Z in the first three grades of frequency have reached the critical value and that the average value of Z is greater than 1.64 as well. The "professional notable level" labled with "++" refers to that the values of Z in the first three grades of frequency have reached the critical value and that the average value of Z is greater than 2.33 at the same time.

In a word, the situations about the influence of the number of syllables on grammatical functions are listed as follows:

1 The influence of one or two syllables on verbs functioning as attributes is that verbs with two syllables more easily tend to function as attributes.

2 The influence of one or two syllables on verbs modified by nouns directly is that verbs with two syllables tend to be more easily modified by nouns directly.
3 The influence of one or two syllables on verbs functioning as conglutinate complements is that verbs with a single syllable more easily tend to function as conglutinate complements.
4 The influence of one or two syllables on verbs followed by conglutinate complements is that verbs with a single syllable more easily tend to be followed by conglutinate complements.
5 The influence of one or two syllables on verbs being followed by real objects is that verbs with a single syllable tend to be more easily followed by real objects.
6 The influence of one or two syllables on verbs followed by quasi-objects is that verbs with a single syllable tend to be followed by quasi-objects more easily.
7 The influence of one or two syllables on adjectives functioning as conglutinate complements is that adjectives with a single syllable more easily tend to function as conglutinate complements.
8 The influence of one or two syllables on adjectives functioning as attributes directly is that adjectives with a single syllable more easily tend to function directly as attributes.

2.2.2 The influence of the word formation of the VO case on the grammatical functions of verbs

Here is the statistical data first.

From Tables 2.30 and 2.31, the notable influence of the VO case on verbs followed by objects can be seen clearly.

2.2.3 The correlation and the causal relationship

Up to now, the correlation between non-grammatical factors and grammatical functions of words has been proved after the above analysis. However, it has not been identified yet whether there exists a certain causal relationship between both sides. In other words, the correlation might be causal or might be decided by functions of other factors more or less. Anyway, the correlation is not equal to the causal relationship, which means that these non-grammatical factors cannot be considered as the reason for the functional differences. Additionally, distribution of words cannot be completely decided by grammatical properties for sure.

2.3 The correlation between word frequency and the numbers of words of parts of speech

The total number of words of parts of speech (43,330 in total) and the percentage statistics are shown in Table 2.32.

Table 2.30 The influence of the VO case on verbs followed by objects (limited to disyllabic verbs)

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
condition	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*
followed by real object	50	1,164	53	1,013	37	921	29	856	25	755	194	4,709
P	17.9%	88.0%	11.3%	79.7%	6.8%	73.5%	4.6%	69.8%	3.3%	64.5%	7.2%	75.4%
not followed by real object	229	158	416	258	506	332	604	371	740	415	2,495	1,534
P	82.1%	12.0%	88.7%	20.3%	93.2%	26.5%	95.4%	30.2%	96.7%	35.5%	92.8%	24.6%
Total	279	1,322	469	1,271	543	1,253	633	1,227	765	1,170	2,689	6,243
$^{\sigma}p^{1}$-p^{2}	0.0246		0.0185		0.0165		0.0155		0.0154		0.0074	
Z/NL	–28.468	++	–37.040	++	–40.409	++	–41.990	++	–39.798	++	–92.331	++
The average value of Z	–37.541											
PNL	++											

(Note: PNL = professional notable level, P = percentage)

Table 2.31 The influence of the VO case on verbs followed by "不[bù] (not)~" (limited to disyllabic verbs)

Grade of frequency	*1*		*2*		*3*		*4*		*5*		*Total*	
Condition	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*	*VO case*	*Non-VO case*
Yes	252	1,173	420	1,048	479	1,021	575	1,002	689	887	2,415	5,131
P	90.3%	88.7%	89.6%	82.5%	88.2%	81.5%	90.8%	81.7%	90.1%	75.8%	89.8%	82.2%
No	27	149	49	223	64	232	58	225	76	283	274	1,112
P	9.7%	11.3%	10.4%	17.5%	11.8%	18.5%	9.2%	18.3%	9.9%	24.2%	10.2%	17.8%
Total	279	1,322	469	1,271	543	1,253	633	1,227	765	1,170	2,689	6,243
$^{\sigma}p^{1}$-p^{2}	0.0197		0.0177		0.0177		0.0159		0.0165		0.0076	
Z/NL	0.808	—	4.010	++	3.810	++	5.762	++	8.616	++	10.054	++
The average value of Z	4.601											
PNL	—											

(Note: PNL = professional notable level, P = percentage)

Table 2.32 Numbers of words of parts of speech

Parts of speech	*noun*	*adverb*	*adjective*	*adverbial*	*distinctive word*	*state word*	*time word*	*quantifier*	*conjunction*	*locative*
NW	27,408	10,300	2,355	999	459	395	301	259	186	123
Percentage	63%	24%	5.4%	2.3%	1.1%	0.9%	0.7%	0.6%	0.4%	0.28%

Parts of speech	*pronoun*	*preposition*	*Locational word*	*numeral-quantifier phrase*	*numeral*	*modal particle*	*auxiliary*	*demonstrative*	*interjection*	*onomatopoetic word*
NW	105	95	90	72	42	35	33	26	25	22
Percentage	0.24%	0.22%	0.21%	0.17%	0.10%	0.08%	0.08%	0.06%	0.06%	0.05%

(NW = number of words)

The statistical results in Table 2.32 are basically the same as Yin Bin Yong's (1986). Table 2.33 shows that word frequency and numbers of words of parts of speech are also generally related.

From Table 2.33, it can be seen that the numbers of other words are positively related to word frequency, except for nouns and state words. By the way, onomatopoetic words and interjections are excluded, since their quantities are too small to be considered. Among the words in Table 2.33, most of words have reached the significant critical value, except for verbs, adjectives, distinctive words and locational words. Nouns and state words are negatively related to word frequency, whose changing tendencies are still noticeable, even though they haven't reached the notable level. Besides, except for nouns and state words, words such as verbs, adjectives, distinctive words, adverbs, numerals, quantifiers, time words, locative, locational words and function words mainly appear in the category of common words but among the uncommon words are mainly nouns.

Therefore, if the numbers of words of parts of speech are counted according to grades of word frequency, their percentages will change accordingly.

2.4 The statistical study on the actual distribution of parts of speech

2.4.1 Foreword

2.4.1.1 The reasons for the statistical study on the actual distribution of parts of speech in the corpus

In the previous statistics, the grammatical functions of parts of speech have been investigated from the perspective of being syntactic constituents. In the following, the actual distribution of parts of speech will be analysed in the corpus for the purpose of offering a more comprehensive explanation as to their functions. Zhu Dexi (1985a) once thought that there didn't exist one-to-one correspondence between part of speech and syntactic constituent, which meant that a part of speech could be multi-functional. Therefore, the following statistics will investigate the corresponding relationship between both sides based on the real material in the corpus to see how complicated the relationship is. The statistics are focused on two aspects, one of which is on frequencies of parts of speech as different syntactic constituents, and the other of which is on the composition of parts of speech as syntactic constituents. Although similar studies have been done before (Mo Penglin and Shan Qing, 1985; He Yang, 1996), the following are the reasons for such a repetition.

1. The different systems of parts of speech

Words such as adjectives, distinctive words and state words are classified into different parts of speech in this book, while all of them are simply treated as adjectives in other studies. Similarly, locatives, locational words and time words

Table 2.33 The correlation between word frequencies and numbers of words of parts of speech

GF	*1*		*2*		*3*		*4*		*5*		*Total*	*P in TN*	*r*	*NL*
NW	*8,666*		*8,666*		*8,666*		*8,666*		*8,666*		*43,330*			
MWF	*2,392*		*304*		*77*		*16*		*0*					
	NW	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*	*NW*	*P*	*NW*			
noun	3526	12.9%	4456	16.3%	5354	19.5%	6551	23.9%	7521	27.4%	27408	63.3%	–0.756	—
verb	3074	29.8%	2983	29.0%	2337	22.7%	1370	13.3%	536	5.2%	10300	23.8%	0.603	—
adjective	591	25.1%	601	25.5%	510	21.7%	381	16.2%	272	11.5%	2355	5.4%	0.560	—
adverbial	446	44.6%	233	23.3%	147	14.7%	96	9.6%	77	7.7%	999	2.3%	0.956	+
distinctive word	160	34.9%	112	24.4%	92	20.0%	62	13.5%	33	7.2%	459	1.1%	0.843	—
state word	8	2.0%	35	8.9%	87	22.0%	129	32.7%	136	34.4%	395	0.91%	–0.787	—
time word	126	41.9%	69	22.9%	48	15.9%	31	10.3%	27	9.0%	301	0.69%	0.952	+
quantifier	188	72.6%	40	15.4%	11	4.2%	11	4.2%	9	3.5%	259	0.60%	0.998	++
conjunction	115	61.8%	28	15.1%	13	7.0%	10	5.4%	20	10.8%	186	0.43%	0.995	++
locative	69	56.1%	33	26.8%	14	11.4%	6	4.9%	1	0.8%	123	0.28%	0.943	+
pronoun	78	74.3%	8	7.6%	10	9.5%	4	3.8%	5	4.8%	105	0.24%	0.995	++
preposition	83	87.4%	10	10.5%	2	2.1%	0	0.0%	0	0.0%	95	0.22%	1.000	++
locational word	46	51.1%	31	34.4%	8	8.9%	1	1.1%	4	4.4%	90	0.21%	0.963	—
numeral-quantifier phrase	45	62.5%	10	13.9%	11	15.3%	3	4.2%	3	4.2%	72	0.17%	0.987	++
numeral	34	81.0%	3	7.1%	3	7.1%	1	2.4%	1	2.4%	42	0.10%	0.997	++
modal particle	25	71.4%	6	17.1%	0	0.0%	2	5.7%	2	5.7%	35	0.08%	0.991	++
auxiliary	26	78.8%	1	3.0%	4	12.1%	0	0.0%	2	6.1%	33	0.08%	0.982	++
demonstrative	23	88.5%	1	3.8%	0	0.0%	1	3.8%	1	3.8%	26	0.06%	0.993	++
interjection	2	8.0%	3	12.0%	7	28.0%	3	12.0%	10	40.0%	25	0.06%	–0.547	—
onomatopoetic word	1	4.5%	3	13.6%	8	36.4%	4	18.2%	6	27.3%	22	0.05%	–0.743	—

(Note: GF = grade of frequency, NW = number of words, MWF = middle word frequency, NL = notable level, NW = number of words, P = percentage, TN = the total number)

are excluded from nouns in this book, while they are classified into nouns instead; demonstratives and numeral-quantifier phrases belong to different parts of speech in this book, while they are categorised as pronouns and adjectives, respectively. Since one of the purposes of the statistics in this book is to complete and examine the new system proposed by this study, it is not proper to adopt the already-existed system of parts of speech in other studies.

2. Incomplete statistics in the past

The past system of parts of speech was too rough because it only covered most notional words in about three categories, nouns, verbs and adjectives, without including other categories, such as adverbials, numerals, quantifiers, pronouns and preposition structures. That is why more complete statistics are needed here.

3. The inaccuracy of data influenced by improper statements in the past

For example, the function of being an attribute for "X的" was misunderstood as the function of "X", or the functions of being subjects and objects for "X的" was misunderstood as the function of being an attribute for "X". Besides, the situation of an auxiliary followed by a predicate constituent was treated as an auxiliary functioning as an adverbial.

4. The statistics on words in written language and spoken language

The statistics done by Mo Penglin and Shan Qing (1985) didn't count the words in the form of written or oral separately; although He Yang did, his statistics were only focused on adjective functions in these two forms. Therefore, the statistics in this book will count words in written language and spoken language separately, considering the big divergences between both two forms.

2.4.1.2 The corpus in the statistics

The corpus contains 20,000 Chinese characters, 10,000 of which are in written language and the other of which are in spoken language.

The Chinese characters in spoken language are from the video conversation records of the teleplay "The stories of editorial department-flying stars", which contains 11,000 Chinese characters (6,672 words).

The Chinese characters in written language are from two groups of materials. One is the first edition and a certain part of the second edition of the *People's Daily* on December 16th, 1995, with 11,000 Chinese characters (5,635 words). The other is the first part of the fourth chapter of *Children's Psychological World*, with 2,000 Chinese characters (1,042 words). To sum up, there are 13,000 Chinese characters (6,677 words) in written language.

2.4.2 Analytical methods

2.4.2.1 Parsing of words

The parsing of words is mainly based on the accuracy of the functional analysis and the representativeness of statistical data, instead of the completeness of a word. For example, as the name of newspaper, "人民日报[rén mín rì bào] (*People's Daily*)" is supposed to be combined with other constituents only as a whole one and should be considered as a single parsing unit from the perspective of function. If it is divided into two parts of "人民[rén mín](people)" and "日报[rì bào](daily)", "人民[rén mín](people)" becomes an attribute of "日报[rì bào](daily)', which will result in a big increase in the number of nouns functioning as attributes.

The following is the methods for some special situations.

1 A person's name is usually treated as a parsing unit. A dot can be added between the surname and the given name(s), such as "邓•小平[dèng xiǎo píng](Deng Xiaoping)/", "中山•太郎[zhōng shān tài láng](Zhongshan Tailang)/", "Herbert•George•Welsh/".
2 The proper term formed by "special term + general term" is treated as a parsing unit, such as "北京市[běi jīng shì](Beijing City)/", "日本国[rì běn guó](Japan Country)/" and "京九铁路[jīng jiǔ tiě lù](Jingjiu Railway)/".
3 Other proper terms are treated as parsing units, such as "人民日报[rén mín rì bào] (*People's Daily*)/", "新闻出版总署[xīn wén chū bǎn zǒng shǔ](General Administration of Press and Publication)/", "北京大学[běi jīng dà xué](Beijing University)/" and "商务印书馆[shāng wù yìn shū guǎn](The Commercial Press)/". However, if these proper terms are connected with other possessive names, they should be parsed, such as "北京市[běi jīng shì](Beijing)/税务局[shuì wù jú](tax bureau)", "山东省[shān dōng shěng](Shandong Province)/人民代表大会[rén mín dài biǎo dà huì](People's Congress)/" and "外交部[wài jiāo bù](the Ministry of Foreign Affairs)/亚洲司[yà zhōu sī](Department of Asian Affairs)/".
4 Numerals and numeral phrases are treated as parsing units, such as "一百二十三[yī bǎi èr shí sān](123)/个[gè]/, "120/个[gè]/" and "三分之一[sān fēn zhī yī](one-third)/".
5 A shortened form is treated as a parsing unit, such as"各[gè](every)/部委[bù wěi](ministries and commissions)/", "中小学生[zhōng xiǎo xué shēng](primary and secondary school students)/", "女单[nǚ dān](女子单打[nǚ zǐ dān dǎ])(women's singles)/" and "名、特、优[míng, tè, yōu](famous)/食品[shí pǐn](food)/"；the shortened form of the nominal coordinate relation should be parsed, such as "中[zhōng](China)/美[měi](America)/两[liǎng](two)/国[guó](countries)/", "京[jīng](Beijing)/沪[hù](Shanghai)/开展[kāi zhǎn](carry out)/. . ." and "军/地/两用/人才[jūn/ dì/ liǎng yòng/ rén cái]/(officers and soldiers both for military and civilian jobs) ".

6 If "X者" is a fixed constituent, it is treated as a parsing unit, such as "作者[zuò zhě](author)/", "记者[jì zhě](reporter)/", "患者[huàn zhě](patient)/", "读者[dú zhě](reader)/", "独裁者[dú cái zhě](dictator)/" and "小生产者[xiǎo shēng chǎn zhě](small producer)/"; while if it is treated as a temporary, compound one, it should be parsed, such as "迟到/者/[chí dào/zhě](latecomer)", "领/养老金/者/[lǐng/ yǎng lǎo jīn/ zhě](pensioner)", "来访/者/[lái fǎng/zhě](visitor)" and "外直接/投资/接受/者/[wài zhí jiē/ tóu zī/ jiē shòu/ zhě](foreign direct investment receiver)".

7 A overlapping form is considered as a parsing unit, such as "看看/书[kàn kàn shū]/(reading a book)", "商量商量[shāng liang shāng liang]/(consulting), "干干净净[gān gān jìng jìng]/(clean)" and "天天/下雨/[tiān tiān/ xià yǔ](raining every day)", and so is the repeated form, such as "对/对/对/[duì duì duì](yes)" and "非常/非常/好/[fēi cháng/ fēi cháng/ hǎo](very good)".

8 "量[liàng]" and "案[ān]" cannot be parsed, for they are not usually used alone, such as "流量[liú liàng]/(rate of flow)", "含沙量[hán shā liàng]/(sediment concentration)", "命案[mìng àn]/(homicide case)" or "血案[xuě àn]/(murder case)". However, if the constituents before them can be extended long enough, they should be divided from their front constituents, such as "吸引/外资/量/[xī yǐn/ wài zī/ liàng](scale of attracting foreign investments) ", "盗窃/军用/物资/案/[dào qiè/ jūn yòng/ wù zī/ àn](case of stealing military goods and materials)" and "违法/走私/汽车/偷税/逃税/案/[wéi fǎ/ zǒu sī/ qì chē/ tōu shuì/ táo shuì/ àn](case of illegal smuggling cars, tax dodging and tax avoiding ".

9 "全[quán](all)+名词性成分(nominal constituent)" should be parsed, such as "全/省[quán/ shěng](all the province)","全/班/[quán/ bān](all the class)", "全/世界/[quán/ shì jiè](all the world)", "全/连/[quán/ lián](all the company) " and "全/国/[quán/ guǒ](all the country)". The same is true for "各[gè](every)+名(noun constituent), 量词性成分(quantifier constituent)", such as "各/省[gè/ shěng](every province)", "各/国[gè/ guó](every country)", "各/种[gè/ zhǒng](every type)", "各/校[gè/ xiào](every school)" and "各/地[gè/ dì](every region)".

10 A separable phrasal word is treated as a parsing unit. If there exist other constituents in the middle, it can be regarded as a discontinuous one whose parsing analysis is supposed to be done with part of speech tagging, such as "洗[xǐ]/v-了[le]/u一/m 个/I 澡[zǎo]/-v(take a shower)" and "离[lí]/v-不[bù]/d开[kāi]/-v(cannot leave)". "v-" and "-v" stand for the front and the rear of a discontinuous verb, respectively, both of which form a "v" when combined together.

2.4.2.2 Parts of speech and the additional tagging characteristics

1 Tagging parts of speech based on the system in this book.

2 Besides the tag of pronoun, the tag of grammatical property is also needed when a pronoun is to be tagged, such as "我[wǒ](I)r/n" for a nominal pronoun, "这样[zhè yàng](like this)r/v" for a predicate pronoun, "这么[zhè me]

(then)r/d" for an adverbial pronoun, "几[jǐ](serveral)r/m" for a numeral pronoun and "这里[zhè lǐ](here)r/s" for a locational pronoun.

3 Classical Chinese constituents should be tagged with "#", such as "儿童[ér tóng]/n降生[jiàng]/v于[yú]# /p世[shì]# /n(a baby was born)".

4 The shortened forms should be tagged with their parts of speech and shortened form marks, such as "北大[běi dà]j/n(Peking University)" and "中[zhōng]j/n美[měi] j/n 两[liǎng]/m 国[guó]#/n(China and America)".

5 Idioms should be tagged with their idiom marks and marks of grammatical properties, such as "中流砥柱[zhōng liú dǐ zhù]i/n(mainstay)" and "实事求是[shí shì qíu shì]i/v(be practical and realilstic)". "快人快语[kuài rén wài yǔ]i/v(straight talk from an honest person)" and "全心全意[quán xīn quán yì]i/d(heart and soul)".

2.4.2.3 Functional tagging

1 The functions of syntactic constituents in the statistics include: subject(S), object(O), predicate(P), attribute(A), adverbial(D), complement(C), environmental language(H), independent constituent(I), non-core constituent of the successive predicates construction(W) and non-core constituent of recursive construction(X). In addition, the attribute (F) in the locative construction should be counted separately.

Environmental language refers to constituents of time or location before verbs, but not as arguments of verbs. For example:

(1) 昨天[zuó tiân]/t|H他[tâ]r/n|S没[méi]/d|D来[lái]/v|P。(He didn't come yesterday.)

The tags before "|" is marks for parts of speech, and the ones after "|" are functional marks.

Independent constituents refer to the core constituents of independent language and non-subject sentences, including the constituents of calling and responding, nominal constituents as independent sentences in conversations and predicate constituents without subject as independent sentences (no matter whether the subject is omitted or not).

The former predicate in the construction of successive predicates is usually considered as the non-core constituent and the latter as the core one (Guo Rui, 1997b). However, "来[lái](come)" and "去[qù](go)" are supposed to be non-core constituents when they are as the latter predicates. For example:

(2) 我们[wǒ men]r/n|S 吃[chī]/v|W 了[le]/u 饭[fàn]/n 看[kàn]/v|P 电影[diàn yǐng]/n|O。(We go to the movies after finishing the dinner.)

(3) 我们[wǒ men]r/n|S 看[kàn]/v|P 电影[diàn yǐng]/nO 去[qù]/v|W。(We go to the movies.)

The latter predicate in the recursive construction is considered as the non-core constituent. For example:

(4) 小王[xiǎo wáng]/n|S 要求[yâo qiú]/v|P 你[nǐ] r/n|O离开[lí kâi]/v|X。(Xiawang asks you to leave.)

2 The overall function of a certain phrase is decided by the function of the core constituent of this phrase. The core constituent includes: the head-word of construction consisting of a modifier and the word it modifies, the predicate of the predicate-complement construction, the predicate of the predicate-object construction, the predicate of the subject-predicate construction, the latter predicate of successive predicates construction (except for "来[lái](come), 去[qù](go)"), the former part of the recursive construction, the preposition of the preposition construction and "的/地[de]" in the structure of "的/地[de/ de]". The functions of other syntactic constituents prescribed by the grammatical relationship between the core constituent and its direct constituents cannot be tagged again as another function of the core constituent. For example, when the phrase "红苹果[hóng ping guǒ](red apple)" functions as a subject, the function of "苹果[ping guǒ] (apple)" as subject can be tagged only once and cannot be tagged again when it functions as a headword. Differently, the predicate in the construction of a subject-predicate can be tagged as a predicate again. For example:

(5) 中文系[zhông wén xì]/n|d_3 的/u|A 同学[tong xué]/n|S 也[yì]/d|D 知道[zhî dào]/v|P 他[tâ]r/n|S 来[lái]/v|P|O 自[zì]/p|C 我们[wǒ men]r/n|A学校[xué xiào]/n|O。("d_3" refers to form a direct constituent with "的$_3$".) (The students of the department of Chinese language and literature also know that he comes from our school.)

3 The overall functions of the coordinate construction and the apposition construction are decided by the functions of their constituents in each. For example:

(6) 我[wǒ] r/n|S 和[hé]/c 他[tâ] r/n|S 去[qù]/v|P。(I go with him.)

(7) 北大[bìi dà]j/n|A 校长[xiào zhǎng]/n|S 陈•佳洱[chén jiâ ìr]/n|S 出席[chû xí]/v|P 会议/n|O。(The president of Peking University Chen Jiaer attended the conference.)

2.4.3 The statistics on the functions of syntactic constituents in the structures of notional words and function words

2.4.3.1 The frequencies of occurrence for the words of parts of speech in the data

Table 2.34 shows that the frequencies of occurrence for verbs and nouns are very high, taking up about one-fourth, respectively, and almost taking up a half in total.

Table 2.34 The frequencies of occurrence for words of parts of speech

	noun		*verb*		*adjective*		*state word*		*time word*		*locational word*		*locative*	
	T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
spoken	845	13%	1,728	26%	302	4.5%	5	0.1%	44	0.7%	20	0.3%	48	0.7%
written	2254	34%	1,676	25%	371	5.6%	5	0.1%	90	1.3%	13	0.2%	93	1.4%
total	3099	23%	3,404	26%	673	5.0%	10	0.1%	134	1.0%	33	0.2%	141	1.1%

	quantifier		*numeral*		*numeral-quantifier phrase*		*demonstrative*		*distinctive word*		*adverb*		*onomatopoetic word*	
	T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
spoken	165	2.5%	139	2.1%	80	1.2%	154	2.3%	27	0.4%	837	13%	13	0.2%
written	201	3.0%	286	4.3%	38	0.6%	153	2.3%	129	1.9%	290	4.3%	0	0.0%
total	366	2.7%	425	3.2%	118	0.9%	307	2.3%	156	1.2%	1127	8.4%	13	0.1%

	pronoun		*preposition*		*conjunction*		*modal particle*		*auxiliary*		*interjection*		*total*
	T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	
spoken	944	14%	178	2.7%	115	1.7%	413	6.2%	355	5.3%	260	3.9%	6672
written	100	1.5%	264	4.0%	168	2.5%	7	0.1%	539	8.1%	0	0.0%	6677
total	1044	7.8%	442	3.3%	283	2.1%	420	3.1%	894	6.7%	260	1.9%	13349

(Note: T = times, P = percentage)

The frequency of verbs is a bit more than that of nouns, although the total number of the former (10,283) is far less that that of the latter (27,400). Similar situations happen among other parts of speech, such as adverbs, pronouns, auxiliaries and adjectives. For example, although the number of adverbs (999) is much less than that of adjectives (2,355), their frequency is higher than that of adjectives; there are only 139 pronouns, but their frequency is almost as same as that of adverbs and even higher than that of adjectives. Auxiliaries have the least among these four categories of words, but their frequency is more than that of adjectives. The frequencies of occurrence for these six categories take up 77% (about three-fourths) of all words in total.

There is a big difference for frequency of occurrence for some parts of speech in the forms of spoken and written language, such as the modal particle, pronoun, adverb, noun and interjection. The frequency of modal particles in spoken language is 59 times that in written language; the frequency of pronouns in spoken language is 9.4 times that in written language;

the frequency of adverbs in spoken language is 2.9 times that in written language; the frequency of nouns in written language is 2.7 times that in spoken language; and interjections in spoken language appear 260 times, but they never do in written language.

There are no obvious differences in the frequencies among demonstratives, verbs, adjectives, quantifiers and conjunctions. The differences among other parts of speech are in the intermediate state.

The corresponding pie chart is omitted with the author's permission. The results in the above statistics are similar to those statistics by Yin Binyong (1986).

The following is about the frequencies of the functions for words of parts of speech. The statistics on the frequencies of syntactic functions of notional words are presented in Table 2.35.

Table 2.35 The frequencies of syntactic functions of notional words

		subject		*object*		*predicate*		*complement*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
noun	spoken	184	22%	428	51%	10	1.2%	0	0%
	written	450	20%	746	33%	0	0%	0	0%
	in total	634	20%	1,174	38%	10	0.3%	0	0%
verb	spoken	36	2%	88	5%	811	47%	97	6%
	written	52	3%	221	13%	525	31%	66	4%
	in total	88	3%	309	9%	1,336	39%	163	5%
adjective	spoken	2	0.7%	23	7.6%	83	27%	37	12%
	written	1	0.3%	23	6.2%	60	16%	32	9%
	in total	3	0.4%	46	6.8%	143	21%	69	10%
state word	spoken	0	0%	0	0%	0	0%	0	0%
	written	0	0%	1	20%	1	20%	0	0%
	in total	0	0%	1	10%	1	10%	0	0%
distinctive word	spoken	1	4%	5	19%	0	0%	0	0%
	written	1	1%	5	4%	0	0%	0	0%
	in total	2	1%	10	6%	0	0%	0	0%
adverb	spoken	0	0%	0	0%	0	0%	0	0%
	written	0	0%	0	0%	0	0%	0	0%
	in total	0	0%	0	0%	0	0%	0	0%
time word	spoken	0	0%	1	2%	0	0%	0	0%
	written	0	0%	13	14%	0	0%	0	0%
	in total	0	0%	14	10%	0	0%	0	0%

		attribute		*∼locative*		*adverbial*		*environmental language*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
noun	spoken	63	7%	34	4%	6	0.7%	7	1%
	written	801	36%	58	3%	1	0.0%	11	0%
	in total	864	28%	92	3%	7	0.2%	18	1%
verb	spoken	11	0.6%	1	0%	0	0%	0	0%
	written	246	15%	13	0.8%	0	0%	1	0%
	in total	257	8%	14	0.4%	0	0%	1	0%
adjective	spoken	31	10%	6	2%	23	8%	0	0%
	written	106	29%	2	1%	86	23%	0	0%
	in total	137	20%	8	1%	109	16%	0	0%
state word	spoken	0	0%	0	0%	0	0%	0	0%
	written	2	40%	0	0%	0	0%	0	0%
	in total	2	20%	0	0%	0	0%	0	0%
distinctive word	spoken	12	44%	0	0%	0	0%	0	0%
	written	115	89%	0	0%	0	0%	0	0%
	in total	127	81%	0	0%	0	0%	0	0%
adverb	spoken	0	0%	0	0%	837	100%	0	0%
	written	0	0%	0	0%	290	100%	0	0%
	in total	0	0%	0	0%	1127	100%	0	0%
time word	spoken	3	7%	0	0%	0	0%	37	84%
	written	22	24%	1	1%	0	0%	46	51%
	in total	25	19%	1	1%	0	0%	83	62%

		independent constituent		*others*		*in total*
		T	*P*	*T*	*P*	*T*
noun	spoken	13	1.5%	100	12%	845
	written	21	0.9%	166	7%	2,254
	in total	34	1.1%	266	9%	3,099
verb	spoken	501	29%	183	11%	1,728
	written	316	19%	236	14%	1,676
	in total	817	24%	419	12%	3,404
adjective	spoken	71	24%	26	9%	302
	written	7	1.9%	54	15%	371
	in total	78	12%	80	12%	673
state word	spoken	1	20%	4	80%	5
	written	0	0%	1	20%	5
	in total	1	10%	5	50%	10
distinctive word	spoken	0	0%	9	33%	27
	written	0	0%	8	6%	129
	in total	0	0%	17	11%	156
adverb	spoken	0	0%	0	0%	837
	written	0	0%	0	0%	290
	in total	0	0%	0	0%	1,127
time word	spoken	2	5%	1	2%	44
	written	0	0%	8	9%	90
	in total	2	1%	9	7%	134

(*Continued*)

Table 2.35 (Continued)

		subject		*object*		*predicate*		*complement*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
locational word	spoken	0	0%	5	25%	0	0%	0	0%
	written	1	8%	5	38%	0	0%	0	0%
	in total	1	3%	10	30%	0	0%	0	0%
locative	spoken	0	0%	22	46%	0	0%	0	0%
	written	3	3%	55	59%	0	0%	0	0%
	in total	3	2%	77	55%	0	0%	0	0%
numeral	spoken	0	0%	2	1%	1	1%	0	0%
	written	0	0%	19	7%	2	1%	0	0%
	in total	0	0%	21	5%	3	1%	0	0%
numeral-quantifier phrase	spoken	14	18%	22	28%	1	1%	0	0%
	written	0	0%	2	5%	0	0%	0	0%
	in total	14	12%	24	20%	1	1%	0	0%
quantifier	spoken	8	5%	34	21%	1	1%	0	0%
	written	7	3%	33	16%	6	3%	0	0%
	in total	15	4%	67	18%	7	2%	0	0%
demonstrative	spoken	0	0%	0	0%	0	0%	0	0%
	written	0	0%	0	0%	0	0%	0	0%
	in total	0	0%	0	0%	0	0%	0	0%
onomatopoetic word	spoken	0	0%	0	0%	0	0%	0	0%
	written	0		0		0		0	
	in total	0	0%	0	0%	0	0%	0	0%

		attribute		*~locative*		*adverbial*		*environmental language*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
locational word	spoken	5	25%	0	0%	0	0%	6	30%
	written	6	46%	0	0%	0	0%	0	0%
	in total	11	33%	0	0%	0	0%	6	18%
locative	spoken	1	2%	0	0%	0	0%	0	0%
	written	13	14%	0	0%	1	1%	0	0%
	in total	14	10%	0	0%	1	1%	0	0%
numeral	spoken	111	80%	0	0%	8	6%	0	0%
	written	235	82%	1	0%	1	0%	0	0%
	in total	346	81%	1	0%	9	2%	0	0%
numeral-quantifier phrase	spoken	35	44%	0	0%	6	8%	0	0%
	written	36	95%	0	0%	0	0%	0	0%
	in total	71	60%	0	0%	6	5%	0	0%
quantifier	spoken	104	63%	0	0%	4	2%	7	4%
	written	139	69%	1	0%	0	0%	6	3%
	in total	243	66%	1	0%	4	1%	13	4%
demonstrative	spoken	154	100%	0	0%	0	0%	0	0%
	written	153	100%	0	0%	0	0%	0	0%
	in total	307	100%	0	0%	0	0%	0	0%
onomatopoetic word	spoken	1	8%	0	0%		0%	0	0%
	written	0		0				0	
	in total	1	8%	0	0%	0	0%	0	0%

		independent constituents		*others*		*in total*
		T	*P*	*T*	*P*	*T*
locational word	spoken	1	5%	3	15%	20
	written	0	0%	1	8%	13
	in total	1	3%	4	12%	33
locative	spoken	19	40%	6	13%	48
	written	10	11%	11	12%	93
	in total	29	21%	17	12%	141
numeral	spoken	0	0%	17	12%	139
	written	14	5%	14	5%	286
	in total	14	3%	31	7%	425
numeral-quantifier phrase	spoken	1	1%	1	1%	80
	written	0	0%	0	0%	38
	in total	1	1%	1	1%	118
quantifier	spoken	5	3%	2	1%	165
	written	2	1%	7	3%	201
	in total	7	2%	9	2%	366
demonstrative	spoken	0	0%	0	0%	154
	written	0	0%	0	0%	153
	in total	0	0%	0	0%	307
onomatopoetic word	spoken	12	92%	0	0%	13
	written	0		0		0
	in total	12	92%	0	0%	13

		subject		*object*		*predicate*		*complement*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
pronoun	spoken	511	54%	188	20%	5	1%	0	0%
	written	43	43%	15	15%	0	0%	0	0%
	in total	554	53%	203	19%	5	0%	0	0%

		attribute		*∼locative*		*adverbial*		*environmental language*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
pronoun	spoken	98	10%	0	0%	67	7%	14	1%
	written	21	21%	1	1%	2	2%	5	5%
	in total	119	11%	1	0%	69	7%	19	2%

		independent constituent		*others*		*in total*
		T	*P*	*T*	*P*	*T*
pronoun	spoken	38	4%	23	2%	944
	written	0	0%	13	13%	100
	in total	38	4%	36	3%	1,044

(Note: T = times, P = percentage)

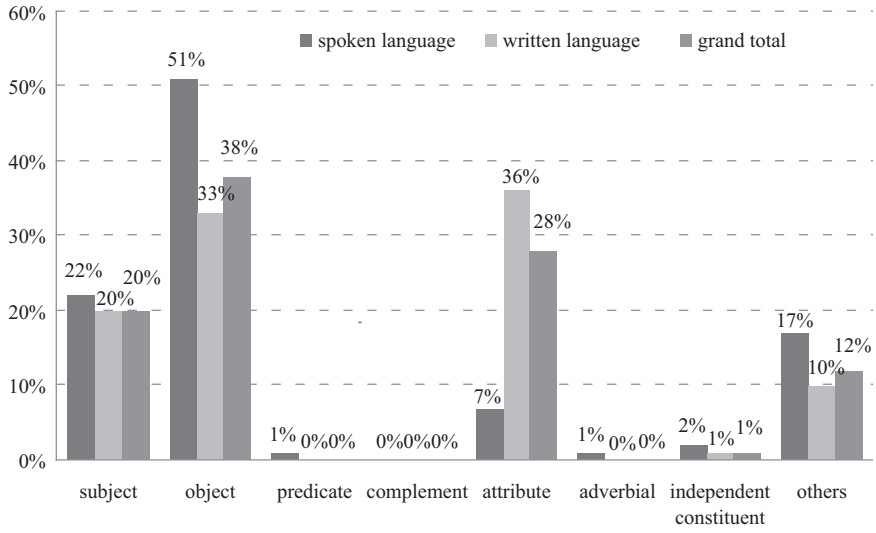


Figure 2.1 The frequencies of syntactic functions of nouns

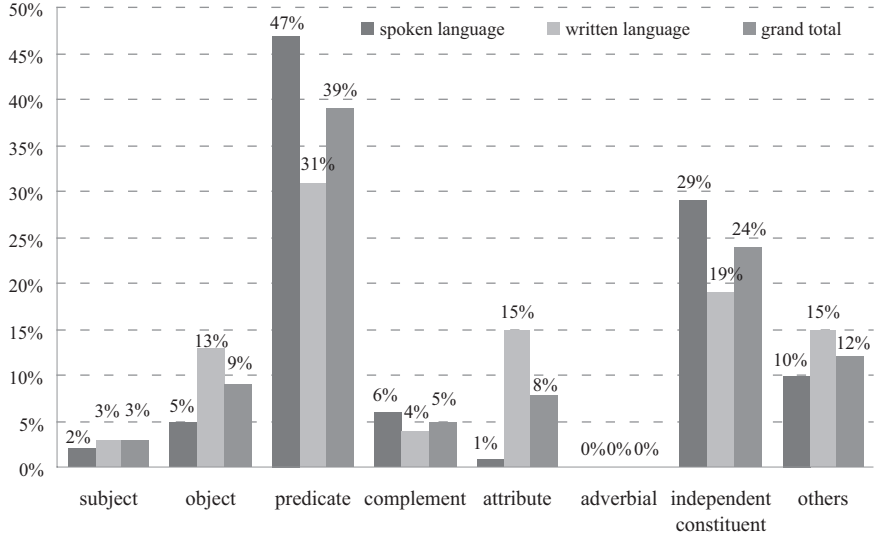


Figure 2.2 The frequencies of syntactic functions of verbs

Figures 2.1, 2.2 and 2.3 are the histograms[6] of syntactic functions of nouns, verbs and adjectives, respectively, for the sake of the clear observation on the functions of notional words.

From the perspective of grammatical properties, pronouns are different parts of speech. Table 2.36 is the frequencies of syntactic functions of pronouns with different parts of speech.

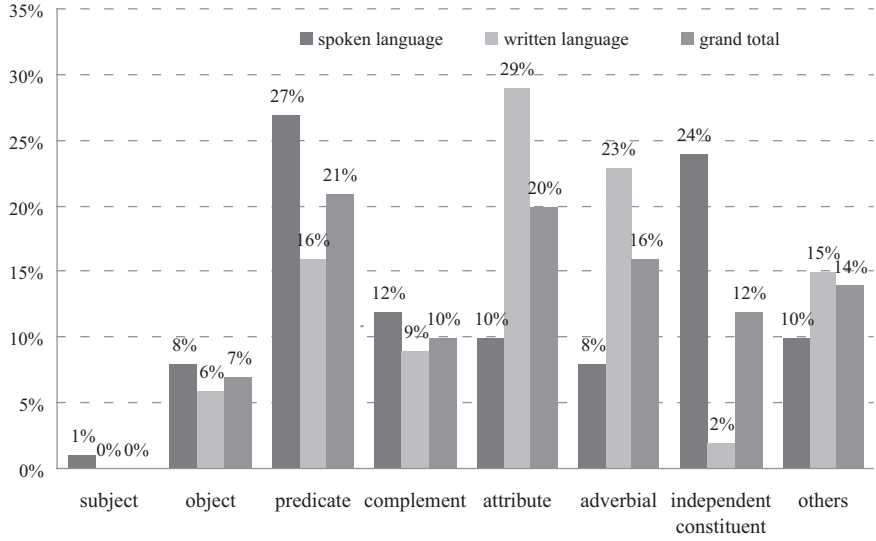


Figure 2.3 The frequencies of syntactic functions of adjectives

Table 2.36 The frequencies of syntactic functions of pronouns with different parts of speech

		subject		*object*		*predicate*		*comple-ment*		*attribute*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
Pn	S	509	62%	164	20%	0	0%	0	0%	96	12%
	W	43	47%	14	15%	0	0%	0	0%	21	23%
	T	552	61%	178	20%	0	0%	0	0%	117	13%
Pv	S	0	0%	2	10%	5	25%	0	0%	0	0%
	W										
	T	0	0%	2	10%	5	25%	0	0%	0	0%
Pd	S	0	0%	0	0%	0	0%	0	0%	0	0%
	W	0	0%	0	0%	0	0%	0	0%	0	0%
	T	0	0%	0	0%	0	0%	0	0%	0	0%
Ps	S	2	6%	18	50%	0	0%	0	0%	0	0%
	W	0	0%	1	17%	0	0%	0	0%	0	0%
	T	2	5%	19	45%	0	0%	0	0%	0	0%
Pm	S	0	0%	0	0%	0	0%	0	0%	1	100%
	W										
	T	0	0%	0	0%	0	0%	0	0%	1	100%
Pq	S	0	0%	4	80%	0	0%	0	0%	1	20%
	W										
	T	0	0%	4	80%	0	0%	0	0%	1	20%

(*Continued*)

Table 2.36 (Continued)

		~locative		*adverbial*		*environment language*		*independent constituent*		*others*		*total*	
		P	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*
Pn	S	12%	0	0%	0	0%	0	0%	26	3%	22	3%	817
	W	23%	1	1%	0	0%	0	0%	0	0%	13	14%	92
	T	13%	1	0%	0	0%	0	0%	26	3%	35	4%	909
Pv	S	0%	0	0%	0	0%	0	0%	12	60%	1	5%	20
	W												0
	T	0%	0	0%	0	0%	0	0%	12	60%	1	5%	20
Pd	S	0%	0	0%	65	100%	0	0%	0	0%	0	0%	65
	W	0%	0	0%	2	100%	0	0%	0	0%	0	0%	2
	T	0%	0	0%	67	100%	0	0%	0	0%	0	0%	67
Ps	S	0%	0	0%	2	6%	14	39%	0	0%	0	0%	36
	W	0%	0	0%		0%	5	83%	0	0%	0	0%	6
	T	0%	0	0%	2	5%	19	45%	0	0%	0	0%	42
Pm	S	100%	0	0%	0	0%	0	0%	0	0%	0	0%	1
	W												0
	T	100%	0	0%	0	0%	0	0%	0	0%	0	0%	1
Pq	S	20%	0	0%	0	0%	0	0%	0	0%	0	0%	5
	W												0
	T	20%	0	0%	0	0%	0	0%	0	0%	0	0%	5

(Note: T = times, P = percentage, $P_{(n,v,\ldots)}$ = $pronoun_{(n,v,\ldots)}$, S/W/T = spoken, written, total)

"Others" in the above table includes the data on the front of constrictions of successive predicates and the rear of recursive constructions. Verbs in the front of constructions of successive predicates appear 64 times in spoken language and 34 times in written language, while verbs in the rear of recursive constructions appear 47 times in spoken language and 56 times in written language. Adjectives in the front of constructions of successive predicates appear one time in spoken language and zero times in written language, while adjectives in the rear of recursive constructions appear three times in spoken language and three times in written language.

The following is the frequencies of the syntactic functions of the phrases of function words (see Table 2.37).

The statistics in the above table prove the prototype correlation proposed in 4.8.1 of *Modern Chinese Parts of Speech: Classification Theory* between parts of speech and expressive functions and syntactic constituents. Figure 2.4 displays the correspondence between syntactic constituents and the main parts of speech in the categories of nominals, predicates and modifiers (the data in bold refers to the main correspondence).

The correspondence frequency between predicates and verbs and adjectives is only 36%, because many verbs and adjectives can be independent constituents (22%) and some of them can function as complements. If all are included, the percentage can reach 64%.

Table 2.37 The frequencies of syntactic functions of phrases of function words

		subject		*object*		*predicate*		*complement*		*attribute*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
X地[de]	S	0	0%	0	0%	0	0%	0	0%	0	0%
	W	0	0%	0	0%	0	0%	0	0%	0	0%
	T	0	0%	0	0%	0	0%	0	0%	0	0%
X的[de]2	S		0%	1	11%	0	0%	3	33%	0	0%
	W		0%		0%	0	0%	0	0%	0	0%
	T	0	0%	1	10%	0	0%	3	30%	0	0%
X的[de]3	S	13	7%	41	23%	2	1%	0	0%	111	63%
	W	9	2%	14	4%	0	0%	0	0%	371	94%
	T	22	4%	55	10%	2	0%	0	0%	482	85%
PP	S		0%		0%		0%	5	3%	0	0%
	W		0%		0%		0%	18	6%	1	0%
	T	0	0%	0	0%	0	0%	23	5%	1	0%

		~locative		*adverbial*		*environment language*		*independent constituent*		*others*		*total*
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*
X地[de]	S	0	0%	10	100%	0	0%	0	0%	0	0%	10
	W	0	0%	9	100%	0	0%	0	0%	0	0%	9
	T	0	0%	19	100%	0	0%	0	0%	0	0%	19
X的[de]2	S	0	0%	0	0%	0	0%	5	56%	0	0%	9
	W	0	0%	0	0%	0	0%	1	100%	0	0%	1
	T	0	0%	0	0%	0	0%	6	60%	0	0%	10
X的[de]3	S	0	0%	0	0%	0	0%	7	4%	1	1%	175
	W	0	0%	0	0%	0	0%	0	0%	0	0%	395
	T	1	0%	0	0%	0	0%	7	1%	1	0%	570
PP	S		0%	171	96%		0%		0%	2	1%	178
	W		0%	245	87%		0%		0%	17	5%	281
	T	0	0%	416	91%	0	0%	0	0%	19	4%	459

(Note: T = times, P = percentage, S/W/T = spoken/written/total, PP = preposition phrase)

2.4.3.2 Characteristics in the data

From the data in the above, the following characteristics can be figured out.

I The percentages of syntactic functions for nouns, verbs and adjectives are scattered, among which none of percentages for adjectives is beyond 30%. Comparatively speaking, the percentages of syntactic functions for other words are more concentrated.

II For some words, their percentages in the forms of spoken and written diverge greatly. For example:

1 noun as object: 51% in spoken language, 33% in written language;

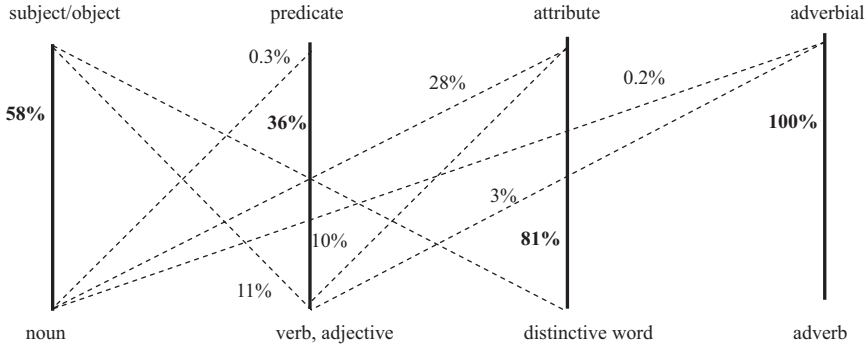


Figure 2.4 The correspondence frequencies between main parts of speech and syntactic constituents

2 noun as attribute: 7% in spoken language, 36% in written language;
3 verb as object: 5% in spoken language, 13% in written language;
4 verb as attribute: 0.6% in spoken language, 15% in written language;
5 verb as independent constituent: 29% in spoken language, 19% in written language;
6 adjective as predicate: 27% in spoken language, 16% in written language;
7 adjective as attribute: 10% in spoken language, 29% in written language;
8 adjective as adverbial: 8% in spoken language, 23% in written language;
9 adjective as independent constituent: 24% in spoken language, 2% in written language;
10 "**X**的$_3$"as subject & object: 31% in spoken language, 8% in written language;
11 "**X**的$_3$"as attribute: 63% in spoken language, 94% in written language.

III The big difference between the frequencies of nouns and the frequencies of nominal pronouns when functioning as subjects and objects.

There exists a big difference between the frequencies of nouns and the frequencies of nominal pronouns when functioning as subjects and objects. Nouns function as subjects 634 times, taking up 20%, and as objects 1,174 times, taking up 38%. On the contrary, nominal pronouns function as subjects 509 times, taking up 62%, and as objects 164 times, taking up 20%. The above data is as same as the results of statistics by Mo Pengling and Shan Qin (1985). Mo Pengling and Shan Qin thought that the reason for the big difference lies in that pronoun has a higher frequency of functioning as subject which is often omitted and a lower frequency of functioning as object. The statistics of this time prove once again the conclusion made by these two persons.

Based on the statistics from the corpus of 20,000 Chinese characters, the total number of subjects is 1136, taking up 11%, and the total number of objects is 2,012, taking up 17%. Because subject is often omitted, the number of objects is almost two times that of subjects.

2.4.4 The reasons for the differences among the frequencies of functions of parts of speech in different styles

Not all frequency differences can be explained due to lack of awareness of the real reasons, such as the frequency differences of verbs as objects in written and spoken language. The following attempts to briefly explain some frequency differences based on the statistics.

2.4.4.1 The reason for the frequency differences of nouns, verbs and adjectives as attributes in written and spoken language and the reason for the frequency differences of adjectives as adverbials in written and spoken language

In written language, the frequencies of nouns, verbs and adjectives as attributes are 29%, 14% and 19%, higher than those in spoken language. The reason might be simple: For a sentence in written language, comparatively speaking, tends to be longer, is more precise and needs more attributes. Therefore, the total number of attributes in written language is 2,265, taking up 35% of syntactic constituents, while there are only 740 attributes in spoken language, taking up 13% of syntactic constituents. Due to the necessary demand of attributes in written language, the frequencies of nouns, verbs and adjectives as attributes are higher than those in spoken language naturally.

The reason mentioned above seems not to be appropriate for the frequency differences of adjectives as adverbials in written and spoken language. There are only 635 adverbials in written language, taking up 10% of syntactic constituents, but the total number of adverbials in spoken language reaches 1,133, taking up 20% of syntactic constituents. The reason for this frequency difference is unclear, but it is probably due to the different semantic functions reflected by adverbs and adjectives when both function as adverbials. When functioning as adverbials, adverbs mainly refer to time, range, mood and tone, which are closely related to communicative functions. The frequency of adverbs as adverbials in spoken language is higher than in written language, which results in the fact that the total number of adverbials in spoken language (837, 74%) is much higher than in written language (290, 46%). As for adjectives functioning as adverbials, they are mainly involved in manner instead of communication. Suppose the explanation in the above might be true; the reason for the frequency differences of adjectives as attributes also works for the frequency differences of adjectives as adverbials.

2.4.4.2 The reason for the frequency differences of objects and attributes in written and spoken language

The frequency of nouns as objects in spoken language is 18% higher than that in written language; the frequency for nouns as attributes in spoken language is 29% lower than that in written language. These two frequency differences are related and complementary, which can explain not only the low frequency in spoken

language and the high frequency in written language when nouns function as attributes, but also the opposite tendency as well, when nouns function as objects. Here comes the question as to why there also exist the frequency differences of nouns as subjects in written and spoken language. The answer to this question is that these frequency differences are related to the situation in which pronouns often serve as subjects in spoken language. Table 2.38 is a comparison of the function frequencies between nouns and nominal pronouns when both function as subjects, objects and attributes.

In the above table, 61% of pronouns serve as subjects, while only 20% of nouns do; 38% of nouns serve as objects, while only 20% pronouns do. From the perspective of function, the ability of pronouns as subjects is much stronger than that as objects; from the perspective of comparison between pronouns and nouns, the frequency of pronouns as subjects is higher than that of nouns as subjects. Therefore, the times nouns serve as subjects decrease a lot.

Obviously, in the above table, the higher frequency of nouns as attributes in written language decreases that of nouns as objects and consequently influences that of nouns as subjects as well, due to which the frequency of nouns as subjects in written language should be expected to be much lower than that in spoken language, let alone the influence of pronouns on nouns when both serving as subjects. But why there is no big frequency difference of nouns as subjects between written language and spoken language? The answer to this question lies in the low frequency of pronouns in written language. The occurrence frequency of pronouns in spoken language (944 times, 14%) is greatly higher than that in written language (100 times, 1.5%). Therefore, when both serve as subjects, the influence of pronouns on nouns embodies fully in spoken language but much less in written language, due to the small quantity of pronouns in this style.

Table 2.39 is about the composition of parts of speech as subjects, objects and attributes (referring to Figure 2.5, Figure 2.6 and Figure 2.9).

In Table 2.39, 66% of subjects are served by pronouns and only 24% by nouns in spoken language; the opposite tendency appears in written language: 79% of subjects are served by nouns and only 8% by pronouns. Differently, the frequencies of objects served by nouns are far higher than those by pronouns, regardless of whether it is spoken language or written language: 50% of objects in spoken language and 65% of objects in written language are served by nouns. Comparatively

Table 2.38 The function frequencies between nouns and nominal pronouns both functioning as subjects, objects and attributes

	subject		*object*		*attribute*	
	noun	*nominal pronoun*	*noun*	*nominal pronoun*	*noun*	*nominal pronoun*
spoken	22%	62%	51%	20%	7%	12%
written	20%	47%	31%	15%	36%	23%
total	20%	61%	38%	20%	28%	13%

Table 2.39 The composition of parts of speech as subjects, objects and attributes

		subject		*object*		*attribute*	
		times	*percentage*	*times*	*percentage*	*times*	*percentage*
noun	S	184	24%	428	50%	63	9%
	W	450	79%	746	65%	801	35%
	T	634	47%	1174	58%	864	29%
nominal pronoun	S	509	66%	164	19%	96	13%
	W	43	8%	14	1%	21	1%
	T	552	41%	178	9%	117	4%
others	S	76	10%	168	31%	581	79%
	W	74	13%	492	39%	1,443	64%
	T	150	11%	760	38%	2,024	67%
total	S	769		860		740	
	W	567		1,252		2,265	
	T	1,336		2,012		3,005	

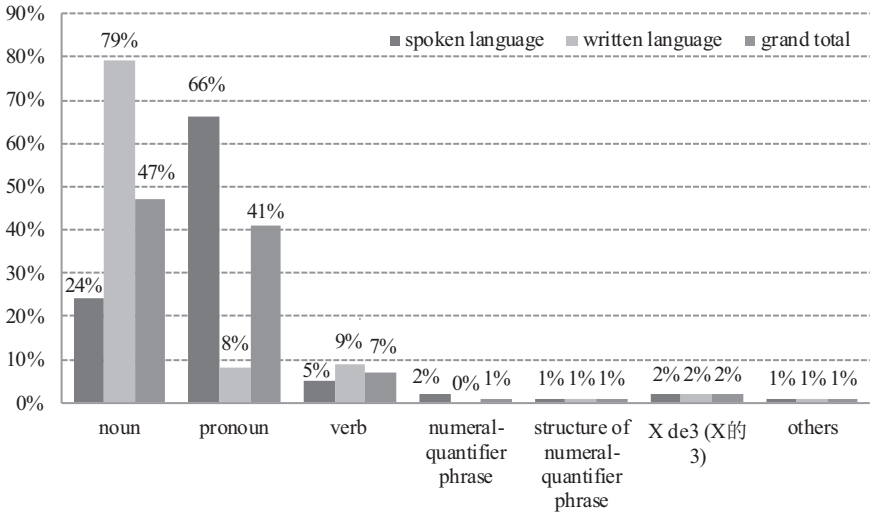


Figure 2.5 Composition of parts of speech as subjects

speaking, only 19% of objects in spoken language and 1% of objects in written language are served by pronouns.

Consequently, based on Tables 2.38 and 2.39, in spoken language, the strong ability of pronouns as subjects (Table 2.38) and the high occurrence frequency of pronouns (Table 2.39) decrease the frequency of nouns as subjects (Table 2.38); in written language, the strong ability of nouns as attributes (Table 2.38) decreases the frequency of nouns as subjects (Table 2.38), without considering the influence of pronouns for their lower occurrence frequency in written language (Table 2.39).

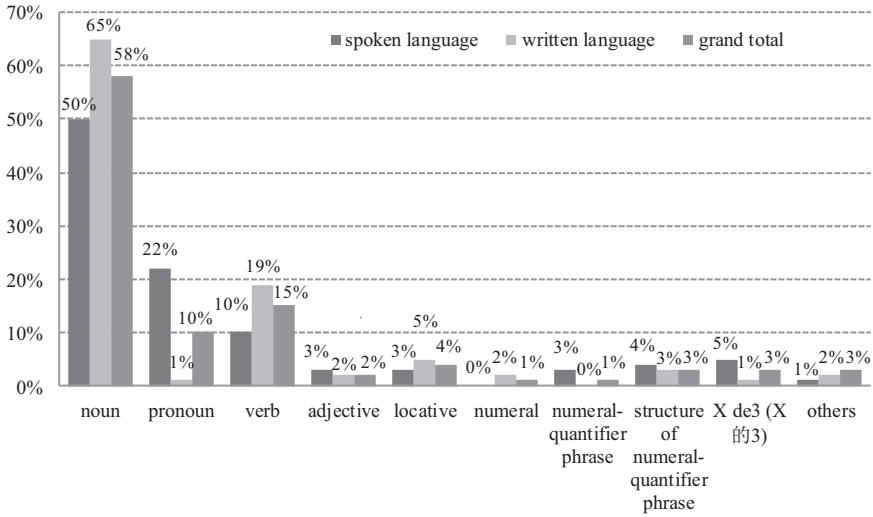


Figure 2.6 Composition of parts of speech as objects

The analysis about two tables in the above further answers the question of why there is no big frequency difference of nouns as subjects, no matter in written language or in spoken language (Table 2.38).

2.4.5 The statistics on the composition of parts of speech as different syntactic constituents

Table 2.40 is about the composition of parts of speech as different syntactic constituents. Figures 2.5 to 2.10 are the corresponding histograms.

From Table 2.40, it can be figured out that the total number of subjects in spoken language (769, 13%) is more than that in written language (567, 9%). This result indicates that the omission of subject occurs more frequently in written language than in spoken language, which conversely happens to differ from the previous understanding.

Furthermore, the corresponding relationship between parts of speech and the syntactic constituents of predicates, complements and adverbials is rather strict, but it appears relatively dispersive among other syntactic constituents, such as subjects, objects and attributes, especially for attributes whose highest percentage is only 29% (served by nouns). Although such a corresponding relationship is not very stable, it still implies a certain obvious tendency between parts of speech and some syntactic constituents. For example, 99% of predicates are served by predicates (verbs and adjectives); 90% of complements by predicates; 93% of adverbials by adverbs, preposition structures, adverbial pronouns and the structures of "X的[de]"; 88% of subjects by nominal constituents (nouns and nominal

Table 2.40 The composition of parts of speech as different syntactic constituents

		noun		*verb*		*adjective*		*state word*		*distinctive word*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
subject	s	184	24%	36	4.7%	2	0.3%	0	0%	1	0.1%
	w	450	79%	52	9.2%	1	0.2%	0	0%	1	0.2%
	t	634	47%	88	6.6%	3	0.2%	0	0%	2	0.1%
object	s	428	50%	88	10%	23	2.7%	0	0%	5	1%
	w	746	65%	221	19%	23	2.0%	1	0.1%	5	0.4%
	t	1,174	58%	309	15%	46	2.3%	1	0%	10	0.5%
predicate	s	10	1.1%	811	89%	83	9.1%	0	0%	0	0%
	w	0	0%	525	88%	60	10%	1	0.2%	0	0%
	t	10	0.7%	1,336	89%	143	9.5%	1	0.1%	0	0%
complement	s	0	0%	97	68%	37	26%	0	0%	0	0%
	w	0	0%	66	57%	32	28%	0	0%	0	0%
	t	0	0%	163	63%	69	27%	0	0%	0	0%
attribute	s	63	8.5%	11	1.5%	31	4.2%	0	0%	12	1.6%
	w	801	35%	246	11%	106	4.7%	0	0%	155	5.1%
	t	864	29%	257	8.6%	137	4.6%	0	0%	127	4.2%
～locative	s	34	83%	1	2.4%	6	15%	0	0%	0	0%
	w	58	74%	13	17%	2	2.6%	0	0%	0	0%
	t	92	77%	14	12%	8	6.7%	0	0%	0	0%
adverbial	s	6	0.5%	0	0%	23	2.0%	1	0.1%	0	0%
	w	1	0.2%	0	0%	86	14%	0	0%	0	0%
	t	7	0.4%	0	0%	109	6.2%	1	0.1%	0	0%
environment language	s	7	7.8%	0	0%	0	0%	0	0%	0	0%
	w	11	14%	1	1.3%	0	0%	0	0%	0	0%
	t	18	11%	1	0.6%	0	0%	0	0%	0	0%
independent constituent	s	13	2.0%	501	76%	71	11%	0	0%	0	0%
	w	21	5.8%	316	87%	7	1.9%	0	0%	0	0%
	t	34	3.3%	817	80%	78	8%	0	0%	0	0%
others	s	100	26%	183	48%	26	7%	4	1.1%	9	2.4%
	w	166	31%	236	44%	54	10%	1	0.2%	8	1.5%
	t	266	29%	419	46%	80	9%	5	0.5%	17	1.9%

		adverb		*time word*		*locative*		*locational word*		*numeral*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
subject	s	0	0%	0	0%	0	0%	0	0%	0	0%
	w	0	0%	0	0%	1	0.2%	3	0.5%	0	0%
	t	0	0%	0	0%	1	0.1%	3	0.2%	0	0%
object	s	0	0%	1	0%	5	1%	22	3%	2	0%
	w	0	0%	13	1.1%	5	0.4%	55	4.8%	19	1.6%
	t	0	0%	14	0.7%	10	0.5%	77	3.8%	21	1.0%
predicate	s	0	0%	0	0%	0	0%	0	0%	1	0.1%
	w	0	0%	0	0%	0	0%	0	0%	2	0.3%
	t	0	0%	0	0%	0	0%	0	0%	3	0.2%

(*Continued*)

Table 2.40 (Continued)

		adverb		*time word*		*locative*		*locational word*		*numeral*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
complement	s	0	0%	0	0%	0	0%	0	0%	0	0%
	w	0	0%	0	0%	0	0%	0	0%	0	0%
	t	0	0%	0	0%	0	0%	0	0%	0	0%
attribute	s	0	0%	3	0.4%	5	0.7%	1	0.1%	111	15%
	w	0	0%	22	1.0%	6	0.3%	13	0.6%	235	10%
	t	0	0%	25	0.8%	11	0.4%	14	0.5%	346	12%
～locative	s	0	0%	0	0%	0	0%	0	0%	0	0%
	w	0	0%	1	1.3%	0	0%	0	0%	1	1.3%
	t	0	0%	1	0.8%	0	0%	0	0%	1	0.8%
adverbial	s	837	74%	0	0%	0	0%	0	0%	8	0.7%
	w	290	46%	0	0%	0	0%	1	0.2%	1	0.2%
	t	1,127	64%	0	0%	0	0%	1	0.1%	9	0.5%
environment language	s	0	0%	37	41%	6	6.7%	19	21%	0	0%
	w	0	0%	46	58%	0	0%	10	13%	0	0%
	t	0	0%	83	49%	6	3.6%	29	17%	0	0%
independent constituent	s	0	0%	0	0%	1	0.2%	2	0.3%	0	0%
	w	0	0%	2	0.6%	0	0%	0	0%	14	3.9%
	t	0	0%	2	0.2%	1	0.1%	2	0.2%	14	1.4%
others	s	0	0%	1	0.3%	3	0.8%	6	1.6%	17	4.5%
	w	0	0%	8	1.5%	1	0.2%	11	2.1%	14	2.6%
	t	0	0%	9	1.0%	4	0.4%	17	1.9%	31	3.4%

		quantifier-numeral phrase		*quantifier*		*demonstrative*		*onomatopoetic word*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
subject	S	14	1.8%	8	1.0%	0	0%	0	0%
	W	0	0%	7	1.2%	0	0%	0	0%
	T	14	1.0%	15	1.1%	0	0%	0	0%
object	S	22	2.6%	34	4.0%	0	0%	0	0%
	W	2	0.2%	33	2.9%	0	0%	0	0%
	T	24	1.2%	67	3.3%	0	0%	0	0%
predicate	S	1	0.1%	1	0.1%	0	0%	0	0%
	W	0	0%	6	1%	0	0%	0	0%
	T	1	0.1%	7	0.5%	0	0%	0	0%
complement	S	0	0%	0	0%	0	0%	0	0%
	W	0	0%	0	0%	0	0%	0	0%
	T	0	0%	0	0%	0	0%	0	0%
attribute	S	35	4.7%	104	14%	154	21%	1	0.1%
	W	36	1.6%	139	6.1%	153	6.8%	0	0%
	T	71	2.4%	243	8.1%	307	10%	1	0.0%
～locative	S	0	0%	0	0%	0	0%	0	0%
	W	0	0%	1	1.3%	0	0%	0	0%
	T	0	0%	1	0.8%	0	0%	0	0%

		quantifier-numeral phrase		*quantifier*		*demonstrative*		*onomatopoetic word*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*
adverbial	S	6	0.5%	4	0.4%	0	0%	0	0%
	W	0	0%	0	0%	0	0%	0	0%
	T	6	0.3%	4	0.2%	0	0%	0	0%
environment language	S	0	0%	7	7.8%	0	0%	0	0%
	W	0	0%	6	7.6%	0	0%	0	0%
	T	0	0%	13	7.7%	0	0%	0	0%
independent constituent	S	1	0.2%	5	0.8%	0	0%	12	1.8%
	W	0	0%	2	0.6%	0	0%	0	0%
	T	1	0.1%	7	0.7%	0	0%	12	1.2%
others	S	1	0.3%	2	0.5%	0	0%	0	0%
	W	0	0%	7	1.3%	0	0%	0	0%
	T	1	0.1%	9	1.0%	0	0%	0	0%

		pronoun		*X地 [de]*		*X地 [de]2*		*X地 [de]3*		*preposition phrase*		*total*	
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
subject	s	511	66%	0	0%	0	0%	13	1.7%	0	0%	769	13%
	w	43	7.6%	0	0%	0	0%	9	1.6%	0	0%	567	9%
	t	554	41%	0	0%	0	0%	22	1.6%	0	0%	1336	11%
object	s	188	22%	0	0%	1	0.1%	41	4.8%	0	0%	860	15%
	w	15	1.3%	0	0%	0	0%	14	1.2%	0	0%	1152	18%
	t	203	10%	0	0%	1	0.0%	55	2.7%	0	0%	2012	17%
predicate	s	5	0.5%	0	0%	0	0%	2	0.2%	0	0%	914	16%
	w	0	0%	0	0%	0	0%	0	0%	0	0%	594	9%
	t	5	0.3%	0	0%	0	0%	2	0.1%	0	0%	1,508	12%
complement	s	0	0%	0	0%	3	2.1%	0	0%	5	3.5%	142	2%
	w	0	0%	0	0%	0	0%	0	0%	18	16%	116	2%
	t	0	0%	0	0%	3	1.2%	0	0%	23	8.9%	258	2%
attribute	s	98	13%	0	0%	0	0%	111	15%	0	0%	740	13%
	w	21	0.9%	0	0%	0	0%	371	16%	1	0.0%	2,265	35%
	t	119	4.0%	0	0%	0	0%	482	16%	1	0.0%	3,005	25%
～locative	s	0	0%	0	0%	0	0%	0	0%	0	0%	41	1%
	w	1	1.3%	0	0%	0	0%	1	1.3%	0	0%	78	1%
	t	1	0.8%	0	0%	0	0%	1	0.8%	0	0%	119	1%
adverbial	s	67	5.9%	10	0.9%	0	0%	0	0%	171	15%	1,133	20%
	w	2	0.3%	9	1.4%	0	0%	0	0%	245	39%	635	10%
	t	69	3.9%	19	1.1%	0	0%	0	0%	416	24%	1,768	15%
environment language	s	14	16%	0	0%	0	0%	0	0%	0	0%	90	2%
	w	5	6.3%	0	0%	0	0%	0	0%	0	0%	79	1%
	t	19	11%	0	0%	0	0%	0	0%	0	0%	169	1%
independent constituent	s	38	5.8%	0	0%	5	0.8%	7	1.1%	0	0%	656	11%
	w	0	0%	0	0%	1	0.3%	0	0%	0	0%	363	6%
	t	38	3.7%	0	0%	6	0.6%	7	0.7%	0	0%	1,019	8%
others	s	23	6.1%	0	0%	0	0%	1	0.3%	2	0.5%	378	7%
	w	13	2.4%	0	0%	0	0%	0	0%	17	3.2%	536	8%
	t	36	3.9%	0	0%	0	0%	1	0.1%	19	2.1%	914	8%

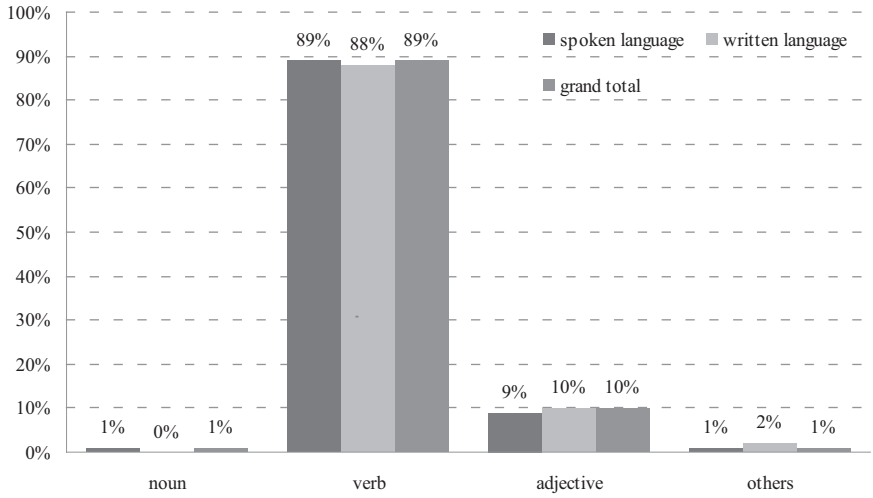


Figure 2.7 Composition of parts of speech as predicates

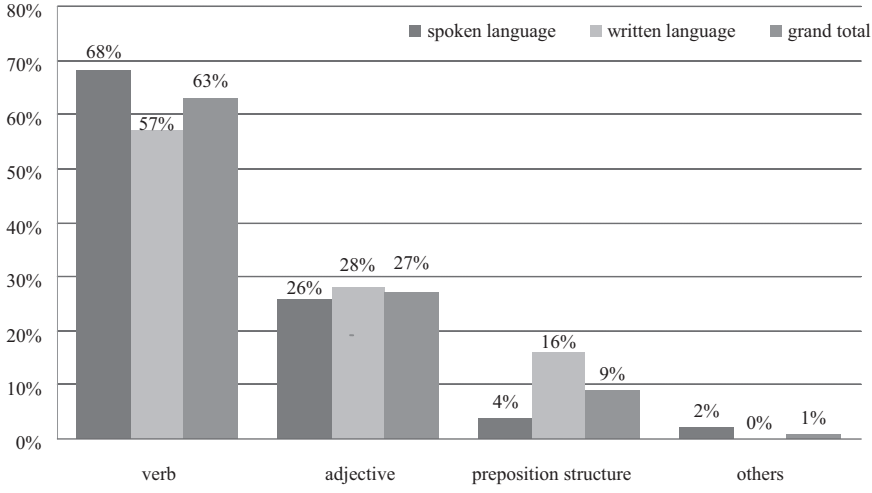


Figure 2.8 Composition of parts of speech as complements

pronouns); and 68% of objects by nominal constituents. However, such a tendency is not obviously reflected by attributes. For example, 42% of attributes are served by modifier constituents, such as distinctive words, numerals, numeral-quantifier phrase, demonstratives and structures of "的[de]"; 33% of attributes by nominal constituents, such as nouns and nominal pronouns; and 14% of attributes by predicates, such as verbs and adjectives.

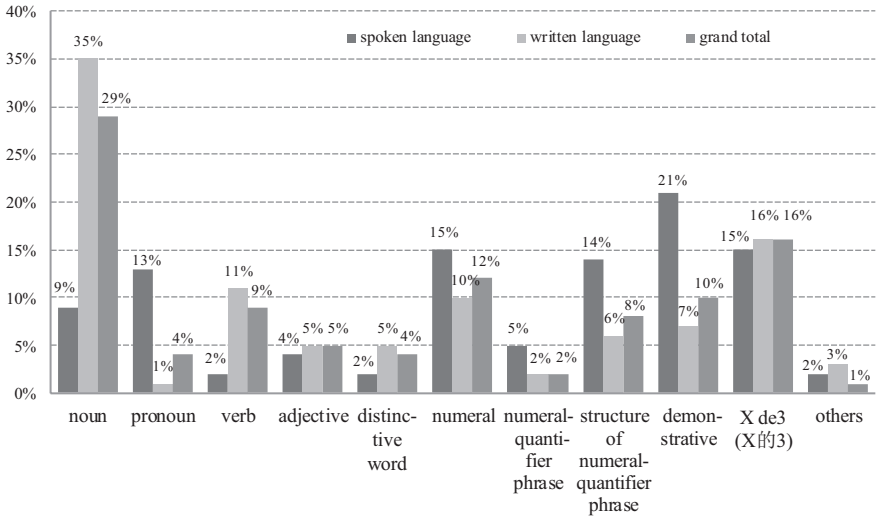


Figure 2.9 Composition of parts of speech as attributes

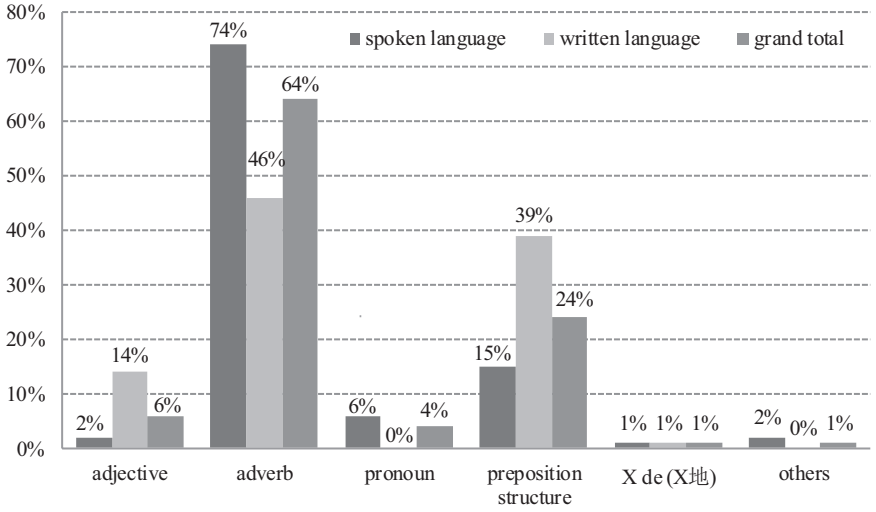


Figure 2.10 Composition of parts of speech as adverbs

In addition, the composition of parts of speech varies a lot in written and spoken language for some syntactic constituents, especially for subjects served by nouns and pronouns. The subjects by nouns in spoken language take up 24% but 79% in written language; by contrast, the subjects by pronouns in spoken

language take up 66% but only 8% in written language. Also, a similar situation occurs for adverbials by adverbs in written and spoken language.

2.4.6 Others about "X的[de]" and "的[de]"

Two tables are presented in the following.

In Table 2.41, "X的[de]" mainly functions as an attribute when "X" is composed of a noun, verb and adjective, but the percentage of "X的[de]" as subject and object is much higher than that as an attribute when "X" is composed of distinctive words. Maybe it is because distinctive words belong to the category of modifiers, whose basic function is being attributes without tagging "的[de](of)", except for "亲爱[qīn ài] (dear) and 心爱[xīn ài] (beloved)", for their verbal property still exists, more or less. The purpose of tagging "的[de](of)" is to form a transferred referent which is supposed to appear in the position of a subject or am object.

In Table 2.42, except for verbs in spoken language, the percentages of other parts of speech as attributes without "的[de]" are higher than with "的[de]". No matter in written language or in the total number, the percentages of verbs and adjectives as attributes with or without "的[de]" are almost same but are higher than that of nouns as attributes with "的[de]". The percentages of distinctive words as attributes directly are above 95%, which proves once again that the basic function of distinctive word is to be a modifier.

Table 2.41 The composition of parts of speech for "X的[de]" and their different functions

		subject		*object*		*predicate*		*attribute*		*independent constituent*		*是[shì] X的[de]*		*total*
		T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*
adjective	S	1	5%	5	23%	0	0%	15	68%	1	5%	3	14%	22
"的[de]$_3$"	W	1	2%	3	6%	0	0%	45	92%	0	0%	3	6%	49
	T	2	3%	8	11%	0	0%	60	85%	1	1%	6	8%	71
verb	S	9	12%	17	23%	2	3%	44	59%	2	3%	9	12%	74
"的[de]$_3$"	W	7	6%	6	5%	0	0%	114	90%	0	0%	4	3%	127
	T	16	8%	23	11%	2	1%	158	79%	2	1%	13	6%	201
noun	S	1	2%	8	15%	0	0%	39	75%	3	6%	2	4%	52
"的[de]$_3$"	W	0	0%	1	1%	0	0%	157	99%	0	0%	1	1%	159
	T	1	0%	9	4%	0	0%	196	93%	3	1%	3	1%	211
distinctive	S	2	22%	6	67%	0	0%	0	0%	1	11%	0	0%	9
word	W	1	14%	0	0%	0	0%	6	86%	0	0%	0	0%	7
"的[de]$_3$"	T	3	19%	6	38%	0	0%	6	38%	1	6%	0	0%	16

(T = times, P = percentage, S/W/T = spoken/written/total)

Table 2.42 "的" after nouns, verbs, adjectives and distinctive words when functioning as attributes

attribute	*adjective*		*adjective "的[de]"*		*T*	*verb*		*verb "的[de]"*		*T*	*noun*		*noun "的[de]"*		*T*	*distinctive word*		*distinctive word "的[de]"*		*T*
	T	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*	*T*	*P*
S	31	67%	15	33%	46	11	20%	44	80%	55	63	62%	39	38%	102	12	100%	0	0%	12
W	106	70%	46	30%	152	246	68%	114	32%	360	801	84%	157	16%	958	115	95%	6	5%	121
T	137	69%	61	31%	198	257	62%	158	38%	415	864	82%	196	18%	1060	127	95%	6	5%	133

(T = times, P = percentage, S/W/T = spoken/written/total)

2.4.7 On the criterion of classifying parts of speech based on main functions

Zhang Gonggui (1983) and Mo Pengling and Shan Qing (1985) proposed the classification of parts of speech based on main functions. Yuan Yulin (1995) also put forward the percentage difference in the distribution of words could be depended on to classify parts of speech. However, neither of the criteria mentioned above is admitted in this book. In the following, two reasons are presented.

I. The imbalance in function

There may exist differences between frequencies of all functions for a certain part of speech and frequencies of functions for some words from the same part of speech. In other words, an imbalance in function does exist, and it can be reflected in two aspects. One is that even in the same big category, frequencies of functions in sub-categories still vary greatly, which was mentioned by Mo Pengling and Shan Qing (1985). For example, 25% of directional verbs can function as predicates but 75% as complements, rather different from the main function of being predicates for common verbs. In that case, directional verbs cannot be classified into the category of verbs. The other is that even for the same category, there may exist big differences of frequencies of functions among its members. The following is the statistics on frequencies of functions for some words. Group A is based on the corpus of 20,000 Chinese characters and Group B on 80,000 Chinese characters.

		predicate	complement	attribute	adverbial
Group A	大[dà](big)	11	0	18	1
	小[xiǎo](small)	0	0	6	0
	新[xīn](new)	0	0	21	3
	优秀[yōu xiù](outstanding)	0	0	13	0
	重要[zhòng yào](important)	0	0	8	0
	好[hǎo](good)	9	31	3	0
	坏[huài](bad)	0	0	2	0
Group B	高[gāo](tall)	14	2	5	0
	低[dī](low)	4	0	1	0
	快[kuài](fast)	6	3	0	8
	慢[màn](slow)	2	1	0	4
	远[yuǎn](far)	5	2	1	3
	近[jìn](close)	2	1	1	0
	老[lǎo](old)	0	0	7	0
	重大[zhòng dà](significant)	0	0	3	0
	伟大[wěi dà](great)	0	0	3	0

The words in the above table are usually classified into the category of adjectives, but their frequencies of functions vary greatly. So, they should be classified into different categories based on their main functions or their predominant distributions.

The following is another example based on the corpus of 10,000 Chinese characters in written language.

		predicate	attribute	subject	object
Group A	强调[qiáng diào](emphasize)	6	0	0	0
	建设[jiàn shè](construct)	1	9	1	15
	管理[guǎn lǐ](administrate)	5	3	10	12
	改革[gǎi gé](reform)	1	2	3	2
	有关[yǒu guān](relate to)	0	5	0	0
	开展[kāi zhǎn](carry out)	2	0	1	2
	组织[zǔ zhī](organise)	2	4	2	1
	发展[fā zhǎn](develop)	5	3	10	12

The words in the above table are usually classified into the category of verbs, but their frequencies of functions vary greatly. So, they should be classified into different categories based on their main functions.

Therefore, due to the imbalance in function, the classification of parts of speech would be in disorder if based on their main functions.

II. The criterion proposed by Mo Pengling and Shan Qing

The criterion proposed by Mo Pengling and Shan Qing is mainly based on the concepts of "stability of function" and "distinctiveness of function". In other words, the functions of nouns, verbs and adjectives are stable, but their functions are distinctive from one another. However, this understanding cannot be admitted in this book because functions of nouns and verbs are still stable when they are counted together, even if they come from different groups of corpus. The following is the statistics on the frequencies of being subjects and objects among nouns, verbs and adjectives by Mo Pengling and Shan Qing.

	groups of corpus	A	A+B	A+B+C	A+B+C+D	A+B+C+D+E
noun	subject	193(20.0%)	402(21.0%)	690(21.3%)	1004(21.6%)	1213(22.1%)
	predicate	0(0.0%)	2(0.1%)	10(0.31%)	12(0.26%)	12(0.22%)
verb	subject	8(0.92%)	14(0.77%)	31(0.99%)	47(0.95%)	52(0.91%)
	predicate	665(76.7%)	1,406(77.2%)	2,374(76.5%)	3,785(76.3%)	4,405(76.8%)
adjective	subject	8(3.35%)	10(1.96%)	11(1.28%)	13(1.04%)	14(0.97%)
	predicate	52(21.8%)	141(27.7%)	228(26.6%)	340(27.3%)	400(27.6%)

If the data about nouns and verbs, when functioning as subjects and objects, is counted up together, the result is displayed as follows:

noun & verb	subject	201(11.0%)	416(11.1%)	721(11.4%)	1,051(10.6%)	1,265(11.3%)
	predicate	665(36.3%)	1,408(37.7%)	2,384(37.6%)	3,797(38.2%)	4,417(39.3%)

From the above data, it can be figured out that the functions for both nouns and verbs are still stable when counted up together, even if they belong to different parts of speech. Therefore, "stability of function" as the evidence for the classification of parts of speech is not convincing.

The imbalance in function mentioned above also indicates that "distinctiveness of function" only means the "distinctiveness" of main functions among different categories but such "distinctiveness" also exists among main functions inside a certain category. For instance, if distinctive words are selected from adjectives classified by Mo Pengling and Shan Qing, the result reflects a big function difference: 81% of distinctive words as attributes, 0% as predicates, 20% of adjectives as attributes and 21% as predicates.

III. The process of argumentation

The criterion of classifying parts of speech based on main functions is logically wrong in the process of argumentation; that is to say, it is ultimately circular. On one hand, to identify the main function of a certain part of speech should go after classifying this part of speech; on the other hand, classifying a certain part of speech should depend on its main function. Consequently, this process becomes a circle.

In addition, this criterion based on main functions or predominant distributions is not feasible in practice. There are three reasons. First, it is really a labour-consuming job to count all frequencies of functions in a corpus. Although the processes of parsing and analysing can be finished by computer, it still consumes a lot of time and energy in proofreading by man, due to the low accuracy of an automatic analysis by a computer. By the way, such an automatic analysis is usually based on the parts of speech which should have been identified already, which ultimately becomes another circle. Second, different conclusions can be drawn due to big differences among frequencies of functions for a word or for a certain part of speech from different groups of corpus. Third, it is not easy to identify the main functions for a word or for a certain part of speech, such as "组织[zǔ zhī](organise/organisation)". In a word, if classifying parts of speech can depend on their syntactic functions, the statistics on the frequencies of these syntactic functions seem meaningless indeed.

Notes

1 The related coefficient in this book is calculated by Microsoft Excel.
2 The positive correlation refers to the change tendency in two arrays that go in the same direction. For example, the data increase of Array A will result in the data increase of Array B. The negative correlation refers to the change tendency in two arrays of data that

go in the opposite direction. For example, the data increase of Array A will result in the data decrease of Array B oppositely.

3 Only if the value of "r" reaches a certain critical value of notable level can it be proved that the correlation between two arrays does not happen by accident.

4 Many entries of polysemous words and homographs are treated as one entry, which results in the fact that the number of words in the statistics (38,110) is less than the total number of words (43,330).

5 σ in the table refers to the standard deviation, and Z is the standard score. Their calculation method is in 2.2.1.

6 The data in the following histograms is rounded to integers, and the exact data is listed in the corresponding tables.

3 System of parts of speech in modern Chinese from the perspective of typology of parts of speech

3.1 The system of parts of speech in modern Chinese from the Amsterdam model

3.1.1 Preface

The constant debates on Chinese parts of speech are due to multi-functions of notional words in Chinese. For example, notional words don't have a part of speech; words, such as "研究[yán jiū](research), 调查[diào chá](investigate/ investigation) and 管理[guǎn lǐ](administrate/ administration)" should be classified into the conversional category of verbs and nouns or nominal words or different viewpoints about the inclusive patterns of nouns-verbs. From cross-linguistic investigations, the phenomenon of multi-functions of notional words doesn't exist in Chinese only. Thus, an observation on Chinese parts of speech from the typology perspective is necessary for a better understanding. This chapter is to observe the system of Chinese parts of speech from the Amsterdam model and to analyse the related problems of this model.

3.1.2 The Amsterdam model in typology of parts of speech

3.1.2.1 Correspondence between syntactic positions and parts of speech

The Amsterdam model refers to the theory about the typology of parts of speech and was proposed by Kees Hengeveld, a linguistic professor of the functional school at the University of Amsterdam. It is based on the proposition functions of predication, reference and modification to make four main parts of speech distinguished, such as verbs, nouns, adjectives and adverbs, and then to classify different types of parts of speech according to the differentiation of a word item in proposition functions in different languages.

In order to make a cross-linguistic investigation on types of parts of speech, Hengeveld established a relation between the property of a part of speech and syntactic function in 1992, based on four syntactic positions of the constituents of predication and reference (see Table 3.1).

Table 3.1 Word item and syntactic slot (Hengeveld, 1992)

	core	*modifier*
predicative phrase	V(verb)	MAdv (manner of adverb)
referential phrase	N(noun)	A(adjective)

Why can these four main parts of speech be classified by these four positions? It is because that expressive functions of predication and reference are linguistically supposed to be very basic. (Zhu Dexi, 1982b: 102; Lu Jianming, 1993b: 95; Guo Rui, 1997a) Reference (R) indicates an object which can be asked by "什么[shén me](what), 谁[shuí](who)"; predication (P) indicates an assertion which can be asked by "怎么样[zěn me yàng](how/how about)." Modifiers (M) come from predicative constituents or referential constituents. For example:

(1) 新 同学 悄悄 去 图书馆 了。[xīn tóng xué qiāo qiāo qù tú shū guǎn le]
(The new students went to the library quietly.)
M R M P R

Guo Rui (1997a) thinks that reference and predication are very fundamental in language expression. Instead of being used independently, modifiers modify and restrict referential constituents or predicative constituents through being attached to them. Consequently, two levels are formed: The first level includes a basic compared pair of reference and predication; the second level includes a compared pair of nominal modifiers and predicate modifiers (see 4.3.3 in *Modern Chinese Parts of Speech: Classification Theory*). Notional words can be classified into three categoryies based on their expressive function, namely nominals, predicates and modifiers(Guo Rui, 1997a). Therefore, Hengeveld's and Guo Rui's theories are very similar.

As for correspondence between four syntactic functions and parts of speech, Hengeveld (1992) thinks that only those untagged serving as certain functions can decide the corresponding parts of speech. According to the specialisation of a word item, Hengeveld determines the existence of corresponding parts of speech. In other words, if some word items specifically correspond to a certain syntactic slot without being tagged, these word items are specialised as an independent part of speech; if not, they are not specialised and cannot correspond to a certain part of speech.

Based on the above, Hengeveld believes there exist specialised word items in these four syntactic slots; this was named the differentiated system in English by Hengeveld. For example:

(2) The little$_{A}$ girl$_{N}$ danced$_{V}$ beautifully$_{MAdv}$

3.1.2.2 The flexible system of parts of speech and the rigid system of parts of speech

Unlike the four basic types mentioned above in English, there are only two in many other languages.

1 Flexible system

Word items from the language of flexible system are very flexible in syntactic funtion. They are multi-functioned without being specialised. Take Samoan as an example.

(3) a ‘Ua mālosi le **lā.** (lā as the core of referential phrase)
PERF strong ART sun
“The sun is strong.”
b ‘Ua **lā** le aso. (lā as the core of predicative phrase)
PERF sun ART day
“The day is sunny.”

(4) a E **alu** le pasi i Apia (alu as the core of predicative phrase)
GENR go ART bus DIR Apia
“The bus goes to Apia.”
b le **alu**o le pasi i Apia (alu as the core of referential phrase)
ART go POSS ART bus DIR Apia
“The going of the bus to Apia.”
(Mosel & Hovdhaugen 1992: 80, 73)

(5) le fale **ta‘avale** (ta‘avale as the modifier of referential phrase)
ART house car ‘the garage’
“the car house”

(6) ‘Ua ma‘i **misela** le tama. (misela as the modifier of predicative phrase)
PERF sick measles ART boy
“The boy has got the measles.”
(Mosel & Hovdhaugen 1992: 305, 394)

2 Rigid system

Word items from the language of the rigid system are specialised and very rigid in syntactic funtion, but there are some syntactic slots without specialised word items. Take Garo as an example (Burling 1961: 27, 33).

(7) a **Da’r**-an-gen. (the core of predicative phrase untagged)
big-IT-FUT
‘It will get big.’
b **da’r**-gipa mande (the modifier of referential phrase tagged by gipa)
big-REL man
‘the big man’

(8) a **Ca’**-gen-ma. (the core of predicative phrase untagged)
eat-FUT-INT
‘Will you eat?’

b **ca'**-gipa mande (the modifier of referential phrase tagged by gipa)
eat-REL man
'the man who eats'

Sinhala/Sinhalese has verbs and nouns but no adjectives or manner adverbs. A relatively minor sentence based on a verb serves as the modifier of a referential phrase.

The verb tagged serves as the modifier of a predicative phrase in Sinhala/Sinhalese.

(9) a Rak-e dok-aha. (the modifier of predicative phrase tagged by e)
strong-SUB hit-PAST
'He hit hard.'

b Bia gar-e kat-an-aha. (the modifier of predicative phrase tagged by e)
3 SG throw-SUB run-IT-PAST
(the third-person singular)
'Throwing, he ran away.'

If "flexibleness" can be considered as multi-functions of four syntactic positions and "rigidness" can be considered as the single function of word item, the classification in English is actually regarded as the rigid one. Therefore, "flexibleness" and "rigidness" are universally proper in classifying systems of parts of speech among all languages.

3.1.2.3 Types of systems of parts of speech

According to degrees of "flexibleness" and "rigidness", Hengeveld (1992) classifies system of parts of speech into seven types (see Table 3.2).

Other types are added in the middle by Hengeveld et al. (2004), based on new data (see Table 3.3).

In the flexible system, basic word items in some languages are universal, but their derivative word items are very rigid in function, so they belong to specialised ones. In the rigid system, there are specialised word items in a certain syntactic

Table 3.2 Systems of parts of speech (Hengeveld, 1992)

(*PoS*)		(*P*)	(*R*)	(*Mr*)	(*Mp*)	*Language type*
Parts of speech system		*Core of predicative phrase*	*Core of referential phrase*	*Modifier of referential phrase*	*Modifier of predicative phrase*	
flexible	1	notional words				Samoan
	2	verb	non-verb			Warao
	3	verb	noun	modifier		Miao
rigid	4	verb	noun	adjective	manner adverb	English
	5	verb	noun	adjective	—	Dutch
	6	verb	noun	—	—	Krongo
	7	verb	—	—	—	Tuscarora

Table 3.3 Intermediate systems of types of parts of speech (Hengeveld et al., 2004)

Parts of speech system		*Core of predicative phrase*	*Core of referential phrase*	*Modifier of referential phrase*	*Modifier of predicative phrase*	*Language type*
flexible	1	notional word				Samoan
	1/2	notional word	[non-verb]			Mundari
	2	verb	non-verb			Warao
	2/3	verb	noun	[modifer]		Turkish
	3	verb	noun	modifier		Miao
	3/4	verb	noun	adjective	[manner adverb]	Lango
rigid	4	verb	noun	adjective	manner adverb	English
	4/5	verb	noun	adjective	(manner adverb)	Koasati
	5	verb	noun	adjective	—	Dutch
	5/6	verb	noun	((adjective)	—	Garo
	6	verb	noun	—	—	Krongo
	6/7	verb	(noun)	—	—	Tuscarora
	7	verb	—	—	—	—

(“ []”: function of derivative word item; “ ()”: function of closed word item)

slot in some languages, but they still belong to closed word items due to their small quantity, such as nouns in Tuscarora.[1]

As for Chinese, Hengeveld (1992) thinks it should belong to the sixth type. That is to say, verbs and nouns are strictly distinguished in the rigid system. There are no modifiers (adjectives and adverbs), and verbs and nouns which are tagged can function as attributes and adverbials. From the investigation by Hengeveld et al. in 2004, Chinese (Mandarin) was categorised into 5/6 type in the rigid system, in which there are specialized verbs and nouns but there is a lack of adjectives and no manner adverbs. A lack of adjectives doesn’t mean there are no adjectives at all in Chinese because according to new data, there still exists a limited number of non-predicate property words (distinctive words) that are specially used as modifiers of referential phrases. It might be a misunderstanding to say there are no manner adverbs or adverbials specialised by “地” due to the fact that in Chinese, many words of different parts of speech tagged by “地”can function as modifiers of predicative phrases, such as a large number of predicate property words (认真[rèn zhēn](serious), 荣幸[róng xìng](honored)), some verbs (有条件[yǒu tiáo jiàn](conditional), 讽刺[fěng cì](satirize)) and some nouns (历史[lì shǐ](history)). In fact, there is a small number of manner adverbs in Chinese, such as亲自[qīn zì](in person), 悄悄[qiāo qiāo](quietly), 大力[dà lì](energetically), 全力[quán lì](all-out), 高速[gāo sù](high-speed), 单独[dān dú](alone) and 独自[dú zì](by oneself).

Hengeveld's understanding of Chinese in the above is far different from those of Gao Mingkai and Shen Jiaxuan, the former of whom thinks that there is no classification of parts of speech for notional words in Chinese, and the latter of whom thinks that nouns should be included into verbs in Chinese. Then, which system of parts of speech should Chinese belong to, flexible or rigid? In this book, the system of Chinese parts of speech is regarded as one that has both characteristics at the same time.

3.1.3 Investigation of the system of Chinese parts of speech

3.1.3.1 Function investigation of Chinese word items

Hengeveld's framework of classifying parts of speech (1992) corresponds to that of Guo Rui (1997a). In Chinese, an adjective is basically a predicative and mainly functions as the core of a predicative phrase, just like verbs. Nominal modifiers are mainly distinctive words, and predicate modifiers are adverbs. Therefore, the correlation between properties of parts of speech and syntactic positions is adjusted as follows in Table 3.4:

Table 3.4 Correspondence between Chinese parts of speech and syntactic positions

	Core	*Modifier*
predicative phrase	predicate	adverb
referential phrase	nominal	distinctive word

Based on the above table, 41,204 notional words are investigated in this book, excluding functional parts of speech, such as numerals, quantifiers, locatives and delexical adverbs.

The criterion to decide whether a verb is nominal is as follows:

1 to be the object of a verb of a nominal object (including verbs of quasi-predicate objects), such as "进行研究[jìn xíng yán jiū](to research), 加以研究[jiā yǐ yán jiū](to be researched)"
2 to be modified by another noun, such as "历史研究[lì shǐ yán jiū](history study)"

It is the criterion not only for nominal verbs and nominal adjectives proposed by Zhu Dexi (1984b, 1985a, 1985b) but also for the conversional category of verbs and nouns proposed by Lu Bingfu (1981).

Thus, it can be seen that when verbs and adjectives are in the positions of subjects and objects as well as being modified by attributes, on one hand, they are actually nominals, and on the other hand, they are still predicates.

The investigation results are as follows in Table 3.5:

Table 3.5 Function patterns of parts of speech in modern Chinese

Category	*Function*	*Number*	*Percentage*	*Example*
1 predicate	P	7917	19.21%	有[yǒu](have), 知道[zhī dào](know), 喜欢[xǐ huān](like),认为[rèn wéi](think), 痛[tòng](hurt), 通红[tōng hóng](red)
2 predicate-nominal	P, R	981	2.38%	回顾[huí gù](retrospect), 抹煞[mǒ shā](obliterate), 谴责[qiǎn zé](condemn), 束缚[shù fù](constrain), 安静[ān jìng](quiet)
3 predicate-nominal-distinctive word	P, R, Mr	1,447	3.51%	研究[yán jiū](research), 管理[guǎn lǐ](administrate), 检查[jiǎn chá](examine), 学习[xué xí](learn), 温暖[wēn nuǎn](warm)
4 predicate-distinctive word	P, Mr	2,236	5.43%	成立[chéng lì](establish), 发生[fā shēng](happen), 并列[bìng liè](parallel), 播出[bō chū](broadcast), 豪爽[háo shuǎng](straightforward)
5 predicate-nominal-distinctive word-adverb	P, R, Mr, Mp	44	0.11%	区别[qū bié](differ), 补充[bǔ chōng] (complement), 重复[chóng fù](repeat), 循环[xún huán](circulate), 平衡[píng héng](balance)
6 predicate -distinctive word-adverb	P, Mr, Mp	168	0.41%	附加[fù jiā](add), 附带[fù dài](attach), 滚动[gǔn dòng](roll), 领先[lǐng xiān](lead), 认真[rèn zhēn](earnest)
7 predicate-adverb	P, Mp	239	0.58%	交错[jiāo cuò](stagger), 反复[fǎn fù](repeatedly), 继续[jì xù](continue), 延期[yán qī](postpone), 沉着[chén zhuó](composed)
8 predicate-nominal-adverb	P, R, Mp	18	0.04%	对等[duì děng](equality), 讽刺[fěng cì](satirize), 歪曲[wāi qǔ](distort), 追踪[zhuī zōng](trace), 冷静[lěng jìng](calm)
9 distinctive word-adverb	Mr, Mp	45	0.11%	共同[gòng tóng](common), 长期[cháng qī](long-term), 自动[zì dòng](automatic), 临时[lín shí](temporary)
10 distinctive word	Mr	417	1.01%	彩色[cǎi sè](colourful), 野生[yě shēng](wild), 大型[dà xíng](large-scale), 急性[jí xìng](acute)
11 adverb	Mp	284	0.69%	亲自[qīn zì](presonally), 大力[dà lì](vigorously), 悄悄[qiāo qiāo](quietly), 独自[dú zì](alone)
12 nominal	R	8,801	21.36%	岁数[suì shù](age), 关头[guān tóu](moment), 情形[qíng xíng](situation), 诺言[nuò yán](promise)

Category	*Function*	*Number*	*Percentage*	*Example*
13 nominal-distinctive word	R, Mr	18,563	45.05%	木头[mù tou](wood), 团体[tuán tǐ](group), 桌子[zhuō zi](table), 英语[yīng yǔ](English)
14 nominal-distinctive word-adverb	R, Mr, Mp	27	0.07%	系统[xì tǒng](system), 礼貌[lǐ mào](politeness), 现场[xiàn chǎng](site), 正面[zhèng miàn](frontage)
15 nominal-adverb	R, Mp	17	0.04%	原样[yuán yàng](original), 原地[yuán dì](inplace), 专人[zhuān rén](specially assigned person), 严刑[yán xíng](cruel torture)
总计total		41204	100.00%	

(P = core of predicative phrase; R = core of referential phrase; Mr = modifier of referential phrase; Mp = modifier of predicative phrase)

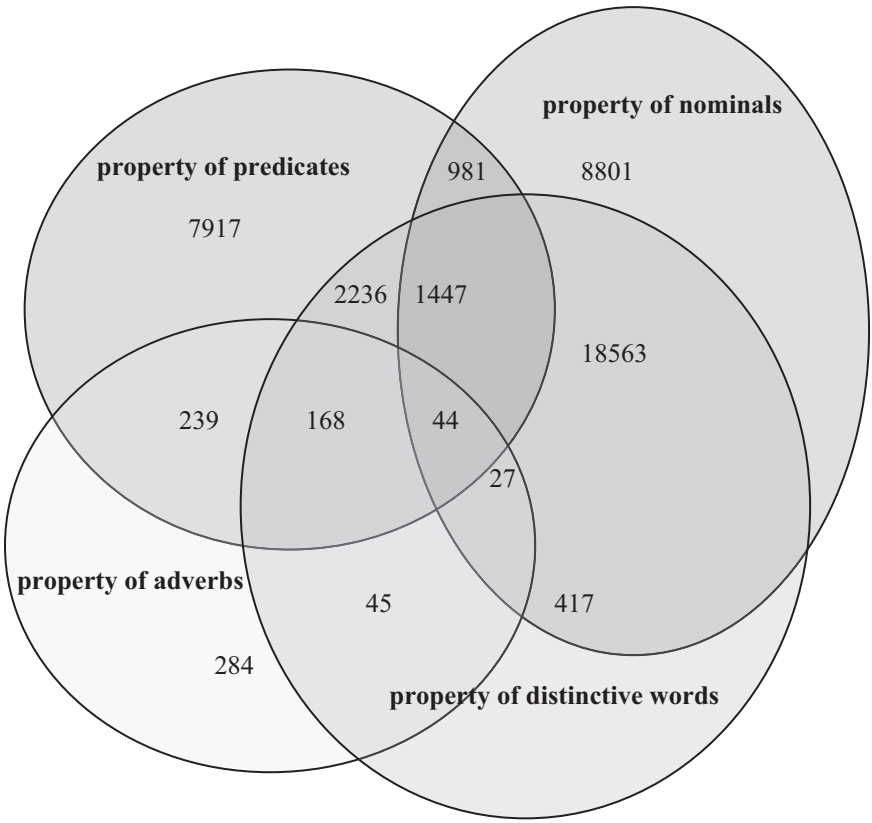


Figure 3.1 Pattern of parts of speech in modern Chinese[2]

The four basic properties of Chinese words, namely properties of predicates, properties of nominals, properties of distinctive words and properties of adverbs are illustrated in Figure 3.1.

Both "flexibleness" and "rigidness" in Chinese parts of speech can be seen from the above figure.

The "flexibleness" of Chinese parts of speech is reflected in Tables 3.6 and 3.7.

1 A large number of word items with two or more than two word properties are as follows:

Table 3.6 Overlapping parts of main word properties

Conversional function word	*N*	*P*	*Pt*	*Pf*	*Pl*
Predicate-nominal	2,490	6.04%	6.15%	19.08%	8.33%
Predicate-distinctive word	3,895	9.45%	12.13%	29.85%	16.97%
Predicate-adverb	469	1.14%	3.49%	3.59%	55.70%
Nominal-distinctive word	20,081	48.74%	63.18%	67.17%	87.51%
Nominal-adverb	106	0.26%	0.88%	0.35%	12.59%
Distinctive word-adverb	284	0.69%	1.21%	1.24%	33.73%

(Note: N = number; P = percentage; Pt = percentage of two word properties; Pf = percentage of the former word property; Pl = percentage of the latter word property)

2 Words with the properties of nominals mainly serve as the cores of referential phrases, such as "木头[mù tóu](wood), 历史[lì shǐ](history) and 质量[zhì liàng](quality)"; words with the properties of predicates mainly serve as the cores of predicative phrases, such as "区别[qū bié](distinguish), 认真[rèn zhēn](serious) and 迅速[xùn sù](rapid)".

Table 3.7 Specialisation degrees of distinctive words and adverbs in Chinese

Number of words with properties of distinctive words	Ap	An	Aa	Sd
	3,895	18,590	45	417
22,947	16.97%	**81.01%**	0.20%	1.82%
Number of words with properties of adverbs	Ap	An	Ad	Sa
842	469	44	45	284
	55.70%	5.23%	5.34%	33.73%

(Note: Ap = additionally served by predicate; An = additionally served by nominals; Aa = Additionally served by adverbs; Ad = additionally served by distinctive words; Sd = specially served by distinctive words; Sa = specially served by adverbs)

The "rigidness" of Chinese parts of speech is reflected in Table 3.8.

1 Specialisation of predicates, nominals, distinctive words and adverbs:

Table 3.8 Number of specialised word items in Chinese

	Function	*Number*	*Percentage*
Predicate	P	7,917	19.21%
Nominal	R	8,801	21.36%
Distinctive word	Mr	417	1.01%
Adverb	Mp	284	0.69%
Total		17,419	42.27%

2 “的/地[de/dì]” as tags of functional conversion are often used in Chinese. Although there are specialised distinctive words (大型[dà xíng](large scale), 野生[yě shēng](wild), 袖珍[xiù zhēn](pocket-size), 公[gōng](male), 母[mǔ](female)) and manner adverbs (亲自[qīn zì](in person), 独自[dú zì](alone), 悄悄[qiāo qiāo](quietly) and 大力[dà lì](energetically)) in Chinese, their numbers are far less than those with conversional functions (Table 3.6), and they belong to the closed category. The constituents of predicates and nominals need the tag “的” to change into the constituents of distinctive words as attributes; the constituents of predicates and nominals need the tag “地” to change into the constituents of adverbs as adverbials. (Guo Rui, 1997a, 2000, 2002). As for languages with “flexibleness”, there is no such need.

Hengeveld (1992) has exaggerated the “rigidness” of Chinese; Gao Mingkai and Shen Jiaxuan have exaggerated the “flexibleness” of Chinese. Therefore, both sides need adjusting further.

3.1.3.2 Criteria to adjust types of parts of speech and “flexibleness” and “rigidness” of parts of speech in Chinese

In fact, Chinese doesn’t belong to Hengeveld’s classifying system because he ideally thinks a certain language which is flexible cannot be rigid definitely. Actually, Hengeveld has adopted double criteria for functional conversion by tagging. For example, verbs and nouns in Sinhala/Sinhalese can function as attributes and adverbials when tagged, so they belong to the rigid system; verbs and nouns in Turkish also can function as attributes and adverbs when tagged by “çe” and “ce”, which are regarded as rigid characteristics. However, Turkish is prescribed as “flexible” language (e.g. nouns can function as modifiers), so it is not proper to classify it into a range from 5 to type 7. For such a situation, Hengeveld regards “çe” and “ce” as the marks of derivatives, instead of tags of functional conversion.

Even English cannot be simply categorised into a “rigid” language (or distinctive language). According to the investigation of *Collins Cobuild Advanced Learner’s English-Chinese Dictionary* (Foreign Language Teaching and Research Press, 2007), there are 114 verbs with initial “A”, including 21 conversional words of verbs and nouns in the percentage of 18.42%, such as “advance, answer, approach, arrest, attack, attempt, auction”. Such the conversional words of verbs and nouns in English actually possess both functions of predication and reference, so English is still characterised by “flexibleness”.

Hengeveld’s classifying system is due to his grades of parts of speech and their implicational relation (Hengeveld et al. 2004).

Core of predicative phrase > core of referential phrase > modifier of referential phrase > modifier of predicative phrase

Hengeveld and Van Lier (2008, 2010) reinterpreted syntactic slots into propositional functions when classifying parts of speech and described these functions as parameters of two levels. The parameters of the first grade are referential function and predicative function, which are regarded as the basic communicative functions. Compared with referential function, predicative function is considered as

privileged function, whose implicational relation is "predication ⊂reference". The parameters of the second grade are core function and modifying function. Core function is prior to modifying function because of its necessity. The implicational relation is "core⊂modifier". Furthermore, in some languages, word forms cannot be used to show modifying function, and the distinction of predication-reference cannot be avoided in any language, so the parameter of "predication-reference" is prior to the parameter of "core-modifier". The implicational relation between these two parameters is "predication-reference"⊂"core-modifier". Based on three implicational grades among four propositional functions in the above, three implicational constraints can be reached.

1 predication⊂reference

   a If specialised word items can be used as the cores of referential phrases in a certain language, it should have specialised word items as cores of predicative phrases. In other words, it should have nouns as well as verbs.
   b If "flexible" word items can be used as the cores of referential phrases in a certain language, it should have "flexible" or "specialised" word items as cores of predicative phrases. In other words, it should have nominals or non-verbs as well as verbs or predicates.

2 core⊂modifier

   a If specialised word items can be used as modifiers of certain phrases in a certain language, it should have specialised word items as the cores of those phrases. In other words, it should have manner adverbs as well as verbs; it should have adjectives as well as nouns.
   b If "flexible" word items can be used as modifiers of certain phrases in a certain language, it should have "flexible" or "specialised" word items as the cores of those phrases. In other words, it should have modifiers or non-verbs as well as verbs or nouns.

3 predication-reference ⊂ core-modifier

If there are different types of word items between core constituents and modifying constituents in a certain language, there should be different types of word items between cores of predicative phrases and referential phrases also.

Hengeveld and Van Lier (2008, 2010) think there might be only 17 possible types of word items which have logically existed among languages in the world, according to the implicational relations in the above.

However, the universality of this grade order is also in a dispute. Take English and Turkish as an example: The grade orders in these two languages are not very strict. Adjectives and adverbs have differentiated in English, due to which they should have been specialised according to the implicational relation of this classifying system. In fact, 18% of verbs are left unspecialised in their functions of predication and reference. In Turkish, nouns are multi-functional in reference and modification, which means a situation in which nouns function as modifiers when tagged should not occur. However, it actually does.

The same is true in Chinese. Because of the conversional tags "的/地", it is prescribed into the rigid system, for there is no such a need for tagging in the flexible system. Unfortunately, Hengeveld has neglected a fact that both the phenomena of "flexible" and "rigid" exist in Chinese, such as nouns, verbs and adjectives directly functioning as attributes. In addition, the conversional category of distinctive words and adverbs is also very flexible, such as "共同[gòng tóng](common), 自动[zì dòng](automatic), 真正[zhēn zhèng](real) and 临时[lín shí](temporary)", all of which can function as attributes and adverbials as well. As a matter of fact, there is no function differentiation between distinctive words and adverbs, which corresponds to the third type in the system of parts of speech: no difference between adjectives (distinctive words) and adverbs in modifiers.

Therefore, the Amsterdam model is too simple for real linguistic facts. An either-or situation is too ideal. Hengeveld et al. (2004) once said that "a systematic flexibleness, including the whole lexeme types in syntax and semantic meaning, decides whether this language is flexible or not. Therefore, English cannot be prescribed into a flexible language, even though a flexible homo-type transformation often occurs between many nouns and verbs in English". In fact, there is no clear distinction between systematic flexibleness and non-systematic flexibleness. Therefore, the explanation of Hengeveld et al. (2004) just proves that fact submits to theory. An either-or situation of "single-functional" or "multi-functional" cannot possibly exist. The distribution of word items in four positions doesn't possess prescribed implicational relations as strict as those in the Amsterdam model. Instead, there are overlapping parts among different parts of speech, so it is very difficult to classify any system of parts of speech into those 7 or 17 types.

Therefore, in order to improve Hengeveld's classifying criterion, we must try to take the percentage of overlapping parts among word items as an index in deciding flexibleness and rigidness. As for a lack of a certain part of speech, instead of reflecting a high "rigidness", it only indicates how broad or narrow concentration of specialisation is, that is to say, whether all positions or only some of them are specialised. Furthermore, functional conversion by tagging is an additional characteristic for languages in "rigidness" but not a manifestation of a high "rigidness". So these two situations mentioned in the above cannot be taken as parameters in deciding flexibleness and rigidness.

There are different methods of calculating degrees of "flexibleness" and "rigidness" in the system of parts of speech. The first method is to calculate the total degrees of "flexibleness" and "rigidness".

From Table 3.9, the total degrees can be reached:

Table 3.9 The total degrees of "flexibleness" and "rigidness" in the parts of speech of modern Chinese

rigid word item	17,419	42.27%
flexible word item	23,785	57.73%
total	41,204	100.00%

The above table reflects a higher percentage of flexible word items, 45% of which (18,563 words) are from the overlapping parts of nominals and distinctive words. Since it is very common for nominals to function as attributes, the "flexibleness" of other word items will decrease if these words are excluded (see Table 3.10).

The second method is to separately calculate the percentage of either or both in the overlapping parts. Flexible words refer to those with overlapped properties; rigid words are those with a single property. The percentage of rigid words actually reflects the differentiation degree of two word properties. The calculation formula for differentiation degree between property (a) and property (b) is as follows:

$$D_{ab} = R_{ab} / W_{ab}$$

D_{ab} refers to the total differentiation degree between property (a) and property (b); R_{ab} means the number of words with either property (a) or property (b); W_{ab} means the total number of words with both property (a) and property (b); W_a means the number of words with property (a); and W_b means the number of words with property (b).

Although it has "flexible" characteristics, Chinese is generally regarded as a "rigid" language because only differentiation degree of nominals and distinctive words is lower. This makes Hengeveld's description of Chinese sound reasonable (see Table 3.11).

Table 3.10 The total degrees of "flexibleness" and "rigidness", excluding the conversional category of nominals and distinctive words, in the parts of speech of modern Chinese

rigid word item	17,419	76.94%
flexible word item	5,222	23.06%
总计total	22,641	100.00%

Table 3.11 The total differentiation degree of Chinese word properties calculated with the second method

	function	*non-specialised*	*flexible*	*specialised*	*rigidness in the total differentiation degree*	*number*	
1	P-N	2490	6.15%	37,968	93.85%	P+N	40,458
2	P-D	3895	12.13%	28,207	87.87%	P+D	32,102
3	P-A	469	3.49%	12,954	96.51%	P+A	13,423
4	N-D	20081	63.18%	11,702	36.82%	N+D	31,783
5	N-A	106	0.88%	11,965	99.12%	N+A	12,071
6	D-A	284	1.21%	23,221	98.79%	N+A	23,505
	average value		14.51%		85.49%		

(Note: P = predicates; N = nominals; D = distinctive words; A = adverbs)

The investigation of a one-way differentiation degree between a certain word property and others will show a different result. The calculation formula of a one-way differentiation degree is as follows:

$$D_a = R_a / W_a$$

R_a refers to the number of words only with a single word property (a); W_a refers to the number of words with the word property (a) (see Table 3.12).

In the above table, the one-way differentiation degree of the predicate property is reached like this: D_a=7917 / 13050=60.67%. There are 7,917 words with only a single predicate property; 13,050 is the total number of words with a predicate property, including 7,917 and 5,133, the numbers of words with the properties of predicates and nominals or modifiers.

Thus, it can be seen that, compared with others, predicates have a higher differentiation degree. Nominals and adverbs have lower ones. Distinctive words have the lowest, which indicates that Chinese is lacking independent modifiers with the property of distinctive words. Although this fact seems to prove that Hengeveld (1992) is right to have classified Chinese into the 5/6 type of the rigid language system, a lack of "adjectives" doesn't mean there are not enough words as modifiers of referential phrases. As a matter of fact, there are many such the words in Chinese, except that most of these words haven't differentiated from predicates or modifiers. From this point, it seems that Chinese is supposed to be classified into Hengeveld's flexible system.

In general, the differentiation degree between predicates/nominals and modifiers is higher, and the differentiation degree between distinctive words and nominals/predicates is lower.

3.1.4 On nouns and verbs in Chinese from the perspective of functional differentiation of Chinese word items

In Chinese, the relationship between nouns and verbs is the most controversial issue. The reason for the dispute is whether verbs possess properties of nouns, which is caused by multi-functionality of Chinese parts of speech.

Table 3.12 One-way differentiation degree among main word properties

Function	R_a	W_a	D_a
P-N, M	7,917	13,050	60.67%
N-P M	8,801	29,898	29.44%
D-P, N, A	417	22,947	1.82%
A-P, N, D	284	842	33.73%
D-P, N	462	22,947	2.01%
A-P, N	329	842	39.07%

(Note: P = predicates; N = nominals; M = modifiers; D = distinctive words; A = adverbs)

The multi-functionality of Chinese parts of speech attracted Gao Mingkai's attention. He once said, "instead of possessing their fixed characteristics, Chinese notional words are characterized by expressing meanings of many different parts of speech" (Gao Mingkai, 1960: 38). "Most of Chinese words have ability of combining with different kinds of words" (Gao Mingkai, 1957: 75). "If it is right to say that classification of parts of speech is decided by combinability of words, we should not be forced to accept that there are no fixed parts of speech among Chinese notional words" (Gao Mingkai, 1957: 76).

Thus, it can been seen that Gao Mingkai has pointed out the characteristics of Chinese. The multi-functionality of notional words mentioned by Gao Mingkai is equal to the multi-functionality of Chinese. Zhu Dexi pointed out, "The relationship between Chinese parts of speech and syntactic constituents is very complex and far from one-to-one" (1984b: 13), a statement which has gradually developed into one of the two important grammatical characteristics of Chinese in his book *Yu Fa Wen Da (Questions and Answers on Grammar)* (1985a: 4): There is no one-to-one correspondence between Chinese parts of speech and syntactic constituents.

In this book, we can consider two perspectives to understand the essence of multi-functionality of Chinese word items. One is that their functional differentiation degree is not high. For example, many Chinese nouns can function directly as attributes, which means the differentiation degree of these nouns is very low in the aspects of referential function and modifying function. 29% of adjectives can function directly as attributes, which actually indicates the low functional differentiation degree of these adjectives in the aspects of predicative function and modifying function. The other is that selective restriction on words is not very strict for some grammatical positions. For example, not only nouns but also verbs and adjective can take the positions of subjects and objects, such as "学习很重要[xué xí hěn zhòng yào](Learning is very important)" and "同意去[tóng yì qù](agree to go)".

Gao Mingkai thought Chinese words were universal. "It is impossible to prescribe one notional word into a single part of speech and Chinese notional words are multi-categorized" (Gao Mingkai, 1960: 40). "A Chinese word can function separately as noun, verb or adjective when it appears in the positions of subject, predicate and attribute. Therefore, such a multi-categorization decides that there are no different parts of speech among notional words" (Gao Mingkai, 1960: 39).

Gao Mingkai's correspondence between syntactic functions and parts of speech has many things in common with the theory of parts of speech in linguistic typology.

Gao Mingkai's multi-functionality of notional words is very similar to the type 1 in Hengeveld's system of parts of speech. According to Gao Mingkai, notional words can function as predicates (cores of predicative phrases), subjects/objects (cores of referential phrases), attributes (modifiers of referential phrases) and adverbials (modifiers of predicative phrases), which means in Chinese, there is only one category of notional words without distinctive functions inside, so it is impossible to distinguish verbs, nouns, adjectives and adverbs in the category of notional words.

Theoretically speaking, Gao Mingkai's correspondence is correct, but he did not do a practical investigation into Chinese. Although Chinese notional words possess multi-functionality, it doesn't mean all of them are multi-functional. Gao Mingkai's conclusion might come from the estimation under the condition at that time, but not from a large-scale practical investigation. In fact, the multi-functionality of Chinese words is mainly reflected in the low differentiation degrees between the function of nominal modifiers (property of distinctive words) and the referential function (nominal property) or predicative function (predicate property). In consideration of the low differentiation degree between the attribute function and nouns in other languages, such as English, the attribute function cannot be excluded from nouns in Chinese. Otherwise, words with a single function in Chinese take up 76.9%, and words with multiple functions only take up 23.1%. There are just 44 words with those four basic functions (predication, reference, nominal modification and predicate modification), only taking up 0.11%. Therefore, the viewpoint that Chinese notional words cannot be categorised due to their multi-functionality is not valid.

Besides functioning as predicates, Chinese verbs can function as subjects and objects as well. Shen Jiaxuan (2007, 2009a, 2009b, 2015) proposes an inclusive pattern of noun-verb: Nouns include verbs, and verbs are nouns. Shen Jiaxuan thinks that this pattern can better explain how to extend the core of phrase "这本书的出版[zhè běn shū de chū bǎn](the publishing of this book)". According to the fundamental assumption in linguistics, the property of a phrase is decided by the property of its core constituents. For example, "干净衣服[gàn jìng yī fú](clean clothes)" is a noun phrase because "衣服[yī fú](clothes)" at its core is a noun; "洗衣服[xǐ yī fú](to wash the clothes)" is a verb phrase because "洗[xǐ](wash)" at its core is a verb. However, there are some other troubles in analysing the phrase "这本书的出版[zhè běn shū de chū bǎn](the publishing of this book)". "这本书的出版[zhè běn shū de chū bǎn](the publishing of this book)" is overall regarded as a noun phrase, but "出版[chū bǎn](publish)" as its core is a verb. Someone thinks "出版[chū bǎn](publish)" is nominalised temporarily; someone thinks the core of this phrase is "的[de](of)" but not "出版[chū bǎn](publish)". Either way, they are not very convincing. Shen Jiaxuan proposes that there is no contradiction between this phrase and its core property because verbs are nouns in Chinese, so their properties are consistent.

Here comes another question: Is "出版[chū bǎn](publish)" in "这本书的出版[zhè běn shū de chū bǎn](the publishing of this book)" the core of a referential phrase or the core of a predicative phrase? Since "出版[chū bǎn](publish)" can still be modified by an adverbial, such as "这本书的不出版[zhè běn shū de bù chū bǎn](the non-publishing of this book)", it is supposed to be the core of a predicative phrase. In that case, the core property (predication) and the property of the whole phrase structure (reference) are inconsistent. The reason is that as for word items, the relationship between their expressive functions and parts of speech can be divided into two levels, outside of which is "出版[chū bǎn](publish)" with the referential property/nominal property and inside of which is

"出版[chū bǎn](publish)" with the predicative property/predicate property (Guo Rui, 1997a, 2000, 2002).

(10) [$_{R}$[$_{P}$出版[chū bǎn](publish)]][$_{R}$[$_{P}$出版[chū bǎn](publish)]]
"这本书的[zhè běn shū de] (of this book)" as the attribute is added to R (referential property/nominal property) at the outside level. For example:

(11) [$_{R}$这本书的[zhè běn shū de] (of this book)[$_{R}$[$_{P}$出版[chū bǎn](publish)]]]
"及时[jí shí](timely)" as the adverbial is added to P (predication/predicate constituent) at the inside level. For example:

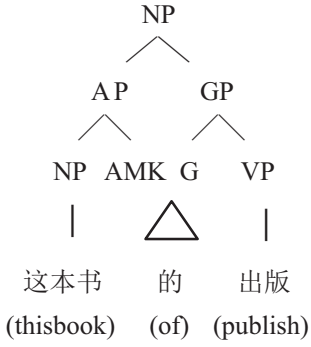
(12) [$_{R}$这本书的[zhè běn shū de](of this book)[$_{R}$[$_{P}$及时[jí shí](timely)[$_{P}$出版[chū bǎn](publish)]]]]

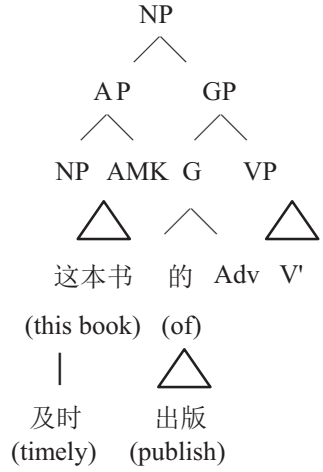
The essence of level division actually refers to the difference, as the inside-outside conversion of the word property, between its inherent property and its temporary one when a word item is used in a certain grammatical position. The conversion can be regarded as an invisible mark without a phonetic form (referring to 4.3.5 in *Modern Chinese Parts of Speech: Classification Theory*). In the above examples, this invisible mark refers to a nominalised G with a function similar to "-ing" as the mark for a gerund in English. "出版[chū bǎn](publish)" in this phrase is similar to "V+ing" with the nominal property outside, but it still keeps its verb property inside. If so, the attribute in this phrase modifies the nominalised "出版[chū bǎn](publish)"; the adverbial in this phrase modifies the unnominalised "出版[chū bǎn](publish)". For example:

(13) a [$_{R}$这本书的[zhè běn shū de](of this book)[$_{R}$ **G-**[$_{P}$出版[chū bǎn](publish)]]]
b [$_{R}$这本书的[zhè běn shū de](of this book)[$_{R}$ **G-**[$_{P}$及时[jí shí](timely)[$_{P}$出版[chū bǎn](publish)]]]]

The tree diagram is described as follows:

(14) a 这本书的出版 b 这本书的及时出版
a the publishing of this book[3] b the timely publishing of this book





Therefore, the nominal property of "出版[chū bǎn](publish)" at the outside level is in accordance with the nominal property of the overall structure of "这本书的出版[zhè běn shū de chū bǎn](the publishing of this book)", which is also in accordance with the rule of "core extension".

Similarly, not all word items in the positions of subject and object are nominal. For example, "走[zǒu](leave)"in "走是不应该的[zǒu shì bù yīng gāi de](it is not right to leave)" can be modified by a certain adverbial, such as "不走是不应该的[bù zǒu shì bù yīng gāi de](it is not right to not leave) ", or it can be put after a certain subject, such as "你走是不应该的[nǐ zǒu shì bù yīng gāi de](you are not right to leave)". Therefore, "走[zǒu](leave)" is supposed to be predicative at the inside level.

The criterion to decide whether a verb is nominal is as follows:

A to be the object of verb of nominal object (including the verb of a quasi-predicate object), such as "进行研究[jìn xíng yán jiū](to research), 加以研究[jiā yǐ yán jiū](to be researched)"
B to be modified by another noun, such as "语言研究[yǔ yán yán jiū](linguistic study)"

In fact, verbs such as "研究[yán jiū](research), 调查[diào chá](investigate), 学习[xué xí](study) and 管理[guǎn lǐ](administrate)", are real nominal verbs, which only take up 23% of verbs in Chinese. Compared with about 18% of verbs in English, such a percentage is not very high. As for "研究[yán jiū](research)" as a conversional word of a verb and a noun, it can be classified into a special category of verbs, namely a nominal verb based on Zhu Dexi's (1985b) work. Or, it can be classified into the conversional category of verbs and nouns based on the hetero-type strategy.

According to Shen Jiaxuan (2009b), verbs are supposed to be nominal when they are in the positions of subject and object or modified by attributes. According to Guo Rui (2002), 46% of verbs function independently and freely as subjects and objects, and 51% of verbs are modified by attributes. If these two parts are excluded, half of verbs still do not possess the nominal property. Here, "independently and freely" means besides being less restricted, the verbs are not followed by objects nor by other constituents, such as adverbials and auxiliary words of tense and aspect, when they function as common subjects and objects. "等于[děng yú] (equal to), 认为[rèn wéi] (think)" cannot function independently as a subject or an object, only if they are followed by objects or with adverbials. It is not easy to offer more examples about "有[yǒu] (have)" as a subject, except for a concessive clause, such as "有是有，就是 . . . [yǒu shì yǒu, jiù shì . . .] (if there are some, they should be . . .)". So "有[yǒu] (have)" is thought to be the one that cannot function freely as a subject or an object. According to Zhu Dexi (1982b), in Chinese, subjects include referential subjects and predicative subjects; objects include referential objects and predicative objects. Neither predicative subjects nor predicative objects are nominal, so they should be excluded.

In a word, the viewpoint, no matter whether it's Gao Mingkai's or Shen Jiaxuan's,[4] is not convincing enough to support real facts in Chinese.

Why do many people regard Chinese as a kind of "flexible" language? The reason is due to the manifestations of "flexibleness" and "rigidness" in aspects of parts of speech and syntactic positions. "Flexibleness" of part of speech refers to multi-functionality and multiple word properties; "flexibleness" of syntactic position refers to the accessible freedom of word property. Based on the practical investigation in this book, "rigidness" is greater than "flexibleness" for Chinese part of speech, while "flexibleness" is greater than "rigidness" for the syntactic position of Chinese. Positions of subjects and objects and positions of being modified by attributes are more flexible and accessible for nominal constituents and predicate constituents, even for modifier constituents. Zhu Dexi said, "It is the position of subject & object but not the position of predicate that reflects the distinction between nouns and predicates" (1984b: 13). That is to say, the position of subject and object is accessible for many different parts of speech, due to which the distinction between nouns and predicates cannot be reflected clearly. Actually, the position of predicate is also very "flexible" for predicates as well as nominals.

3.1.5 Summary

In the Amsterdam model, the four positions for core/modifier of predicative phrase and core/modifier of referential phrase correspond to verb/adverb and noun/adjective. Based on the differentiation degrees among these four positions, the Amsterdam model classifies parts of speech into different types of "rigidness" and "flexibleness". In Chinese, such correspondence is more complicated than what the model indicates. So it is not very applicable to Chinese. In fact, Chinese parts of speech are not only rigid but also flexible.

"Flexibleness" in Chinese reflects a very low differentiation (2.01%) between the properties of distinctive words and the properties of nominals or predicates; there is a lack of independent modifiers with the properties of distinctive words. Differentiation between predicates and nominals is very high, reaching 93.85%. In Chinese, the multi-functionality of word item is used to calculate its "flexibleness" and "rigidness". Generally speaking, the number of "rigid" words (words with a single function) is roughly equal to the number of "flexible" words (multi-functional words) in Chinese. How to define "flexible" words is difficult in classifying parts of speech, especially for nouns and verbs, due to the controversial distinction and relationship between both.

Based on the practical investigation, verbs with nominal properties selected by the strict criterion only take up 23% of verbs. For those verbs functioning as common subjects and objects, they cannot be regarded as ones with nominal properties becuase they still keep their basic verbal characteristics, such as being modified by "不[bù](not)" and adverbials or possessing their objects and subjects. Therefore, the viewpoint, no matter whether it's Gao Mingkai's or Shen Jiaxuan's, is not convincing enough to support real facts in Chinese.

Why are four main parts of speech based on four positions of predicative phrases and referential phrases universal for languages in the world? The reasons are as follows. The basic operation mechanisms among human languages are to express meaning and transmit information through combining basic functions of predication and reference. That is to say, constituents for expression and assertion are combined to form meanings. Except for those extreme "flexible "languages, these constituents divide in function, some of which are for objects (reference) and some of which are for assertion (predication). So the distinction between nouns and verbs appears. When modifying constituents divide further from reference and predication, modifiers come into being. If modifying constituents for objects and modifying constituents for assertion divide also, nominal modifiers (distinctive words or adjectives with property of modifiers) and predicate modifiers (adverbs) are formed, respectively.

The categories of predicates, nominals and modifiers (nominal modifiers and predicate modifiers) in Chinese correspond to verbs, nouns, adjectives and adverbs in the Amsterdam model. Why is the category of predicates sub-categorised into verbs, adjectives, state words? Why is the category of nominals sub-categorised into nouns, quantifiers, time words, locatives and locational words? Why is the category of nominal modifiers sub-categorised into distinctive words, numeral-quantifier phrases and demonstratives? The general answer for these "whys" is that there is a very close relationship between semantic category and word distribution in Chinese, which means different semantic categories decide different word distributions.

The combination of semantic category-syntactic function comes from a fixed relevence between semantic category and word distribution. Based on the combination of semantic category-syntactic function, basic catogories are divided from big categories. In Chinese, this combination develops with the development of times. For example, in ancient Chinese, a fixed relevence between "measurement unit-modified by numerals" wasn't set up, so "quantifiers" didn't form a word category. With the development of times, the combination of semantic category-syntactic function has gradually formed and then "quantifiers" came into being as a word category in the modern Chinese, followed by other word categories, such as locatives, time words and locational words.

3.2 Typology of adjectives and grammatical status of adjectives in Chinese

3.2.1 Questions about adjectives

Questions about adjectives are as follows:

Are there adjectives in Chinese? If there are, how large is the category of adjectives? What is the main function of adjectives, to be a predicate or to be an attribute? What is the grammatical property of adjective, nominal or predicate? Should adjectives be categorised into verbs? There are many disagreements in discussing these questions.

Li Jinxi (1924) classifies adjectives into distinctive words as the fifth category in his grammatical system. The other four are nominals, predicates, relatives and modal words. Distinctive words include adjectives and adverbs, similar to modifiers in modern Chinese. He thinks the main function of adjectives is to be attributes. He regards adjectives functioning as predicates as verbs.

Zhao Yuanren (1948) regards adjectives as predicates and then classifies them into verbs (1968b). Lou Guofu (1958) classifies both adjectives and verbs into predicates. Zhu Dexi (1982b) classifies adjectives into predicates, except for "大型[dà xíng](large-scale), 野生[yě shēng](wild)", because he thinks they can only function as attributes and they are supposed to be distinctive words.

McCawley (1992) thinks, generally speaking, adjectives can directly modify nouns, but they need connecting copulas to become predicates in English. It seems that adjectives in Chinese can function as predicates without copulas; the combination of "adjective + noun", such as "好人[hǎo rén](nice person), 好杯子[hǎo bēi zi](a good glass/cup)" cannot be extended further, like "*很好人[hěn hǎo rén](very nice person), 好玻璃杯子[hǎo bō lí bēi zi](a good glass)". Actually, these adjectives are compound words but not real adjectives, so he thinks there are no adjectives in Chinese.

Zhang Bojiang (1996) thinks some non-predicate adjectives, such as "初级[chū jí](primary), 微型[wēi xíng](miniature)" and some distinctive words, such as "大[dà](big), 红[hóng](red), 好[hǎo](good)" can be regarded as adjectives in Chinese, when they are classified by a criterion of being attributes freely; the words that cannot satisfy this criterion are supposed to be intransitive verbs, such as "纯洁[chún jié](pure), 和气[hé qì](gentle)"

Shen Jiaxuan (1997) thinks the main function of Chinese adjectives is to be attribute. That is to say they possess the properties of modifiers. However, he (2007, 2009a, 2009b) proposes the inclusive pattern of noun-verb-adjective, which means Chinese adjectives belong to the sub-category of verbs with the properties of predicates (see Table 3.13).

Table 3.13 Different viewpoints on the properties of Chinese adjectives

	Property	*Main function*
Li Jinxi (1924)	modifier (distinctive word)	attribute
Zhao Yuanren (1948)	predicate	predicate
Long Guofu (1958)	predicate	predicate
Zhao Yuanren (1968b)	verb	predicate
Zhu Dexi (1982a)	predicate	predicate
McCawley(1992)	verb	predicate
Zhang Bojiang (1996)	1. modifier:微型[wēi xíng](miniature), 好[hǎo](good)	attribute
	2. verb:纯洁[chún jié](pure), 和气[hé qì](gentle)	predicate
Shen Jiaxuan (1997)	modifier	attribute
Shen Jiaxuan (2009a)	predicate	predicate

Thus, it can be seen from the above that how to judge the grammatical property of Chinese adjectives is in a dispute, but the answer can decide the classification of adjectives. This book offers two investigating perspectives for such a dispute, one of which is from the synchronic level of their grammatical functions and other of which is from their position in language types.

3.2.2 The investigation of adjective types

3.2.2.1 Past studies

Dixon (1977) thinks the word items of a certain language can be divided into different semantic types, each of which possesses regular syntactic rules and morphological characteristics, except for some extended ones for individuals of this type. For example, "运动[yùn dòng](exercise), 作用[zuò yòng](function), 给予[jǐ yǔ](give), 身体动作[shēn tǐ dòng zuò](body movements) . . ." are coded in the semantic type of verbs; "事物[shì wù](thing), 亲属称谓[qīn shǔ chēng wèi](kinship titles) . . ." are coded in the semantic type of nouns. Accordingly, he proposes there be a basic or regular correspondence between a semantic type and a part of speech. Besides the regular correspondences between verbs and nouns, there exist some irregular ones between those open verbs and open nouns. For example:

维度[wéi dù](dimension)：大[dà](big), 小[xiǎo](small), 长[cháng](long), 宽[kuān](wide) . . .
年纪[nián jì](age)：新[xīn](new), 老/旧[lǎo/jiù](old), 小/年轻[xiǎo/nián qīng](young) . . .
颜色[yán sè](color)：红[hóng](red), 白[bái](white), 黑[hēi](black) . . .
价值[jià zhí](value)：好[hǎo](good), 坏[huài](bad), 纯洁[chún jié](pure), 好吃[hǎo chī](delicious) . . .
物理属性[wù lǐ shǔ xìng](physical)：硬[yìng](hard), 重[zhòng](heavy), 光滑[guāng huá](smooth) . . .
速度[sù dù](speed)：快[kuài](fast), 慢[màn](slow), 迅速[xùn sù](quick) . . .
人的脾性[rén de pí xìng](human propensity)：幸福[xìng fú](happy), 机灵[jī líng](clever), 大方[dà fāng](generous), 骄傲[jiāo à](arrogant) . . .

These semantic types can be collectively referred to "properties". Dixon (1977) and Schachter (1985) point out that the properties of some languages correspond to open adjectives (e.g. in English), but some languages don't possess open adjectives. There are two situations for the latter, one of which is they possess close adjectives and the other of which is there are no independent adjectives at all in these languages.

There are two situations for the possession of close adjectives.

1 Nouns are frequently used to indicate most property meanings, such as in Hausa.

(1) a mutum mai alheri
人[rén](man) with仁慈[rén cí](kindness)
"仁慈的人"[rén cí de rén](people with kindness)

b mutum mai doki (Schachter, 1985)
人[rén](man) with 马[mǎ](horse)
“有马的人”[yǒu mǎ de rén](people having horses)

(2) a Yana da alheri
他[tā](he) 有[yǒu](has) 仁慈[rén cí](kindness)
“他仁慈”[tā rén cí](He is kind.)
b Yana da doki (Schachter, 1985)
他[tā](he) 有[yǒu](has) 马[mǎ](horse)
“他有马”[tā yǒu mǎ](He has horses.)

2 Verbs are frequently used to indicate most property meanings, such as in Bemba.

(3) a umuuntu **ù**ashipa
人[rén](man) 的[de](of) 勇敢[yǒng gǎn](brave)
“勇敢的人”[yǒng gǎn de rén](a brave man)
b umuuntu **ù**alemba
人[rén](man) 的[de](of) 写[xiě](write)
“写字的人”[xiě zì de rén](a man who is writing)

(4) a umuuntu áashipa
人[rén](man) 勇敢[yǒng gǎn](brave)
“某人勇敢”[mǒu rén yǒng gǎn](Someone is brave.)
b umuuntu áalemba
人[rén](man) 书写[shū xiě](write)
“某人在写字”[mǒu rén zài xiě zì](Someone is writing.)
There are two situations for no independent adjectives.

3 Nouns are used to indicate property meanings in adjectival-noun languages, such as in Quechua.

(5) a chay hatun runa
这[zhè](this) 大[dà](adult) 人[rén](man)
“这个大人”[zhè gè dà rén](this adult man)
b Chay runa hatun
这[zhè](this) 人[rén](man) 大[dà](adult)
“这个人大” [zhè gè rén dà](this man adult)
c Rikaška: hatun-(kuna)-ta
我看见[wǒ kàn jiàn](I see) 大[dà](big) -(plural)(objective case)
“我看见大东西”[wǒ kàn jiàn dà dōng xi](I see big things.)

(6) a chay alkalde runa
这[zhè](this) 市长[shì zhǎng](mayor) 人[rén](man)
“这个当市长的人”[zhè gè dāng shì zhǎng de rén](This is mayor man.)
b Chay runa alkalde.
这[zhè](this) 人[rén](man) 市长[shì zhǎng](mayor)
“这个人是市长”[zhè gè rén shì shì zhǎng](this man is mayor)
c Rikaška: alkalde -(kuna)-ta
我看见(I see): 市长[shì zhǎng](mayor)- (plural)(objective case)
“我看见市长”[wǒ kàn jiàn shì zhǎng](I see the mayor.)

In Quechua, words with certian property meanings are parallel with nouns in the syntactic sense. They can function as objects directly, so they cannot be distingushed from nouns in the grammatical sense.

4 Verbs are used to indicate property meanings in adjectival-verb languages, such as Chinese.

(7) a 那个女孩子漂亮[nà gè nǚ hái zi piào liang](That girl is beautiful.)
b 漂亮的女孩子[piào liang de nǚ hái zi](a beautiful girl)

(8) a 那个女孩子了解[nà gè nǚ hái zi liǎo jiě](That girl can understand.)
b 了解的女孩子[liǎo jiě de nǚ hái zi](an understanding girl)
上面两例中，表达属性义的词"漂亮"和动词"了解"的活动方式相同。

In the above examples, both "漂亮[piào liang](beautiful)" with a property meaning and the verb "了解[liǎo jiě](understand)" are used in the same way.

Givón(1984)explains Dixon's correspondence with time stability from the cognitive perspective. He thinks language tends to code words with high (relatively stable) time stability as nouns and words with weak (quickly changeable) time stability as verbs. Compared with nouns and verbs, the time stability of adjectives is in the middle, so they are regarded as nouns in some languages and verbs in some other languages.

However, L. Whaley (1996) points out that time stability is not easy to measure. For example, "fire(火[huǒ])and flicker(闪光[shǎn guāng])" with weak time stability are actually nouns; "to tower(高出[gāo chū])" with high time stability is actually a verb.

Thompson (1988) is dissatisfied with Givón's explanation. She thinks that except for "速度[sù dù](speed)", the other six semantic types that Dixon has defined are all relatively stable. That is to say, the time stability of the semantic type cannot be in the middle. Thompson re-explains the correspondence between semantic type and part of speech from the perspective of the discourse function. She finds adjectives have two discourse functions, one of which is explaining the properties of the mentioned topics and the other of which is bringing up a new topic.

1 The percentage of the first function is 79% in English and 71% in Chinese. Some examples in Chinese are as follows:

(9) 在很愉快的气氛中学，那是最好。
[zài hěn yú kuài de qì fēn zhōng xué, nà shì zuì hǎo.]
It is **better** to learn English in a pleasant environment.
(Taking about Chinese children learning English in schools)

2 The percentage of the second function is 21% in English and 29% in Chinese. Some examples in Chinese are as follows:

(10) 所以我们真的希望能够有一个更理想的考试。
[suǒ yǐ wǒ men zhēn de xī wàng néng gòu yǒu yī gè gèng lǐ xiǎng de kǎo shì.]

So we do hope **a more ideal** test.
(Talking about an entrance examination)

(11) 更重要的是要提高学生的学习能力。
[gèng zhòng yào de shì yào tí gāo xué shēng de xué xí néng lì.]
More important is to improve students' learning ability.

Hopper and Thompson (1984) point out that the distinction between nouns and verbs can be decided by discourse functions. Nouns are the words for introducing discourse participants; verbs are the words for reporting events. Adjectives possess both: The property explanation of an object in the mentioned topic is equal to the verb function; the introduction of a new object in the new topic is equal to the noun function. Therefore, the property meanings are coded as verbs sometimes or nouns sometimes.

Harrie Wetzer (1996) points out that the grammatical types of adjectives are related to their tense forms.

1 If there exists an open category of nominal adjectives in a certain language, it is supposed to possess the inflectional tense forms and vice verse, such as English.
2 If there exists an open category of verbal adjectives in a certain language, it doesn't have the inflectional tense forms definitely and vice verse, such as Chinese.

3.2.2.2 Re-thinking past studies

In fact, the nouns expressing property meanings are not real nouns but just a transferred phenomenon. Quechua is a typical example. Since adjectives in the examples of (5)a and (5)b function as attributes and predicates which are also possessed by nouns, they cannot prove "hatun(大)[dà](big)" is nominal. The function of being a subject and an object really counts. "Hatun" in the example of (5)c seems to function as an attribute, but it is just a syntactic transferred reference, similar to "贤[xián]worthy" and "不贤[bù xián]not worthy" in "见贤思齐，见不贤而内自省焉[jiàn xián sī qí, jiàn bù xián ér nèi zì shěng yān.](When we see *man of worth*, we should think of equaling them; when we see men of *a contrary character*, we should turn inwards and examine ourselves.)" in ancient Chinese. "The ***old*** need attention" in English belongs to the same usage. None of them can be nominal at the syntactic level.

Another phenomenon is inflectional change. The word items of property meaning have the same inflectional changes with nouns. For example, since adjectives in German and Latin have the same inflectional changes as nouns in the aspects of part of speech, number and case, they belong to the languages of noun-like property words. In fact, adjectives are very different from nouns in these languages in many other aspects, such as not functioning as subjects and objects and having different ranks and degrees. The same inflectional changes only indicate a very close relationship between adjectives and nouns, but they cannot prove a similarity between both in terms of grammatical property.

In Hausa, nouns are used for non-core property meanings, but adjectives are used to indicate the most core property meanings.

(12) a riga ja (Cheng Ruxiang，1997)
衣服[yī fu](clothes) 红[hóng](red)
“红衣服” [hóng yī fu](red clothes)
b Tutar ƙasa ja ce (Cheng Ruxiang，1997)
旗[qí](flag) 国[guó](national) 红[hóng](red) 是[shì](is)
“国旗是红的” [guó qí shì hóng de](National flag is red.)

According to Dixon (1977), there are 12 adjectives that are the core property words. They are as follows:

babba(大[dà](big)), qanqane(小[xiǎo](small)), sabo(新[xīn](new)), tsofo(老[lǎo](old)), fari(白[bái](white)), baqi(黑[hēi](black)), ja(红[hóng](red)), dogo(长[cháng](long), 高[gāo](tall)), gajere(短[duǎn](short)), danye(新鲜[xīn xiān](fresh), 生[shēng](new)), mugu(坏[huài](bad)), qrami(小[xiǎo](small))

Except for nagari(好[hǎo](good))expressed by noun as a core property word, most nouns are non-core or sub-core property words. They are as follows:

sauki(容易[róng yì](easy)), sauri(快[kuài](fast)), shiru(安静[ān jìng](quiet)), kwari(强[qiáng](strong)), matsyaci(难[nán](hard)), motsattse(疯[fēng](sad))

Therefore, a language only using nouns for property meaning has not been found yet.

Verbs expressing property meanings are not actually verbs because they are different from real verbs in many aspects, such as having different ranks and degrees, being used in comparative structures and possessing special overlapping forms. In Chinese, property words functioning as attributes are not followed by “的(of)”, such as “漂亮姑娘[piào liang gū niang](beautiful girls), 干净衣服[gàn jìng yī fu](clean clothes), 大苹果[dà píng guǒ](big apple), 红桌子[hóng zhuō zi](red table)” and so on. Therefore, it is not convincing to say verbs are used to express property meanings in Chinese.

In past studies, whether property words are nominal or verbal is always an either-or situation. Actually, they can function as attributes and predicates without tagging. Take Vietnamese as an example.

(13) a trời tốt (attribute)
天气[tiān qì](weather) 好[hǎo](good)
“好天气”[hǎo tiān qì](good weather)
b Hôm nay thời tiết rất tốt (predicate)
今天[jīn tiān](today)天气[tiān qì](weather)很[hěn](very) 好[hǎo](good)
“今天天气很好。” [jīn tiān tiān qì hěn hǎo](Weather is very good today.)

Based on the past classification system, it is not easy to decide whether Vietnamese possesses an open category of nominal adjectives or verbal adjectives.

3.2.2.3 Investigation of types of property words

Based on Croft's relevance theory, property words unmarked or marked in the positions of attribute (modifying function) and predicate (predicative function) can indicate their grammatical properties. When they are unmarked attributes, they possess properties of modifiers; when they are unmarked predicates, they possess the properties of verbs; when they are unmarked attributes and unmarked predicates, they possess both properties; when they are marked attributes and marked predicates, they possess neither of them, but instead possess the properties of nominals.

According to the above criterion, the core property words in 72 languages have been investigated.

Five types of property words are reflected in the investigation (see Table 3.14).

Type I is the words with the pure properties of modifiers. When unmarked, they function as attributes; when marked, they function as predicates, such as in English, German and Kiswahili.

Examples in English are as follows:

(14) a red paper (as an unmarked attribute)
b The paper **is** red. (as a marked predicate)

Examples in Swahili are as follows (Zhang Peizhi, 1990):

(15) a njia fupi (as an umarked attribute)
路[lù](road) 短[duǎn](short)
"捷径"[jié jìng](shortcut)
b Njia ya mwongo **ni** fupi.
(as predicate marked)
路[lù](road) (possessive case)说谎者[shuō huǎng zhě](liar) 是[shì](is)短[duǎn](short)
"说谎者的路长不了。" [shuō huǎng zhě de lù cháng bù liǎo](A liar cannot alway be hidden.)

Table 3.14 Types of property words

GP	*T*	*AM*	*PM*	*L*
modifier	I	—	+	English, Italian
modifier, predicate	II	—	+/—	Uygur, Russian
modifier/predicate	III	—	—	Japanese, Derung language
modifier, predicate	IV	+/—	—	language of Bai nationality, Indonesian
predicate	V	+	—	A Mei language, Korean

(Note: GP = grammatical property; T = type; AM = as attribute marked; PM = as predicated marked; L = language)

The words in Type II can function as unmarked attributes and as marked or umarked predicates, so they possess the properties of both modifiers and predicates. Comparatively speaking, their property of modifiers is stronger than that of predicates, such as in Uypgur, Russian and Hungarian.

Examples in Hungarian are as follows (Gu Zongying, Gong Kunyu, 1989):

(16) a szép ház (as an unmarked attribute)
漂亮[piào liang](beautiful) 房子[fáng zi](house)
"漂亮房子" [piào liang fáng zi](beautiful house)
b Én szép **vagyok**. (as a marked predicate)
我[wǒ](I) 漂亮[piào liang](beautiful) 是[shì](am)
"我漂亮。"[wǒ shì piào liang](I am beautiful.)
c A ház szép (as an unmarked predicate)
那[nà](that) 房子[fáng zi](house) 漂亮[piào liang](beautiful)
"那座房子漂亮。"[nà zuò fáng zi piào liang](That house is beautiful.)

The example in Uygur is as follows (Zhao Xiangru, Zhu Zhining, 1985):

(17) a tʃirɑjliq qiztʃɑq (as an unmarked attribute)
漂亮[piào liang](beautiful) 姑娘[gū niang](girl)
"漂亮姑娘" [piào liang gū niang](beautiful girl)
b bu qiztʃɑq tʃirɑjliq **ikɛn**
(as a marked predicate)
这[zhè](this) 姑娘[gū niang](girl) 漂亮[piào liang](beautiful) 是[shì](is)
"这个姑娘漂亮。"[zhè gè gū niang piào liang](This girl is beautiful.)
c bu qiztʃɑq tʃirɑjliq (as an unmarked predicate)
这[zhè](this) 姑娘[gū niang](girl) 漂亮[piào liang](beautiful)
"这个姑娘漂亮。"[zhè gè gū niang piào liang](This girl is beautiful.)

The verbs in Type I and Type II function as marked attributes. For example, English verbs function as attributes in the participle forms of "V+ed and V+ing" and the infinitive forms of "to+V". Hungarian verbs function as attributes in the verbal form of "V+o/t/ando". From the above, the distinctions between verbs and adjectives are clearly shown.

The words in Type III function both as unmarked attributes and as unmarked predicates, possessing the properties of both modifiers and predicates. These two types of properties are equal in degree. The verbs in Type III usually function as marked attributes, which is in contrast to adjectives as unmarked attributes, such as in the Derung language.

Examples in the Derung language are as follows (Sun Hongkai, 1982):

(18) a ɑtsɑŋ gɑm (as an unmarked attribute)
人[rén](man) 好[hǎo](good)
"好人" [hǎo rén](good man)
b senxɔ gɑm (as an unmarked predicate)
生活[shēng huó](life) 好[hǎo](good)
"生活好"[shēng huó hǎo](good life)

(19) a kɑI-**sɑ** ɑŋdzɑ (verb as a marked attribute)
吃[chī](eat) 的[de] 饭[fàn](food)
“吃的饭”[chī de fàn](food to eat)
b ɑŋ ɑŋdzɑ kɑI-luŋ. (verb as an unmarked predicate)
他[tā](he) 饭[fàn](food) 吃-了[chī le](eaten)
“他吃饭了。”[tā chī fàn le](He has eaten food.)

Some verbs or verb phrases can function directly as attributes, such as in Japanese.

(20) a akai hana (as an unmarked attribute)
红[hóng](red) 花[huā](flower)
“红花”[hóng huā](red flower)
b Hana ga akai (as an unmarked predicate)
v花[huā](flower) (主subject) 红[hóng](red)
“花是红色的。”[huā shì hóng sè de](Flower is red.)

(21) a watashi-ga sunde-iru ie
(verb as an unmarked attribute)
我[wǒ](I)-主格(nominative case) 住[zhù](live)-进行(in process) 房子[fáng zi](house)
“我住的房子” [wǒ zhù de fáng zi](the house I live in)
b Watashi-wa sono ie ni sunde-iru
(verb as an unmarked predicate)
我[wǒ](I)-话题(subject) 那[nà](that)房子[fáng zi](house)在[zài] 住[zhù](live)-进行(in process)
“我在那个房子里住。”[wǒ zài nà gè fáng zi lǐ zhù](I live in that house.)

In the languages of the Bai nationality, Indonesian and Va nationalities, the words in Type IV function as unmarked predicates and as unmarked or marked attributes, possessing the properties of both predicates and modifiers, the former of which is stronger than the latter.

Examples in the language of the Bai nationality are as follows (Xu Lin, Zhao Yansun, 1984):

(22) a phɛ niuɛ (as an unmarked attribute)
软[ruǎn](soft) 泥[ní](mud)
b phɛ **no** niuɛ (as a marked attribute)
软[ruǎn](soft) 的(de) 泥[ní](mud)
c lɯ kho phɛ (as an unmarked predicate)
这[zhè](this) 个[gè] 软[ruǎn](soft)

The verbs in this type usually have the same marking form as property words, when they function as attributes, such as in Indonesian (Huang Chenfang, 1990):

(23) a meja **yang** besar(as a marked attribute)
桌子[zhuō zi](table) 的[de] 大[dà](big)
“大桌子”[dà zhuō zi](big table)

b meja itu besar(as an unmarked predicate)
桌子[zhuō zi](table) 那[nà](that) 大[dà](big)
“那桌子大”[nà zhuō zi dà](that big table)

(24) a orang **yang** membeli sepatu (verb as an unmarked attribute)
人[rén](person) 的[de] 买[mǎi](buy) 鞋[xié](shoes)
“买鞋的人”[mǎi xié de rén](person who buys shoes)
b Orang itu membeli sepatu
(verb as an unmarked predicate)
人[rén](persona) 那[nà](that) 买[mǎi](buy) 鞋[xié](shoes)
“那个人买鞋”[nà gè rén mǎi xié](that person buys shoes)

The words in Type V are marked when functioning as attributes and unmarked when functioning as predicates. Property words are of the pure predicate property. The verbs in this type usually have the same marking form as property words when they function as attributes, such as in the A Mei language (He Rufen et al., 1986):

(25) a makapahaj **a** wawa
漂亮[piào liang](beautiful) 的[de] 孩子[hái zi](child)
s“漂亮的孩子” [piào liang de hái zi](beautiful child)
b makapahaj kuni a wawa
漂亮[piào liang](beautiful) 这[zhè](this) 的[de] 孩子[hái zi](child)
“这孩子漂亮” [zhè hái zi piào liang](this child is beautiful.)

(26) a maumahaj **a** kapah
劳动[láo dòng](work) 的[de] 青年[qīng nián](youth)
“劳动的青年”[láo dòng de qīng nián](the youth who are working)
b maumahaj tʃiwama
劳动[láo dòng](work) 父亲[fù qin](father)
“父亲劳动” [fù qin láo dòng](father works)

Examples Korean are as follows (Xuan Dewu et al., 1985):

(27) a pʻurɯ-**n** namuwu (as a marked attribute)
绿[lǜ](green) 的[de] 树[shù](tree)
“绿色的树”[lǜ sè de shù] (green tree)
b namujipʻ-i pʻurɯ-niʔ (as an unmarked predicate)
树叶[shù yè](leaves) (subject) 绿[lǜ](green)(interrogative)
“树叶是绿的吗?”[shù yè shì lǜ de ma?](Are leaves green?)

When functioning as attributes in the present tense, adjectives in Korean use “-n/-ɯn”, but verbs in Korean use “-nɯn”. In the past tense, verbs as attributes use “-n/-ɯn”, which is also used by adjectives when functioning as attributes in the present tense. In the past continuous tense, “-tən” is used by adjectives and verbs; in the future tense, “-r/ɯr” is used by adjectives and verbs. Thus, it can be seen that the attribute mark of adjectives and the attribute mark of verbs come from the same origin.

Some verbs as attributes are unmarked in the Ja Rong language (Lin Xiangrong, 1993):

(28) a ta-wət **kə**-mbro (as a marked attribute)
山[shān](mountain) 的[de] 高[gāo](high)
s“高山”[gāo shān] (high mountain)
b **kə**-mbro wa-wat (as a marked attribute)
的[de] 高[gāo](high) (modified) 山[shān](mountain)
“高的山”[gāo de shān](high mountain)
c ta-wat mbro (as an unmarked predicate)
山[shān](mountain) 高[gāo](high)
“山高。”[shān gāo](The mountain is high.)

(29) a ʃtə ka-za wə-zɐ ŋos
(verb as an unmarked attribute)
这[zhè](this) 吃[chī](eat) (modified)食物[shí wù](food) 是[shì](is)
“这是吃的食物。”[zhè shì chī de shí wù](This is the food to eat.)

Among these five types, Type I and Type V are very typical ones. The other three are considered as the transition of these two types, possessing their properties at the same time. Therefore, the functions of property words are swaying between modification (modifiers) and predication (predicates). Among the 72 languages in the investigation, there are 12 in Type I, seven in Type II, 29 in Type III, 16 in Type IV (including Chinese) and eight in Type V. There is no language containing property words as nominals (see Table 3.15 and Table 3.16).

3.2.3 Correspondence between semantic type and part of speech

3.2.3.1 Correspondence between part of speech and substance/property

The correspondence between semantic type and part of speech is based on the evidence that property words are coded as nouns or verbs, according to Givón (1984) and Thompson (1988). However, the fact is that property words are mainly coded as modifiers or predicates, according to the above table. Neither time stability nor

Table 3.15 Types of property words

GP	*Type*	*NL*
M	I	12
M, P	II	7
M/P	III	30
P, M	IV	15
P	V	8

(Note: GP = grammatical properties; NL = number of languages; M = modifier, P = predicate)

Table 3.16 Types of property words in 72 languages

Type	*NL*	*Language*
I	12	英语(English), 德语(German), 瑞典(Swedish), 意大利(Italian), 西班牙(Spanish), 拉丁(Latin), 罗马尼亚(Romanian), 波兰(Polish), 阿尔巴尼亚(Albanian), 豪萨(Hausa), 斯瓦希里(Kiswahili), 胡亚(Callahuaya)
II	7	藏语(Tibetan), 门巴(Monpa), 白马(Baima), 维吾尔(Uyghur or Uighur), 撒拉(Salar), 俄语(Russian), 匈牙利(Hungarian)
III	29	羌语(Qiang), 独龙(Drung), 毕苏(Bisu), 拉坞戎(Khroskyabs), 布努(Bu-nao), 炯奈(Bunu), 畲语(She), 壮语(Zhuang), 侗语(Kam), 泰语(Thai), 仡佬(Gelao), 佯僙(Then), 拉基(Lachi), 布朗(Blang or Pulang), 越南(Vietnamese), 泰耶尔(Atayal), 赛德克(Seediq), 回辉(Tsat), 蒙古(Mongolian), 康家(Kangjia), 图瓦(Tuvan), 满语(Manchu), 赫哲(Nanai), 希腊(Greek), 希伯来(Hebrew), 凯楚亚(Quechua), 瓦特加利, 瓦加美, 日语(Japanese)
IV	16	汉语(Chinese), 彝语(Yi), 纳西(Naxi), 拉祜(Lahu), 景颇(Jingpho), 白语(Bai), 载瓦(Zaiwa), 哈尼(Hani), 苗语(Hmong), 勉语(Mien), 波拉(Pela), 黎语(Hlai), 德昂(Palaung), 佤语(Wa), 印尼(Indonesian), 莫加维(Mo Jia Wei)
V	8	嘉戎(rGyalrong), 阿美(Amei), 布农(Bunun), 排湾(Paiwan), 巴则海(Pazeh), 贝姆巴(Bemba), 俄吉布瓦(Ojibwas), 朝鲜语(Korean)

discourse function can explain this contradiction. Therefore, a new explanation is necessary.

The category theory of Aristotle might explain this correspondence. Aristotle classified individual words into ten categories. They are substance (human or horse), numeral-quantifier phrase (three feet long), property (white), relation (doubled, greater than), place (in the market), time (yesterday, last year), posture (lie, sit), state (armed, with shoes), action (incise, burn) and suffer (stabbed, burned) (Aristotle, *Category Theory*). He discussed the categories from two perspectives.

One is ontology. These categories are considered as an existing type, in which the substance is self-existent and the rest are named as properties (Aristotle, *Posterior Analytics*) which are not self-existent but can exist in the substance as its concomitant (Aristotle, *Metaphysics*). Consequently, the opposite is produced between substance and property. The other is logic. These categories are predicates of proposition. The first substance (referring to a specific individual, e.g. Socrates) cannot predicate the subject but can be predicated by other categories; the second substance (referring to a specific abstract individual, e.g. human or animal) and other categories can predicate the subject. The combination of individual words creates a proposition, such as "human run; human win". The first substance is always the subject; the rest of the categories are predicates (Aristotle, *Category Theory*). The words in the position of the subject are substance words, and those in the position of predicate are verbs.[5]

Aristotle's category theory can be used to explain the correspondence between semantic type and part of speech. The concepts of substance and property are still kept, except for a little alternation. Here, property includes temporary property (action, posture) and constant property (nature). The regular correspondence between semantic type and part of speech is established in the expression of human language (Figure 3.2). Substance tends to be coded as the reference (nominals) due to its self-existence; temporary property tends to be coded as predication (predicates, such as hurt, hunger, right and slip) or modification (modifiers, such as male, grey, wild and large-scale).

A constant property coded as a modification is related to the language demand of the classification of a substance. Stable characteristics are suitable for classification and temporary ones for predication.[2] The semantic meaning of state words tends to be used as a predicate due to its temporary characteristics (referring to Shen Jiaxuan 1997). Since the property words for psychological and physiological statues often sway between the constant side and the temporary side, they are coded as adjectives or verbs sometimes, such as "病[bìng](sick, ill)" as a verb in Chinese for physiological statue but "sick, ill" as adjectives in English, or "害怕[hài pà](afraid)" as verb in Chinese for psychological statue but "afraid" as an adjective in English.

3.2.3.2 Condition of correspondence between property words and predicates and modifiers

The correspondence between property words and predicates and modifiers needs other semantic conditions.

Property can be divided into two types: degree property and non-degree property. These two types are coded as adjectives (modifiers) in English (see Figure 3.3).

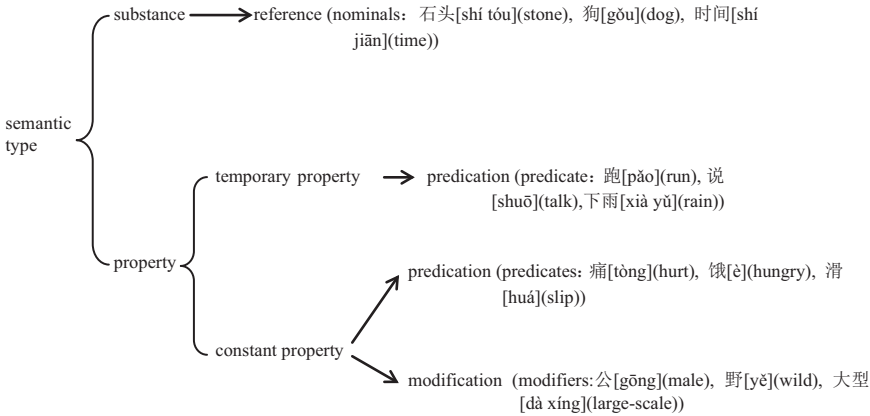


Figure 3.2 Regular correspondence between semantic type and part of speech

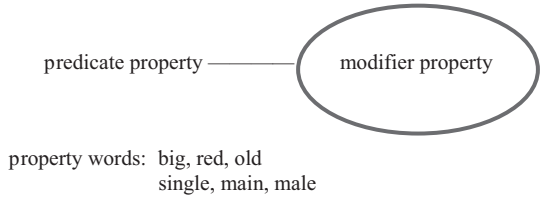


Figure 3.3 Property of part of speech for English property words

All property words in Japan are coded as predicates and modifiers (see Figure 3.4).

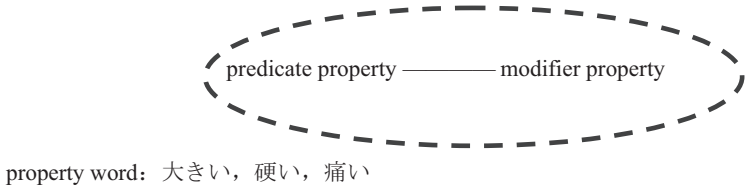


Figure 3.4 Property of part of speech for Japanese property words

In Vietnamese, degree property words differentiate into the conversional words of predicates and modifiers, such as lớn(大[dà](big)), mới(新[xīn](new)), đỏ(红[hóng](red)), no(饱[bǎo](full)) and đau(痛[tòng](hurt)); non-degree property words are predicate, such as công(公[gōng](male)), tư(私[sī](private)), dực(雄[xióng](male)) and chính(主要[zhǔ yào](major)) (see Figure 3.5).

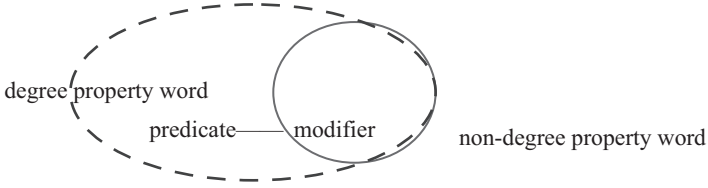


Figure 3.5 Property of part of speech for Vietnamese property words

In Chinese, 70% of degree property words are coded as predicates (type a), such as "痛[tòng](hurt), 饿[è](hunger), 对[duì](right), 滑[huá](slip), 结实[jiē shi](strengthen), 和气[hé qì](kind) and 荣幸[róng xìng](honored)". Non-degree property words are coded as modifiers (type b), such as "公[gōng](male), 灰[huī](grey), 野[yě](wild), 大型[dà xíng](large-scale), 野生[yě shēng](wild) and 自动[zì dòng](automatic)". 30% of degree property words are coded as predicates as

well as modifiers (type c), such as "大[dà](big), 新[xīn](new), 好[hǎo](good), 白[bái](white), 红[hóng](red), 优秀[yōu xiù](excellent) and 干净[gàn jìng](clean)". Two differences between type a and type b are their constancy and high frequency. The words in type b are mainly frequently used degree property words with constancy, and the words in type a are mainly non-constant degree property words, such as "痛[tòng](hurt), 高兴[gāo xìng](glad), 饿[è](hunger) and 困[kùn](sleepy)", or degree property words with low frequency, such as "稳[wěn](stable), 粗疏[cū shū](careless), 骄横[jiāo hèng](arrogant), 荣幸[róng xìng](honored) and 渺小[miǎo xiǎo](tiny)" (see Figures 3.6 and 3.7).

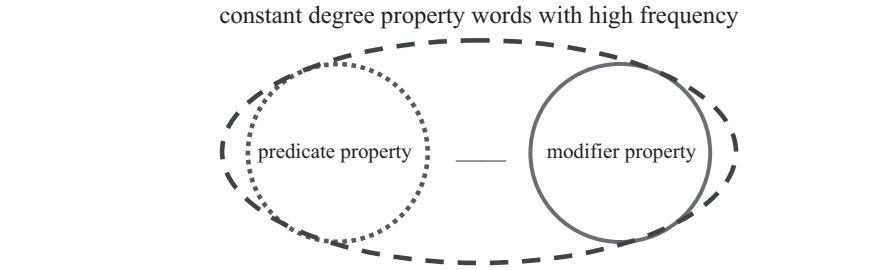
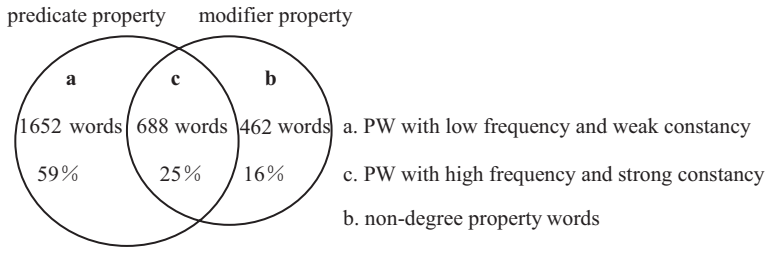


Figure 3.6 Property of part of speech for Chinese property words

Grammatical pattern of differentiated Chinese property words:



痛[tòng](hurt), 结实[jié shi](strong), 大[dà](big), 白[bái](white), 大型[dà xíng](large-scale), 灰[huī](grey), 久[jiǔ](long), 稳[wěn](stable), 新[xīn](new), 男[nán](male)

Figure 3.7 Grammatical properties of differentiated Chinese property words

The semantic meaning of a word is closely related to its syntactic behaviour (referring to Lu Bingfu, 2010). Chinese property words with weak constancy generally cannot function as attributes directly, such as "高兴[gāo xìng](glad), 痛[tòng](hurt) and 饿[è](hunger)" in type a; Chinese property words with a strong constancy have a strong competence of being attributes, such as "干净[gàn jìng]

(clean), 大[dà](big), 伟大[wěi dà](great)" in type b. In English, although constant property words are adjectives with modifier properties, non-degree property words have a very weak competence of functioning as predicates, even if copula, such as "chief, main, sole, sheer, and utter" are added. Adjectives with weak constancy are still very weak in functioning as attributes, such as "afraid, sure, alive, ill and faint". Thus, it can be seen that although the property words in both languages are different in terms of property of part of speech, their differences in grammatical functions caused by word meanings are in parallel.

The constant property sways between predication and modification in the language expression pattern. Its differences in different languages are mainly decided by whether the predication is coded as unmarked or the modification is coded as unmarked. Therefore, the prototype relevance in syntactic categories needs improving, as shown in the following Table 3.17.

3.2.4 Grammatical properties of Chinese property words

3.2.4.1 The main functions and grammatical properties of Chinese adjectives

Shen Jiaxuan (1997) thinks that it is an unmarked relevance when Chinese property adjectives function as attributes; when they function as predicates, it is a marked relevance. Thus, the main function of property adjectives is to be attributes, which is based on Croft's markedness theory and the following two groups of statistical data (see Table 3.18 and Table 3.19).

Shen Jiaxuan's statistics indicate two things, one of which is he treats "很[hěn](very)＋形(adjective)" as state adjectives and the other of which is he doesn't propose distinctive markedness.

Table 3.17 Prototype relevance of syntactic categories

syntactic category	*noun*	*adjective*	*verb*
semantic type	object	property	action
expression function	reference	predication/modification	predication

Table 3.18 Frequency of use of adjectives (Shen Jiaxuan)*

	property adjective						*state adjective*					
	in spoken language		*in written language*		*subtotal*		*in spoken language*		*in written language*		*subtotal*	
as attribute	88	74%	112	55%	200	62%	89	45%	88	50%	177	48%
as predicate	31	26%	92	45%	123	38%	108	55%	87	50%	195	52%
total	119		204		323		197		175		372	

* The percentages in spoken/written language are added later.

Table 3.19 Marked pattern of adjectives as attributes and predicates (Shen Jiaxuan)

	as attribute				*as predicate*			
	property adjective		*state adjective*		*property adjective*		*state adjective*	
	MD	*UMD*	*MD*	*UMD*	*MD*	*UMD*	*MD*	*UMD*
NT	79	121	138	39	87	36	44	151
P	40%	60%	78%	22%	71%	29%	23%	77%

(Note: NT = number of times; P = percentage; MD = marked; UMD = unmarked)

Regarding "很[hěn](very)＋形(adjective)" as a state word, his statistical data in Table 2–1 in *Modern Chinese Parts of Speech: Classification Theory* differs greatly from those in Mo Pengling's, Shan Qing's (1985) and He Yang's (1996) as well as those in this book.

From the comparison between Table 3.19 and Table 3.20, the results in Table 3.20 don't vary very much but quite differ from those in Table 3.19. The frequency of adjectives as attributes is just a little bit higher than that of adjectives as predicates. In different language styles, the number of times they are used as attributes in written language is much higher than the times they are used as predicates; the number of times they are used as predicates in spoken language is much higher than the times they are used as attributes. In Shen Jiaxuan's data for spoken language, his results are quite the opposite. This sharp difference might be influenced by a different corpus but is mainly due to Shen Jiaxuan's perception of "程度副词(degree adverb)＋性质形(property adjective)" as state adjectives. Actually, in modern Chinese, property adjectives require degree adverbs when functioning as predicates, which decreases the number of times they are predicates a lot.

Shen Jiaxuan's perception is mainly based on Zhu Dexi (1956). Zhu Dexi (1956) only explains the differences between the simple forms of adjectives and their complex forms in the positions of attribute, adverbial, predicate and complement, without dividing adjectives into two types. Besides, he has made a distinction between property adjectives and state adjectives. There are five situations for property adjectives.

1 monosyllabic adjectives in the overlapping form, such as "小小的[xiǎo xiǎo de](small)"
2 disyllabic adjectives in the overlapping form, such as "干干净净[gàn gān jìng jìng](neat and tidy)"
3 "冰凉[bīng liáng](cold), 通红[tōng hóng](very red), 稀烂[xī làn](pulpy)"
4 adjectives with suffixes, such as "黑乎乎[hēi hū hū](very dark), 灰不溜秋[huī bù liū qiū](grey)"
5 "f＋形容词(adjective)＋的[de](of)", such as "挺好的[tǐng hǎo de](good), 怪可怜的[guài kě lián de](pitiful), 很小的[hěn xiǎo de](tiny)"

Table 3.20 Function statistics of adjectives as attributes and predicates*

		attribute		*predicate*	
		NT	*P*	*NT*	*P*
Mo Penglin, Shan Qing		577	59%	400	41%
He Yang	in spoken language	108	27%	298	73%
	in written language	385	78%	107	22%
	subtotal	493	55%	405	45%
this book	in spoken language	46	36%	83	64%
	in written language	151	72%	60	28%
	subtotal	197	58%	143	42%

* The corpus in this book contains 20,000 Chinese characters, 10,000 of which are in written language and the other of which are in spoken language. The Chinese characters in spoken language are from the video conversation records of the teleplay "The stories of editorial department-flying stars", which contains 11,000 Chinese characters (6,672 words). The Chinese characters in written language are from two groups of materials. One is the first edition and a certain part of the second edition of the *People's Daily* from December 16th, 1995, with 11,000 Chinese characters (5,635 words). The other is the first part of the fourth chapter of *Children's Psychological World*, with 2,000 Chinese characters (1,042 words). To sum up, there are 13,000 Chinese characters (6,677 words) in written language. This table only shows the use of property adjectives. Here, the percentages = the sum of numbers of times property adjectives are attributes and predicates ÷ the number of times property adjectives are attributes or predicates.

The scope of "f+形容词(adjective)+的[de](of)" is much more narrow than Shen Jiaxuan's "程度副词(degree adverb)+形容词(adjective)", excluding "最[zuì](the most), 更[gèng](even more), 非常[fēi cháng](very), 十分[shí fēn](quite), 稍[shāo](a little), 格外[gé wài](especially), 特别[tè bié](particulary), 比较[bǐ jiào](relatively)" and "的[de](of)". The reason that "f+形(adjective)+的[de](of)" is regarded as a state adjective is that "的[de](of)" refers to "的[de]2(of 2)". This collocation can function as predicate and complement, equaling a state word, but "的[de]2(of 2)", in Zhu Dexi's grammar system is a suffix. Actually, according to Lu Jianming (1980), since "很[hěn](very)+形(adjective)+的[de](of)" can be neither a predicate freely nor a complement, "的[de](of)" is not supposed to be "的[de]2(of 2)". As a result, there are only a few left, such as "挺[tǐng](very), 怪[guài](very), 顶[dǐng](very), 满[mǎn](quite) and 蛮[mán](quite)".

Here comes another reason for not regarding most "程度副词(degree adverb)+形(adjective)" as state words. It is because quite a number of "程度副词(degree adverb)+形(adjective)" can be modified by "不[bù](not)", such as "不很好[bù hěn hǎo](not good), 不十分好[bù shí fèn hǎo](not quite well) and 不特别好[bù tè bié hǎo](not very good)"; however, state words cannot be modified by "不[bù](not)", such as "*不干干净净[bù gàn gān jìng jìng](not neat and tidy), *不冰凉[bù bīng liáng](not cool) and *不通红[bù tōng hóng](not very red)".

Therefore, if those adjectives in "程度副词(degree adverb)+形(adjective)" are re-considered as predicated, the frequency of adjectives as predicates will increase a lot.

Then, how to explain the situation where adjectives are often modified by degree adverbs, such as "很[hěn](very)" when functioning as predicates? It involves the sentence-completing restriction of Chinese predicates. According to Guo Rui (2015b), "sentence-completion" refers to the grounding satisfaction of predicates' timeliness, nouns' referentiality and adjectives' degree in realistic sentences. That is to say that timeliness is for realistic occurrence, referentiality for definite reference, indefinite reference and generic reference, and degree for different levels (higher, lower or comparative) in syntactic positions. As mentioned in the above, degree property words in Chinese are coded as predicates, and since adjectives possess degrees, they needs realising in realistic sentences. To be specific, the degrees of adjectives can be reflected in the following ways:

1 having degree constituents, such as degree adverbs, degree complements and "比[bǐ](compare to)" structure
2 in negative sentences, the degrees of adjectives are zero, but the adjectives can still be followed by non-degree constituents, such as "苹果不红[píng guǒ bù hóng](apple is not red)"
3 in interrogative sentences, the degrees of adjectives are indefinite, but they can still be followed by non-degree constituents because their degrees are questioned here, such as "苹果红吗? [píng guǒ hóng ma?](Is apple red?)"
4 without degree constituents, the degrees of adjectives indicate comparative meanings, such as "苹果甜，橘子酸[píng guǒ tián, jú zi suān](apple tastes sweet and orange tastes sour)"

   In addition, there is another form of sentence-completion whose function is the same as verb predicates.

5 having the aspect constituents for realisation, continuity and experience of states, such as "苹果红了[píng guǒ hóng le](the apple is becoming red)", "我饿着呢[wǒ è zhe ne](I am still hungry)" and "这里没干净过[zhè lǐ méi gān jìng guò] (this place has never been cleaned)". Actually, these aspect constituents are process marks. Guo Rui (1997b) thinks verbs in realistic sentences require process marks for the realisation of timeliness. Therefore, so to speak, adjectives as predicates can complete sentences with process marks, just like verbs.

In other words, the strong degree of predicate property words for comparative meanings becomes an unmarked use of predicates and elimination of comparative meanings needs marks. For example, to add "很[hěn](very)" is to realise a degree directly and further to eliminate the comparative meaning, which is interpreted as a weakened use of "很[hěn](very)". This phenomenon reflects the emphasis

on predicate property words in some languages, such as Chinese, Chiang and the A Mei language.

Here we come to the second thing indicated from Shen Jiaxuan's statistics: He doesn't propose distinctive markedness.

Base on Table 2.2 in *Modern Chinese Parts of Speech: Classification Theory*, Shen Jiaxuan (1997) thinks since property adjectives as attributes are mostly unmarked and as predicates are marked, adjectives as attributes are supposed to be unmarkedly relevant and as predicates they are supposed to be markedly relevant. However, this conclusion is not convincing.

In the investigation of adjectives as attributes and predicates when marked or unmarked, Shen Jiaxuan (1997) doesn't propose distinctive marks for different fields. For example, "是[shì](is), 的[de](of) and 不[bù](not)" are marks of predicates; "的[de](of)" is the mark of being attributes as well.[6] However, all marks have their own specific fields. That is to say that one constituent as the mark of a field doesn't mean the same thing in another field. "-s" in English is the mark of plural but not the mark for a definite reference or an indefinite one; "the" is the mark of a definite reference but not the mark for singular or plural; "not" is the negation mark but not the tense mark. In the following example (30), "the" is the mark of definite reference but not the mark for singular or plural; "not" is the negation mark but not the mark of the present tense for the verb form in the singular third pronoun.

(30) The man's cat does not catch more powerful birds than the man.
(31) The man is powerful.

When confirming a relevance mark in the syntactic category, it is necessary to abide by the field principle. In example (30), "more" is the mark for the superlative degree but not the modifying one, while "-ful" is indeed; "the" is the mark of definite reference but not the modifying one, while "'s" and "of" are indeed; "the" is not the referred mark, for there is no such a thing in this example; "not" is the mark of negation but not the one for predication, for there is no such mark here. In example (31), "-ful" is the modifying mark but not the mark for predication. Croft (1991) confirms the relevance mark in the same way: Neither "not" nor "-ful" is regarded as the mark for predication. Therefore, based on what is mentioned above, "不[bù](not)" is only the mark of negation instead of one for predication. In the example of "球是圆的[qiú shì yuán de](ball is round)", "是[shì](is)" is the mark for predication. "的[de](of)" in it is the modifying one whose function is similar to that of "-ful" in example (31). In other words, "的[de](of)" changes the predicative constituent "圆[yuán](round)" into the modifying constituent "圆的[yuán de](round)"; "是[shì](is)" changes the modifying constituent "圆的[yuán de](round)" into the predicative one "是圆的[shì yuán de](is round)". Therefore, it is not "是[shì](is)" that changes adjective into the declarative constituent.

According to what mentioned above, property adjectives don't have real relevance marks when functioning as predicates, while adjectives as

attributes do have "的[de](of)". When re-counted, the new data is as follows in Table 3.21:

Table 3.21 Marked pattern of property adjectives as attributes and predicates

		attribute		*predicate*	
		marked	*unmarked*	*marked*	*unmarked*
in spoken language	times	15	31	0	83
	percentage	33%	67%	0%	100%
in written language	times	45	106	0	60
	percentage	30%	70%	0%	100%

The adjectives that can function directly as attributes when unmarked are just a few core words. In the investigation of 20,000 Chinese characters, when functioning as a attribute, "大[dà](big)"appears 18 times, "小[xiǎo](small)" six times, "新[xīn](new)" 21 times and "老[lǎo](old)" three times. The number of times for these two pairs of core words functioning as attributes directly takes up 35% of all adjectives. With another two adjectives in written language, "优秀[yōu xiù](excellent)" and "重要[zhòng yào](important)", the number of times for these six adjectives takes up 50% of all adjectives. Thus, it can been seen that being attributes directly is not the common function of adjectives.

When functioning as predicates, property adjectives are unmarkedly relevant; when functioning as attributes, they are relevant both unmarkedly and markedly. In other words, all property adjectives possess the properties of predicates, and some of them have the properties of modifiers as well.

3.2.4.2 The reason for the high frequency of adjective as attribute in written language

The frequency of adjective as attribute is higher than that of adjective as predicate in written language. Actually, this phenomenon is mainly due to the fact that the total number of adjectives being attributes is much higher than the times they are predicates. Among the 13,000 Chinese characters of written language investigated in this book, 2,265 words function as attributes and 594 as predicates. Only 6.7% of attributes are served by property adjectives and only 10.1% of predicates by property adjectives. Based on the number of adjectives (2,265), the expected value[7] of adjectives being predicates in written language is supposed to be 229. It is far more than the real number of 60 and is also much higher than the number of times they are attributes (151 times). Therefore, this phenomenon is just a false one.

The frequency of adjective as attribute is higher than that of adjective as predicate in written language. If we are to investigate all attributes and predicates in both written and spoken languages in this way, the total number of attributes is 3,005, and the total number of predicates is 1,508. Property adjectives as attributes appear 197 times and as predicates 143 times. Based on the total number of attributes, the expected value

Table 3.22 Comparison of the expected values of property adjectives as attributes and predicates

	T	*A*		*P*		*A*	*P*	*P*	*EV*
		T	*Pe*	*T*	*Pe*	*T*	*T*	*T*	*Pe*
SL of MC	129	46	36%	83	64%	740	914	67	59%
WL of MC	211	151	72%	60	28%	2,265	594	229	60%
MC	340	197	58%	143	42%	3,005	1,508	285	59%

(Note: SL = in spoken language; WL = in written language; MC = the modern Chinese; T = total; Pe = percentage; A = attribute; P = predicate; EV = expected value)

of them being predicates is supposed to be 285 times. It is far more than the actual 143 times and much more than the 197 times of being attributes. That is to say, if the difference interferences in both written and spoken languages are eliminated, the competence of property adjectives as predicates is much stronger than that of being attributes. Based on the expected value of property adjectives as predicates, the competence comparison between being attributes and being predicates is re-shown in the following Table 3.22.

3.2.5 Classification of adjectives in modern Chinese

3.2.5.1 Classification strategy of Chinese property words

Based on Figure 3.2, the different methods of classification are as follows:

A. Hetero-type strategy

There is a correspondence between grammatical property and part of speech, based on which property words are classified into two categories. Category A includes type a and type c with the property of predicates; category B includes type b and type c with the property of modifiers. Type c is a conversional type.

B. Homo-type strategy

Any word with different grammatical properties can be classified into different categories, based on which property words are classified into three categories. Category A (a) only includes those with the property of predicates; category B (b) only includes those with the property of modifiers, and category C (c) includes those with the properties of both predicates and modifiers.

C. Priority to homo-type strategy

Priority is given to grammatical property. This strategy makes the part of speech correspond to the top-priority grammatical property. Due to the different grammatical properties, there are two categories.

1 Priority to property of predicates
Those with the property of predicates are classified into Category A (a, c); those only with the property of modifiers are classified into Category B (b).
2 Priority to property of modifiers
Those only with the property of predicates are classified into Category A (a); those with the property of modifiers are classified into Category B (b, c).

D. Combination strategy

It combines types of a, b and c into one category.

The evaluation of the above strategies is as follows: The advantage of strategy A is to establish the correspondence between part of speech and grammatical property. Since it classifies those with two grammatical properties into the conversional category, it cannot be adopted for those languages having a large number of words with both properties. Such words take up 25% of property words in Chinese, so it is inappropriate for this language.

Although these are no conversional words in the strategy B, it has two disadvantages. One is that it creates Category C, possessing the properties of both Category A and Category C; the other is that it lacks the correspondence between part of speech and grammatical property. Therefore, it is inappropriate to adopt such a strategy under any circumstances.

Strategy C doesn't have the conversional category, but it lacks the correspondence. Which of the grammatical properties is the top priority is decided by the status of grammatical property. The order for the status relationship is predicates >nominals>modifiers.[8] Strategy C1 fits in this order, so it is adoptable, while strategy C2 doesn't fit in this order so it is not adoptable. The order is very necessary for classification. Take Chinese as an example: Many predicates and nominals possess the property of modifiers. If this order is violated, these predicates and nominals may be classified into modifiers. For example, verbs such as "死[sǐ](die), 炒[chǎo](fry), 成立[chéng lì](establish) and 生产[shēng chǎn](produce)" may be classified into modifiers (distinctive words); the same is true for nouns with property of modifiers, such as "木头[mù tou](wood), 电视[diàn shì](TV), 社会[shè huì](society) and 煤气[méi qì](gas)". In this case, words that are more common may be classified into different categories, such as "死[sǐ](die)" and "吃[chī](eat)"; words that are less common may be classified into the same category, such as "死[sǐ](die)" and "大型[dà xíng](large-scale)".

Strategy D misses the big difference between the property of predicates and the property of modifiers, which produces a result in which words with different grammatical properties are classified into the same category. Therefore, it is not the best choice.

According to the above, strategies B, C2 and D can be eliminated due to their obvious disadvantages. Strategies A and C1 are optional. For Chinese, the number

of words having the properties of both predicates and modifiers is quite large, so strategy C1 is the best choice.

3.2.5.2 The differences between predicate property words and verbs

Can the property words of predicates be classified into verbs?

McCawley (1992) points out three reasons for such a classification:

1 Adjectives can directly modify nouns, but verbs cannot;
2 Adjectives can combine with degree constituents or comparative constituents more easily than with verbs;
3 Adjectives need copula when functioning as predicates, but verbs don't.

Here come more words for the first reason. The words in type a with only the property of predicates, such as "痛[tòng](hurt), 饿[è](hunger), 高兴[gāo xìng](happy), 和气[hé qì](kind), 稳当[wěn dang](stable) and 久[jiǔ](long)", have something in common with verbs indeed. However, besides the commonness among different parts of speech, they do have their own individualities. For example, although the words in the type, such as "结实[jié shí](solid), 和气[hé qì](kind), 稳当[wěn dang](stable), 久[jiǔ](long) and 稳[wěn](firm)", are similar to verbs in the predicative function, it doesn't mean they are the same as verbs. (1) Besides having degrees, the words in type a can not only be modified by degree adverbs but also be used in comparative structures. Verbs do not have such words. (2) Predicate property words fit in "绝对程度副词(pure degree adver)～", such as "很结实[hěn jié shi](very solid)", but don't fit in "程度副词(degree adverb)～宾语(object)" (*很[hěn](very)+结实[jié shi](solid)+宾语(object); verbs may not fit in ""绝对程度副词(pure degree adver)～", such as "*很来", or fit in "绝对程度副词(pure degree adver)～", such as "很喜欢猫[hěn xǐ huān māo](like cat very much)". (3) Since the words in type a have degrees, they require the degree constituents of expression for sentence-completion, such as a "很[hěn](very)" and "比[bǐ](compare to)" structure and a negative word, but verbs don't have such a need. (4) The overlapping form of the words in type a is AA (pronounced) and AABB. The overlapping form of verbs is AA (weakly pronounced) and ABAB. Therefore, it is inappropriate to classify the words in type a into verbs.

The difference (4) reflects their inside distinction, which proves their different parts of speech. However, this distinction is not universal because there still exist words without these overlapping forms. The difference (2) seems not to be obvious enough to reflect their inside distinction, but actually it does because it is very universal, as well as indicates their different characteristics in overlapping forms. Based on these two differences, words such as "大[dà](big), 红[hóng](red), 干净[gān jìng](clean) and 普通[pǔ tōng](common)" in type c have the properties of both predicates and modifiers, and words such as "痛[tòng](hurt), 饿[è](hunger), 高兴[gāo xìng](happy), 和气[hé qì](kind), 稳当[wěn dang](stable) and 久[jiǔ]

(long)" in type a with the property of predicates can be classified into one category, distinguished from verbs.

Here come more words for the second reason. The words in types a and b with property predicates can combine with degree constituents or comparative constituents more easily than with verbs. In fact, this combination fully proves the necessity of distinguishing adjectives from verbs.

Here come more words for the third reason: Adjectives need copula when functioning as predicates, but verbs don't. This reason only proves the words in the types a and b possess the property of predicates. Modifiers don't need copula in predication. Therefore, this reason is not strong enough to classify adjectives into verbs.

3.2.5.3 No adjectives in Chinese

Are there adjectives in Chinese? The answer to this question depends on the next three conditions. The first one is if there enough property words to differ from verbs in Chinese; the second one is if there are the words with the grammatical properties as same as those of "adjectives" in English; the third one is what the real properties of adjectives are.

In Chinese, there are predicate property words that are different from verbs. Besides, some modifier property words, such as "彩色[cǎi sè](colourful), 大型[dà xíng](large-scale) and 公共[gōng gòng](public)", can also be distinguished from verbs.

It is admitted that predicate property words in Chinese are different from adjectives in English. An "adjective" in English possesses the property of modifiers. Are there property words, similar to the "adjective" of English in property, such as "彩色[cǎi sè](colorful), 大型[dà xíng](large-scale) and 公共[gōng gòng](public)" as the modifier property words and "大[dà](big), 红[hóng](red), 干净[gān jìng](clean) and普通[pǔ tōng](common)" possessing the property of modifiers? McCawley (1992) thinks that these words are not similar to the "adjective" of English because they combine with the nouns they modify and change into a non-extensible compound (AN). This explanation is the most representative[9] compared with other scholars' about the non-existence of adjectives in Chinese. For example:

(32) a *他是一个很好人。[tā shì yī gè hěn hǎo rén](He is a good man.)
b *他是一个不好人。[tā shì yī gè bù hǎo rén](He isn't a good man.)
c *他是一个比你好人。[tā shì yī gè bǐ nǐ hǎo rén](He is better than you.)

It is not convincing to regard all AN without "的" as compound words. The reasons are as follows:

1 Non-extensibility cannot prove that the modifier-core case in Chinese is the compound word because the bound forms of modifiers are very universal in Chinese, such as property words as attributes and adverbials and nouns

as attributes. So “仔细看书[zǐ xì kàn shū](read books attentively)” is not a compound word. More examples are as follows:

(33) a *十根木头桌子[shí gēn mù tou zhuō zi](* ten pieces of wood table)
b *粗的木头/桌子[cū de mù tou/ zhuō zi](strong wood/table)

(34) a *很仔细看书[hěn zǐ xì kàn shū] (read books attentively)
b *比我仔细看书 [bǐ wǒ zǐ xì kàn shū](read books more attentively than me)
c *不仔细/看书[bù zǐ xì kàn shū](* not attentively/read books)

Based on what mentioned, when nouns, verbs and adjectives function directly as attributes, they possess the property of modifiers. According to the homo-type strategy, they are classified into nominals or predicates. Since the typical modifiers don’t have these functions, such as not being modified by the constituents of numeral-quantifier phrases but being modified by “不(not)” and adverbs, these nouns, verbs and adjectives don’t have these functions.

2 Two forms of AN. There are two combining forms of AN. One is with neither a clear semantic meaning nor competence of production, such as “大衣[dà yī](overcoat), 大象[dà xiàng](elephant), 大腿[dà tuǐ](thigh), 黄花[huáng huā](gold flower), 绿地[lǜ dì](green belt) and 白菜[bái cài](Chinese cabbage)”; the other is with both, such as “黄狗[huáng gǒu](yellow dog), 大狗[dà gǒu](big dog), 黄衣服[huáng yī fu](yellow cloth), 大船[dà chuán](big ship) and 新书[xīn shū](new books)”. Traditionally, the former is the compound word, and the latter is the phrase. If these two forms are regarded only as the compound word, the difference between the following two groups of examples cannot be explained.

(35) a 大黄狗[dà huáng gǒu](big yellow dog)
b 黄大衣[huáng dà yī](yellow overcoat)

(36) a 大鸡腿[dà jī tuǐ](big chicken leg)
b 鸡大腿[jī dà tuǐ](chicken thigh)

“大衣[dà yī](overcoat)” in example (35)b and “大腿[dà tuǐ](thigh)” in example (36)b are compound words which cannot be extended. For example, “大衣[dà yī](overcoat)” cannot be extended into “大黄衣[dà huáng yī](*over yellow coat)”. “大黄狗[dà huáng gǒu](big yellow dog)” in example (35)a and “大鸡腿[dà jī tuǐ](big chicken thigh)” in example (36)a are phrases. Although “A” in AN cannot be extended by an adverbial, AN can be extended. For example, “大狗[dà gǒu](big dog)” can be extended into “大黄狗[dà huáng gǒu](big yellow dog)”. “大鸡腿[dà jī tuǐ](big chicken thigh” is a combined phrase, so “大[dà](big)” appears before “鸡[jī](chicken)”; “大[dà](big)” in “鸡大腿[jī dà tuǐ](chicken thigh)” is a combining constituent, so it cannot appear before “鸡[jī](chicken)”. Therefore, AN is supposed to have both forms.

3 Again, if these two forms are regarded only as the compound word, many new compound words would appear, such as "白菜[bái cài](Chinese cabbage), 大衣[dà yī](overcoat), 大狗[dà gǒu](big dog), 新书[xīn shū](new books)，大黄狗[dà huáng gǒu](big yellow dog), 红方桌子[hóng fāng zhuō zi](red square table) 优秀老职工[yōu xiù lǎo zhí gōng](excellent old staff) and 干净长白衬衣[gān jìng cháng bái chèn yī](clean long white shirt)" in the combining forms of AN, AAN and AAAN. Theoretically, there is no end for such combination production, which cannot satisfy the finiteness of compound words.

Therefore, the form of AN with both a clear semantic meaning and competence of production is the phrase but not the compound word, in which "A" functions as an attribute.

Weak competence of production is another characteristic for AN as a compound word. With the increase of central words in AN, acceptance decreases gradually. For example:

(37) 一杯好酒[yī bēi hǎo jiǔ] (a glass of good wine)
一杯好啤酒[yī bēi hǎo pí jiǔ](a glass of good beer)
?一杯好葡萄酒[yī bēi hǎo pú táo jiǔ](a glass of good grape wine)
??一杯好绍兴黄酒[yī bēi hǎo shào xìng huáng jiǔ](a glass of good Shaoxing rice wine)

McCawley thinks if the phonetic form decides the acceptance of a constituent, it is the rules of word formation, instead of the syntactic rules, that restrict combination forms. Zhang Bojiang (1996) thinks that there exists phonetic restriction in Chinese syntactic structures. In other words, the increase of phonetic length decreases the acceptance of some structures. However, this phenomenon doesn't prove these structures are compound words. More examples are as follows:

(38) 洗完衣服[xǐ wán yī fu](wash these clothes)
?洗完这堆衣服[xǐ wán zhè duī yī fu](wash this pile of clothes)
?洗干净/衣服[xǐ gān jìng/ yī fu](wash clean/clothes)
??洗干净这堆衣服[xǐ gān jìng zhè duī yī fu](wash clean this pile of clothes)

(39) 百般辱骂[bǎi bān rǔ mà](shout all sorts of abuse)
*百般骂[bǎi bān mà]

(40) *重学习一遍[chóng xué xí yī biàn](learn it again)
重学一遍[chóng xué yī biàn](learn it again)

The influence of phonetic element on syntactic structure is very common in Chinese, but it doesn't mean all combinations influenced by phonetic elements are compound words.

Of course, in order to correspond to adjectives in the Amsterdam model, it is feasible to classify the words in type b into adjectives, but it is still necessary to distinguish them from those with the property of predicates in types a and c, named as "Jing Ci (adjectives)" in *Ma Shi Wen Tong*. "Jing Ci (adjectives)" is

opposite to verbs with the property of predicates. Actually, this classification is not essentially different from the one mentioned before in the book; it just has different names for the same parts of speech.

Therefore, the combinations of property words and the nouns they modified are not compound words. These property words include modifier property words, such as "彩色[cǎi sè](colourful), 大型[dà xíng](large-scale) and 公共[gōng gòng](public)", and the property words having the property of modifiers, such as "大[dà](big), 红[hóng](red), 干净[gān jìng](clean) and 普通[pǔ tōng](common)". In Chinese, there exist property words quite equal to adjectives in English in terms of grammatical property.

What are the real properties of adjectives? It is about names of parts of speech. In order to correspond to adjectives in the Amsterdam model, it is feasible to classify the words in type b into adjectives, but it is still necessary to distinguish them from those with the property of predicates in types a and c. There are two ways to name them. One way is that the words in type a that only possess the property of predicates are named as "Jing Ci" (Ma Shi Wen Tong) or other titles; the words in type c are named the conversional words of adjectives and "Jing Ci", or descriptive words. The other way is that the words in type a are named adjectives, the words in type b as distinctive words and the words in type c as the conversional words of adjectives and distinctive words or just as adjectives. The first way gives consideration to consistency between type b and adjectives with a modifier property but ignores their differences in other aspects. What's more, it only changes the names for the same parts of speech, not essentially from another classification mentioned before in this book. The differences in other aspects are as follows:

1 The words of type b only functioning as attributes are actually non-core members of property words. Their core ones are in type c, such as "大[dà](big), 小[xiǎo](small), 红[hóng](red), 白[bái](white), 黑[hēi](black), 好[hǎo](good), 坏[huài](bad), 新[xīn](new), 旧[jiù](old) and老[lǎo](old)". In that case, those named adjectives in Chinese are not the core members of adjectives in other languages, which destroys the vocabulary correspondence of adjectives in different languages.
2 Compared with the adjectives of Indo-European languages, the words in type b are different in morphology and syntax. The adjectives in English, German and Italian have different degrees, such as the comparative degree and the superlative degree. They can not only be modified freely by degree adverbials but also function as predicatives when added to copulas. The words in type b don't have degrees. They can neither be modified by degree adverbials nor function as predicatives with copulas. Therefore, although named as "adjectives", they possess quite different syntactic and morphologic characteristics.

From the typology perspective, despite the big divergences in grammatical properties, the core property words of different languages should share commonalities in their morphologic and semantic characteristics, such as degree difference, inflection and syntactic form. Then, the second way seems to be more proper than naming types a and c adjectives and the words in type b distinctive words.

In fact, in some languages, especially in Indo-European languages, core property words are usually coded as modifiers. For more languages, they are often coded as predicates or the conversional words of predicates and modifiers. Therefore, it is appropriate to name core property words with a unified title. Here, those differences in the syntactic and morphologic characteristics that are supposed to exist in adjectives of different languages for such a phenomenon are also very common in nouns and verbs. In other words, the name "adjective" doesn't only refer to the adjectives of Indo-European languages, such as English, so "adjective" doesn't have to possess the property of modifiers.

Dixon (2004: 44) proposes three standards of classifying adjectives.

1 Adjectives are different from verbs and nouns in grammar
2 Adjectives should contain some or all typical semantic types of adjectives, such as 维度[wéi dù](dimension), 年龄[nián líng](age), 价值[jià zhí](value) and 颜色[yán sè](colour)等
3 Adjectives should have the functions of being intransitive predicates and/or copula complements as well as modifying noun phrases

Based on the above standards, it is appropriate to classify types a and b into adjectives. On one side, they have grammatical functions that are different from those of nouns and verbs; on the other side, they have typical semantic types, functioning as predicates and attributes. Although type b fits in the first and the third standards, it doesn't fit in the second one. Its words don't have typical semantic types. What's more, they are mainly non-core members. In a word, it is inappropriate to classify type b into adjectives.

Based on the different classification strategies, the words in type c can be classified differently. For example, they can be classified into the conversional category of adjectives and distinctive words by the hetero-type strategy, or they can be only classified into adjectives by the homo-type strategy. At present, the second classifying way is commonly adopted.

3.2.6 Summary

From the typology perspective, adjectives are characterised by their unstable grammatical functions, which results in big divergences in identifying and classifying their properties compared with nouns and verbs. Generally speaking, the grammatical property of property words sways between the properties of modifiers and predicates. In Chinese, it is in the middle, which is the basis of classifying Chinese property words. Predicate property words of Chinese have syntactic and morphological characteristics that are quite different from those of verbs, so they cannot be classified into verbs. The modifier property words of Chinese cannot be defined as adjectives due to the big different syntactic and morphologic characteristics from adjectives'. Therefore, predicate property words are named adjectives and modifier property words are named distinctive words in Chinese.

Some state words, such as "雪白[xuě bái](snow-white), 干干净净[gān gān jìng jìng](clean and tidy) and 糊里糊涂[hú lǐ hú tu](confused in one's thinking)" are

very similar to adjectives, but actually, they are just the quantisation of adjectives. The classification of state words is worth discussing but not here due to the chapter length. There is just one thing to mention. Quantisation of adjectives is a kind of word formation instead of a configuration or syntactic phenomenon. It is greatly different from adjectives in terms of syntactic characteristics. Therefore, they are supposed to be classified as an independent category.

Part of speech is not only closely related to the word distribution but also corresponding to the semantic type. Such a correspondence is based on human cognition, also reflecting the commonness of grammar codes among different semantic types.

Notes

1 A detailed introduction to the Amsterdam model of systems of parts of speech is offered by Wan Quan and Shen Jiaxuan (2010).
2 Some data is not included in the figure due to limited space, such as "predicate-nominal-adverb" (18) and "nominal-adverb" (17).
3 AtP = attribute phrase; At = the core of attribute phrase or the attribute mark "的". GP refers to gerundial phrase, whose function is equal to that of noun phrase, so it can be regarded as an NP.
4 That "the inclusive pattern of noun-verb" is not convincing can be explained from another aspect: If the conclusion of Chinese nouns possessing verbal properties could be drawn from the fact that many nouns in Chinese can function as predicates, it is contradictory to another conclusion of Chinese verbs possessing nominal properties because of their functioning as subjects and objects.
5 Adjectives in ancient Greek language can function as predicates directly, being classified into the category of verbs.
6 For Shen Congwen, 的2 and 的3 are the same.
7 The calculation formula of the expected value is: The expected value = the total comparable data × (actual times / actual total). So here, the expected value = the total adjectives (2,265) × (actual 60 times of being predicates/the total number of predicates (594). In other words, if the total number of adjectives as predicates is equal to that of adjectives as attributes, the number of times property adjectives are predicates is supposed to be "the expected value", according to probability of adjectives as predicates.
8 In this order, that which goes first is decided by the final grammatical property of their combination. For example, the combination of predicate constituents and nominal constituents possesses the property of predicates, so this property goes first; the combination of nominal constituents and modifier constituents possesses the property of nominals, so this goes first; the combination of predicate constituents and modifier constituents possesses the property of predicates, so it still goes first.
9 McCawley (1992) proposes another two reasons: One is that verbs can combine with objects directly but adjectives cannot, except for when they are connected by a preposition; the other one is that verbs can accept three arguments, but adjectives can accept two at most. Usually, they accept only one. These two characteristics are not obvious enough to differ verbs from adjectives because both of them have exceptions. For example, some intransitive verbs cannot combine with objects; most of verbs only contain one or two arguments instead of three. Therefore, these characteristics are supposed to be the summary after identifying the distinction between verbs and adjectives, but not a criterion for their differences.

4 Conclusion

4.1 The explanation of the system of parts of speech in this book

There are 20 basic categories in the system of parts of speech, among which 19 categories are conventional and only one is special. The special category refers to pronouns, which are actually not at the same level as conventional ones. Among the conventional categories, there is one category of interjections that are used alone, four categories of function words and 14 categories of notional words. Except for onomatopoetic words due to an insufficient understanding, a simple and clear pattern of relationship among the remaining 13 categories of notional words is shown in the following.

nominals (5 categories) —— predicates (3 categories)
(at the first level)
| |
nominal modifiers (4 categories) —— predicate modifiers (1 category)
(at the second level)

This pattern indicates two aspects in the system of parts of speech. One is that this pattern shows the relationship among different parts of speech. The combination of nominals and predicates forms the foundation of expressive structures in language expression. Here, nominals include nouns, time words, locatives, locational words and quantifiers; predicates include verbs, adjectives and state words. Nominal modifiers are those that limit or modify nominals, such as distinctive words, numerals, numeral-quantifier phrases and demonstratives; predicate modifiers are those that limit or modify predicates, such as adverbs. The other is that the degree of similarity among words is clearly shown. Many scholars consider nominals and predicates as two ends with modifiers in the middle, such as distinctive words. Differently in this book, among these four big categories, the degree of similarity between nominals and predicates is the largest; that is to say, they share more characteristics in common, compared with those shared between the other two categories. For example, both nominals and predicates can function as

subjects and objects (in the situation of non-transferred referents); some nouns, just like predicates, can function as predicates; some predicates can be modified by attributes, like nominals; some nominals can be modified by adverbs, like predicates. All these common characteristics are not shared by the other two categories. As clearly shown in the system of parts of speech with the different levels in this book, nominals and predicates are classified into a bigger category of kernel words, which is opposite to the category of modifiers at the same level. Therefore, it is not proper to think that distinctive words and adjectives are listed between nouns and verbs.

In this book, the parts of speech in modern Chinese are classified into 20 basic categories in detail, different from the other classifications, which have 11 or 13 categories. The reason for such a detailed classification is that parts of speech are intentionally regarded as a general reference system in this research.

This system is characterised by two features. One is simpleness, and the other is universalness.[1] Simpleness means that this system can overall reflect the relationship among the objects of this research. Even though it is established based on a few characteristics, it can indicate many other characteristics or relationships. The feature of simpleness is obvious. For example, adjectives are classified by two functions of "很[hěn] (very) [不[bù] (not)] ～" and "*很[hěn] (very)[不[bù] (not)]～宾(object)", based on which the other functions of an adjective can also be ensured, such as being modified by "不(not)", functioning as a predicate, being followed by a complement and possibly functioning as attribute, complement and adverbial. Universalness means it is not for a special purpose. However, in the past, universalness didn't attract enough attention, resulting in rough classifications.

Because of these two features, especially universalness, classification of parts of speech demands to be more detailed to satisfy different requirements in various fields. Otherwise, many minor differences of parts of speech couldn't be reflected, which would reduce the simpleness as well. The detailed classification might be complicated sometimes, but it can be simplified or combined as needed. The rough classification makes it impossible or more difficult to be subclassified further as required.

The general reference system is not for a special purpose, but sometimes, it can be used in this way or adapted as needed. For example, some secondary parts of speech can be omitted in grammar teaching for students in primary or middle school; the hetero-type strategy can be adopted to classify conversional words in the grammatical system for information processing, such as nominal verbs as conversional words of nouns and verbs. The detailed classification might be difficult to remember or control sometimes, but with the help of different levels of classification based on degrees of similarity among parts of speech, this classification would be easy to handle. In fact, these levels can really make the classification overall reflect the characteristics of relationship among words and further show similarity in grammatical property and the whole structure of parts of speech as well. There needs a criterion to make these levels classified correctly, that is to say, certain principles need to be followed to decide which grammatical functions can be chosen as the criteria of classifying different levels.

4.2 The intricate relationship between word distribution and parts of speech

The statistical research on parts of speech further proves the fact that the relationship between word distribution and parts of speech is very intricate. Word distribution will be influenced not only by expressive functions but also by others, such as syllable number, word formation, word meaning and pragmatic factors. Word frequency is significantly related with some grammatical functions of parts of speech. Usually, the number of words with non-professional functions (non-prototype relevance) is positively related to word frequency. The analyses of distribution of parts of speech based on the data corpus also prove the intricate relationship between word distribution and parts of speech. However, the statistical research on functions of parts of speech and distribution of parts of speech based on the data corpus also shows that the predominant functions of parts of speech are very significant, which further proves the existence of prototype relevance between parts of speech and syntactic constituents is quite reasonable.

4.3 "Flexibleness" and "rigidness" of the system of parts of speech in modern Chinese

The system of parts of speech in modern Chinese is characterised by its "flexibleness" and "rigidness", according to the Amsterdam model in typology of part of speech. The "flexibleness" of Chinese is reflected in the weak differentiation between properties of distinctive words and nominals or predicates, which means there is a lack of independent distinctive modifiers in Chinese; "rigidness" is reflected in the strong differentiation between predicates and nominals in Chinese. How to define "flexible" words is difficult in classifying parts of speech, in which both the distinction and relationship between nouns and verbs are most controversal. The verbs with the nominal property only take up 23% of verbs. For those verbs functioning as common subjects and objects, they cannot be regarded as having the nominal property because they still keep their basic verbal characteristics, such as being modified by "不[bù] (not)" and adverbials, or possessing their objects and subjects. Therefore, no matter what Gao Mingkai said about no difference of part of speech among notional words in Chinese or what Shen Jiaxuan said about the inclusive model of noun-verb, their viewpoints are not convincing enough to support real facts in Chinese.

On one side, part of speech is very closed to word distribution, and on the other side, it has a regular correspondence with semantic category. Such a correspondence reflects the universality of grammatical codes in different semantic categories as a cognitive basis among people. Entity tends to be coded as a reference (nominals); temporary property tends to be coded as a predication (verbs); permanent property tends to be coded as a predication (adjectives) or as a modification (distinctive words). In Chinese, a permanent property of degree is coded as a predicate (adjectives); a permanent property of a non-degree is coded as a modifier (distinctive words). In English, no matter whether the permanent property

has a degree or not, it can be coded as a modifier, which is a difference between Chinese adjectives and English adjectives.

4.4 The characteristics of parts of speech in modern Chinese

1 A generalisation word may have different parts of speech, which is very common.
2 It is not exclusive to classify parts of speech based on syntactic constituents, for the transformation of parts of speech without tagging is very common at the syntactic level. The first two characteristics result in the phenomenon of multi-functions of words in modern Chinese.
3 Adjectives are classified as predicates.
4 The detailed classification of parts of speech in modern Chinese indicates that the grammatical positions at the level of sentence structure in modern Chinese are also classified in detail. For example, words such as quantifiers, locatives, locational words, numeral-quantifier phrases and modal particles can be classified into different categories, for they have their own special grammatical positions.

Note

1 In natural science, the classification of elements and the classification of biological pedigrees are regarded as the general reference systems.

Postscript to the Chinese edition

This book is the revision of my doctoral thesis "The Study on Parts of Speech of Modern Chinese" (1999). The revision mainly involves two aspects: One is the about adjusting the writing and chapter arrangement; the other is about adding and supplementing the content. The original fifth chapter was deleted, including "property and classification of adjectives" and "issues on transformation of parts of speech". Two sections were added, entitled "an overview of studies of Chinese parts of speech (1.3)" and "parsing of words (2.1)"; some supplements were included, entitled "paradox on distribution as essence (4.1)" and "how to classify parts of speech based on word distribution (Chapter 6)". Mr. Huang Changning and Mr. Xing Fuyi as reviewers put forward their suggestions after the manuscript was sent to Commercial Press; based on these, I revised this book further.

I started my study on Chinese parts of speech in 1986, when I was a member of a key research project called "the study on parts of speech of modern Chinese" in the seventh five-year Plan of the National Social Science of China undertaken by Mr. Zhu Dexin and Mr. Lu Jianming. At that time, the basic concept of parts of speech was mainly based on grammatical distribution, which was actually rather subjective for classifying parts of speech before identifying the criteria of classification. In order to avoid subjectivity, I intended to observe the distribution characteristics of words before naming their parts of speech and then to identify their parts of speech based on their distribution differences. Chen Xiaohe, as a doctoral student of Mr. Zhu Dexi and another member of this project as well, consulted Mr. Zhu with me about this idea, and we were told to try. I planned to observe the distribution of 100 words and then marked their competence in more than 30 grammatical functions with "+" and "-" in the table I designed, such as "subject, object, predicate, complement, attribute, adverbial, attribute～, adverbial～, 不[bù] (not)～，很[hěn] (very)～". We were blindly optimistic to believe that we could make a quite objective classification of parts of speech based on such a strict method. However, we gradually realised their distributions were too disordered to find the words with the same distribution characteristics soon after a small-sized test. Actually, this method seemed not to be useful, even for those traditional parts of speech, such as nouns, verbs, adjectives and so on. Definitely, we had to find another way. Later, Chen Xiaohe (1998) changed his research method. He gave up classifying some traditional parts of speech, such as nouns, verbs and adjectives,

and began to classify parts of speech only based on 13 syntactic constituents, which resulted in more than 1,000 categories, for only a minor difference of grammatical function would decide a different one. Yuan Yulin (1995), one of my schoolmates in Peking University, often talked with me in the Linguistic Salon. He kept the view that the classification of parts of speech was based on similarity of word distribution. My way might be between the methods of these two persons, more conventional than Chen Xiaohe's but more innovative than Yuan Shulin's. Besides keeping on classifying some traditional parts of speech, such as nouns, verbs and adjectives, I give up the view based on word distribution and propose that the essence of parts of speech is expressive functions, and distribution is just the external reflective form of parts of speech.

Frankly speaking, my way originated from the theories of reference and predication by Zhu Dexi, and I developed them further: Besides the expressive functions of referent and predication, I propose to add another two functions of modifying and limiting and take expressive functions as the essence of parts of speech. The ideas in my proposal could be dated from 1989, when I put forward a pattern of three functions (reference, statement and modifying) at the forum of the Youth Linguistic Association by the Department of Chinese Language and Literature of Peking University. In the second academic seminar of Modern Chinese Grammar held by East China Normal University in Shanghai in 1990, I submitted the article "Discussion on Category System of Parts of Speech", proposing a pattern of five functions, in terms of reference, predication, modifying, limiting and interjection. In 1991, I pointed out the problems caused by the view of parts of speech based on word distribution and further proposed another one based on expressive functions in a report of more than 40,000 Chinese characters to Mr. Zhu Dexi, who was in America and busy with the report on the project of "the study on parts of speech of modern Chinese" in the seventh five-year Plan of the National Social Science of China. In his reply, Mr. Zhu told me that the view I had proposed was very inspiring for solving the problems in the study of Chinese parts of speech. In the third seminar of National Modern Linguistics held in Beijing, I submitted the article "Some Theoretical Issues on Classification of Chinese Parts of Speech", which mentioned that besides expressive functions as essence of parts of speech, the compatibility of grammatical functions could also be depended on to classify parts of speech. Therefore, the main idea of this book was formed as early as 1993, but it was not published until 2002, for the sake of more careful overall consideration.

Until now, I have spent 16 years studying parts of speech, since 1986. Mr. Zhu once said that one should devote their life to pursuing what he really loves. Therefore, I have devoted half my time to the study of parts of speech, if an academic life could be counted as lasting 40 years. Even so, I am not very sure that this book could make a great improvement on the study of parts of speech, and I do hope the methods and materials in this book could be useful references for future researchers.

Mr. Xing Fuyi once said that more time, efforts and researchers were needed to continue this study from different points of view after reviewing my manuscript.

However, as my first published book in middle age, I cherished it just like a newborn baby. Therefore, I sincerely expect more discussions and suggestions to perfect this book.

At the time of publishing, I would like to offer my gratitude to Mr. Zhu Dexi as my respected teacher and Mr. Lu Jianming as my tutor, both of whom introduced me to the study of parts of speech. This book benefited a lot from them, such as the ideas inspired by them and the grammatical material of more than 40,000 Chinese characters chosen by them as well. In writing this book, I often recalled the discussions with them in Beijing during the past ten years.

I would like to offer my thanks to those professors and friends, such as Prof. Yu Shiwen, Prof. Zhu Xuefeng and Zhang Yunyun, Wang Hui, Guo Tao and so on. Without their help and cooperation, this book could not have been finished.

I would like to offer my thanks to my schoolmates, such as Wang Hongjun, Cui Xiliang, Fang Mei, Zhang Mei, Chen Baoya, Shen Yang, Yuan Shulin, Chen Xiaohe, Zhang Bojiang, Liu Danqing, Shao Yongmei, Xiang Mengbing, Zhang Meng, Tan Jingchun, Qi Shuzhi, Xu Jie and so on. The discussions with them expanded my ideas and deepened my thoughts. And many thanks to Mr. Song Rong for his generous supply of the word frequency tables. Without them, the statistical research could not have been completed.

I would like to offer my thanks to Prof. Huang Changning and Prof. Xing Fuyi as my reviewers and Mr. Xu Shu and Mr. Zhao Jinming as committee members in my oral defence, for their suggestions improved my thesis further.

I would like to offer my thanks to Mr. Zhou Hongbo for his efforts in publishing this book and Ms. He Wanping for her patience in proofreading my manuscript.

At last, I would like to use this book to comfort the departed souls of Mr. Zhu Dexi, Mr. Ye Feisheng and Mr. Shi Anshi and as an eternal memory for them.

Guo Rui
Written at Dang Zai Island in Macao on June 10, 2002

Postscript to the Chinese revised edition

It has been more than 15 years since *The Studies on Parts of Speech in Modern Chinese* was published in 2002. During this period, the academic discussions on parts of speech have not been interrupted, and my new ideas are also added in. Thus, the revision of this book includes rectifying some careless omissions as well as supplementing some new contents.

"System of Parts of Speech in Modern Chinese from the Perspective of Typology of Parts of Speech", as the newly added Chapter 3, is added to emphasise several sections in different chapters, such as the parsing of words in Chapter 2, discussions on the essence of word distribution in Chapter 4, strategies of classification and multi-functional phenomenon of parts of speech in modern Chinese in Chapter 7 and descriptions of parts of speech in Chapter 1.

The study on parts of speech is considered as a difficult issue in Chinese grammar. I hope, with my best efforts, that the revision will promote this study further. Any criticism for this revision is sincerely welcomed for the purpose of perfecting this book.

Guo Rui
Written at Wu Dao Kou in Beijing on November 18, 2017

Appendix

Revisions of part-of-speech tagging by the sixth edition of *The Dictionary of Modern Chinese*

The sixth edition of the *Dictionary of Modern Chinese* (hereinafter referred to as the *Dictionary*) has made some adjustments and revisions in many respects. This article discusses the gains and losses of the part-of-speech tagging revision.

I. The improvements made by the sixth edition of the *Dictionary* in the area of part-of-speech revision

The revisions made by the sixth edition of the *Dictionary* in the area of part-of-speech tagging are as follows:

1. Changing part-of-speech labels

For example, "inexpensive" is tagged as noun in the fifth edition of the *Dictionary*, but it mainly functions as a predicate or an attributive and can be modified by a degree adverb; therefore, the sixth edition changes it into adjective. "Brazen" is tagged as adjective in the fifth edition, but grammatically it functions as an adverbial and it can neither function as a predicate nor be modified by a degree adverb; the sixth edition changes its tag into an adverb.

2. Adding part-of-speech labels

The sixth edition of the *Dictionary* supplements new senses according to actual use and adds part-of-speech labels accordingly. For example, in the fifth edition, "balance" is tagged only as adjective; the sixth edition adds one sense "make balanced", for example, balance the interests of various parties, thus tagging it as verb. In the fifth edition, "fail" is tagged only as verb; the sixth edition adds the sense "the outcome of a thing is not satisfactory", for example, this activity is organised in a "too failed" way; therefore, it is tagged as adjective. In the fifth edition, "mark" is tagged as noun; the sixth edition adds the sense "mark a sign, make a mark", for example, "Mark a tour route on the map"; therefore, it is tagged as verb.

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3. Reducing part-of-speech labels

The part-of-speech tagging of some words in the fifth edition of the *Dictionary* does not consider the identity principle and divides into different parts of speech the different functions of the same sense; the sixth edition changes this. For example, the fifth edition tags "drivel" as: (1) verb, meaning talk nonsense; (2) noun, meaning a groundless or nonsensical utterance, for example, This is a sheer nonsense, and you need not pay attention to it (see pp. 575 in the fifth edition). In fact, many verbs can function as the objects of "pure, be, belong to, equal to" and so on. For example, *this is a swindle; doing this equals to resignation; this purely belongs to a rumor*. Therefore, Sense 2 virtually does not exist, and the noun tag should be cancelled.

In the fifth edition, "absolute sincerity" has two senses: "(1) adjective, meaning single-hearted, for example, treat each other with absolute sincerity; (2) noun, meaning an extremely sincere feeling, e.g. absolute sincerity (pp. 185 in the fifth edition). We know that in the position of "a scene of ～" may appear a state word or adjective, e.g. a scene of brown, a sheet of snow-white, a scene of desolation, a scene of quietness. It is legitimate for the "absolutely sincere" as an adjective to be placed in the position of "a scene of ～"; this does not mean that it has become a noun. It is reasonable for the sixth edition to delete its sense as a noun.

Among this type of revision, some are systematic. The fifth edition not only tags verbs related to athletic sports items such as "skate, ski, swim" as verb but also tags them as a noun; the sixth edition deletes their noun tag. This is reasonable because a considerable number of Chinese double-syllable verbs make some of them have the properties of a noun, thus being able to function as a subject or an object and be modified by attributive, e.g. "research, study, examine, manage" and others, which Zhu Dexi (1985) called nominal verbs. The treatment of these words as conversional words that function as a verb and a noun may definitely bring about too many conversional words. It is advisable for a language dictionary to treat them as conversional words.

4. Adding part-of-speech tags if no tags were used previously

Under three circumstances, the *Dictionary* does not tag parts of speech: (1) a constituent that is not a word; (2) phrase; and (3) not knowing the properties of a part of speech. For example, the fifth edition does not tag the part of speech of "chu'er (雏儿)", meaning "nestling" in English. This may be because it is not a word; nevertheless, when "nestling" means "a little bird", it can be used as a word, though not often. Therefore, the sixth edition tags it as noun. The fifth edition does not tag the part of speech of "buguoyi(不过意)", meaning "apologetic"; this may be because the fifth edition thinks that it is a phrase and that it should be regarded as a word as a whole. The sixth edition tags it as verb. The fifth edition does not tag the part of speech of "amen" maybe because it thinks that the part-of-speech properties of the word are not clear, but the sixth edition tags it as interjection

word. Starting from the perspective that it always forms a sentence independently, this is appropriate.

5. Delete the already-existing part-of-speech tagging

For example, the fifth edition tags as noun "hegemony (3), meaning hegemonism, e.g., anti-imperialism and anti-hegemonism", but in this sense, it does not form a word; the sixth edition deletes its part-of-speech tagging.

For another example, the fifth edition has "sister-in-law, noun, (1), meaning elder brother's wife, e.g., wife of an elder cousin; (2) a form of address for a married young woman, e.g., Sister Wang, elder sister (pp. 1178 in the fifth edition). The edition obviously tags both senses as noun; the sixth edition changes them into "sister-in-law (1), noun, meaning elder brother's wife, e.g., wife of an elder cousin; (2) a form of address for a married woman almost as old as oneself, e.g. Sister Wang; (3) a form of respectful address for the wife of an army-man or policeman, e.g. military sister, police sister (pp 1122 in the sixth edition). As we can see, the sixth edition adds a sense but does not tag the parts of speech of the second and third senses, indicating that it is not a word.

The above revisions are all correct. But this type of tagging in the sixth edition of the *Dictionary* still has some room for further improvement. The problems are three-fold: (1) some revisions of the part-of-speech tagging in the sixth edition are not reasonable; (2) the sixth edition still has some inconsistencies in the revision of the part-of-speech tagging; and (3) the problems existing in the fifth edition still exist in the sixth edition. Their respective discussions are as follows:

II. Inappropriately adding part-of-speech tagging

The fifth edition of the *Dictionary* does not tag the parts of speech of "unreasonable, shameless, unserious", but the sixth edition tags them as adjectives. In fact, "reasonable, sense of shame, serious" all can form words independently; simply because these adjectives denote the meaning of a low degree of property, they are usually used in a negative or interrogative sentence: for example, "Is this reasonable?" "Are you shameless or not?" "Does it matter?" Therefore, "unreasonable, shameless, unserious" should be regarded as phrases, and there is no need to tag their parts of speech.

III. Inconsistency in treating conversional words that function as verbs and nouns

The fifth edition tags "change" as verb; the sixth edition tags it as a verb and a noun. Whether a verb functions concurrently as noun or not depends on two scenarios: (1) whether the verb has the properties of a noun or not; (2) whether the nominal use of the verb has the transferred reference meaning or not. Whether a verb has the properties of a noun or not mainly depends on two criteria (Guo Rui, 2002: 38–39):

1 Whether or not it is functioning as the object of a verb that takes a quasi-predicate object. The verbs that take quasi-predicate objects include "conduct, carry out, inflict, cause, exert, do, have"; their objects have the properties of a noun, for example, the "research" in "conduct research"; they cannot take object, adverbial and so on and lose the basic grammatical functions of a verb. However, "go, cry, like" can function as subject or object but can still take an object in the position of subject or object, for example, *Going to school is obligatory*, an adverbial, for example, *Immediately going is obligatory*, and a subject, for example, *You going is the most appropriate*. They still have the basic grammatical functions of a verb, and we cannot think that they have the properties of a noun.
2 Whether or not they are able to be modified by an attributive that does not take "de". For example, the "research, treatment, management, victory" in "historical research, reinforcing treatment, routine management, great victory" all have the properties of a noun.

Words that have the properties of a noun should not necessarily be treated as concurrent nouns because too many verbs concurrently have the properties of a noun. Only when a word's noun meaning is a transferred reference meaning should it be treated as a concurrent noun; a word that has a self-reference meaning should not be. For example, although "research, treatment, victory" have their properties of a noun, their lexical meanings when used as nouns are the self-reference meaning of a verb, namely the actions themselves. Therefore, they are not treated as a verb that functions concurrently as a noun. But "leader, editor, director", which obviously have transferred reference meanings, should be treated as concurrent nouns. Words such as "notification, requirement, harvest, subsidy, suggestion, exercise" have their action or content meanings, and words such as "discrimination, tendency, hatred, foundation, disease, dream" have their meanings of behaviour, actions, origin, outcome and proof; it is not easy to determine whether they have self-reference or transferred reference meanings. According to Guo Rui (2002: 38–39), these two types of words should be regarded as having transferred reference meanings. In fact, the fifth and sixth editions of the *Dictionary* also tag these words as conversional words that function as verbs and nouns.

"Change" can function as the object of a verb that takes a quasi-predicate object (have change, bring about change) and be modified by an attributive that does not take "de" (physiology change, great change); therefore, it has the properties of a noun. But it is hard to determine whether the nominal use of "change" has self-reference meaning or transferred reference meaning. However, it is acceptable to count it as the transferred reference meaning that shows origin, outcome or proof. Therefore, it should not be problematic to tag "change" as a conversional word that functions concurrently as a verb and a noun.

But the *Dictionary* is inconsistent in treating this issue; similar to the situation for "change", it tags "discover, contact" only as verb. The fifth edition tags "represent, express" as the conversional word that functions concurrently as a verb and a noun; instead, the sixth edition deletes the noun tag. For consistency as a whole,

we suggest that words such as "discover, contact, represent, express" should also be tagged as conversional words that function concurrently as a verb and a noun.

IV. The sixth edition still has the problems existing in the fifth edition

1. Whether something is a word or not

Whether a constituent is a word or not has something to do with its historical hierarchy. In fact, modern Chinese is not a homogeneous system but a mixture that has different historical levels (Guo Rui, 1999). For example, "country" is a noun in modern colloquial Chinese, but "state" is a noun in classical Chinese. The constituents at two historical levels can appear in modern Chinese, especially written Chinese. For example, the "state" in "properly dealing with the relationship among states in line with the five principles of peaceful coexistence" is a noun in classical Chinese. The *Dictionary* does not deal with the historical-level issue in a uniform way. Taking nouns as an example, some constituents are nouns in classical Chinese but not words in modern colloquial Chinese. But the *Dictionary* tags them as nouns, for example, "quantou[1](拳头), noun, meaning fist, e.g., clench fists with both hands, punch and kick" (pp. 1078 in the sixth edition). In fact, the "quan (拳), meaning fist", as a noun, is not a word in modern colloquial Chinese; for example, we do not say, "one quan" or "put down quan, but we say, "one quantou (fist)" or "put down quantou". The uses, such as "clench one's fist with both hands", actually belong to classical Chinese. Other examples include "state, school, cup, son, ear, nose, lip, eye, bamboo, geese, swallow, sparrow". Some constituents are not tagged with parts of speech, for example, "box, father, mother, grandson, foot, anus, beast".

Of course, no matter whether the parts of speech of the words like "fist" that are nouns in classical Chinese but are not words in modern colloquial Chinese are tagged or not, it is still problematic. For example, the tagging of "state, school" as nouns cannot separate them from the free application of "province, house" that are words in modern colloquial Chinese. No tagging of parts of speech cannot show their capability of being used as words in written Chinese, for example, "relationship among states", "whole school". The best solution is to tag with different tags the words in classical Chinese and modern colloquial Chinese respectively; for example, nouns in classical Chinese are tagged as "state (noun)" so as to tell apart the "noun" of its counterpart in modern colloquial Chinese.

The sixth edition (pp 1697) does not tag the parts of speech of the character "zhu (诸)[1], meaning numerous" perhaps because it thinks that the character is not a word, but the classical Chinese uses it as a numeral, e.g., "ladies and gentlemen, everyone, every god, every matter". Therefore, it should be tagged as "zhu[1], numeral".

Some double-character sets are actually not words and should not be tagged with parts of speech, for example, "march, verb, meaning march forward, e.g., march (a type of music)"(pp 677 in the sixth edition). But "march" in this sense is not a word; "march (a type of music)" has already been entered into the *Dictionary*;

"march[2]" should be deleted. As another example, take "good-for-nothing[1], adjective, meaning annoyed with grievance, e.g., feel good-for-nothing" (pp 1369 in the sixth edition). But "good-for-nothing" in this sense is not a word and should be deleted. Then, "good-for-nothing wretch" as a noun should be entered into the *Dictionary*. As another instance, take "later[2], adjective, specifically attributive word, meaning coming later, growing up later, e.g., a later-coming person"; in this sense, "later-coming" is also not a word. Therefore, it should be deleted, and "later-coming person" as a noun should be entered into the *Dictionary*.

2. Distinction between phrases and words

Phrases are not tagged with parts of speech, but some phrases are done so by regarding them as words, for example, "不人道(bùréndào), adjective, meaning inhumane" (pp 110 in the sixth edition). As a matter of fact, "humane" is an adjective; the *Dictionary* has an entry of "humane" and tags it as adjective. "Inhumane" should be regarded as its negative form and should not be tagged with a part of speech. As another example, there is "不在乎(bùzàihu), verb, meaning not care"(pp 113 in the sixth edition), but "(zàihu, meaning mind, care)" is a word; the *Dictionary* tags it as verb. bùzàihu should be regarded as the negative form of zàihu.

3. The relationship between verbs and nouns

Previously, we discussed the conversional word that functions as a verb and a noun. The reason why the self-reference meaning of a verb is not tagged as noun is that there are too many such verbs and that tagging them as verbs may bring about too many conversional words. But one cut for all may also bring about other problems. For example, "security check" has its verb use, for example:

(1) *Because many people take part in the activity and there are huge streams of people, it is unlikely to conduct a one-by-one security check of each person who comes in and out of the place.* (the Internet)
(2) *Do foodstuffs from the countryside receive "security check"?* (the Internet)

But such uses are very rare; it is often used as a noun that has self-reference meaning, for example, "carry out security check, security check at airport, exempt from security check". This brings about a paradox: A word is tagged as a verb, but the vast majority of its actual uses are nominal.

One possible way of avoiding the paradox is to tag the parts of speech of a word according to its statistical frequency (Ma Biao, 1994; Ma Biao and Zou Shaohua, 2002), for example, the verb use of "security check" is very rare, and thus it should be tagged as noun. The *Dictionary* actually uses this way to tag "sleep" as noun. But the word has its verb use, for example:

(3) *When I am tired, I sleep on a couch and imagine that all work has stopped*. (Volume 4 of *Collected Works of Bing Xin*)

(4) *You cannot help admiring their ability that they can well sleep while walk*. (Wei Wei)
(5) *At that time, she was 16 years old and could not sleep by herself away from her*. (Su Tong)

Therefore, tagging "sleep" as noun cannot generalise these verb examples.

The *Dictionary* tags as verbs most words that have few verb uses, many noun self-reference meanings and greatly disparate numbers; these words also include "progress, sing and dance, conflict, general election, thorough cleaning". It is preferable to tag these words as conversional words that function as verbs and nouns. The *Dictionary* really does so: For example, "life, education, operation" are tagged as conversional words that function as nouns and verbs.

4. Locatives

The *Dictionary* tags locatives as a subsidiary class of nouns but does not strictly follow the criteria for locatives. It defines that "a locative is a subsidiary class of nouns, expresses a direction or position and can be classified into simple and compound locatives". Simple locatives include "up, down, front, back, left, right, east, west, south, north, inside, outside, middle, inside, between, lateral". Compound locatives are formed with simple locatives in the following ways: (a) adding to the front "以(yi)" or "之(zhi)", for example, "yishang (above), zhixia (below)"; (b) adding to the back "side, surface, head", for example, "front-side, left-side, inside"; (c) used in pairs, for example, "up and down, before and after, inside and outside"; and (d) miscellaneous, for example, "below, ahead, middle"(pp. 366 in the sixth edition). On the one hand, this definition is too narrow and does not include other locatives, such as "nearby, around, all-around, opposite-side, beyond". On the other hand, because the definition only mentions that a locative "expresses direction or position" but does not restrict its grammatical function, some place words are also included, for example, "aside, where, interval". The most important characteristics of a locative are its semantic representation of direction or relative position and its use in the positional structure of the "reference frame + relative position" to express the relative position. Words like "nearby" meet these two criteria, for example, "adjacent to my home, around the school, at the opposite side of a building, beyond Zhengzhou"; they should be divided into locative. But words such as "aside, within" cannot be used in the positional structure of "noun ～"; even though they include morphemes that indicate positions such as "side, middle", they cannot be divided into locative.

5. The numeral and measure words

A numeral or measure word is not a member of the part-of-speech system in the *Dictionary*, but the *Dictionary* describes the typical and common numerals and measure words. However, some numerals and measure words are not accurately treated. For example, "a while (1), numeral and measure word, meaning a very

short time, e.g., let's rest for a while; (2) numeral and measure word, meaning within a very short time, e.g., *After a while, the factory will have a meeting; Your mom will be back within a while;* (3) adverb, used before two words or phrases respectively to show the alternation of two scenarios, e.g., *The weather is now clear, now cloudy. It is sometimes windy, sometimes raining. He now goes out, then comes in, being busy all the time*" (pp. 1525 in the sixth edition). It can be neglected for a moment as for whether the first two senses need to be amalgamated or not. It is inappropriate to tag the third sense as adverb because numerals and measure words that express volumes of time and action can also be placed before constituents with the properties of a predicate word to function as adverbial, for example, "*It is fine one day and overcast another; Not having meal for three days*". The so-called meaning of "the alternation of two scenarios" is not brought about by "a while" but by the construction that they appear in pairs.

The *Dictionary* tags "once, a mouthful" not only as a numeral and measure word or noun[1] but also as an adverb; the senses used as adverbs should be deleted.

"诸位(zhuwei), personal pronoun, used as a form of respectful address for several people: all comrades, e.g., *If any of you have different opinions, please put them forward as soon as possible*" (pp. 1697 in the sixth edition). But the "all" in "all comrades" functions as an attributive and is actually used as an ordinary numeral and measure word. Its functioning as a subject or an object independently has the transferred reference meaning of a numeral and measure word, just like the "three people" in "all the three people have left, three people have come". Therefore, the "all" should be tagged as numeral and measure word.

6. Attributive words and adverbs

The *Dictionary* defines that an attributive word is "a subsidiary class of adjective and expresses the properties or characteristics of a person or thing and is used for differentiation or classification. It usually can only function as attributive, for example, 'male, large-scale, wild, primary' in 'male student, large-scale opera, wild life, primary task'. A few can function as adverbial, for example, the 'automatic, periodical' in 'automatic control, periodic inspection'" (pp 1208 in the sixth edition). The *Dictionary's* tagging of the parts of speech of the words that can function as both attributive and adverbial, such as "chronic, certain, stand-by, equal, persistent, main, rapid, illegal, periodical, preliminary", meets this definition. But words that have the same grammatical functions such as "common, genuine, automatic, reciprocal" are tagged as conversional words that function as attributive word and adverb. These are obviously inconsistent.

Apart from the issues discussed previously, some other part-of-speech tagging needs to be revised. For example, "cat[2], verb, is the vulgo of a modem" should be tagged as a noun. A "temporary, noun" should be tagged as an "adjective and further as attributive word". "好[10](hao), adjective, meaning easy", should be tagged as a verb. Because of limited space, we do not discuss them in detail.

To sum up, there are gains and losses in the revision of part-of-speech tagging by the sixth edition of the *Dictionary*. We expect that further revisions will be

made in the future so that users will have more accurate and exact part-of-speech tagging.

Note

1 The *Dictionary* tags a good many numerals and measure words as nouns, for example, "a lifetime, an epoch, a mouthful, a region, one generation, a while".

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