The Syntax of Classifiers

量词的句法研究

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科学出版社

海南师范大学学术著作出版项目资助

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内 容 简 介

本书秉承形式主义语言学的学术理念，试图证明人类语言有着普遍意义上的计数机制，以此实现语言的计数（counting）。词库（lexicon）里的名词没有可数名词和物质名词之分，只有经过计数机制的操作方可实现计数。本书从英汉语言对比出发，提出量词语类是实施这种计数机制的普遍功能语类。作者认为，把人类语言划分为量词类型语言与非量词类型语言的类型学假设缺乏必要性，非量词类型语言中存在物质名词和可数名词之分，量词类型语言中名词都是物质名词的提法也因此失去了逻辑基础。

本书的主要读者对象：从事英语及汉语语言教学与研究工作的广大高校教师，从事理论语言学研究的硕士、博士研究生，对语言学问题感兴趣的语言类高年级本科生及社会一般读者。

图书在版编目(CIP)数据

量词的句法研究=The Syntax of Classifiers：英文/ 蔡激浪著. —北京：科学出版社，2015.5

ISBN 978-7-03-043559-0

I. ①量… II. ①蔡… III. ① 英语-数量词-句法-研究-英文 IV. ①H314.3

中国版本图书馆 CIP 数据核字（2015）第 044757 号

责任编辑：常春娥 / 责任校对：赵桂芬
责任印制：张 倩 / 封面设计：铭轩堂

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科 学 出 版 社 出版
北京东黄城根北街 16 号
邮政编码：100717
http://www.sciencep.com

新科印刷有限公司 印刷

科学出版社发行 各地新华书店经销
*
2015 年 5 月第 一 版 开本：720×1000 1/16
2015 年 5 月第一次印刷 印张：12 3/4
字数：260 000

定价：75.00 元

（如有印装质量问题，我社负责调换）

前　言

量词是汉语的一个典型语类，是传统汉语语法研究的一个重要语法范畴。学术界对汉语量词的研究硕果累累。本书并非对汉语量词语法现象进行翔实的描写和分析，而是秉承形式主义语言学的学术理念，从跨语言的角度探讨量词语类的本质特征和普遍性。

量词与复数形态标记在不同语言中存在互补分布的现象，以往的研究通常把语言分为两类，分别是量词类型语言（如汉语）与非量词类型语言（如英语）。前者在表示名词数量时需要使用量词，名词没有复数标记；后者在表示名词数量时不需要量词，但名词有复数标记。与此问题紧密相关的另外一个问题是名词可数性的问题。具体来讲，在非量词类型语言中，名词有可数名词与物质名词之分；量词类型语言则不然，有些学者认为，在此类语言中，所有的名词都是物质名词。由此产生一个问题：是什么导致的这种差异？本书基于形式主义语言学的前沿理论，旨在回答进而解决这个问题。本书试图证明人类语言有着普遍意义上的计数机制，以此实现语言的计数（counting）。换言之，词库（lexicon）里的名词没有可数名词和物质名词之分，只有经过计数机制的操作方可实现计数。本书从英汉语言对比的角度出发，提出量词语类是实施这种计数机制的普遍功能语类。由此看来，把人类语言分为量词类型语言与非量词类型语言的类型学假设便失去了必要性；非量词类型语言中存在物质名词和可数名词之分，量词类型语言中名词都是物质名词的提法也因此失去了逻辑基础。

本书第 1 章界定本书的研究对象、研究问题和基本假设；第 2 章讨论光杆名词的语义，可数名词与物质名词的语义基础，名词复数标记与量词的互补分布等问题；第 3 章探讨量词短语的句法结构，提出量词特征分解分析法；第 4 章分析量词短语和名词短语结构的语义、句法互动关系；第 5 章讨论两种多重量词短语结构的句法特点；第 6 章是本书的总结。

本书是作者几年来通过学习与研究形成的一些拙见，恐有纰漏之处，请各位专家、同行加以指正！

蔡澂浪

2015 年 1 月 20 日

List of Abbreviations

A	adjective
ACC	accusative case
AP	adjective phrase
Asp	aspect
C	complementizer
CMN	classifier-modifier-noun
CL	classifier
CLP	classifier phrase
CP	complementizer phrase
DAT	dative case
DE	*de* in Chinese
F_{mass}	functional head for mass reading
GEN	genitive case
Gen-operator	generic operator
ICL	individual classifier
IMCC	inner multiple classifier construction
IMN	inner modifier nominal
KCL	kind level classifier
LF	logical form
MCC	multiple classifier construction
MCN	modifier-classifier-noun
M-operator	measure operator
Mod	modifier
MW	measure word
N	noun
Nom	nominative case
NP	noun phrase
Nume	numeral
Num	number
NumP	number phrase

OMCC	outer multiple classifier construction
OMN	outer modifier nominal
P	preposition
Part	partitive head
PartP	partitive phrase
PC	partitive construction
PELI	Principle of Economy of Lexical Insertion
PF	phonetic form
PL	plural
PP	preposition phrase
PPC	pseudo-partitive construction
SG	singular
Spec	specifier
T	tense
TP	tense phrase
V	verb
VP	verb phrase
XP	maximal projection
[Count]	count feature
[Cla]	classification feature
[Num]	number feature
[Ref]	referential feature
[I. know]	[I know] feature
[Y. know]	[you know] feature

Contents

Chapter One

Introduction

1.1 Preliminaries

Greenberg (1972) makes a typological generalization that classifiers and number morphology are complementarily distributed to some extent and that languages without number morphology tend to have classifiers. Based on this generalization, languages are divided into two types: classifier languages and non-classifier languages (see also Li 1999; Cinque 2006; Li 2011 for some more discussions). In classifier languages, a classifier is obligatorily used when a noun occurs with a numeral. In non-classifier languages, classifiers are not needed for a noun to combine with a numeral, but the noun is number-marked. This contrast is exemplified by (1) and (2).

(1) a. san zhi xiong
three CL bear
'three bears'
b. san ping niunai
three bottle milk
'three bottles of milk'

(2) a. three bears
b. three bottles of milk

Note that (2b) is usually regarded as a pseudo-partitive construction in the previous literature. In this study, we claim that classifiers also exist in (2a) (as an empty category) as well as in (2b). Based on this claim, we will pursue the possibility that the classifier is a language universal category, an idea not well envisaged before. This study covers the following research questions, as listed in (3).

(3) a. What is the semantics of classifiers?
b. How are classifiers represented syntactically?
c. How are classifiers related to interpretations of nominal phrases?

Durational and frequentative expressions are excluded from our discussions, as shown in the italicized part of (4).

(4) a. Wo chi fan *liang ge xiaoshi* le. (durational phrase)
I eat meal two CL hour Asp
'I have had meals for two hours.'

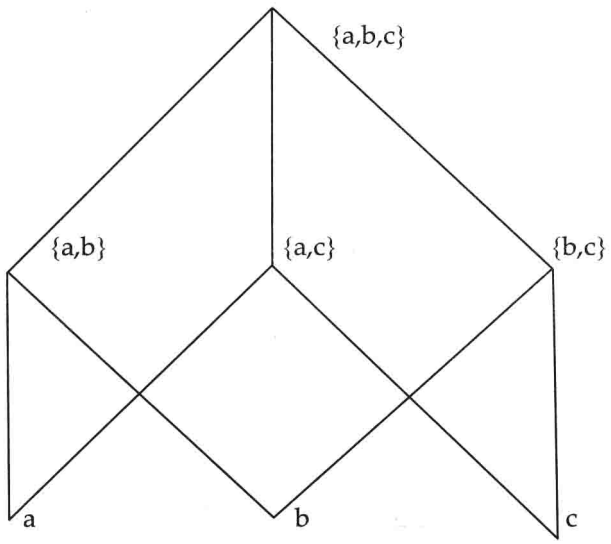
b. Wo qu Shanghai *liang ci* le. (frequentative phrase)
I go Shanghai two CL Asp
'I have been to Shanghai twice.'

In the next section, we will give an overview of the main assumptions of this study.

1.2 Overview

We start our discussions with the semantics of nouns. By examining the reference-to-kind approach (Carlson 1977a, 1977b; Chierchia 1998a, 1998b; Li 2011, among others) and property-denoting approach (e.g., Krifka 2004) to bare nouns, we show that the latter approach is a much favored one. Another hot issue involved in the semantics of nouns is the count-mass distinction. There are mainly two approaches to this issue as well. One is the lexical approach which claims that nouns are marked as count or mass in the lexicon; the other is the syntactic approach in which the count-mass dichotomy is attributed to syntax. Inspired by the syntactic approach, we argue that bare nouns (neutral of number) are property-denoting and denote a join semi-lattice in the sense of Link (1983). See the illustration for join semi-lattices in (5) (Doetjes 1997: 27).

(5)



In the diagram in (5), *a*, *b*, *c*, {*a*, *b*}, {*a*, *c*}, {*b*, *c*}, {*a*, *b*, *c*} are all members of the set, which is ordered by *part of*-relation (shown by the upward lines). The *part of*-relations among those different members of the set can be sketched as follows: *a* is part of {*a*, *b*} and {*a*, *c*}; *b* is part of {*a*, *b*} and {*b*, *c*}; *c* is part of {*a*, *c*} and {*b*, *c*} and {*a*, *b*}, {*a*, *c*} and {*b*, *c*} are parts of {*a*, *b*, *c*}. We define nouns in this sense as root nouns. But different from the distributed morphology (Halle & Marantz 1993; Marantz 1997), root nouns in our sense are already category marked, whereas they are unmarked for number. Bare plurals are not root nouns; instead, they have more complex internal structures.

We distinguish two types of join semi-lattices. The first type is the join semi-lattice with individuals as minimal parts; the other type (continuous one) refers to those without minimal parts. But different from Link (1983), the first type covers both *book* like nouns and *furniture* like nouns; the second type refers to join semi-lattices of *water* like nouns. We depart from Link (1983) in that we do not think different types of join semi-lattices make any difference with respect to the countability of nouns. Rather, we claim that nouns denoting join semi-lattices with minimal parts or without minimal parts can both be counted under a certain condition. We put forward such a condition as in the following (6).

(6) Condition of Counting

i A noun α can be counted iff it denotes a set of aggregates X, such that X is monotonic.

ii A set of aggregates X is monotonic iff x is the minimal part for X and for any aggregate y, such that y=x and $y \in X$.

A monotonic semi-lattice can be exemplified in (7).

(7) Monotonic semi-lattice

Natural atoms: { a, b, c … …}

or

Unnatural atoms: {x (a, b, c…), y ((a, b, c …), z (a, b, c …)… …} or {x (stuff undefined), y (stuff undefined), z (stuff undefined)… …}

To put it simply, the monotonic condition requires that the unit of counting should be at the same size. This is reminiscent of the common sense in mathematics: you cannot count two things of different units. For instance, when you have an apple on one side and a basket of apples on the other side, you cannot count them as *two apples* or *two baskets of apples*. If you take out all the apples out of the basket and count all the individual apples, the counting unit is a natural atom;

alternatively, you may get another basket and put the apple alone on one side into that basket, and then you take out some of the apples from the former basket and put them into the new basket, then you get two baskets of apples. In this case, the counting unit is an unnatural atom.

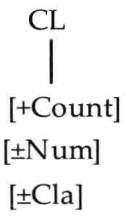
A forthcoming question is: by what mechanism are join semi-lattices turned into monotonic ones? Taking into account the obligatory presence of classifiers between numerals and nouns in Chinese, and the fact that classifiers and plural morphemes are complementarily distributed cross-linguistically, we make an assumption that plural morphemes are the realization of classifiers, an idea owing traces to Borer (2005). Given this, we argue that it is the classifier that behaves as a mechanism that turns join semi-lattices into monotonic ones. Semantically, classifier performs as a COUNT operator in the sense of Rothstein (2010) (though some modifications are made) on root nouns and makes their join semi-lattices monotonic. Such an operation is sketched in the expression of (8).

(8) $\text{COUNT}_{\text{CL}}(N_{\text{root}}) = \{<d, CL>: d \in N \cap CL\}$

As shown in (8), COUNT_{CL} operation applies to a root noun and gives a set of ordered pairs. They are entities that count as atoms denoted by CL. In the absence of CL, root nouns are selected by another functional head F_{mass}, which causes a mass interpretation of nouns.

Given the thinking we made in the previous discussions, we come to a conclusion that classifiers are always present in a counting nominal phrase. In another word, classifiers are also present in the structures of (2). Specifically, we argue that CL is phonologically null in (2a), while *bottles* is a CL in the pseudo-patitive construction of (2b). It is argued that plural morpheme *-s* does not denote 'more than one' meaning; instead, it is only for the sake of syntactic agreement. Following the same line of thinking, bare plurals in English should also be regarded as classifier phrases. Before we put forward a unified account of classifiers, we first clarify a unified right constituency of different types of classifier phrases including both a variety of Chinese classifier phrases and English pseudo-partitive constructions. Henceforth we put forward a feature decomposition analysis of CL, sketched in the following (9).

(9)



Specifically, [Count] is an inherent feature which determines in what syntactic slot a lexical item is merged; both [Num(ber)] and [Cla(ssification)] features are non-inherent (optional) features which are derived from the inherent feature and determine what other lexical items can be merged with the head, either as a specifier or as a complement. [Num] corresponds to plural markers in languages like English, while [Cla] refers to the classifying function of classifiers in languages like Chinese. The apparatus in (9) is able to account for different morpho-phonological forms of classifiers in Chinese and English, as listed in (10).

(10) i Chinese classifiers: normally have a fixed semantic selection towards NPs, e.g., *zhi* (*bi*) 'CL (pen)'; do not encode plurality.
ii English plural morphemes: usually lack fixed semantic selection towards NPs; encode plurality.

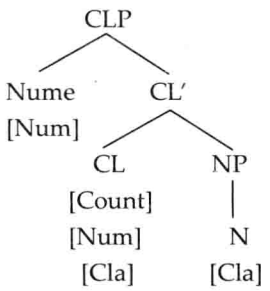
Based on Zwart (1993) (cited in Alexiadou 1997), we redefine the locality condition of feature matching in the following (11).

(11) Locality Condition of Feature Matching

a. a maximal projection α agrees with β only if it is the specifier of β;
b. a head α agrees with a head β only if α is adjacent to β and either α or β must be a functional head.

Bearing (11) in mind, we can illustrate the format of feature matching of CL as in (12).

(12)



Mismatch of features will cause ungrammaticality, as (13) shows:

(13) a. *yi zhang bi
one CL pen
'a pen'
b. *one bears

An asterisk (*) is used to indicate the ungrammaticality of the expression.

The examination of some other languages such as Armenian and Ojibwe shows that such an apparatus is insightful in accounting for cross-linguistic variations of classifiers.

The feature decomposition analysis is also extended to DP domain in this monograph, which is crucial to interpretations of DP. We assume that D is a functional head for referentiality. Inspired by Gebhardt (2009), we figure out a feature decomposition apparatus of D as follows.

(14)
D
|
[+Ref]
[±I. know]
[±Y. know]

[Ref(erential)] is the inherent feature of D, which determines the slot of D. In addition, D encodes two optional features: [I. know] and [Y. know]. The former indicates that "the speaker presupposes that a referent exists and he can identify it", while the latter refers to that "the speaker presupposes that the addressee also knows the referent" (Gebhardt 2009: 350). In the presence of both [I. know] and [Y. know] features, D will be definite interpreted, while either [I. know] or [Y. know] enables D to be specific interpreted. To account for the licensing of the functional heads in nominal phrases, we adopt Dimitrova and Giusti's (1998) Principle of Economy of Lexical Insertion[1] (PELI henceforth) in our discussions, as shown in (15).

(15) Principle of Economy of Lexical Insertion
A functional projection must be licensed at all levels of representation by either
a. Making the specifier visible, and/or
b. Making the head visible.
(Dimitrova-Vulchanoua & Giusti 1998: 158)

To guarantee the right linear order, we figure out another principle which serves as a supplement to the above principle.

(16) Priority Condition of Movement
Given two ungoverned lexical heads α and β, and α precedes β, α is null and β is lexically filled; β is triggered to move to α iff the specifier of β, γ is null, otherwise, γ moves to the Spec of α.

1 This term is originally used in Sio's (2006) dissertation when she reviews Dimitrova-Vulchanova and Giusti's (1998) assumptions.

(16) states that XP movements are always prior to head movements for the licensing of a functional head.

The feature decomposition analysis developed in this study enables us to give a unified account for classifier phrases cross-linguistically and their close relation with D with regard to the realization of different interpretations of nominal phrases.

1.3 A Note on Terminology and Data

In order to avoid confusions, we set out some terminological guidelines as follows.

Throughout this book, the word **plural**, used either as a noun (bare plural) or an adjective (plural nouns), refers to the morphologically plural form. **Plurality** or **number** is used for both plural and singular forms of nouns. Note that bare singulars are in the same form as root nouns in our analysis, but root nouns are not concerned with plurality. **Classifier** is a general term for all the instantiations of the syntactic node **CL** in our analysis. However, we may use more specific terms for different types of classifiers (e.g., container measure classifiers). For convenience, we will keep using exactly the same terms used by other linguists while reviewing their ideas.

Data used in this study are mainly from Mandarin Chinese and English. Data of some other languages or some dialects of Chinese will be particularly labeled. Also note that data without quotations are all given by the author. Some of the quoted data may be adapted for the sake of consistency with the gloss in this study.

Chapter Two

Bare Nouns, Plurality and Classifiers

Discussions on classifiers are not devoid of the semantics of nouns and plurality in previous research. This is due to the fact that classifiers cannot be better understood without a clear understanding of the other two. Without exception, this chapter covers three issues: the semantics of bare nouns, the count-mass dichotomy of bare nouns and the complementary distribution of plural markers and classifiers across languages. We first recapitulate different views concerning these three issues in previous research and then put forward our proposals.

2.1 Bare Nouns: Reference to Kinds

Bare nouns refer to nouns (either of single or plural form) without any extended projections, as exemplified in (1).

(1) a. bear(s)
b. xiong
'bear(s)'

Discussions on the semantics of bare nouns will shed light on our understanding of the study of classifiers. The semantics of bare nouns has long been a focus since Carlson (1977a, 1977b) in previous research (Diesing 1992; Kratzer 1995; Chierchia 1998a, 1998b; Krifka 1995; Yang 2005; Rothstein 2010, among others). Most of the discussions concentrate on what bare nouns denote.

Kind-reference analysis states that bare nouns uniformly refer to kinds by default. The object-related use of bare nouns is explained by a general property of episodic predicates. To our knowledge, Carlson (1977a, 1977b) is the first linguist who well develops the kind-reference analysis. Carlson (1977a, 1977b) supposes that bare plurals serve as proper names of kinds, and that kinds can be construed as abnormal individuals which are a bit different from normal individuals. Carlson puts forward two claims: 1) null determiners before bare plurals can never be a plural form of the indefinite article *a* or an equivalent of the weak sm[1]; 2) bare

1 Carlson (1977a, 1977b) uses 'sm' to refer to the phonologically weak 'some'.