Mandarin Chinese Words and Parts of Speech
A Corpus-based Study

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9   N: Content Words

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

9 N: Content Words

A content word, also known as a noun, is in general a word that normally functions as the subject or the object of a verb in sentences. Less frequently, it may serve as a nominal predicate verb as shown in (280a). However, a nominal predicate does not have the following characteristics of a typical verbal predicate (Tang 1979; Yeh et al. 1992): (A) be negated by the negation 不 bu4 'not'; (B) to form an A-not-A question; (C) be preceded by a modal word; (D) to be modified by an adverb, and (E) to be followed by a resultative or stative complement with the complement marker 得 de2. Please compare the corresponding examples between (280) and (281).

(280) (a) 今天　　星期五
　　　　　jin1tian1　xing1qi2wu3
　　　　　today Friday
　　　　　'Today (is) Friday'

　　　(b) *今天　　不　星期五
　　　　　jin1tian1　bu4　xing1qi2wu3
　　　　　'today not Friday'

　　　(c) *今天　　星　不　星期五
　　　　　jin1tian1　xing1　bu4　xing1qi2wu3
　　　　　today ? not Friday

　　　(d) *今天　　會　星期五
　　　　　jin1tian1　hui4　xing1qi2wu3
　　　　　today will be Friday

　　　(e) *今天　　立刻　星期五
　　　　　jin1tian1　li4ke4　xing1qi2wu3
　　　　　today at once Friday

　　　(f) *今天　　星期五　　得　很早
　　　　　jin1tian1　xing1qi2wu3　de2　hen3zao3
　　　　　today Friday DE very early

(281) (a) 他　來
　　　　　ta1　lai2
　　　　　he come
　　　　　'He comes.'

(b) 他　不　來
ta1　bu4　lai2
he not come
'He does not come.'

(c) 他　來　不來
ta1　lai2　bu4　lai2
he come not come
'He comes or not.'

(d) 他　會　來
ta1　hui4　lai2
he will come
'He will come.'

(e) 他　立刻　來
ta1　li4ke4　lai2
he at once come
'He comes at once.'

(f) 他　來　得　很早
ta1　lai2　de2　hen3zao3
he come DE very early
'He comes early.'

9.1 Classification of Content Words

There are eight classes of content words: nouns, proper names, place words, time words, determinatives, measures, localizers and pronouns. Pronouns, localizers, determinatives and measure words can be easily told apart, since they are enumerable closed sets. The other four open classes of content words are differentiated by the following procedure.
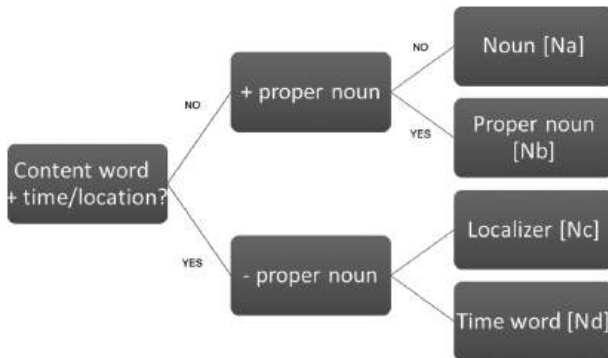

Figure 9.1 Content words classification flowchart

9.1.1 Na: Nouns

The major portions of the content words are nouns. Their primary syntactic property is that they are modifiable by determinative-measure (D-M) compounds but not by adverbs.

Subclasses of nouns

Nouns can be subdivided into subclasses according to the following features: (1) individual or collective, (2) concrete or abstract, and (3) countable or uncountable. Collective nouns can be further subdivided into two subtypes based on whether or not they can collocate with D-M compounds. The following are the subclasses of the nouns.
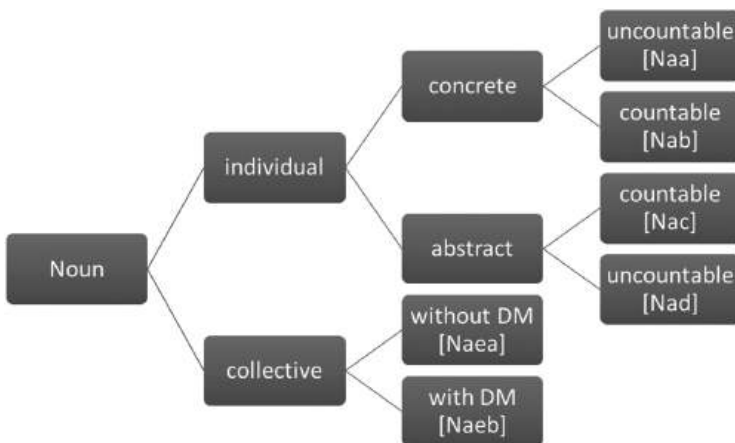

Figure 9.2 Noun classification flowchart

Naa Mass nouns: A mass noun is an uncountable concrete noun which cannot be modified by an individual classifiers but can be modified by D-M compounds in which M is a mass measure (e.g. 縷 lu3 'whiff'), a partitive measure (e.g. 點 dian3 'little'), a container measure (e.g. 碗 wan3 'bowl'), a temporary measure (e.g. 地 di4 'floorful'), or a standard measure (e.g. 尺 chi3 'foot'). For example,

一縷輕烟 yi4lu3qing1yan1 'a puff of light smoke'
一點油 yi4dian3you2 'a little oil'
一碗粥 yi4wan3zhou1 'a bowl of porridge'
一尺布 yi4chi3bu4 'a foot of cloth'
一地灰塵 yi2di4hui1chen2 'a floorful of dust'

Nab Individual nouns: The major difference between individual nouns and mass nouns is that the former are associated with individual classifiers (measure words)

and most individual nouns have very strong association with specific classifiers other than the general individual classifier 個 ge0. As the collocational restriction between an individual noun and an individual classifier cannot be captured by a specific semantic or logical condition, the selection of a specific individual classifier must be lexically specified for each individual noun or by a semantic class. In addition, an individual noun can also be modified by D-M compounds in which M is a mass measure, a partitive measure, a container measure, a temporary measure, or a standard measure. For example:

三本書 san3ben3shu1 'three books'
一道牆 yi2dao4qiang2 'a wall'
六根香蕉 liu4gen1xiang1jiao1 'six bananas'
五隻雞 wu3zhi1ji1 'five chickens'

Nac Countable abstract nouns: A countable abstract noun is an abstract noun which can be modified by individual classifiers as well as partitive measure words, group measure words, or temporary measure words. For example:

三場會議 san3chang3hui4yi4 'three conferences'
一個夢 yi2ge0meng4 'a dream'
兩項任務 liang3xiang4ren4wu4 'two missions'

Nad Uncountable abstract nouns: Uncountable abstract nouns are nouns which can only take certain kind measure words such as 種 zhong3 'kind', 類 lei4 'category', 樣 yang4 'kind, sort', and partitive measure words such as 些 xie1 'some', 點兒 dian3er0 'a little', and temporary measure words, but not individual classifiers. For example:

一種智慧 yi4zhong3zhi4hui4 'a kind of wisdom'
一點才氣 yi4dian3cai2qi4 'a little talent'
一身武藝 yi4shen1wu3yi4 'full of martial skills'

Nae Collective nouns: Collective nouns are nouns which (1) denote groups of multiple members but do not refer to individual member, and (2) do not take individual classifiers. It is worth noting that nouns such as 黨 dang3 'party', 團 tuan2 'mission', 樂隊 yue4dui4 'band', etc., denote groups of multifarious members but are not collective nouns, since they can be modified by individual classifiers, such as 二個黨 liang3ge0dang3 'two parties', 一個訪問團 yi2ge0fang3wen4tuan2 'a visiting mission' and 幾支樂隊 ji3zhi1yue4dui4 'a few bands'. Such nouns will not be classified as collective nouns, but as individual nouns with the feature [+plural] to indicate that they are collections of individual things. The true collective nouns are further classified into two subtypes. The first subtype cannot be modified by any D-M compounds, while the second can only be modified by D-M compounds with partitive or group measure words. Nae can be further divided as either Naea or Naeb.

Naea Collective nouns which cannot be modified by D-M compounds: They typically take numeral determinatives when enumerated. For example, 三餐 san1can1 'three meals', 五臟六腑 wu3zang4liu4fu3 'five organs and (six) entrails', 四肢 si4zhi1 'four limbs'.

Naeb Collective nouns that can take kind or partitive measure words but not individual measure words: For example, 一些車輛 yi4xie1che1liang4 'some vehicles', 一筆獎金 yibi3jiang3jin1 'a reward', 這對夫婦 zhe4dui4fu1fu4 'this couple'.

Discussions

Many collective nouns have conjunctive structures, such as: 父母 fu4mu3 'parents', 夫妻 fu1qi1 'husband and wife', 車船 che1chuan2 'cars and ships', 桌椅 zhuo1yi3 'tables and chairs'. However, there are also abstract nouns with conjunctive structures which denote abstract objects but not collective nouns, such as 過眼雲煙 guo4yan3yun2yan1 'as transient and ephemeral as a fleeting cloud or smoke', 榮華富貴 rong2hua2fu4gui4 'high position and great wealth' and 新仇舊恨 xin1chou2jiu4hen4 'new animosity and an old hatred'.

Mass nouns such as 口糧 kou3liang2 'grain rations', 糧食 liang2shi2 'food provisions', 乾糧 gan1liang2 'solid food', 米食 mi3shi2 'food made of rice', 主食 zhu3shi2 'starch', 飲料 yin3liao4 'drinks', 乾果 gan1guo3 'nuts', etc., denote a kind of food, but are not considered to be collective nouns since they can be modified by container classifiers. Other mass nouns such as 絹綢 juan1chou2 '(woven) silk fabric' and so on, are classified by the same criterion.

When a noun (denoting abstraction originally) has grammatical usage as both an individual or a mass noun, it is, by default, classified into a concrete noun. For instance, 詩 shi1 'poem', 詞 ci2 'a form of classical poetry', 書 shu1 'book', 畫 hua4 'painting', and 歌 ge1 'song'.

9.1.2 Nb: Proper Name

Proper names are different from common nouns as a common noun refers to a type of object while a proper noun refers to a specific individual. In general, proper names are content words that cannot be modified by D-M compounds, although there are some exceptions.

Subclasses Setter[1]

There are two subclasses of proper names: One is the formal proper name, and the other the surname.

Nba Formal proper names denote specific entities include the following types: names of persons, races, tribes, books and newspapers, legal persons, historical events, etc. For example: 余光中 yu2guang1zhong1 'Yu Kwang-chung', tui xiao yutui xiaotui xituitu 布農族 bu4nong2zhu2 'Bunun', 中國時

報 zhong1guo2shi2bao4 'China Times', 甲午戰爭 jia3wu3zhan4zheng1 'Sino-Japanese War'.

Nbc Surname denotes the family of the person bearing the surname. For example: 黃 huang2 'Huang', 陳 chen2 'Chen', 湯 tang1 'Tang', 劉 liu2 'Liu', 高 kao1 'Kao', 葉 ye4 'Ye', 洪 hong2 'Hong', 張 zhang1 'Chang', 毛 mao2 'Mao', 林 lin2 'Lin', 曾 tseng1 'Tseng'.

9.1.3 Nc: Place Words

A place word is a content word which can occur in the following grammatical patterns. Place words can be place names, administrative units, and various organizations that refer to places.

Subclasses

Place words can be further divided into subclasses: proper place names, common place nouns, certain N-L (Noun-Localizer) compounds and other compounds involving localizers, position words, and certain D-N (Determinant-Noun) compounds. Definite reference is used to distinguish proper place names from general nouns for places. N-L compounds and D-N compounds are differentiated by their morphological structures.[2] Position words are limited and exhaustively listed below as a subclass of place words. They are further subdivided into two types according to the number of syllabics.

Nca Proper place names: A proper place name has a definite reference to places, administrative units, or organizations; proper place names cannot be modified by D-M compounds.[3] For example, 西班牙 xi1ban1ya2 'Spain', 台北 tai2bei3 'Taipei', 台灣銀行 tai2 wan1yin2hang2 'Bank of Taiwan'.

Ncb Common place nouns: A common place noun refers to a place and it is modifiable by D-M compounds. For example, 郵局 you2ju2 'post office', 市場 shi4chang3 'market', 學校 xue2xiao4 'school', 農村 nong2cun1 'farm village'.

Ncc N-L (Noun-Localizer) compounds as place words: N-L compounds comprise a noun, a proper name, or a pronoun as a prefix, and are compounded with a suffix localizer. For example, 海外 hai3wai4 'overseas', 身上 shen1shang4 'on the body', 岸上 an4shang4 'on shore', 腳下 jiao3xia4 'under the foot'.

Ncd Position words: Position words usually comprise a localizer (refer to Table 9.1), a specifying determinative (refer to Table 9.2) as modifier, and are compounded with a suffix or a versatile end morpheme. They can also be subdivided into two types by the number of syllables.

Ncda monosyllabic: 上 shang4 'above', 下 xia4 'below', 左 zuo3 'left', 右 you4 'right', 東 dong1 'east', 西 xi1 'west', 南 nan2 'south', 北 bei3 'north', 前 qian2 'front', 後 hou4 'back' , 內 nei4 'inside', 外 wai4 'outside'.

Table 9.1 Location-location compound

place words	頭 tou2	邊 bian1	面 mian4	方 fang1	部 bu4
上 shang4	+	+	+	+	
下 xia4	+	+	+	+	
前 qian2	+	+	+	+	
後 hou4	+	+	+	+	
內 nei4					+
裡 li3	+	+	+		
外 wai4	+	+	+		+
旁 pang2		+			
左 zuo3		+	+	+	
右 you4		+	+	+	
東 dong1		+	+	+	+
西 xi1		+	+	+	+
南 nan2		+	+	+	+
北 bei3		+	+	+	+

Table 9.2 Determiner-location compound

place words	頭 tou2	邊 bian1	面 mian4	方 fang1	裡 (兒) li3 (er)
那 na3	+	+	+	+	+
這 zhe4	+	+	+	+	+
哪 na3	+	+	+	+	+

Ncdb polysyllabic: 中間 zhong1jian1 'in middle of, among', 左方 zuo3fang1 'left side', 西北 xi1bei3 'northwest', 下方 xia4fang1 'underneath', 外頭 wai4tou2 'outside'.

Nce D-N compounds as place words that denote a place and that usually do not accept D-Ms or other modifiers: For example, 四海 si4hai3 'the whole world', 當地 dang1di4 'local', 本地 ben3di4 'native', 八荒 ba1huang1 'the wilds'.

9.1.4 Nd: Time Words

Time words are content words that express temporal concepts. A time word frequently occurs after the prepositions 在 zai4 'to be at', 到 dao4 'reach (the time of)', 從 cong2 'from (the time of)', 離 li2 'from/to (the time of)', 距 ju4 'before (the time of)', 於 yu2 'at', 趁 chen4 'while', and 乘 cheng2 'while' to denote various temporal relations of events.

Classification Guidelines

Time words denote time points and time periods. Not all words expressing time-related concepts are time words. For instance, nouns expressing time

concepts, such as 歲月 sui4yue4 'years-months', 時光 shi2guang1 'time-light', and 光陰 guang1yin1 'light-dark' are general nouns in the grammatical sense because they all denote time instead of any time point and cannot assume the argument role of the prepositions 在 zai4 'to be at', etc. Similarly, adverbs of time such as 已經 yi3jing1 'already', 突然 tu2ran2 'suddenly', and 馬上 ma3shang4 'immediately' are regarded as adverbs but not time words because they cannot be subjects, objects or arguments of the preposition 在 zai4 'to be at' etc. Like other content words, time words can be subjects and objects, as well as adjectival modifiers, such as 春天 chun1tian1 'spring' in 春天的故事 chun1tian1de0gu4shi4 'the spring story'. However, most time adverbs can be adverbial modifiers but not adjectival modifiers. Thus, in comparison with 已經發生的事 yi3jing1fa1sheng1de0shi4 'happened thing', * 已經的事 yi3jing1de0shi4 'already thing' is an illegal phrase.

Subclasses

Time words can be subdivided into three subclasses: time names, N-L compound time words, and adverbial time words.[4]

Nda Time names: Time names stand for historical time points, and for time period that reoccurred in cycles.

Ndaa Historical time names: behave like proper names, which can be further subdivided into four types.

Ndaaa Specific era names: era names are usually followed by 時代 shi2dai4 'era', 時期 shi2qi2 'period' or 年代 nian2dai4 'era' in order to form a time word or a time phrase.

Ndaab Dynastic names: such as 周 zhou1 'Chou/Zhou', 漢 han4 'Han', 明 ming2 'Ming', 清 qing1 'Qing'. Since the specific names of dynasties are always monosyllabic and not free, they often form compounds with 朝 chao2 'dynasty' or 代 dai4 'generation', as in (283). But with determinatives like 前 qian2 'former', 後 hou4 'latter', 東 dong1 'east', and 西 xi1 'west', the resulting dynastic names like 北周 bei3chou1 'Northern Chou' and 西漢 xi1han4 'Western Han' are dissyllabic and free, as in (282).

(282) 佛教　　　在　　西漢　　傳入　　　中國
　　　　fou2jiao4　zai4　xi1han4　chuan2ru4　zhong1guo2
　　　　Buddhism at Western Han introduced into China
　　　　'Buddhism was introduced into China during the Western Han.'

(283) 宋朝　　　　有　　個　　宰相　　　　叫　　司馬光
　　　　song4chao2　you3　ge0　zai3xiang4　jiao4　si1ma3guang1
　　　　Song dynasty have GE prime minister named Sima Guang
　　　　'There was a prime minister named Sima Guang in Song dynasty.'

Ndaac Reigning titles: such as 乾隆 qian2long2, 天寶 tian1bao3, 嘉靖 jia1jing4, 咸豐 xian2feng1, 永曆 yong3li4 etc. Words in the form of reigning titles cannot be free and are always followed by 年間 nian2jian1 'in the years of' or with definite years, as in (284), (285).

(284) 天寶　　　年間，　　　安祿山　　　起兵　　　作亂
　　　　tian1bao3　nian2jian1,　an1lu4san1　qi3bing1　zuo4luan4
　　　　Tianbao years, AnLushan dispatch troops rebellion
　　　　'In the years of Tianbao, An Lushan led his army in rebellion.'

(285) 他　出生　　　於　光緒　　　二十六　　　年
　　　　ta1　chu1sheng1　yu2　guang1xu4　er4shi2liu4　nian2
　　　　he was born in Guangxu twenty-six years
　　　　'He was born in the twenty-sixth year of Guangxu.'

Ndaad Calendar names for specific years: Usually in the form of a numeral compounded with 年 nian2 'year' and, if necessary, modified by the name of the era, such as 公元 gong1yuan2 'the Gregorian calendar', 西元 xi1yuan2 'western chronology year'.

Ndab Time-period names used in time cycles.

Ndaba Names of year: Names of years can be defined in several ways. The traditional names are based on the interaction between the ten 天干 tian1gan1 'heavenly stems' and the twelve 地支 di4zhi1 'earthly branches', which further produces 60 (the LCM of 10 and 12) combinations known as the sexagesimal cycle. The Chinese zodiac involving twelve animals symbolizing the earthly branches are also used to designate years in the twelve year cycle and is most often used to refer birth years and, of course, when consulting the Chinese zodiac for fortune telling. There are, of course, other ways to indicate different years, such as using directional terms. Note that, when referring to a time period, the combinations of heavenly stems and earthly branches must be followed by 年 nian2 'year'. For example, 辛丑 xin1chou3 'Xin Chou', 甲午 jia3wu3 'Jia Wu', 龍年 long2nian2 'the year of dragon ', 馬年 ma3nian2 'the year of horse', 雞年 ji1nian2 ' the year of rooster', 去年 qu4nian2 'last year'.

Ndabb The time names for the seasons of the year: For example, 春天 chun1tian1 'spring', 夏季 xia4ji4 'summer', 秋天 qiu1tian1 'autumn', 冬季 dong1ji4 'winter'.

Ndabc The names of the months: For example, 正月 zheng1yue4 'first month, January', 一月 yi1yue4 'January', 二月 er4yue4 'February', 臘月 la4yue4 'last month/December'.

Ndabd Date: The Time names for a specific day of the week or specific day(s) during a longer period of time. For example, 上旬 shang4xun2 'first 10-day period of a month', 星期日 xing1qi2ri4 'Sunday', 夏至 xia4zhi4 'summer solstice'.

Ndabe Time names for specific time point or period of the day: For example, 子時 zi3shi2 'midnight/period of the day from 11 pm to 1 am', 夜半 ye4ban4 'middle of the night', 傍晚 bang1wan3 'evening'.

Ndabf Names of durations of certain time periods: For example, 暑假 shu3jia4 'summer break', 春假 chun1jia4 'spring break', 年假 nian2jia4 'new year holidays'.

Ndc N-L compound time words that consist of content word-localizer compounds denoting time periods: For example, 晚間 wan3jian1 'in the evening', 期末 qi2mo4 'end of semester', 晨間 chen2jian1 'in the morning', 午間 wu3jian1 'at noon'.

Ndd Adverbial time words: These types of words have syntactic properties of both adverbials and content words. Adverbial time words can modify verbs directly[5] and assume arguments of prepositions such as content words. There are three subclasses that indicate different relative time periods based on reference time.

Ndda For past time: for example, 過去 guo4qu4 'past', 從前 cong2qian2 'in the past', 當初 dang1chu1 'originally', 先頭 xian1tou2 'formerly', and 以前 yi3qian2 'previously'.

Nddb For future time: for example, 以後 yi3hou4 'afterward', 將來 jiang1lai2 'future', 後來 hou4lai2 'subsequently', 往後 wang3hou4 'later', and 未來 wei4lai2 'in the future'.

Nddc For present time or its proximate time: for example, 近來 jin4lai2 'recently', 現在 xian4zai4 'at present', 當今 dang1jin1 'present time', 眼前 yan3qian2 'at the moment', 晚近 wan3jin4 'lately', and 現代 xian4dai4 'current time'.

9.1.5 *Ne: Determinatives*

Determinatives occur before nouns and assume the role of quantifying the modified nouns.[6] Most determinatives are end-bound morphemes that help form typically D-M compounds to modify nouns.

Subclasses

Chao (1968) recognizes four subtypes of numeral determinatives: (1) simple numerals, (2) compound numerals below 100, (3) higher compound numerals, (4) fractions and decimals. Accounting for other types of determiners based on their derivation, syntactic behavior, and meaning, we propose four subclasses of determiners: demonstrative determinatives, specific determinatives, numeral determinatives and quantitative determinatives.

DD: Demonstrative Determinatives
Demonstrative determinatives, including 這 zhe4 'this', 那 na4 'that', 此 ci3 'this', 這些 zhe4xie1 'these', 那些 na4xie1 'those' etc., not only specify references of nouns, but also function as pronouns (except 哪 na3 'which').

SD: Specific Determinatives

- 第 di4, 每 mei3 'every', 各 ge4 'each', 上 shang4 'previous', 下 xia4 'next', 前 qian2 'the former', 後 hou4 'the latter', 頭 tou2 'first', 末 mo4 'last', 次 ci4 'the second', 另 ling4 'the other', 另外 ling4wai4 'the other', 將近 jiang1jin4 'almost', 某 mo3 'a certain', 首 shou3 'the first' (OS).[7]
- 本 ben3 'this', 貴 gui4 'your (courteous usage)', 敝 bi4 'my, our (humble usage)', 什麼 shen2me0 'what', 啥 sha2 'which', 諸 zhu1 'all', 何 he2 'which', 別 bie2 'other', 旁 pang2 'other', 他 ta1 'other', 該 gai1 'that', 其 qi2 'its' (DS).
- 其他 qi2ta1 'the other', 其餘 qi2yu2 'the other', 其它 qi2ta1 'the other', 任 何 ren4he2 'any' (HS).

ND: Numeral Determinatives

- 一 yi1 'one', 二 er4 'two', 兩 liang3 'two', 三 san1 'three', 四 si4 'four', 五 wu3 'five', 六 liu4 'six', 七 qi1 'seven', 八 ba1 'eight', 九 jiu3 'nine', 十 shi2 'ten', 廿 nian4 'twenty', 卅 sa4 'thirty', 百 bai3 'hundred', 千 qian1 'thousand', 萬 wan4 'ten thousands', 億 yi4 'hundred millions', 兆 zhao4 'million millions', 零 ling2 'zero', 幾 ji3 '(number) which', 雙 shuang1 'double'.
- 壹 yi1 'one', 貳 er4 'two', 參 san1 'three', 肆 si4 'four', 伍 wu3 'five', 陸 liu4 'six', 柒 qi1 'seven', 捌 ba1 'eight', 玖 jiu3 'nine', 拾 shi2 'ten', 佰 bai3 'hundred', 仟 qian1 'thousand'.
- 甲 jia3, 乙 yi3, 丙 bing3, 丁 ding1, 戊 wu4, 己 ji3, 庚 geng1, 辛 xin1, 壬 ren2, 癸 gui3.

QD: Quantitative Determinatives

- Whole quantitative determinatives: 一 yi4 'all', 全 quan2 'all', 滿 man3 'wholly', 整 zheng3 'whole', 一切 yi2qie4 'all', 成 cheng2 'whole' (WQ).
- Part quantitative determinatives: 半 ban4 'half', 數 shu4 'several', 若干 ruo4gan1 'some', 有的 you3de0 'some' (PQ).
- Interrogative quantitative determinatives: 多少 duo1shao3 'how many', 若干 ruo4gan1 'how many', 幾多 ji3duo1 'how many' (QQ).
- Degree quantitative determinatives: 許多 xu3duo1 'many', 很多 hen3duo1 'a lot', 好多 hao3duo1 'many', 好幾 hao3ji3 'several', 好些 hao3xie1 'a lot of', 少許 shao3xu3 'few', 多 duo1 'many', 許許多多 xu3xu3duo1duo1 'many', 有些 you3xie1 'some', 幾許 ji3xu3 'several', 多數 duo1shu4 'majority', 少數 shao3shu4 'a few', 大多數 da4duo1shu4 'majority', 泰半 tai4ban4 'more than half', 不少 bu4shao3 'a lot of', 部分 (份) bu4fen4(fen4) 'part', 個把 ge4ba3 'one or two', 半數 ban4shu4 'half', 諸多 zhu1duo1 'a good deal', 一些 yi4xie1 'some' (DQ).

- Post-quantitative determinatives: 餘 yu2 'plus', 整 zheng3 'exact', 正 zheng4 'exact', 許 xu3 'or so', 足 zhu2 'exact', 之多 zhi1duo1 'quite a lot', 多 duo1 'more than', 半 ban4 'half', 出頭 chu1tou2 'more than', 好幾 hao3ji3 'more than', 開外 kai1wai4 'more than' (PNM).

The above four types of determinatives are adopted as the first level of our classification. Then we subdivide the second and third level classifications according to the characteristics of (1) derivation of determinatives, (2) syntactic behavior, and (3) semantics, which is an approach slightly different from Chao's (1968).

Nep Demonstrative determinatives: in addition to being determinatives, they also syntactically function as pronouns. For example, 這 zhe4 'this', 那 na4 'that', 哪 na3 'which', 什麼 shi2mo0 'what', 啥 sha2 'which', 其 qi2 'this', 斯 si1 'this', 此 ci3 'this'.

Neqa Quantitative determinatives: in addition to modifying head nouns, a quantitative determinative also occurs as an argument when the NP-head is omitted, and as an adverbial modifier between a subject and a verb. For example, 許多 xu3duo1 'many, much', 百分之五十 bai3fen1zhi1wu3shi2 'fifty percent', 三分之一 san1fen1zhi1yi1 'one third', 五成三 wu3cheng2san1 'fifty three percent'.

Neqb Post-quantitative determinatives: Syntactically, post-quantitative determinatives do not behave like typical determinatives because they are start-bound morphemes and occur after measure words. For example, 三點正 san1dian3zheng4 'exactly three o'clock', 五十歲出頭 wu3shi2sui4chu1tou2 'early fifty years old', 兩丈許 liang3zhang4xu3 'a little more than two decameters'.

Nes Specific determinatives: Specific determinatives that modify nouns with or without measure words in-between; they restrict noun senses by giving them specific references and cannot occur freely without the modified objects. For example, 某 mou3 'certain', 該 gai1 'that', 本 ben3 'this', 同 tong2 'the same'.

Neu Numeral determinatives: simple numerals, compound numerals, and ordinal numerals. For example, 三 san1 'three', 三千五百 san1qian1wu3bai3 'three thousands and five hundreds', 幾 ji3 'a few/how many', 好幾 hao3ji3 'quite a few', 七百五十萬 qi1qian1wu3shi2wan4 '7,500,000', 第一 di4yi1 'first', 三十好幾 san1shi2hao3ji3 'thirty some', 甲 jia3 'A '.

Linear Order between Determinatives

In principle, DM compounds, consisting of determinatives and measure words, can allow for only one measure which occurs at the far right of the phrase, but

can take more than one determinative which must occur in a particular order as specified below.
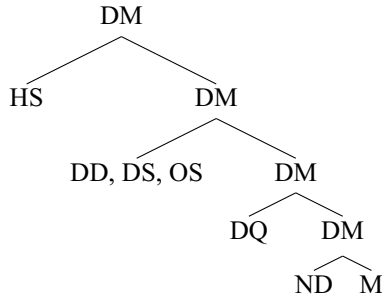

Figure 9.3 Linear Order of Determinatives

Post-quantitative determinatives are not included in the figure because the positions where they occur are different from other determinatives; the positions are (1) between numeral determinatives and measure words, (2) after measure words, and (3) after numeral determinatives. For example:

(286) 三十   多   歲
       san1shi2 duo1 sui4
       'thirty some years old'

(287) 兩點半
       liang3dian3ban4
       'half past two o'clock'

(288) 五十   好幾
       wu3shi2 hao3ji3
       'some fifty years old'

9.1.6 Nf: Measure Words

A measure word denotes a unit of measurement and is a bound morpheme that forms a D-M compound to modify nouns.

Subclasses

Following the classifications of Chao (1968), we divide measure words into nine subclasses.[8] The definition for each class is addressed as follows. The complete set of measure words is listed in the examples below.

Nfa Classifiers, or Individual Measure Words: Individual measure words are specificified for different nouns according to their nominal properties including shape, and kind. For instance, 一根棍子 yi4gen1gun4zi0 'a (root of) rod', 一粒米 yi2li4mi3 'a (grain of) rice'. Each individual noun has

its specific individual measure word(s) that is lexically specified (hence not totally predicted by meaning). Thus, in a narrow sense, these are also know as classifiers.

Nfb Classifiers associated with V-O constructions: The measure words of this type always precede nouns, and are associated especially with verb-object constructions to complete the phrasal senses.

Nfc Group measure words: A group measure word is used for a group or a collection of individuals.

Nfd Partitive measure words: Partitive measure words are the opposite of group measure words, and represent portions of things instead of all of them.

Nfe Container measure words: Container measure words are nouns that are used as measure words to measure the contained objects. They are an open class and cannot be exhaustively enumerated here as any noun can be used as a container measure word as long as it is used as such in the real world.

Nff Temporary measure words: Temporary measure words, like container measure words, are primarily nouns that measure the amount of objects; they differ from container measure words in that they are used to express the extent instead of quantity of objects.

Nfg Standard measure words: Standard measure words are the formal measuring units used based on conventionalized standards. They can be further divided into subtypes according to what is being measured. For example, the length measures words with the feature of [+distance], the temporal measures words with the feature of [+temporal_relation], the weight measures words with the feature of [+weight], the volume measures words with the feature of [+capacity], the area measures words with the feature of [+area], and the monetary measures words with the feature of [+monetary].

Nfh Quasi-measure words: Quasi-measure words, like standard measure words, are nouns used as measuring units. However, unike standard measure words, they are not formally conventionalized units and have the following characteristics:

(i)   They are autonomous and not necessarily attached to a head noun.

(ii)   They are classified as a type of measure because syntactically they follow numerals and determinatives immediately.

(iii) Most of them can be followed by adjectives. For example, 三站那麼遠 san1zhan4na3me0yuan3 'three stations away'.

Nfi Measure words for action verbs: A measure for verbs of action occurs after a verb, and quantifies the time the event occurred denoted by the verb. It may be the part of the body that carries out the action, such as 看一眼 kan4yi4yan3 'take a look', or the instrument with which the action is performed, such as 砍一刀 kan3yi4dao1 'a chop of knife'.

List of Measure Words

All subclasses of measure words, other than container measure words (Nfe), quasi-measure words (Nfh), and standard measure words (Nfg) can be enumerated and listed below, with the typical nouns they select.

(i)   Classifiers, or individual measure words (Nfa)

    1 本 ben2: 書 shu1 'book', 日記 ri4ji4 'diary'.

    2 把 ba3: 椅子 yi3zi0 'chair', 刀 dao1 'knife', 扇子 shan4zi0 'fan', 鏟子 chan3zi0 'spade'.

    3 瓣 ban4: 花瓣 hua1ban4 'flower petal', 橘子 ju2zi0 'orange (segments)'.

    4 部 bu4: 禮記 li3ji4 'the Book of Rites', 書 shu1 ' book'.[9]

    5 柄 bing3: 鋤頭 chu2tou2 'hoe', 斧子 fu3zi0 'axe'.

    6 床 chuang4: 被單 bei4dan1 'sheets', 被窩 bei4wo1 'bed-set'.

    7 處 chu4: 地方 di4fang1 'place'.

    8 期 qi2: 雜誌 za2zhi4 'magazine'.

    9 齣 chu1: 戲 xi4 'play'.

    10 場 chang2: 戲 xi4 'play', 夢 meng4 'dream'.

    11 朵 duo3: 花兒 hua1er0 'flower', 雲彩 yun2cai3 'cloud'.

    12 頂 ding3: 帽子 mao4zi0 'hat', 轎子 jiao4zi0 'palanquin'.

    13 堵 du3: 牆 qiang2 'wall'.

    14 道 dao4: 河 he2 'river', 橋 qiao2 'bridge', 菜 cai4 'dish'.

    15 頓 dun4: 飯 fan4 'rice', 點心 dian3xin1 'dimsum'.

    16 錠 ding4: 墨 mo4 'inkcake, inkstick', 銀子 yin2zi0 'silver', 紗錠 sha1ding4 'hank(textile)'.

    17 棟 (幢) dong4 (chuang2): 房子 fang2zi0 'house'.

    18 檔 (檔子) dang3 (dang3zi0): 事情 shi4qing2 'matter'.

    19 封 feng1: 信 xin4 'letter'.

    20 幅 fu2: 畫 hua4 'painting'.

    21 發 fa1: 子彈 zi3dan4 'bullet'.

    22 分 (份) fen4 (fen4): 報告 bao4gao4 'report', 工作 gong1zuo4 'job'.

    23 服 fu2: 藥 yao4 'medicine'.

    24 個 (箇) ge0 (ge0): 人 ren2 'person', 問題 wen4ti2 'problem', 機會 ji1hui4 'opportunity'.

    25 根 gen1: 棍子 gun4zi0 'stick', 繩子 sheng2zi0 'rope', 香煙 xiang1yan1 'cigarette'.

    26 行 hang2: 買賣 mai3mai5 'trade'.

    27 戶 hu4: 人家 ren2jia1 'family'.

    28 件 jian4: 東西 dong1xi1 'things', 事 (情) shi4qing2 'matter', 衣裳 yi1shang0 'clothing'.

    29 家 jia1: 人家 ren2jia1 'family', 舖子 pu4zi0 'store'.

    30 架 jia4: 飛機 fei1ji1 'airplane', 機關槍 ji1guan1qiang1 'machinegun'.

31 卷 juan4: 期刊 qi2kan1 'journal', 雜誌 za2zhi4 'magazine', 宋史 song4shi3 'history of Song Dynasty'.

32 具 ju4: 屍身 shi1shen1 'cadaver'.

33 闕 que4: 詞 ci2 'Ci poem'.

34 節 jie2: 課 ke4 'class'.

35 句 ju4: 話 hua4 'speech'.

36 屆 jie4: 會議 hui4yi4 'meeting'.

37 捲 (兒) juan3 (er0): 膠片 jiao1pian4 'film', 紙 zhi3 'paper'.

38 劑 ji4: 藥 yao4 'medicine'.

39 隻 zhi1: 手 shou3 'hand', 狗 gou3 'dog', 船 chuan2 'boat'.

40 尊 zun1: 大炮 da4pao4 'cannon', 佛像 fo2xiang4 'statue of Buddha'.

41 盞 zhan3: 燈 deng1 'lamp'.

42 張 zhang1: 床 chuang2 'bed', 桌子 zhuo1zi0 'table/desk', 凳子 deng4zi0 'stool', 椅子 yi3zi0 'chair', 紙 zhi3 'paper', 薄餅 bo2bing3 'pizza/naan/pancake (thin bread)'.

43 枝 (支) zhi1 (zhi1): 筆 bi3 'pen', 箭 jian4 'arrow', 槍 qiang1 'gun'.

44 樁 zhuang1: 事情 shi4qing2 'matter/issue'.

45 幀 zheng1: 照片 zhao4pian4 'photo'.

46 只 zhi3: 戒指 jie4zhi3 'ring'.

47 株 zhu1: 菊花 ju2hua1 'chrysanthemum', 麻 ma2 'hemp'.

48 折 zhe2: 戲 xi4 'play (for Yuan play)'.

49 炷 zhu4: 香 xiang1 'incense'.

50 軸 zhou2: 畫 hua4 'painting (scroll)'. For example: 古畫四軸 gu3hua4si4zhou2 'Four scrolls of ancient paintings', 古書二佰軸 gu3shu1er4bai3zhou2 '200 scrolls of ancient caligraphy.'

51 口 kou3: 井 jing3 'well', 鐘 zhong1 'bell', 豬 zhu1 'pig', 劍 jian4. 'sword'

52 棵 ke1: 樹 shu4 'tree', 草 cao3 'grass', 花 hua1 'flowering plant'.

53 款 kuan3: 條文 tiao2wen2 '(legal document/law's) article'.

54 客 ke4: 點心 dian3xin1 'dims sum/desert', 飯 fan4 'rice/meal'.

55 輛 liang4: 車 che1 'car'.

56 粒 li4: 沙子 sha1zi0 'sand', 米 mi3 'rice'.

57 輪 lun2: 明月 ming2yue4 'moon'.

58 枚 mei2: 獎章 jiang3zhang1 'medal'.

59 面 mian4: 鏡子 jing4zi0 'mirror', 旗子 qi2zi0 'flag', 鑼 luo2 'gong'.

60 門 men2: 學問 xue2wen4 'science', 功課 gong1ke4 'study/homework'.

61 幕 mu4: 話劇 hua4ju4 'play', 喜劇 xi3ju4 'comedy'.

62 匹 pi1: 馬 ma3 'horse', 騾子 luo2zi0 'mule', 驢 lu2 'donkey'.

63 篇 pian1: 文章 wen2zhang1 'article'.

64 片 pian4: 土司 tu3si1 'toast (bread)', 葉子 ye4zi0 'leave'.

65 所 suo3: 房子 fang2zi0 'house', 公寓 gong1yu4 'apartment'.

66 艘 sao1: 軍艦 jun1jian4 'military vessel'.

67 扇 shan4: 門 men2 'door'.

68 首 shou3: 詩 shi1 'poem', 歌 ge1 'song'.

69 乘 sheng4: 轎子 jiao4zi0 'palanquin'.

70 襲 xi2: 袍子 pao2zi0 'changshan'.

71 頭 tou2: 牛 niu2 'cattle'.

72 條 (長條) tiao2 (chang2tiao2): 蛇 she2 'snake', 魚 yu2 'fish', 河 he2 'river', 繩子 sheng2zi0 'rope'.

73 台 (臺) tai2 (tai2): 縫紉機 feng2ren4ji1 'sewing machine'.

74 挺 ting3: 機關槍 ji1guan1qiang1 'machinegun'.

75 堂 tang2: 課 ke4 'class'.

76 帖 tie3: 藥 yao4 'medicine'.

77 顆 ke1: 珠子 zhu1zi0 'bead'.

78 座 zuo4: 山 shan1 'mountain', 洋房 yang2fang2 'western-style house', 海島 hai3dao3 'island', 自鳴鐘 zi4ming2zhong1 'automated clock'.

79 則 ze2: 格言 ge2yan2 'epitaph', 條文 tiao2wen2 'article', 消息 xiao1xi2 'news'.

80 冊 ce4: 書 shu1 'book'.

81 任 ren4: 總統 zong3tong3 'president'.

82 尾 wei3: 魚 yu2 'fish'.

83 味 wei4: 菜 cai4 'dish', 藥 yao4 'medicine'.

84 位 wei4: 先生 xian1sheng1 'Mr.', 來賓 lai2bin1 'guest'.

85 頁 ye4: 書 shu1 'book'.

86 葉 ye4: 小舟 xiao3zhou1 'raft'.

87 房 fang2: 媳婦 xi2fu4 'wife/daughter-in-law'.

88 彎 wan1: 新月 xin1yue4 'crescent moon', 眉毛 mei2mao2 'eyebrow'.

89 班 ban1: 公車 gong1che1 'bus', 飛機 fei1ji1 'airplane'.

90 員 yuan2: 大將 da4jiang4 'major general'.

91 介 jie4: 書生 shu1sheng1 'scholar'.

92 丸 wan2: 藥 yao4 'medicine'.

93 名 ming2: 學生 xue2sheng1 'student', 工作人員 gong1zuo4ren2yuan2 'staff'.

94 項 xiang4: 消息 xiao1xi2 'news', 計劃 ji4hua4 'plan', 政策 zheng4ce4 'policy'.

95 起 qi2: 賭案 du3an4 'gambling case', 案件 an4jian4 'case'.

96 間 jian1: 酒樓 jiu3lou2 'restaurant/bar', 空屋 kong1wu1 'vacant house'.

97 題 ti2: 題目 ti2mu4 'test question', 數學 shu4xue2 'math (question)'.

98 目 mu4: 詞 ci2 'lexical entry'.

99 招 zhao1: 妙計 miao4ji4 'good strategy'.

100 股 gu3: 績優股 ji1you1gu3 'high-performance stock'.

101 回 hui2: 事 shi4 'issue'.

(ii)   Classifiers associated with V-O constructions (Nfb)

1   通 tong1: 打一通電話 da3yi4tong1dian4hua4 'making one call'.
2   口 kou3: 說口標準國語 shuo1kou3biao1zhun3guo2yu3 'speaking with standard accent of the national language'.
3   頓 dun4: 挨一頓罵 ai1yi2dun4ma4 'received a good scold'.
4   盤 pan2: 下一盤棋 xia4yi4pan2qi2 'play a game of chess'.
5   局 ju2: 下一局棋 xia4yi4ju2qi2 'play a game of chess'.
6   番 fan1: 下一番工夫 xia4yi4fan1gong1fu1 'make a good deal of effort'.

(iii)   Group measure words (Nfc)

1   對 dui4 'pair': 鴿子 ge1zi0 'pigeon', 眼睛 yan3jing1 'eyes', 夫妻 fu1qi1 'couple/husband-wife', 耳鉗子 er3qian2zi0 'earring'.
2   雙 shuang1 'pair': 眼睛 yan2jing1 'eyes', 筷子 kuai4zi0 'chopsticks', 襪子 wa4zi0 'socks'.
3   宗 zong1: 買賣 mai3mai4 'trade', 貨物 huo4wu4 'goods'.
4   番 fan1: 事業 shi4ye4 'career'.
5   畦 qi1: 菜 cai4 'vegetable'.
6   餐 can1: 飯 fan4 'meal'.
7   行 hang2: 字 zi4 'character', 柳樹 liu3shu4 'willow'.
8   身 shen1: 洋服 yang2fu2 'western-dress'.
9   列 (長列) lie4 (chang2lie4): 火車 huo3che1 'train'.
10   系列 xi4lie4: 問題 wen4ti2 'problem'.
11   排 (長排) pai2 (chang2pai2): 子彈 zi3dan4 'bullet', 桑樹 sang1shu4 'mulberry'.
12   副 (付) fu4 (fu4) 'set': 首飾 shou3shi4 'jewelry', 棋子 (兒) qi2zi3(er0) 'chess', 耳鉗子 er3qian2zi0 'earring', 手套 (兒) shou3tao4(er0) 'gloves', 神氣 shen2qi4 'air (of confidence/pride)'.
13   套 tao4: 傢伙 jia1huo0 'tools', 玩意 (兒) wan2yi4(er0) 'gewgaw', 把戲 ba3xi4 'tricks'.
14   蓬 peng2: 竹子 zhu2zi0 'bamboo'.
15   筆 bi3: 借款 jie4kuan3 'loan'.
16   串 (長串) chuan4 (chang2chuan4): 珠子 zhu1zi0 'beads', 佛珠 fo2zhu1 'sutra beads'.
17   掛 gua4: 珠子 zhu1zi0 'beads', 佛珠 fo2zhu1 'sutra beads'.
18   幫 bang1: 工人 gong1ren2 'worker'.
19   房 fang2: 親戚 qin1qi1 'relative'.
20   批 pi1: 貨 huo4 'goods', 學生 xue2sheng1 'student'.
21   組 zu3: 人員 ren2yuan2 'people'.
22   窩 wo1: 蜜蜂 (兒) mi4feng1(er0) 'bees', 耗子 hao4zi0 'rats'.
23   綑 (捆) kun3 (kun3): 柴火 chai2huo3 'firewood', 稻草 dao4cao3 'straw'.
24   群 (羣) qun2 (qun2): 人 ren2 'people', 羊 yang2 'sheep'.

25 胎 tai1: 小貓 (兒) xiao3mao1(er0) 'kitten'.
26 桌 zhuo1: 菜 cai4 'dishes', 酒席 jiu3xi2 'banquet'.
27 嘟嚕 du1lu1: 肉 rou4 'meat', 葡萄 pu2tao2 'grape'.
28 部 bu4: 書 shu1 'book'.
29 種 zhong3: 東西 dong1xi1 'things', 菜 cai4 'dishes', 動物 dong4wu4 'animal'.
30 類 lei4: 東西 dong1xi1'things', 貨物 huo4wu4 'goods'.
31 樣 (兒) yang4(er0): 菜 cai4 'dish', 人 ren2 'people'.
32 派 pai4: 服裝 fu2zhuang1 'clothing', 文章 wen2zhang1 'article'.
33 路 lu4: 軍隊 jun1dui4 'army', 服裝 fu2zhuang1 'clothing'.
34 壟 long3: 豆子 dou4zi0 'beans', 瓦 wa3 'tile'.
35 落 lao4: 碗 wan3 'bowl', 書 shu1 'book'.
36 伙 (夥) huo3 (huo3): 人 ren2 'people'.
37 束 shu4: 花 hua1 'flower'.
38 簇 cu4: 玫瑰花 mei2gui1hua1 'rose'.
39 席 xi2: 話 hua4 'speech'.
40 疊 die2: 鈔票 chao1piao4 'bills (i.e. banknotes)'.
41 紮 za1: 鈔票 chao1piao4 'bills (i.e. banknotes).
42 色 se4: 貨物 huo4wu4 'goods'.
43 票 piao: 人 ren 'people'.
44 叢 cong2: 玫瑰 mei2gui1 'rose', 草 cao3 'grass'.
45 攤 tan1: 水果 shui3guo3 'fruit'.
46 隊 dui4: 軍艦 jun1jian4 'military vessel'.
47 式 shi4: 洋服 yang2 fu2 'western dress'.
48 項 xiang4: 資產 zi1chan3 'assests'.

(iv)   Partitive measure words (Nfd)

1 些 xie1: 事情 shi4qing2 'matters', 東西 dong1xi1 'things', 糧食 liang2shi2 'food', 麻煩 ma2fan2 'trouble'.
2 分 (兒) fen4(er0): 家當 jia1dang4 'ownings', 禮 li3 'rituals', 錢 qian2 'money'.
3 部分 (部份) bu4fen4 (bu4fen4): 人民 ren2min2 'people', 原因 yuan2yin1'reason', 責任 ze2ren4 'responsibility'.
4 團 (兒) tuan2(er0): 泥 ni2 'mud', 和麵 huo4mian4 'dough', 亂紙 luan4zhi3 'scrap paper'.
5 堆 dui1: 雪 xue3 'snow'.
6 泡 pao1: 尿 niao4 'pee', 屎 shi3 'shit'.
7 綹 liu3: 頭髮 tou2fa3 'hair'.
8 撮 cuo1: 鬍子 hu2zi0 'facial hair'.
9 把 ba3: 花生 hua1sheng1 'peanut'.
10 股 gu3: 熱氣 re4qi4 'hot air'.
11 灘 tan1: 泥水 ni2shui3 'muddy water'.
12 汪 wang1: 水 shui3 'water'.
13 陣 zhen4: 雨 yu3 'rain'.

14 口 kou3: 氣 qi4 'air', 飯 fan4 'rice'.

15 塊 kuai4: 布 bu4 'clothe', 雲彩 yun2cai3 'cloud'.

16 滴 di1: 眼淚 yan3lei4 'tear drop', 藥水 yao4shui3 'eye drop/medicine'.

17 欄 lan2: 新聞 xin1wen2 'news (in newspaper)'.

18 捧 peng3: 土 tu3 'dirt'.

19 抱 bao4: 柴火 chai2huo3 'firewood', 稻草 dao4cao3 'straw'.

20 層 ceng2: 雲彩 yun2cai3 'cloud', 緣故 yuan2gu4 'cause', 樓 lou2 'floor', 餡兒 xian4er0 'filling'.

21 重 zhong2: 山 shan1 'moutain', 被窩 bei4wo1 'bed', 理由 li3you2 'reason'.

22 帶 dai4: 地方 di4fang1 'place'.

23 截 (兒) jie2(er0)/ (長截 (兒)) (chang2jie2(er0)): 竹子 zhu2zi0 'bamboo'.

24 節 (兒) jie2(er0)/ (長節 (兒)) (chang2jie2(er0)): 竹子 zhu2zi0 'bamboo', 甘蔗 gan1zhe4 'sugarcane'.

25 段 (兒) duan4(er0)/ (長段 (兒)) (chang2duan4(er0)): 故事 gu4shi4 'story', 文章 wen2zhang1 'article'.

26 絲 (兒) si1(er0): 肉 rou4 'meat'.

27 點 (兒) dian3(er0): 麵粉 mian4fen3 'flour', 東西 dong1xi1 'things', 知識 zhi1shi4 'knowledge'.

28 片 pian4: 熱忱 re4chen2 'enthusiasm', 好意 hao3yi4 'good intension'.

29 縷 lu3: 炊煙 chui1yan1 'cooking smoke'.

30 坨 tuo2: 鹽 yan2 'salt'.

31 匹 pi1: 布 bu4 'cloths/fabric'.

32 疋 pi3: 布 bu4 'cloths/fabric'.

33 階 jie1: 石階 shi2jie1 'stone steps'.

34 抔 pou2: 土 tu3 'dirt/earth'.

35 波 bo1: 寒流 han2liu2 'cold front', 股票熱 gu3piao4re4 'stock market rush'.

36 道 dao4: 光 guang1 'light'.

(v) Container measure words (Nfe)

1 盒 (子) he2(zi0) 'box': 洋火 yang2huo3 'match', 胭脂 yan1zhi1 'rouge'.

2 匣 (子) xia2(zi0) 'box': 首飾 shou3shi4 'jewelry'.

3 箱 (子) xiang1(zi0) 'carton': 皮袍子 pi2pao2zi0 'leather chang-shan', 書 shu1 'book'.

4 櫃子 gui4(zi0) 'cabinet': 衣服 yi1fu2 'clothing'.

5 櫥 (子) chu2(zi0) 'cabinet': 書 shu1 'book'.

6 籃 (子) lan2(zi0) 'basket': 水梨 shui3li2 'pear'.

7 簍 (子) lou3(zi0) 'basket': 木炭 mu4tan4 'charcoal'.

8 爐子 lu3(zi0) 'oven': 灰 hui1 'ash'.

9   包 (兒) bao1(er0) 'pack': 香煙 xiang1yan1 'cigarette'.
10 袋 (兒) dai4(er0) 'bag': 水泥 shui3ni2 'cement'.
11 池子 chi2zi0 'pond': 水 shui3 'water'.
12 瓶 (子) ping2(zi0) 'bottle': 醋 cu4 'vinegar'.
13 桶 (子) tong3(zi0) 'barrel': 汽油 qi4you2 'gasoline'.
14 聽 ting4 'tin': 奶粉 nai3fen3 'milk powder'.
15 罐 (子) guan4(zi0) 'can': 醬瓜 jiang4gua1 'pickle'.
16 罎 (子) tan2(zi0) 'jar': 酒 jiu3 'wine/liquor'.
17 盆 (子) pen2(zi0) 'basin': 水 shui3 'water'.
18 鍋 (子) guo1(zi0) 'pot': 湯 tang1 'soup'.
19 籠 (子) long2(zi0) 'basket': 包子 bao1zi0 'buns'.
20 盤 (子) pan2(zi0) 'plate': 水果 shui3guo 'fruit'.
21 碗 wan3 'bowl': 飯 fan4 'rice'.
22 杯 (子) bei1(zi0) 'cup': 茶 cha2 'tea'.
23 勺 (子) shao2(zi0) 'ladle': 醬油 jiang4you2 'soysauce'.
24 匙 (湯匙) chi2 (tang1chi2)'spoon': 鹽 yan2 'salt'.
25 筒 (子) tong3(zi0) 'cylinder': 香煙 xiang1yan1 'cigarette'.
26 擔 (子) dan4(zi0) 'carrying pole': 水 shui3 'water'.
27 籮筐 luo2kuang1 'basket': 菜 cai4 'vegetable'.
28 杓 (子) shao2(zi0): 油 you2 'oil'.
29 茶匙 cha2chi2 'teaspoon': 鹽 yan2 'salt'.
30 壺 hu2 'pot': 酒 jiu3 'wine/liquor'.
31 盅 zhong1 'bowl': 酒 jiu3 'liquor'.
32 筐 kuang1 'basket': 蘿蔔 luo2bo0 'turnip'.
33 瓢 piao2 'ladle': 水 shui3 'water'.
34 鍬 qiao1 'shovel': 土 tu3 'dirt'.
35 缸 gang1 'clay jug': 水 shui3 'water'.

(vi)   Temporary measure words (Nff)

1   身 shen1 'body': 雪 xue3 'snow'.
2   頭 tou2 'head': 白髮 bai2fa3 'white hair'.
3   臉 lian3 'face': 皺紋 zhou4wen2 'wrinkle'.
4   鼻子 bi2zi0 'nose': 灰 hui2 'dust'.
5   嘴 zui3 'mouth': 粗話 cu1hua4 'dirty words'.
6   肚子 du4zi0 'gut': 委屈 wei3qu1 'frustration'.
7   手 shou3 'hand': 油 you2 'grease'.
8   腳 jiao3 'foot': 泥 ni2 'mud'.
9   桌子 zhuo1zi0 'table': 剩菜 sheng4cai4 'leftover'.
10 院子 yuan4zi0 'yard': 樹葉 shu4ye4 'leaves'.
11 地 di4 'ground': 落葉 luo4ye4 'fallen leaves'.
12 屋子 wu1zi0 'room': 人 ren2 'people'.
13 池 chi2 'pond': 春水 chun1shui3 'spring water'.
14 腔 qiang1 'gut': 熱血 re4xue3 'hot-blooded/enthusiastic'.
15 家子 jia1zi0 'household': 人 ren2 'people'.

(vii)   Standard measure words (Nfg)

Length measure words, for example:

公厘 gong1li2 'millimeter', 公分 gong1fen1 'centimeter', 公寸 gong1cun4 'decimeter', 公尺 gong1chi3 'meter', 公丈 gong1zhang4 'decameter', 公引 gong1yin3 'hectometer', 公里 gong1li3 'kilometer', 市尺 shi4chi3, 營造尺 ying2zao4chi3, 台尺 tai2chi3 'Taiwanese foot', 吋 cun4 'inch', 呎 chi3 'foot', 碼 ma3 'yard', 哩 li3 'mile', (海) 浬 (hai3) li3 'nautical mile', 庹 tuo3 'span', 噚 xun2 'fathom', 尺 chi3 'foot', 里 li3 'mile', 釐 li2, 寸 cun4, 丈 zhang4, 米 mi3, 厘 li2, 厘米 li2mi3 'centimeter', 海哩 hai3li3 'nautical mile', 英尺 ying1chi3 'foot', 英里 ying1li3 'mile', 英呎 ying1chi3 'foot', 英寸 ying1cun4 'inch', 米突 mi3tu2 'meter', 米尺 mi3chi3 'meter', 微米 wei2mi3 'micrometer', 毫米 hao2mi3 'millimeter'. 英吋 ying1cun4 'inch'. 英哩 ying1li3 'mile', 光年 guang1nian2 'light year'.

Square measure words, for example:

公畝 gong1mu3 'are', 公頃 gong1qing3 'hectare', 市畝 shi4mu3 'market mu', 營造畝 ying2zao4mu3 'constructon mu', 坪 ping2 'ping', 畝 mu3 'mu', 分 fen1 'fen', 甲 jia3 'jia', 頃 qing3 'qing', 平方公里 ping2fang1gong1li3 'square kilometer', 平方公尺 ping2fang1gong1chi3 'square meter', 平方公分 ping2fang1gong1fen1 'square centimeter', 平方尺 ping2fang1chi3 'square feet', 平方英哩 ping2fang1ying1li3 'square mile', 英畝 ying1mu3 'acre'.

Weight measure words, for example:

公克 gong1ke4 'gram', 公斤 gong1jin1 'kilogram', 公噸 gong1dun4 'tonne', 市斤 shi4jin1 'catty', 台兩 tai2liang3 'Taiwan tael', 台斤 (日斤) tai2jin1(ri4jin1) 'Taiwan/Japan catty', 盎司 (斯)ang4si1(si1) 'ounce', 磅 bang4 'pound', 公擔 gong1dan4 'quintal', 公衡 gong1heng2 'myriagram', 公兩 gong1liang3 'hectogram', 克拉 ke4la1 'carat', 斤 jin1 'catty', 兩 liang3 'tael', 錢 qian2 'mace', 噸 dun4 'ton', 克 ke4 'gram', 英磅 ying1bang4 'pound', 英兩 ying1liang3 'ounce', 公錢 gong1qian2 'decagram', 毫克 hao2ke4 'milligram' , 仟克 cian1ke4 'kilogram', 公毫 gong1hao2 'centigram'.

Container measure words, for example:

公撮 gong1cuo1 'milliliter', 公升 (市升)gong1sheng1(shi4sheng1) 'liter', 營造升 ying2zao4sheng1 'construction liter', 台升 (日升)tai2sheng1(ri4sheng1) 'Taiwan/Japan liter', 盎司 ang4si1 'ounce', 品脫 pin3tuo1 'pint', 加侖 jia1lun2 'gallon', 蒲式耳 pu2shi4er3 'bushel', 公斗 gong1dou3 'decaliter', 公石 gong1dan4 'hectoliter', 公秉 gong1bing3 'kiloliter', 公合 gong1he2 'deciliter', 公勺 gong1shuo2 'centiliter', 斗 dou3,

毫升 hao2sheng1 'milliliter', 夸 kua1, 夸特 kua1te4, 夸爾 kua1er3, 立方米 li4fang1mi3, 立方厘米 li4fang1li2mi3 'cubic millimeter', 立方公分 li4fang1gong1fen1 'cubic centimeter', 立方公寸 li4fang1gong1cun4 'cubic deca-meter', 立方公尺 li4fang1gong1chi3 'cubic meter', 立分公里 li4fang1gong1li3 'cubic kilometer, 立方英尺 li4fang1ying1chi3 'cubic feet', 石 dan4, 斛 hu4, 西西 xi1xi1 (c.c.).

Temporal measure words, for example:

微秒 wei2miao3 'microsecond', 釐秒 li2miao3 'millisecond', 秒 (鐘) miao3(zhong1) 'second', 分 (鐘) fen1(zhong1), 刻鐘 ke4(zhong1) 'quarter', 點 (鐘)dian3zhong1 'hour', (小)時 xiao3shi2 'hour', 更 geng1 , 夜 ye4 'night', 旬 xun2 '10 days', 紀 (輪, 12 年) ji4 (lun2, shi2er4nian2) 'cycle (of Chinese zodiac)', 世紀 shi4ji4 'century', 天/日 tian1/ri4 'day', 星期/禮拜/週/周 xing1qi2/li3bai4/zhou1/zhou1 'week', 月 (份) yue4fen4 'month', 季 ji4 'season', 年/載/歲 nian2/zai3/sui4 'year', 年份 nian2fen4 'year', 晚 wan3 'night', 週年 zhou1nian2 'year (counting anniversaries)', 宿 zhou3 'night', 周歲 zhou1sui4 'year (old)'.

Monetary measure words, for example:

分 fen1 'cent', 角 (毛)jiao3(mao2) 'dime', 元 (圓)yuan2(yuan2) 'dollar', 塊 kuai4 'dollar', 先令 xian1ling4 'shiling', 盧比 lu2bi3 'rupee' , 法郎 (朗) fa3lang2(lang2) 'franc', 辨士 bian4shi4 'pence', 馬克 ma3ke4 'mark' , 鎊 bang4, 盧布 lu2bu4 'ruble', 美元 mei3yuan2 'US dollar', 美金 mei3jin1 'US dollar', 便士 bian4shi4 'pence', 里拉 li3la1 'lira', 日元 ri4yuan2 'Japanese yen', 台幣 tai2bi4 'Taiwan dollar', 港幣 gang3bi4 'Hong Kong dollar', 人民幣 ren2min2bi4 'Reminbi yuan'.

Other standard measure words, for example:

刀 dao1 'quire', 打 da3 'dozen', 令 ling4 'ream', 綸 (十條)lun2(shi2tiao2) '(American) run', 蘿 luo2 'gross', 大簍 da4luo2 'great gross', 焦耳 jiao1er3 'joule', 千卡 qian1ka3 'kcal', 仟卡 qian1ka3 'kcal', 燭光 zhu2guang1 'candela', 千瓦 qian1wa3 'kilowatt', 仟瓦 qian1wa3 'kilowatt', 伏特 fu2te4 'volt', 馬力 ma3li4 'horsepower', 爾格 er3ge2 'erg', 瓦特 wa3te4 'watt', 瓦 wa3 'watt', 卡路里 ka3lu4li3 'calorie', 卡 ka3 'calorie', 仟赫 qian1he4 'kilohertz', 位元 wei4yuan2 'bit', 莫耳 mo4er3 'mole', 毫巴 hao2ba1 'millibar', 千赫 qian1he4 'kilohertz', 歐姆 ou1mu3 'ohm', 達因 da2yin1 'dyne', 兆赫 zhao4he4 'megahertz', 法拉 (第)fa3la1(di4) 'farad', 牛頓 niu2dun4 'newton', 赫 he4 'hertz', 安培 an1pei2 'amp/ampere', 周波 zhou1bo1 'cycle', 赫茲 he4zih1 'hertz', 分貝 fen1bei4 'decibel', 毫安培 hao2an1pei2 'milli-amp/ampere', 居里 jyu1li3 'curie', 微居里 wei2jyu1li3 'microcurie', 毫居里 hao2jyu1li3 'millicurie'.

(viii)   Quasi-measure words (Nfh)

Writing measure words, for example:
筆 bi3 'stroke', 劃 (兒) hua4(er0) 'line', 橫 heng2 'horizontal stroke', 豎 shu4 'vertical stroke', 直 zhi2 'straight stroke', 撇 pie3 'leftward falling stroke', 捺 na4 'rightward falling stroke', 挑 tiao3 'rising stroke', 剔 ti4 'rising stroke', 鉤 (兒) gou1(er0) 'hooking stroke', 拐 guai3 'horizontal to vertical stroke', 點 dian3 'dot', 格 (兒) ge2(er0) 'square'.

Place measure words, for example:
國 guo2 'nation', 省 sheng3 'province', 州 zhou1 'state', 縣 xian4 'county', 鄉 xiang1 'township', 村 cun1 'village', 鎮 zhen4 'town', 鄰 lin2 'neighborhood', 里 li3 'village', 郡 jun4 'county', 區 qu1 'district', 站 zhan4 'stop', 巷 xiang4 'lane', 弄 nong4 'alley', 段 duan4 'section', 號 hao4 'number', 樓 lou2 'floor', 衖 long4 'sub-alley', 市 shi4 'city', 洲 zhou1 'continent', 地 di4 'location', 街 jie1 'street'.

Organization measure words, for example:
部 bu4 'ministry', 司 si1 'sub-ministry/department', 課 ke4 'section', 院 yuan4 'faculty/school', 科 ke1 '(academic) program', 系 xi4 '(academic) department', 級 ji2 'year (as of students)', 股 gu3 'sub-section', 室 shi4 'office', 廳 ting1 'bureau'.

Time measure words, for example:
會 hui3 'short moment', 會兒 hui3er0 'short moment', 陣 (子) zhen4(zi0) 'moment', 世 shi4 'generation', 輩 bei4 'lifetime', 輩子 bei4zi0 'lifetime', 代 dai4 'generation', 學期 xue2qi2 'semester', 學年 xue2nian2 'academic year', 年代 nian2dai4 'era', 下子 xia4zi0 'very short moment'.

Publication measure words, for example:
版 ban3 'edition, page (of newspaper)', 冊 ce4 'volume', 編 bian1 'edition', 回 hui2 'chapter (of novel)', 章 zhang1 'chapter', 面 mian4 'page', 小節 xiao3jie2 'sub-section', 集 ji2 'sub-volume', 卷 juan4 'volume'.

Direction measure words, for example:
面 (兒) mian4(er0) 'direction', 方面 fang1mian4 'aspect', 邊 (兒) bian1(er0) 'side', 頭 (兒) tou2(er0) 'way', 方 fang1 'direction'.

Music measure words, for example:
拍 pai1 'beat', 板 ban3 'strong beat', 眼 yan3 'non-strong beat', 小節 xiao3jie2 'bar'.

(ix)   Other quasi-measure words, for example:

程 cheng2 'leg (of trip)', 作 zuo4 'harvest (of times of harvests of grains per year)', 倍 bei4 'fold/time', 成 cheng2 'ten-percent'.

分 fen1 'ten-percent' (e.g.: 有三分醉 be three ten percent drunk '30 percent drunk; a bit drunk', 年利五分 annual interest five ten percent 'fifty percent annual interest').

厘 li2 'one percent' (e.g.: 年利五厘 annul interest five one percent 'five percent annual interest', 一分一厘都不能錯 one ten percent one one percent cannot wrong 'Cannot be wrong for either one or ten percent, must be totally correct').

毫 hao2 'one ten thousandth', 絲 si1 'one one-hundred-thousandth' (e.g.: 一絲一毫都不差

one one-hundred-thousandth one one-ten-thousandth all no differ 'there is no discrepancy even to the scale or one in ten thousand or one in one hundred thousand, totally precise').

圍 wei2 'the circumference of a cylandrical object (e.g. a tree trunk) that can be covered by one embrace', 指 zhi3 'finger', 象限 xiang4xian4 'quadrant', 度 du4 'degree'.

開 kai1(指開金) 'carat (of gold)', 聯 lian2 'first/second sentence (of a couplet)'.

軍 jun1 'corps', 師 shi1 'division', 旅 lu3 'brigade', 團 tuan2 'regiment', 營 ying2 'batallion', 伍 wu3 'fireteam', 班 ban1 'squad', 排 pai2 'platoon', 連 lian2 'company', 球 qiu2 'goal', 波 bo1 'wave', 端 duan1 'side', 回合 hui2he2 'round', 折 zhe2 'fold', 摺 zhe2 'fold', 流 liu2 'rate', 等 deng3 'class', 桿 gan3 'stroke'.

(x)   Measure words for verbs of action (Nfi):

Each measure word measures the event denoted by the verb, and very often the frequency of occurrenes of the actual event or individualized sub-event. For each example, a measure word is followed by the typical verb(s) that selects it. Glossary will not be given to the measure word unless it is derived from a content word and has a clear meaning related to the event.

1   回 hui2: 來 lai2 'to come'.
2   次 ci4: 跑 pao3 'to run'.
3   遍 bian4: 看 kan4 'to see', 念 nian4 'to read aloud', 說 shuo1 'so say', 查 cha2 'to check', 背 bei4 'to memorize/to recite from memory'.
4   趟 tang4: 去 qu4 'to go', 拜望 bai4wang4 'to pay visit and respect', 走 zou3 'to go'.
5   下 (兒) xia4(er0): 打 da3 'to hit', 摸 mo1 'to touch'.
6   遭 zao1 走 zou3. For example: 走他一遭 zou3ta1yi4zao1 (it's rarely used now).
7   番 fan1: 說 shuo1 'to speak', 勸 quan4 'to try to persuade', 教訓 jiao4xun4 'to lecture'.
8   聲 (兒) sheng1(er0): 叫 jiao4 'to call', 言語 yan2yu3 'to talk'. For example:「請你說一聲！」qing3ni3shuo1yi4sheng1 'Will you please mention (this to me when it happens)'.

9　響　xiang3:For example:「響 三 響」xiang3san1xiang3 ‘(the device) made sounds three times’, 「鐘 打 了 六 響。 」 zhong1da3le0liu4xiang3 ‘The bell rang six times.’

10　圈 (兒) quan1(er0) ‘circle’: 轉 zhuan3 ‘to turn’, 繞 rao4 ‘to go around’.

11　步 bu4 ‘step’: 走 zou3 ‘to walk’, 進 jin4 ‘to enter’, 邁 mai4 ‘to step forward’. For example:「邁三步」mai4san1bu4 ‘to take three steps forward’.

12　把 ba3 ‘handful’: 捏 nie1 ‘to pinch’, 掐 qia1 ‘to dig ones finger in’, 抓 zhua1 ‘to grab, to scratch’, 拉 la1 ‘to pull’, 幫 bang1 ‘to help’.

13　仗 zhang4: 打 da3 ‘to fight’.

14　覺 jue4: 睡 shui4 ‘to sleep’.

15　頓 dun4: 吃 chi1 ‘to eat’, 打 da3 ‘to hit’, 罵 ma4 ‘to scold’.

16　關 guan1 ‘gate’: 過 guo4 ‘to pass’. For example:「過五關」 guo4wu3guan1 ‘to pass five tests’.

17　手（兒）shou3(er0) ‘hands’): 來 lai2 ‘to come/give’. For example: 「改天我再露幾手給大家瞧瞧！」gai3tian1 wo3 zai4 lou4 ji3 shou3 gei3 da4jia1 qiao2qiao0 ‘I will show a few hands (i.e. skills/tricks) to you some other day.’

18　腳 jiao3 ‘foot’: 踩 cai3 ‘to step’, 踢 ti1 ‘to knock’.

19　（巴）掌 (ba1)zhang3 ‘palm/open hand’: 拍 pai1 ‘to slap’, 打 da3 ‘to hit’.

20　拳（頭）quan2(tou0) ‘fist’: 打 da3 ‘to hit’, 搥 chui2 ‘to hammer’.

21　拳 quan2 ‘fist’: 豁 hua2 ‘to hit with force’.

22　眼 yan3 ‘eye’: 看 kan4 ‘to look’, 瞅 chou3 ‘to glance’, 瞟 piao3 ‘shoot a side glance’, 瞪 deng4 ‘to stare’.

23　口 kou3 ‘mouth’: 咬 yao3 ‘to bite’, 吃 chi1 ‘to eat’.

24　刀 dao1 ‘knife’: 切 qie1 ‘to cut’, 砍 kan3 ‘to hack’, 扎 zha2 ‘to slash’, 刺 ci4 ‘to stab’ .

25　槌 (子) chui2(zi0) ‘hammer’: 打 da3 ‘to hit’.

26　板 (子) ban3(zi0) ‘board’: 打 da3 ‘to hit’.

27　鞭 (子) bian1(zi0) ‘whip’: 打 da3 ‘to hit’, 抽 chou1 ‘to whip’.

28　棒 bang4 ‘bat’: 打 da3 ‘hit’.

29　棍（子）gun4(zi0) ‘club’: 打 da3 ‘to hit’, 杵 chu3 ‘to club’.

30　陣 zhen4: 哭 ku1 ‘to cry’, 鬧 nao4 ‘to cause a scene’.

31　針 zhen1 ‘needle’: 扎 zha1 ‘to stab’, 戳 chuo1 ‘to poke’.

32　箭 jian4 ‘arrow’: 射 she4 ‘to shoot’.

33　槍（矛）qiang1(mao2) ‘spear’: 扎 zha2 ‘to stab’, 戳 chuo1 ‘to poke’.

34　槍 qiang1 ‘gun’: 打 da3 ‘to fire’, 放 fang4 ‘to release’.

35　砲 pao4 ‘cannon’: 放 fang4 ‘to release’.

36　場 chang3: 哭 ku1 ‘to cry’.

37　度 du4: 來訪 lai2fang3 ‘to visit’.

38　輪 lun2 ‘wheel’: 傳 chuan2 ‘to pass around’.

39　周 zhou1: 繞 rao4 ‘to circle’.

40 曲 qu3 'song': 唱 chang4 'to sing'.
41 跤 jiao1: 摔 shuai1 ' to fall'.
42 記 ji4: 吃豆腐 chi1dou4fu3 'to eat beancurd, to take advantage of'.
43 回合 hui2he2: 打 da3 'to play'.
44 票 piao4 'ticket': 幹 gan4 'to do', 賺 zhuan4 'to earn'.

9.1.7 Ng: Localizers

A localizer is a start-bound morpheme combined with a preceding subordinated content word (or phrase), or a preceding D-M compound, a locational prepositional phrase, a verbal phrase or occasionally a full clause. The localizer phrases usually assume the argument role of prepositions to form locational prepositional phrases. In rare cases, a locational prepositional phrase may modify sentences directly, or may modify nouns as a determinative. It may also occur as a verb argument. Localizers, as the term suggests, usually express the spatial and temporal (time) location of things, and may also assume the semantic roles of condition, manner, comparison or exclusion in some cases.

There are two factors that determine the assignment of semantic roles to a locational prepositional phrase. The first is the sense of a localizer; for example, the localizer 之際 zhi1ji4 'during the time of' always indicates the sense of time, and 旁 pang2 'side' always indicates the sense of space. The second factor is the property of the constituent preceding a localizer. For example, if the constituent preceding the localizer 下 xia4 'beneath' is a concrete noun, the locational prepositional phrase must be a place. If it is an abstract noun, a verbal phrase or a sentence, then the locational prepositional phrase probably will have a conditional sense. However, the localizers 上下 shang4xia4 'or so', 左右 zuo3you4 'approximately' and 不等 bu4deng3 'vary in number' are exceptions; the semantic role they assume is determined entirely by the arguments they take.

Principles of analysis

Although Chao (1968) considered some place or time words, such as 前面 quan2mian4 'in front', 後頭 hou4tou0 'behind', and 這兒 zhe4er0 'here',as complex localizers, we classify them as place or time words but not as localizers, because they can stand alone freely as NPs. However, it is important to note that localizers such as 上 shang4 'up', 下 xia4 'down', 前 qian2 'front', 後 hou4 'hind', 內 nei4 'internal', 外 wai4 'external', 中 zhong1 'middle', 中間 zhong1jian1 'middle', and 當中 dang1zhong1 'middle', may be preceded by a verbal phrase or a clause, resulting in a more versatile meaning, such as a condition and is not restricted to locational senses. Similarly, temporal localizer 以前 yi3qian2 'before' and 以後 yi3hou4 'after' are classified as such because of their versatility in being attached to different parts of speech/grammatical units, allowing different meanings.

Productivity should be taken into account when determining whether or not a word is a localizer. For instance, Chao (1968) listed 先 xian1 'before (in time)'

as a localizer, but we found only one word, 事先 shi4xian1 'before the event or act' with a start-bound morpheme 先 xian1. Hence, instead of labeling 先 xian1 as a localizer, we add 事先 shi4xian1 'before the event or act' to our lexicon. 終 zhong1 'endpoint (of time)' and 心 xin1 'center (of place)' are other examples: Only 歲終 sui4zhong1 'year-end', 年終 nian2zhong1 'year-end', 月終 yue4zhong1 'end of month', 湖心 hu2xin1 'mid-lake', 街心 jie1xin1 'mid-street', 廳心 ting1xin1 'mid-hall' and 手心 shou3xin1 'mid-palm' are found, we do not classify 終 zhong1 and 心 xin1 as localizers but have included related words in our dictionary.

Examples

There are a limited numbers of localizers, so we have listed all of them in Table 3 and illustrated the possible semantic roles of locational phrases for each localizer. The syntactic patterns are also attached to each example that indicates the possible argument form of the phrase.

9.1.8 Nh: Pronouns

Pronouns are used to refer to persons or things by directly substituting for full nouns or noun phrases. Pronouns differ from nouns in the following aspects: (1) Pronouns are a very small class and can be exhaustively listed, whereas nouns form an open class. (2) Pronouns, like proper names, are normally not modifiable by D-M compounds.

Subclasses

Based on the constraints of their referents in terms of first, second, and third person, pronouns are sub-classified into personal pronouns, interrogative pronouns, and general pronouns.

Nha Personal pronouns: They are divided into three subclasses based on whether their references (i.e. whether they refer to a single specific person or are applicable to a combination of first, second, or third persons).

Nhaa Regular personal pronouns: The regular personal pronouns refer to either first, second, or third persons, but only to a sigle type of personal reference. They are pronouns as 你 ni3 'you', 我 wo3 'I', 他 ta1 'he', 你們 ni3men0 'you (plural)', 我們 wo3men0 'we', 他們 ta1men0 'they', etc.

Nhab General personal pronouns: There is a class of pronouns that has non-specific personal reference and can refer to first, second, or third persons and typically can be used independently or in apposition with ordinary personal pronouns.[10] They are 自己 zi4ji3 'self', 自個兒 zi4ge3er0 'alone', 大家 da4jia1 'everyone', and 人家 ren2jia1 'others' etc.

Nhac Special personal pronouns: include several specific forms to name persons, which are: a polite or honorific form such as 您 nin2 'you, respectful form' and 閣下 ge2xia4 'you, respectful form', a humble and honorific form such

as 外子 wai4zi3 'my husband', 內人 nei4ren2 'my wife', and an intimate form such as 親愛的 qin1ai4de0 'darling'.[11]

Nhb Interrogative pronouns: include 誰 shei2 'who', 甚麼 shen2me0 'what', 什麼 shen2me0 'what', 啥 sha2 'what', 孰 shu2 'who/what'.

Nhc General pronouns which can have both personal and non-personal references: include 其 qi2 'which', 之 zhi1, 前者 qian2zhe3 'the former', 後者 hou4zhe3 'the latter', 兩者 liang3zhe3 'both', 二者 er4zhe3 'both', 以上 yi3shang4 'all above', 以下 yi3xia4 'all below'.[12]

9.2 Conceptual Structure of Nouns

In the CKIP dictionary framework, we not only assign parts of speech to different kinds of content words, but also distinguish nouns using various semantic features. The conceptual structure is a tree structure based on all conceptual nodes for nouns and the semantic features shared by all instances of each conceptual node. Semantic restrictions of arguments of verbs are also expressed by such conceptual representation. The details of the structure and principles of analysis will be addressed below.

9.2.1 Framework

The conceptual structure of nouns is constructed via various semantic relations as shown below:

IS-A relation

The semantic relation embedded in this tree structure is mainly restricted to the IS-A relation, which results in a hierarchical order. (For the definition of each node of the structure, please refer to Appendix 2.) The IS-A relationship between hypernymous concepts and hyponymous concepts maintains the feature inheritance property, i.e. the lower-level concept inherits the properties of all its ancestors. For instance:

推銷員 tui1 xiao1 yuan2 'salesman'

semantic class: mankind
semantic feature: mammals, animals, edible, mobile, sentient, animate, substance, existence.

In this example, the semantic class of 'salesman' is a kind of 'mankind' according to our conceptual structure. Because it is a lower level node, the features of its ancestors—[+mammals] [+animals] [+animate], etc.—are therefore automatically inherited; additional features of 'animals', such as [+edible] [+mobile] [+sentient], etc., are also automatically inherited.

PART-WHOLE Relation

In addition to ISA relation, we also express the part-whole relationship which is not embedded in the hierarchy but which is encoded by a special operator % in individual concepts, such as:

pine needle: % woody plants
belly: % animals

Like IS-A relation, the mechanism of semantic feature inheritance is also used to indicate the part-whole relationship. However, the lower concept does not inherit all the properties of its ancestors but is stipulated one by one. The following are two different cases for comparison:

食肉類 shi2rou4lei4 'carnivore'

semantic class: animal
semantic feature: edible, mobile, sentient, animate, substance, existence.

手 shou3, 'hand'

semantic class: %animal
semantic feature: edible, sentient, substance, existence.

In above examples, the semantic class of 'carnivore' and 'hand' are 'animals' and '%animals', respectively, but 'carnivore' inherits all the features of its ancestors automatically, whereas 'hand' can only inherit partial features: excluding [+mobile] and [+animate].

Attachment of extra features

Some nominal concepts exist that do not fall into the same semantic type on the hierarchical tree; however, they may share similar semantic features, which happens to be the argument constraint on some verbs. To encode the abovementioned semantic relations, we may either establish another ontology tree to create a new common semantic type for them, or assign the same semantic features to them. We adopt the latter approach: the conceptual relations are established either by explicit tree linking or by shared features such that integrity of ontology is maintained. For example, birds and airplanes are classified into two distant semantic types, but they both possess the property of being able to fly. We then add the feature of [+flight] to link them together. Not only can semantic features link relevant concepts, as seen in a-c, but the nodes on the hierarchical tree can also assume the role of linking, as shown in Examples (d)–(f).

(a)   something that can be eaten [+edible]: animal, plant, food;

(b)   something which is able to fly [+flight]: bird, flying object;
(c)   something which is able to move [+mobile]: animal, vehicle, celestial body;
(d)   something that is given human-like characteristics [+mankind]:human being, the god.
(e)   something that contains/requires knowledge [+knowledge]: creation, knowledge, game; and
(f)   something that is in liquid form [+liquid]: drinks, fluid.

Take the verb 'eat' as an example to demonstrate the function of semantic features. Eat shows the case frame of agent and theme, where the semantic restriction of theme is [+edible] that implies the concept nodes listed in (a): for example, animal, plant, food, are all possible themes of the verb 'eat'.

吃
語意訊息
意義：'eat'
論元：agent, theme
語法訊息
詞類：VC31
型式：
agent[{NP[+animate],PP}]
theme[{NP[+edible],PP}]
句型：…

Figure 9.4 Semantic Features of the Verb *chī* 'to eat'

There are nominal concepts which indicate meaning facets of either physical or nonphysical types; however, with the same approach for feature attachment, we need not classify them into two subtypes. For example, 'basketball' is thus marked to simultaneously denote a physical 'ball' and a nonphysical 'sport name'.

Principles of analysis

UNITY OF CLASSIFICATION

To achieve consistency of classification for nominal concepts, the hyponymous (i.e. belongs to the lower conceptual node) semantic features should be given higher priority in labeling to avoid overlapping/conflicts. The following cases are exceptions to the generalization as we tend to label them with hypernymous (higher/shared) semantic features.

(i)   A noun denotes a generic concept. For example, Daily commodities: artifact; Recent works: creations.
(ii)   A compound noun combines with two subtypes and refers to two different concepts. For example, Grass and trees: plants ; Body and soul: entity

Notes

1 In the previous version of *Analysis of Mandarin Grammatical Categories* (CKIP 1989) we listed a subclass of proper names Nbb for terms of addresses such as 親愛的 qin1ai4de0 'daring' or 死鬼 si3gui3 'you devil'. However, as Tang (1990) observed, the reference or addressee of these terms changes depending on the speaker. Hence we do not regard these terms of addresses as a kind of proper nouns, abut as a type of special personal pronouns (i.e. context-dependent co-referring terms).

2 Syntactically, the restricted occurrence of modifiers can be used to distinguish these nouns from the other place words.

3 Following Chao (1968), we do not place proper place names under proper names, since proper names cannot be the objects of 在 zai4 'at' etc., though proper place names can be.

4 In a previous version of *Analysis of Mandarin Grammatical Categories* (CKIP 1989) we listed a subclass of time words Ndb to indicate time in the form of a D-M compound. This tag and word class has now been deleted because the productive D-M formation rules are morph-syntactically generated and not lexically specified (Mo et al. 1991).

5 As mentioned, adverbial time words are content words that modify verbs directly. In fact, many time-period names used in cycles also modify verbs directly, such as 暑假 shu3jia4 'summer', 傍晚 bang1wan3 'evening', and 昨天 zuo2tian1 'yesterday' as shown in the following examples.

(289)　女青年會　　　　　暑假　　　推出　　　小朋友　　　　知性
　　　　nv3qing1nian3huai4　shu3jia4　tui1chu1　xiao3peng2you3　zhi1xing4
　　　　之　　旅
　　　　zhi1　lu3
　　　　YWCA summer vacation launch children intellectual ZHI journey
　　　　'YWCA launched an intellectual journey for children in summar vacation.'

(290)　作家　　　謝冰瑩　　　　昨天　　　結束　　　在台假期,
　　　　zuo4jia1　xie1bing1ying2　zuo2tian1　jie2shu4　zai4tai2jia4qi2,
　　　　傍晚　　　　搭機　　返美
　　　　bang1wan3　da1ji1　fan3mei3
　　　　writer Hsieh Bing-ying yesterday end at Taiwan vacation, evening enplane back to the US
　　　　'The writer Hsieh Bing-ying ended her vacation in Taiwan yesterday, and flew back to the US in the evening last night.'

However, we can still tell the difference between them because time-period names used in cycles can be combined to form a new time phrase, such as 去年暑假 qu4nian2shu3jia4 'last summer', and 昨天傍晚 zuo2tian1bang1wan3 'yesterday evening' , etc., but adverbial time words cannot.

6 Note that post-quantitative determinatives do not precede a noun directly, but follow a numeral determinative or a D-M compound.

7 The abbreviations OS, DS, HS here and WQ, PQ, QQ, DQ, PNM in the subclass of quantitative determinatives are used to represent these subtypes.

8 Our classification of measure words follows the analysis of Chao (1968), with minor changes as described below: (1) We have deleted some measure words mentioned by Chao because they are no longer commonly used today and have replaced them with currently used measure words. (2) We shifted the subtype of dollar measure words and temporal measure words from quasi-measure words to standard measure words. In addition, please also note that although zero measure words (Nfzz) were included in an earlier version, it was not implemented in corpus tagging for the obvious reason that

there is nothing to to tag. Its definition is given below for the record. Zero measure words are compounds consisting of two or more numeral determinatives. They are nonetheless regarded as measure words, because they function as measure words to modify the nouns by measuring them. For example, 三萬人口 san1wan4ren2kou3 '30,000 people', 百分之三十的車輛 bai3fen1zhi1san1shi2de0che1liang4 'thirty percent of cars'.

9 「部」 refers to the content carried by a book. Please also see its homophonous Nfc28 部.

10 Not all general personal pronouns are applicable to first, second, or third persons. For example, 人家 ren2jia1 'others' can only refer to first and third persons but not second persons, and 人家 ren2jia1 'others' cannot be used in apposition with first, second, or third persons.

11 In the previous version of *Analysis of Mandarin Grammatical Categories* (CKIP 1989) the polite form (Nhaca) and the humble form (Nhacb) of pronouns are treated as two separate sub-classes of special person pronouns. However, since their syntactic behaviors cannot be distinguished, we have merged the two subclasses and adopted semantic features like +honorific, +deferential, +nickname, instead of POS to differentiate them.

12 In addition to the few general pronouns listed, 'X+ 者' words are also classified into this type. Please note that such pronominal expressions can be productively generated by morphological rule. In our lexicon, only disyllabic ones such as 前者 qian2zhe3 'the former', 後者 hou4zhe3 'the latter', 兩者 liang3zhe3 'both' and 二者 er4zhe3 'both' are listed.