

Toward

a Cognitive Model of Deixis

指示语的认知模型解析

李洁红 著



科学出版社

www.sciencep.com

Toward

a Cognitive Model of Deliberation

deliberation 的认知模型解析

丁建明 著



清华大学出版社
Tsinghua University Press

Toward
a Cognitive Model of Deixis
指示语的认知模型解析

李洁红 著

科 学 出 版 社

北 京

图书在版编目(CIP)数据

指示语的认识模型解析 / 李洁红著. —北京: 科学出版社, 2008

ISBN 978-7-03-022802-4

I. 指… II. 李… III. 指示-语义学-研究 IV. H030

中国版本图书馆 CIP 数据核字(2008)第 124239 号

责任编辑: 郝建华 / 责任校对: 刘小梅
责任印制: 钱玉芬 / 封面设计: 无极书装

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>

中国科学院印刷厂印刷

科学出版社编务公司排版制作

科学出版社发行 各地新华书店经销

*

2008 年 5 月第 一 版 开本: A5 (890×1240)

2008 年 5 月第一次印刷 印张: 4 3/4

印数: 1—2 500 字数: 205 000

定价: 35.00 元

(如有印装质量问题, 我社负责调换〈科印〉)

Acknowledgements

First of all, I would like to express my special gratitude to my supervisor Professor Mei Deming for his instruction and encouragement in life and study. It is his profound knowledge and insight, valuable criticism and kind understanding that help me accomplish this study.

My sincere thanks also go to Professor Zheng Tong, a faculty advisor of Mathematical Contest of Modeling (MCM). His heuristic instruction on modeling helps me adopt a mathematical method to study language and widens my horizon in academic studies.

In addition, I am grateful to Li Jiexin, my sister, who sent me some of the most valuable materials from the United States. My thanks are also due to Professor Wang Guizhi, dean of the school of foreign languages in Harbin Institute of Technology, who made great effort to lessen my work in HIT, to Tian Qiang, my colleague, who has proofread part of the book, and to Jia Xuerui, my colleague, who has helped me a lot in writing this book. Finally, I would like to thank Li Xiangming, who helped me draw the most figures in the book.

Abstract

Deixis, as a universal language phenomenon, is an important topic in linguistic studies. The traditional studies, though successful in providing a considerably detailed description of deixis, lack a theoretical framework, in terms of which deixis can be studied in a systematic way. The cognitive approaches to deixis in recent years shed new light on the study of deixis, but the focus is only restricted to certain deictic expressions or the epistemic interpretation of deixis. The present study, based on the traditional and cognitive studies of deixis, builds up a cognitive model of deixis, by means of which the cognitive process of deixis can be iconically represented and the nature of deixis can be revealed from the perspective of cognition. The cognitive model of deixis can develop the theory of deixis, and provide the foundation for artificial intelligence to understand deixis. It is of theoretical significance and practical value.

By analyzing the three cognitive mechanisms that bring on deixis, i.e. viewpoint and viewpoint shift, conceptual metaphor and epistemic models, we define the cognitive model of deixis as a Cartesian coordinate system with three axes — space, time and modality, in which the speaker is situated at the origin, and vectors are applied to represent the semantic configuration of deixis. This model involves person deixis, space deixis, time deixis and modal deixis, with the capacity of covering as much deixis as possible. Both the structure and the operation of the model are cognitively motivated in that viewpoint, spatial metaphor and epistemic models shape the basic structure of the model while viewpoint shift enables the model to work in a dynamic way. Moreover, conceptual metaphor makes it coherent by mapping the physical space axis onto the psychological space axis, the past time axis, the future time axis and the modality axis. Finally, vec-

tors are figured and operated on the perceptual and neurophysiological bases. Viewpoint and proximal/distal distinction determine the direction and the length of vectors whereas viewpoint shift motivates vectors to function by way of transformation, dilation and contraction. Such a cognitively motivated model can best simulate the way deixis is derived and applied in the experiential situatedness of human individuals, and thus clearly show the cognitive “path” of deixis in actual speech communication.

In the cognitive model of deixis, geometric space is applied to figure the conceptualization of deixis. Some typical examples in the traditional studies and some commonly-used deictic expressions are adopted as language data. Their semantic configuration is iconically represented by a vector or a set of vectors. Personal pronouns and demonstratives are located on the physical space axis, and their locations are intrinsically interrelated. Vocatives and empathetic deixis reflect the speaker’s emotional distance or empathy, and therefore have their configurative presentation on the psychological space axis. Events are identified on the time axis and the modality axis. Known reality is designated by past time and present time while potential reality is indicated by future time and modals. With the help of these axes, some unconventional uses of present tense, past tense and future tense can be better explained. What’s more, some abnormal uses of deixis like verbs of motion, historical present and conditionals can also be better explained with the shift of coordinate system. In general, deixis in the study is about a speaker indicating the amount of “effort” that goes into determining the physical, psychological and epistemic status of a referent in terms of its definiteness and its proximity/distance vis-à-vis the origin of the model and the “effort” is iconically represented by geometric vectors.

In light of the semantic configuration of deixis in the cognitive model, the nature of deixis is revealed through inductive reasoning. In the first place, the study comes to the discovery that deixis is a con-

ceptual phenomenon rather than a linguistic phenomenon. It can thus be defined as a cognitive “path” by which the speaker accesses the profiled entity; it has only deictic meaning and is devoid of referential meaning. Deixis can be morphologically expressed in free form and bound morpheme, covering pure deictic expressions with exclusive deictic meaning and non-deictic expressions with both deictic and referential meaning.

The study also differentiates the two degrees of subjectivity of deixis, the “objective” subjectivity and the “subjective” subjectivity. What is conventionally called subjectivity is actually the “objective” subjectivity in the study. It is the speaker’s subjective perception and determines the common uses of deixis in speech communication. The “subjective” subjectivity results from the speaker’s viewpoint shift. It is reflected in the application of all categories of deixis, and thus enables the speaker to coin various abnormal deictic expressions.

Finally, the study reveals the systematic nature of deixis and builds up a system model of deixis. Deixis is thought of as a system since it is composed of various deictic expressions that are interrelated to each other. The relations between categories of deixis and those between various deictic expressions are figured out in terms of human being’s cognitive mechanisms, including egocentric cognition, spatial cognition, conceptual metaphor, viewpoint shift, and categorization. Deixis is an open system, which implies that new deictic expressions will be introduced into the system with the further study on deixis.

The cognitive model of deixis proposed in the study lays the foundation for comprehending deixis on computer. In order to achieve this goal, it is our next job to provide all necessary conditions for the specific orientation of each deictic expression in the coordinate system, especially the prerequisites for deictic projection. This may be a tough job, but of practical value.

Key words: deixis; cognitive model; vector; subjectivity; system model

摘要

语言中普遍存在的指示现象是语言学研究的重要课题。传统研究已经对指示现象进行了非常详细的描写,但仍然缺乏系统的理论框架。近几年指示语的认知研究虽然开辟了新的途径,但这些研究大多侧重个别指示现象,或者只强调指示语的经验解释。基于此,本研究建立了一个指示语认知模型,形象地描写指示的认知过程并据此揭示指示现象的本质。该模型的建立不仅能发展指示理论,同时为人工智能理解指示语提供准备,具有理论意义和实用价值。

通过分析形成指示现象的认知机制,即视角及视角转移、概念隐喻和认识模式,我们将指示语的认知模型定义为一个以说话人为原点,以空间、时间和情态为轴的笛卡尔坐标系,用矢量描写指示语在该系统中的语义结构。该模型涉及人称指示、空间指示、时间指示和情态指示,能够最大限度地涵盖指示现象。模型的结构和使用也以认知机制为基础,其中视角、空间隐喻和认识模式为模型基本结构的建立提供依据,而视角转移使模型以动态的方式解决问题。此外,概念隐喻使该模型的各层面存在关联,也使该模型成为一个有机系统。矢量的体现和运行也有其感知和神经生理基础,视角和远近空间差异决定矢量的方向和大小,而视角转移可以导致矢量的迁移、放大和缩小。这样一个以认知为基础模型能够形象地模拟指示语在经验世界的产生和应用,清楚地展现指示语在言语交际中的认知“路径”。

指示语的认知模型采用几何空间模拟指示语的概念化过程。本研究以传统研究中的典型指示语和日常用语中的指示语为语料,用矢量空间描写其语义结构。人称代词和指示代词定位于物理空间轴,它们的定位存在某种内在关系。呼语和移情指示则定位于心理空间轴。在时间轴和情态轴上识别事件,已知现实由过去时间和现在时间表达,潜在现实由将来时间和情态动词表达。借助该模型,现在、过去和将来时态的一些异常用法可以得到合理的解释。同时,该模型中协调系统的整体移动为移动动词、历史现在时和条件句等用法提供了充分的说明。总之,指示

就是说话人根据情景语境和经验现实为确定所指的物理距离、心理距离和认识距离所作的“努力”，这一“努力”过程用矢量空间形象地表达出来。

基于认知模型中指示语的语义结构，本研究归纳总结了指示语的本质。首先，指示现象不是语言现象而是概念现象。据此，可将指示定义为说话人通往所指实体的认知“通道”，仅有指示意义没有指称意义。它可以由语言的自由形式和黏着形式表达，包括仅具指示意义的纯粹指示语和兼具指示意义和指称意义的非纯粹指示语。

同时本研究还区分了指示语的两种主观特性，即“客观”主观性和“主观”主观性。传统研究中所说的主观性其实是本研究中的“客观”主观性，它是说话人的主观感知，决定着指示的常规使用方法。而“主观”主观性则源于说话人的视角转移，每类指示语中都存在“主观”主观性，它使说话人经常使用各种异常的指示表达方式。

最后，本研究揭示了指示语的系统性，并建立了指示语的系统模型。指示是一个系统，因为指示语间存在关联。这种关联归因于人类的自我中心、空间认知、概念隐喻、视角转移和范畴化等认知机制。指示语系统是一个开放系统，即随着指示研究的深入进行，该系统将产生新的系统因素。

指示语的认知模型将为计算机识别指示语奠定基础。为了实现这个目标，我们下一步的工作是为指示语在模型中的精确定位提供必要条件，尤其是指示映射产生的先决条件。任务虽然艰巨，但具有实用价值。

关键词：指示语；认知模型；矢量；主观性；系统模型

Contents

Acknowledgements

Abstract

摘要

List of Figures

Chapter 1 Introduction	1
1.1 Significance of the Study	1
1.2 Research Objectives	2
1.3 Research Methodology	3
1.4 Organization of the Book	4
Chapter 2 Traditional Studies on Deixis	5
2.1 Main Contributions Made by Philosophers and Linguists	5
2.2 General Description of Deixis	8
2.2.1 Characteristics of Deixis	8
2.2.2 Definition of Deixis	11
2.2.3 Semantic Features of Deixis	13
2.2.4 Classification of Deixis	14
2.2.5 Usages of Deixis	15
2.3 Main Problems in the Traditional Studies	17
2.3.1 Lack of Nature-based Definition	17
2.3.2 Deictic Projection	17
2.3.3 Vague Relations between Categories of Deixis	18
2.4 Summary	18

Chapter 3 Cognitive Approaches to Deixis	20
3.1 Introduction: Epistemic Basis of Deixis	20
3.2 Epistemic Grounding	21
3.2.1 Grounding Elements and Their Deictic Nature	21
3.2.2 Types of Deictic Expressions	22
3.2.3 Cognitive Motivations of Deictic Expressions	24
3.3 Mental Spaces	27
3.3.1 Basic Ideas of Mental Spaces	27
3.3.2 Application of Mental Spaces in the Study of Deixis	29
3.4 Vantage Point and Field of Vision	35
3.5 Summary	41
Chapter 4 Toward a Cognitive Model of Deixis	43
4.1 Introduction: a Model Based on Situation and Cognition	43
4.2 Cognitive Motivations for the Model	46
4.2.1 Viewpoint and Viewpoint Shift	46
4.2.2 Conceptual Metaphor	50
4.2.3 Epistemic Models	54
4.3 Structure of the Model	56
4.3.1 A Three-axis Coordinate System	56
4.3.2 Vector and Vector Space	60
4.4 Summary	61
Chapter 5 Semantic Configuration of Deixis in the Model	63
5.1 Person Deixis	63
5.1.1 Person Deixis on the Space Axis	63
5.1.2 Deictic Projection between Persons	68
5.2 Space Deixis	72

5.2.1 Proximal/distal Relation on the Space Axis	72
5.2.2 Verbs of Motion	75
5.2.3 Prepositions with Deictic Use	80
5.3 Time Deixis	82
5.3.1 Time Deictic Terms	82
5.3.2 Tense	85
5.4 Modal Deixis	95
5.4.1 Degrees of Epistemic Distance	95
5.4.2 Real Conditions and Unreal Conditions	99
5.5 Summary	104
Chapter 6 Reconsideration of Deixis from the Perspective of Cognition	106
6.1 Definition and Semantic Features	106
6.2 Subjectivity and Grammatical Features	111
6.3 Deixis as a System and Its Model Structure	118
6.4 Summary	122
Chapter 7 Conclusions	123
7.1 Summary of the Study	123
7.2 Major Findings of the Study	126
7.3 Limitations and Suggestions for Further Studies	128
Bibliography	130

List of Figures

3-1 Field of vision: participant roles <i>I</i> and <i>you</i>	35
3-2 Field of vision: participant roles with two perspectives	37

3-3	Field of vision: demonstratives <i>this</i> and <i>that</i>	37
3-4	Field of vision: tenses	40
4-1	Structure of the cognitive model of deixis.....	60
5-1	Personal pronouns and vocatives.....	67
5-2	<i>I</i> is transferred into <i>you</i>	70
5-3	Third person is transferred into <i>we</i>	70
5-4	Demonstratives on the physical and psychological space axes	74
5-5	Verbs of motion	77
5-6	Configuration of <i>I'm coming</i>	79
5-7	<i>Came</i> with home base as reference point	80
5-8	<i>Come</i> in a hypothetical space	80
5-9	Configuration of <i>in front of</i>	81
5-10	Prototypical time deictic terms	84
5-11	Configuration of <i>yesterday</i> with other reference point.....	85
5-12	Present tense, past tense and future tense.....	89
5-13	Past future	90
5-14	Historical present and present tense in a hypothetical space.....	92
5-15	Present perfect	93
5-16	Past perfect.....	94
5-17	Future perfect	94
5-18	Epistemic distance of modals.....	99
5-19	Real and unreal conditions.....	101
5-20	Unreal condition in the present	102
5-21	Unreal condition in the past	103
5-22	Unreal condition in the future.....	103
6-1	System model of deixis.....	123

Introduction

1.1 Significance of the Study

Deixis, as a universal language phenomenon, is an important topic in linguistic studies. From the end of the 19th century, philosophers and semanticists did intermittent researches on deixis. Until 1934, Bühler's now-here-I system of subjective orientation laid the theoretical foundations for the study of deixis. In the subsequent 1950s and 1960s, deixis jumped into the focus of pragmatics and theoretical linguistics. From the 1970s to the 1990s, a more comprehensive study of deixis was made by Lyons, Fillmore and Levinson, etc. These studies provide a considerably detailed description of deixis in its characteristics, definition, semantic feature, categorization and usage, but scatter in different linguists' academic papers and works without being fully developed in theoretical depth. Till now, there are still a number of problems unsolved in deixis, among which lack of nature-based definition, deictic projection, and vague relations between categories of deixis are most obvious. These problems are greatly due to the underdeveloped theoretical framework of deixis.

With the development of cognitive linguistics in recent years, some linguists adopted cognitive approaches to deixis, including epistemic grounding, mental spaces, and field of vision. Cognitive linguistics, which is philosophically based on experiential realism, views language as a part of general cognition and aims to explain how

language is systematically grounded in human cognition. One principle of cognitive linguistics is that language is not a representation of objectively existing reality, but of reality as it is perceived and experienced by human beings. By using cognitive approaches, some problems of deixis in traditional studies can be better explained and some new properties of deixis are brought forward. These approaches shed new light on the study of deixis, but only focus on certain deictic expressions or the epistemic interpretation of deixis. Till now there is no systematic study of deixis in cognitive linguistics.

Based on the traditional studies and cognitive studies of deixis, the present study intends to build up a cognitive model of deixis, by which deixis can be systematically handled. This model is represented as a Cartesian coordinate system with space, time and modality as axes, in which a vector or a set of vectors is applied to mark the semantic configuration of deixis. With the help of this model, we can cover as much deixis as possible and reveal the nature of deixis from the perspective of cognition. The cognitive model of deixis will develop the theory of deixis, and provide a preparation for artificial intelligence to understand deixis. Hence it is of theoretical significance and practical value.

1.2 Research Objectives

The study, first of all, aims to build up a cognitive model of deixis by means of Cartesian coordinate system. This model needs to be cognitively motivated for the purpose of reflecting the true way deixis is applied in the experiential situatedness of human individuals. Different from the traditional coordinate system of deixis, this model should take space, time and modality as the axes of the coordinate system so as to cover as much deixis as possible. Moreover, this model should be structured coherently in order to show the interrelation-

ships between different categories of deixis and those between various deictic expressions. And the coordinate system of deixis is not a fixed one, but can shift based on its base set of coordinates to explain the abnormal usages of deixis in the traditional studies. Last but not least, geometric vectors should be used to mark the semantic configuration of deixis in way of addition, translation, dilation and contraction so that the complicated cognitive process of deixis can be iconically figured.

In addition, the study, based on the cognitive model of deixis, aims to reveal the nature of deixis by solving the three early-mentioned problems of deixis in the traditional studies. Therefore, the study hopes to achieve three goals. The first is to redefine deixis from a perspective of cognition and give a brief description of the basic semantic features of deixis. The second is to figure out the cognitive factors that affect the application of deixis, especially the application of deictic projection. The last is to figure out the relationships between deictic expressions and build up the system model of deixis.

1.3 Research Methodology

Three methods are adopted to conduct the research, including analytical method, geometric space, and induction. First, the book, based on the traditional and cognitive studies of deixis, analyzes the cognitive motivations of proposing a cognitive model of deixis. Analytical method can help ensure the rationality and integrity of the model. Then, in the proposed model of deixis, geometric vectors are applied to simulate the conceptualization of deixis on different dimensions. Geometric space can iconically figure the semantic configuration of deixis. Finally, the nature of deixis is revealed by inductive reasoning. That is, the attributes of deixis like functionality, subjectivity and systematicness are inferred from the configuration of