

# A Unified Account to Measure Words in Mandarin: Unit Phrase

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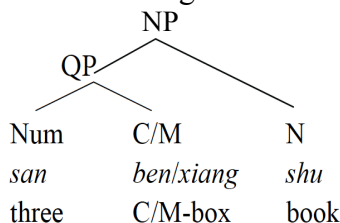
Since Cheng and Sybesma (1999), the headedness of measure words and the semantic distinction between classifiers and massifiers have received great attention and discussion. Various structures have been proposed to account for Chinese noun phrases with classifier/messifier: a unified left-branching structure (Huang 1982, Tang 1990, and Hsieh 2008, as in (1)), a unified right-branching structure (Tang 1990, Cheng and Sybesma 1999, Borer 2005, among others, as in (2)), and a non-unified account (Zhang 2011, i.e., (3a) and (3b)). Assuming the semantic distinction proposed in Cheng and Sybesma (1999), yet unlike the previous syntactic accounts, I argue for a different right-branching structure which presents the measure word as the head of a Unit Phrase (hence UnitP) dominating noun phrase and taking numeral phrase as its specifier, as shown in (4). I argue that this structure (4) accounts for the distribution and the interpretation of adjectives modification within a nominal expression and the syntactic behaviors of classifier/messifier. The current proposal also correctly captures the tone sandhi patterns within nominals and avoids the overgeneralization under previous analyses.

**Proposal:** I argue that Mandarin measure words (both classifier and massifier) syntactically function as the head of UnitP, and that the occurrence of Unit head changes the semantic core of the whole nominal expression. **[Argument 1]** The proposed structure (4) receives its initial support from the fact that modifiers of UnitP have scope over the whole nominal. Examples in (5) show that the modifiers of Unit and those of N are semantically contradictory, but such expressions are grammatical, and the NP is interpreted under the scope of UnitP. **[Argument 2]** The proposal (4) is also supported by the fact that numeral phrases are parasitic on Unit within a nominal expression. Examples in (6) show that a numeral cannot surface alone within a nominal, but its occurrence relies on the Unit head, even when the numeral is a complex phrase, as exemplified in (7). **[Argument 3]** The prosodic interaction further supports the proposed structure (4). In Mandarin, the third tone [214] undergoes tone sandhi and becomes the second tone [35] when the syllable carrying the third tone is followed by another third tone syllable (e.g., (8a)). Although in the phonology literature (Dunmu 2005 and the references therein), there is no consensus on what constitute the obligatorily sandhi domain, interestingly, if we pay closer attention to the syntactic structure of the data, we find where the third tone sandhi rule optionally applies is between a head and its complement, but that the third tone sandhi rule always has to apply between the specifier/modifier and its head (e.g., (8b) adjective-N, (8c) intensifier-adverb, and (8d) AdvP-V). Given this observation, example (9) shows that the third tone sandhi rule has to apply between the numeral phrase and the Unit ((9a) vs. (9b)), although it can optionally apply between the Unit and the noun ((9b)-(9c)). This supports the proposal (4) that number phrase is specifier of UnitP, and NP, the complement.

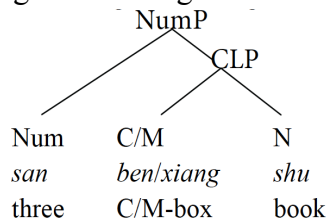
In this paper, I argue that taking a joint approach of phonology and syntax provides us new data to examine the internal structure of Chinese nominals. I also argue that the current proposal explains the same range of data as other proposals do, and it directly accounts for facts such as nominal-internal ellipses and the coordination phenomena through a unified account.

## Examples

(1) Left-branching Structure



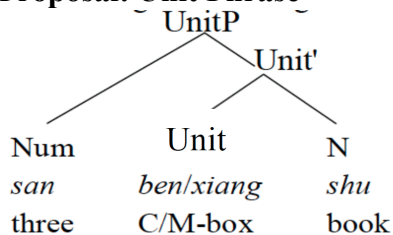
(2) Right-branching Structure



(3) Non-unified Account:

Structure (1) for massifiers  
Structure (2) for classifiers

(4) **Proposal: Unit Phrase**



(5) a. [<sub>UnitP</sub> **tebie** **dade** san ke [<sub>NP</sub> **xiao** fanqie]]  
 unusually big three Unit small tomato  
 ‘three unusually-big-sized small tomatoes’

b. [<sub>UnitP</sub> **henhoude** san pian [<sub>NP</sub> **bo** shaubing]]  
 very thick three Unit thin bread  
 ‘three very thick pieces of thin bread’

(6) a. \*Wo mai-le **san** shu.  
 I buy-PERF three book  
 ‘I bought three books.’

b. Wo mai-le **san** ben shu.  
 I buy-PERF three Unit book  
 ‘I bought three books.’

(7) Wo mai-le **chaoguo** **sanshi** \*(ben) shu.  
 I buy-PERF more.than thirty Unit book  
 ‘I bought more than 30 books.’

(8) Mandarin Third tone sandhi:

	a. [ <sub>N</sub> <b>lao.shu</b> ]	b. [ <sub>NP</sub> <b>hao jiu</b> ]	c. [ <sub>AdvP</sub> <b>hen hao</b> ]	d. [ <sub>VP</sub> [ <sub>AdvP</sub> <b>hen hao</b> ] <b>yang</b> ]
	‘mouse’	good wine	very good	very good raise
Underlying tone:	<b>214.214</b>	<b>214 214</b>	<b>214 214</b>	<b>214 214 214</b>
Surface tone:	<b>35.214</b>	<b>35 214</b>	<b>35 214</b>	<b>35 35 35</b>

(9) **wu.bai** **dang** **yingpian** ‘five hundred films’  
 five.hundred Unit film

Underlying tone: 214.214 214 214.51

a. \*Surface tone: [<sub>UnitP</sub> **35.214** [<sub>Unit'</sub> **35** [<sub>NP</sub> 214.51 ] ]

b. Surface tone: [<sub>UnitP</sub> **35.35** [<sub>Unit'</sub> **35** [<sub>NP</sub> 214.51 ] ] → numeral-Unit as specifier-head

c. Surface tone: [<sub>UnitP</sub> **35.35** [<sub>Unit'</sub> 214 [<sub>NP</sub> 214.51 ] ] → Unit-NP as head-complement

**Selected References**

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