以汉语为母语双语者的双语句法表征和处理研究

Bilingual Syntactic Representation and Processing of Chinese Bilinguals

雷 蕾◎著

華中科技大學出版社
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内 容 提 要

本书研究了汉英、汉德双语者双语句法的表征和处理机制，是目前国内第一部研究双语句法表征和处理的著作。

本书研究视角独特，方法新颖，研究发现对句法表征和处理等相关理论有贡献。本书对心理语言学、二语习得、外语教学等领域的研究者和博士、硕士研究生有参考价值。

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序

2007 年 9 月，雷蕾考入上海交大，在我的指导下攻读外国语言学及应用语言学博士学位。他在硕士阶段做的是与二语习得相关的研究，对语料库语言学和应用语言学研究方法亦有兴趣，入学前已发表相关论文。入学后，他又对心理语言学产生了浓厚兴趣。通过入学后两个学期的文献阅读积累，他很快确定了以双语句法表征和处理机制研究作为博士论文研究的选题。其后，他的学习和研究过程非常顺利，于第五学期完成了博士论文初稿，并于第六学期通过了论文外审和答辩。在上海交大，能用六个学期完成博士论文研究实属不易。

雷蕾顺利完成博士阶段的研究和学习，可以归结为如下几点。一是善于思考。每个周一上午是我与博士生交流的时间。雷蕾总在交流时汇报他过去一周的阅读心得，提出遇到的问题和拟解决问题的方案。交流时，他几乎总是最活跃的，不时会有新的想法和好的点子。二是注重研究方法。雷蕾在入学前即掌握了基本的应用语言学研究设计和统计方法，入学后更是在研究方法方面下了工夫，广泛阅读应用语言学、心理学和教育学等相关学科的研究方法论方面的书籍，这使得他在博士论文的研究中得心应手。三是勤于笔耕。雷蕾不仅勤于做读书笔记，即时记录自己的想法，还会将想法付诸实践，进行相关实验和调查，并撰写相关论文。在读博期间，雷蕾在国内外应用语言学期刊发表论文数篇便是明证。另外，研究和学习之余，雷蕾的课余生活也丰富多彩。他坚持一周数次打篮球和长跑，经常在线下围棋。他能劳逸结合，研究和学习效率更高。一次，他无意中提起，在上海交大三年，他阅读了数十本民国学者的传记，也让我印象深刻。

我一直认为，攻读博士学位的过程，其实是接受完整而严谨的学

术训练的过程。成功地经历了这个过程，也就达到了学术训练的目的。上面几点对于雷蕾在读博期间的描述，其实也是一个合格的博士生在经历学术训练的过程中应该逐步具备的素养——善于思考、掌握研究方法、勤于笔耕、乐于学术以外的爱好。这几点也是我对博士生的期许。

双语句法表征和处理机制的研究是心理语言学领域近年来的一个热门课题，国外相关研究主要涉及罗曼语和日耳曼语双语者的研究，国内相关研究尚不多见。雷蕾的博士论文通过一系列跨语言句法启动实验，对我国晚熟不平衡双语者的双语句法表征和处理机制进行了研究。该研究认为，晚熟不平衡双语者的双语句法表征是部分共享的，并在此基础上提出了一语支配论。双语句法表征是一个逐步发展的过程，在二语学习的初始阶段，一语和二语的句法表征是相互独立的；随着二语水平的发展，二语句法表征逐渐与一语句法表征融合。对于双语句法的处理机制和编码过程，该研究认为，句法启动效应是内隐学习和瞬时激活共同作用的结果；同时，实验结果亦支持单一阶段说，即语法编码过程中的功能分配和位置分配可能是同时进行的。

雷蕾的博士论文是国内第一部专门研究我国双语者双语句法表征和处理机制的著作，其研究视角独特，研究方法新颖，研究结果对于句法表征和处理相关理论有一定贡献。论文对于心理语言学、二语习得、外语教学等领域的学者和研究生有重要参考价值。

在博士论文即将付梓之际，雷蕾问序于我。作为导师，我乐见论文的出版，欣然写下这篇文字。希望雷蕾以论文的出版为新的起点，在学术研究的道路上继续耕耘，取得更大的成就。

是为序。

王同顺

2013 年 3 月 16 日

于上海交大闵行校区

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Preface

The mechanisms of bilingual syntactic representation and processing involve issues on how the two syntactic systems are represented in a bilingual's mind and what the mechanism of bilingual syntactic processing is in the process of bilingual sentence production. Although many studies have been conducted on the mechanisms of bilingual syntactic representation and processing, the concerning issues are to date far from being resolved. Meanwhile, most of the previous studies examined the related questions on bilingual speakers of Romance and Germanic languages. It is not clear whether the proposals already made can be applied to bilingual speakers with Chinese as the first language. Thus, it motivates us to explore the mechanisms of bilingual syntactic representation and processing of late unbalanced Chinese bilinguals with a series of experiments of cross-linguistic syntactic priming in the present study.

First, we designed three experiments to investigate the bilingual syntactic representation of late unbalanced Chinese-English bilinguals. Experiment 1 was an experiment of cross-linguistic syntactic priming from Chinese to English. The results showed priming effect on passive structures. Experiment 2 was an experiment of cross-linguistic syntactic priming from English to Chinese. No priming effect was found on either active structures or passive structures. Finally, we conducted an experiment of syntactic priming within Chinese (Experiment 3). No priming effect was found on either active or passive structures within Chinese. We argued that, due to the different syntactic structures between Chinese and English as well as the asymmetric nature of the first language (L1) and the second language (L2) proficiency of the participants, the bilingual syntactic representations of the late unbalanced

Chinese-English bilinguals might be partially shared. Meanwhile, we suggested the L1 dominance account which argues that there may exist an interim stage of L1 dominance when L1 takes the dominant position and the L2 syntax is processed in virtue of L1 processing. As for the absence of priming effect within Chinese, we argued that there might exist some idiosyncratic features of syntax in Chinese. In addition, the cognitive processing in L1 is largely automatic so that the structure of the target sentences is not affected by that of the prime sentences.

Since the bilingual syntactic representation of the late unbalanced bilinguals might not be fully integrated as found in Experiments 1 and 2, we designed two experiments to investigate how the bilingual syntactic representations develop. Results of Experiment 4 showed effect of cross-linguistic syntactic priming from Chinese to English on both the double object (DO) and the prepositional object (PO) constructions. More importantly, the effect of cross-linguistic syntactic priming increases while the L2 proficiency develops on the DO constructions. Experiment 5 triangulated the results of Experiment 4. Priming effect of passive sentences for both the less and the more proficient participants and the effect of L2 proficiency on the production of passive sentences were found. We argued that, at the initial stage of L2 learning, the L1 and the L2 structures might be separately represented. Along with the development of L2 proficiency, the L2 syntactic representation might be gradually integrated into the L1 representation. Further, no priming effect of active structures on both the less and the more proficient participants was found in Experiment 5. Since the English active is more commonly used than the passive, it was claimed that the findings supported the inverse-preference effect. That is, the more known or generally more preferred knowledge would be less likely to be learned, while the less known or generally less preferred knowledge would be more likely to be learned.

In addition, we investigated the mechanisms of cross-linguistic syntactic priming. Specifically, we conducted Experiment 6 to testify the implicit learning account and the transient activation account. The results of the experiment showed a long-term effect of cross-linguistic syntactic priming on the DO and the PO constructions under the same exposure condition. To our knowledge, the experiment is to date the only experiment that found the long-term effect of cross-linguistic syntactic priming. The results also indicated that

the proportions of targets produced were affected by the relative frequencies of exposure to it, which provided evidence to the accumulated priming effect. In addition, no lexical boost effect was found in the experiment. It was argued that the interaction of the implicit learning and the transient activation mechanisms might be responsible for the effect of syntactic priming. Last, the results of the experiment together with those of Experiment 4 lent support to the argument that there exist dative constructions and dative alteration in Chinese as those in English. It also confirmed the existence of psychological reality of Chinese DO and PO constructions.

The last issue we examined is the process of grammatical encoding in bilingual syntactic processing. Specifically, we conducted two experiments of cross-linguistic syntactic priming between Chinese and German to investigate the role of word order in bilingual syntactic processing. The results showed priming effect from Chinese to German and a marginal priming effect from German to Chinese on active constructions. However, priming effect on passive constructions was not found in either direction. The results seemed to support the one-stage account, i. e., the functional and the positional assignments were achieved at a single stage during the process of grammatical encoding. We also argued that the process of bilingual syntactic processing and production seemed to rely more on the dominating language of a bilingual and the more preferred structure of the target language.

We discussed the implications of the present study for linguistic and psycholinguistic theories as well as for language instruction practice at the end of the book. Limitations and suggestions for future research were presented.

前言

双语句法表征和处理机制的研究涉及两种语言的句法系统在双语者大脑中的表征和双语句子产生过程中的双语句法处理机制等问题。虽然前人已进行了很多研究，但相关问题至今仍没有解决。另外，先前研究大多是针对罗曼语和日耳曼语双语者进行的，其研究成果是否可应用于以汉语为一语的双语者尚存疑问。因此，本书试图通过一系列跨语言句法启动实验，对晚熟不平衡汉语双语者的双语句法表征和处理机制进行研究。

首先，我们设计了三个实验来研究晚熟不平衡汉英双语者的双语句法表征。实验 1 为汉英跨语言句法启动实验。实验发现了被动结构的启动效应。实验 2 为英汉跨语言句法启动实验。实验没有发现主动或被动结构的启动效应。实验 3 为汉语语内的句法启动效应。实验也没有发现主动或被动结构的汉语语内启动效应。我们认为，由于汉语和英语句法结构的不同及实验被试的一语和二语水平差异，晚熟不平衡双语者的双语句法表征可能是部分共享的。另外，我们提出了一语支配论，认为在双语句法的发展过程中，可能存在一个暂时的、一语占支配地位的阶段。在该阶段，一语处于支配地位，而二语句法处理须借助一语来进行。对于汉语语内启动效应的缺失，我们认为这可能是由于汉语句法的某些特异性引起的。同时，由于一语的认知处理是自动化的，因此目标句结构没有受到启动句结构的影响。

我们在实验 1 和 2 的基础上设计了两个实验来研究双语句法表征的发展过程。实验 4 发现了双宾语句（DO 句）和介词宾语句（PO 句）从汉语到英语的跨语言句法启动效应。该实验还发现，DO 句的启动效应随着被试二语水平的增长而增长。实验 5 验证了实验 4 的结果。该实验发现，被动句的启动效应也随着被试二语水平的增长而增长。据此，可以认为，在二语学习的初始阶段，一语和二语结构的表征可能是相互独立的；随着二语水平的发展，二语句法表征可能逐渐与一语句法表征融合。另外，实验 5 在二语低水平和二语高水平的实验被试上均没有发现主动句的句法启动效应。比起被动结构，英语母语者更多

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使用主动结构。因此，实验结果支持了反向优先效应，即人们越是熟知的知识或偏好使用的结构，其被学习的可能性越小；反之，人们不熟悉的知识或使用较少的结构，其被学习的可能性越大。

另外，我们通过实验 6 研究了跨语言句法启动的机制，以验证内隐学习说和瞬时激活说。实验发现，在相同接触实验条件下，DO 和 PO 结构存在从汉语到英语的长时跨语言句法启动效应。这是目前唯一一例发现了长时跨语言句法启动效应的实验。实验还发现了累积启动效应，即被试接触某种结构句子的频次越高，其产生该结构的句子就越多。以上结果验证了内隐学习说的假设。另外，实验没有发现词汇提升效应，这可能是由于实验的笔语产出特性引起，因此并不能否认启动效应的瞬时激活机制。综合以上实验结果，句法启动效应可能是由于内隐学习机制和瞬时激活机制的共同作用引起的。另外，本实验结果和实验 4 结果均为汉语中存在与格结构和与格转换提供了证据，也证实了汉语 DO 和 PO 结构的心理现实性。

最后，我们研究了双语句法处理的语法编码过程。具体来说，通过汉德、德汉两个跨语言句法启动实验，研究了语序在双语句法处理过程中的作用。实验发现了主动结构从汉语到德语的启动效应和从德语到汉语的边际启动效应。然而，实验没有发现被动结构的启动效应。实验结果似乎支持了单一阶段说，即语法编码过程中的功能分配和位置分配可能是同时进行的。另外，双语句法的处理和产生可能更依赖二语者的优势语言和目标语中人们更偏好使用的结构。

我们在本书末尾讨论了本研究对于语言学及心理语言学理论和语言教学实践的意义，以及本研究的局限所在，并对将来研究提出了建议。

Abbreviations

BNC	The British National Corpus
DO	Double Object
EEG	Electroencephalograph
ERPs	Event-Related Potentials
FRED	The Freiburg English Dialect Corpus
ICE-GB	The British Component of International Corpus of English
L1	First Language
L2	Second Language
MC structure	Main-Clause Structure
PO	Prepositional Object
RHM	Revised Hierarchical Model
RR clause	Reduced-Relative Clause
RSVP	Rapid Serial Visual Presentation
Shifted PO	Shifted Prepositional-Object Sentence
UG	Universal Grammar

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