摘要

回指语的消解问题是近三四十年来语言学、心理语言学、认知科学和计算语言学等领域的研究热点之一。回指语的指称解读是一个复杂的认知过程，受到句法、语义、语用等多重因素的制约。在语言学领域，传统的回指语解读侧重于理论研究，辅以以离线（offline）方法为主的实证研究。采用心理语言学实验范式对回指语的实时加工进程所进行的研究，尚处于起步阶段。

而现有实时加工研究的对象多限于印欧语言，以这些研究为基础所提出的回指语加工机制理论是否适用于汉语回指语加工，尚待考察。此外，现有回指语加工研究以母语加工研究为主，二语加工方面的研究相对不足，且目前尚无目标语为汉语的回指语二语加工研究。

鉴于此，本研究采用心理语言学的实验范式，考察汉语中的两种回指语（反身代词和代词）的实时加工。通过四项自控步阅读（self-paced reading）实验，并结合多项选择、句子填充和语法判断等离线任务，考察了汉语反身代词和代词的母语和二语加工。实验 1 和实验 2 为母语加工实验，分别考察了汉语复合反身代词"他/她自己"和代词"他/她"的实时理解，重点关注句法规则（约束原则）和非句法因素（性别因素）对回指加工的影响。实验 3 为二语加工研究，材料与实验 1 基本相同，考察了母语为英语的高级水平汉语学习者对汉语复合反身代词"他/她自己"的加工。与实验 1 类似，实验 3 重点探讨约束原则和性别因素在加工进程中的作用。实验 4 为母语和二语加工的对比研究，考察了汉语简单反身代词"自己"和复合反身代词"他/她自己"长距离约束和次统制约束这两类违反约束原则用法的实时理解，其中的二语被试为母语为英语的高级水平汉语学习者。实验 4 旨在比较母语者和二语学习者在反身代词加工过程中，对句法规则的敏感度是否存在不同，以及母语迁移对加工可能产生的影响。

实验结果有以下主要发现：1）汉语复合反身代词的母语实时加工中，句法规则（约束原则 A）发挥优先主导作用，能制约早期加工，而非句法的性别因素只能在晚期产生干扰作用；2）汉语代词的母语实时加工中，句法规则（约束原

则 B）和性别因素均能从早期阶段开始影响加工；3）汉语复合反身代词的二语加工中，约束原则 A 和性别因素均能从早期阶段开始影响加工；4）汉语简单反身代词和复合反身代词的次统制约束和长距离约束用法的加工中，二语加工有别于母语加工：汉语母语者在加工这两类违反约束原则的用法时，遇到了加工困难，而二语学习者没有遇到加工困难。

上述研究结果表明：

一、回指语的母语加工方面：

1）汉语复合反身代词的母语加工可能是一种句法优先（syntax-first）的序列式加工（serial processing），其加工模式符合句法相对优先假说（binding-as-defeasible-filter hypothesis）的预期；

2）汉语代词的母语加工可能是一种交互式的加工（interactive processing），符合平行互动限制假说（interactive-parallel-constraint model）的预期；

3）回指语的母语加工受到回指语类型的影响，不同类型回指语对句法和非句法因素的敏感度不同。相比代词，汉语复合反身代词的加工过程受到句法规则更为严格的制约。

二、回指语的二语加工方面：

1）汉语复合反身代词的二语加工不同于母语加工模式：二语加工在早期阶段受到性别一致但不合句法的干扰项的影响，但母语加工则没有发现类似的早期干扰效应。该结果部分支持浅层结构假说（Cunnings & Felser 2006）。

2）汉语简单反身代词和复合反身代词的两类违反约束原则的用法（即次统制约束和长距离约束用法）的加工中，二语学习者对约束原则的敏感度不如汉语本族语者，符合浅层结构假说的预期。母语迁移对二语加工的影响不显著，这或可通过母语与目标语之间的子集-超集关系（subset-superset relationship）来解释。

关键词：汉语反身代词；代词；实时加工；二语加工；约束原则

Abstract

Since 1970s, anaphora resolution has been a very active research area in the fields of linguistics, psycholinguistics, cognitive science and computational linguistics. Anaphor resolution is a very complex cognitive process, subject to a number of structural and non-structural constraints. Prior research concerning this topic has mainly focused on theoretical discussions and offline empirical investigations. The online processing of anaphors has been under-studied. Only in the last two decades has it received growing attention, especially in the field of psycholinguistics.

Existing studies on the real-time processing of anaphora have been restricted to Indo-European languages, and theories regarding the mechanism underlying this process are mainly proposed based on the findings of these studies. It remains unclear whether or not these theories are applicable to anaphors resolution in Chinese, an isolating language that has little morphology. It is also noteworthy that previous studies have focused on native processing of anaphors, with little attention to non-native processing of anaphoric relations, particularly when the target language is Chinese.

The present study aims to investigate the online resolution of two Chinese anaphoric forms, specifically, reflexives and pronouns. Using four self-paced reading experiments, together with several offline tasks including multiple-choice questions, sentence completion and grammaticality judgment, we examined the native and non-native processing of Chinese reflexives and pronouns.

Experiments 1 and 2 focused on the native processing of Chinese complex reflexives *ta-ziji* and pronouns *ta*, investigating whether and when the online resolution of these two anaphoric forms is affected by structural factors (Binding Principles A and B respectively) and non-structural gender. Experiments 3 and 4 focused on non-native processing. Using the same experimental design as Exp. 1 but

with modified stimuli, Experiment 3 examined how high-level learners of Chinese whose native language is English process Chinese complex reflexives *ta-ziji*. Exp. 4 explored native and non-native processing of long-distance binding and sub-command binding in Chinese bare reflexive *ziji* and complex reflexives *ta-ziji*. Specifically, we investigated native and non-native speakers' sensitivity to syntactic rules during their online resolution of reflexives, and the role of L1 transfer.

Our main findings are the following: 1) The native processing of Chinese complex reflexives *ta-ziji* is initially constrained by structural rules (Binding Principle A), and non-structural gender can only exert interference effects at a later stage; 2) in the native processing of Chinese pronouns *ta*, both structural rules (Binding Principle B) and non-structural gender can exert early influence; 3) in the non-native processing of Chinese complex reflexives *ta-ziji*, both structural rules (Binding Principle A) and non-structural gender can exert early influence; 4) unlike native speakers of Chinese, L2 learners did not encounter difficulties in processing long-distance binding and sub-command binding of the two forms of Chinese reflexives.

Our findings have several implications to processing models of anaphor resolution:

First, the native processing patterns of Chinese complex reflexives are consistent with the binding-as-defeasible-filter hypothesis, supporting syntax-first serial processing.

Second, the native processing patterns of Chinese pronouns are consistent with the interactive-parallel-constraint model.

Third, online resolution of anaphors is affected by anaphoric forms, with different forms exhibiting asymmetrical sensitivities to the same type of factors. The online processing of Chinese pronouns *ta* is more sensitive to non-structural gender than that of complex reflexives *ta-ziji*.

Fourth, non-native processing of Chinese complex reflexives differs from native processing, with the former relying more heavily on non-structural factors. The findings partially support the Shallow Processing Hypothesis (Cunnings & Felser 2006).

Fifth, in the case of long-distance binding and sub-command binding of Chinese reflexives, non-native processing differs from native processing, with the former exhibiting less sensitivity to syntactic rules. This is consistent with the predictions of the Shallow Processing Hypothesis. It also indicates that the non-native processing is unaffected by L1 transfer, which could be explained by the subset-superset relations between L2 learners' native language and target language.

Key words: Chinese reflexives, Chinese pronouns, online resolution, L2 processing, Binding Principles