Can L2 sentence processing strategies be native-like? Evidence from English speakers' L2 processing of Chinese base-generated-topic sentences

Boping Yuan

Faculty of Asian and Middle Eastern Studies, University of Cambridge, Cambridge CB3 9DA, United Kingdom

Abstract

This article reports on an empirical study examining English speakers' L2 processing of Chinese base-generated-topic (BGT) sentences. Forty-four highly proficient English-speaking L2 learners of Chinese and 23 native Chinese speakers were involved in the study. Results of a self-paced reading task reveal that both native Chinese speakers' and L2 Chinese learners' processing of Chinese BGT sentences is syntactically induced in a top-down manner. English speakers are sensitive to and are able to make use of syntactic cues as well as semantic information in their processing of Chinese BGT sentences. The study provides disconfirming evidence against the Shallow Structure Hypothesis (Clahsen and Felser, 2006a,b), which predicts that unlike native speakers, L2 learners do not rely on structure-based processing strategies when solving ambiguities in L2 sentence processing.
© 2017 Elsevier B.V. All rights reserved.

Keywords: Second language; Sentence processing; Chinese base-generated topics; Native-like strategies

1. Introduction

It is widely observed that children generally learn their mother tongues rapidly and successfully, but few adults can have native-like mastery of the target language in their acquisition of a second language (L2). One of the accounts for this contrast is the Shallow Structure Hypothesis (SSH) by Clahsen and Felser (2006a,b), which states that during real-time language comprehension, L2 learners can only construct shallow structure representations that contain basic argument–predicate relations but lack detailed syntactic information, and therefore their comprehension relies almost exclusively on lexical-semantic and pragmatic information. The SSH has brought many researchers' attention to the mechanism that native (L1) speakers and L2 speakers utilize in sentence processing. However, most studies that Clahsen and Felser (2006a) refer to in support of their SSH focus on filler-gap dependencies in processing L2 wh-questions or relative clauses, and it is not clear from studies in the L2 processing literature whether the SSH can be confirmed in any "gapless" structure in L2 sentence processing. In this article, we will report an empirical study investigating L2 processing of the Chinese base-generated-topic sentence, which we hope can provide useful evidence about how "gapless" structures are processed in L2 as well as L1 sentence processing.

In Mandarin Chinese (henceforth Chinese), it is common to have sentences like (1), where the topic *Shuiguo* ''fruits'' is a base-generated topic and is not a constituent derived from inside the sentence. There is no gap in the sentence and all positions in the argument structure are phonetically and lexically filled. Since the Chinese base-generated-topic sentence has a ''gapless'' structure, it would be interesting to see whether L1 and L2 parsers would initially process the first two NPs, i.e. *Shuiguo* ''fruits'' and *wo* ''I'', as the topic and the subject of the sentence respectively, whether any restructuring of the initial analysis would have to take place, and how the subcategorization need of the verb *chi* ''eat'' is satisfied in the sentence processing. Semantic constraints of the Chinese base-generated-topic sentence will be examined as well.

(1) *Shuiguo wo zui   ai   chi xiangjiao.*
     fruit   I   most love eat banana
     As for fruits, I like to eat bananas the most.

2. Base-generated-topic sentences in Chinese

Chinese has been considered a topic-prominent language in the literature, in contrast to English, which is claimed to be a subject-prominent language (cf. Li and Thompson, 1976, 1981; Huang, 1984a,b; Xu, 2006; Xu and Langendoen, 1985; Huang et al., 2009; among many others). In Chinese, it is common to have a topic at the sentence-initial position, followed by a sentence, which serves as a comment about the topic. This can be exemplified in (1), in which the topic S*huiguo* ''Fruits'' has no syntactic relation with any constituent in the comment and there is no gap in the comment either. This ''gapless'' topic structure suggests that the sentence-initial topic is base-generated in the left periphery and is not a result of movement. Sentences like the one in (1) are what Gundel (1988) calls the topic-comment construction and are also known in the literature as a ''Chinese-style'' topic structure, a term which originated in Chafe (1976). English does not allow sentences with a base-generated topic, and for the topic in the ''Chinese-style'' topic structure to be acceptable in English, it is usually encoded into a prepositional phrase like *as for. . .*, *of. . .*, or *speaking of. . .*, as can be seen in the English translation of the topic in (1).

Li and Thompson (1976) suggest that the notion of topic in Chinese is as basic as that of subject in general grammar descriptions and that the topic in Chinese cannot be viewed as derived by movement from some argument position in the sentence. They point out that an important characteristic of the topic in Chinese is that it is independent of the verb and need not be an argument of a predicative constituent in the sentence. From the sentence in (1), we can see that the topic *Shuiguo* ''Fruits'' is not determined by the verb, and sentences of this type provide clear evidence that the topic leaves no ''gap'' in the sentence and that no process of movement is involved.[1,2]

Huang (1984a) argues that topic-comment sentences in Chinese ''must count as basic forms in that they cannot be plausibly derived from other 'more basic' forms'' (p. 550), and this view is also shared by Xu (1986) and Cole (1987). In this article, we assume that the topic in the ''Chinese-style'' topic structure is base-generated in the Specifier of the Topic Projection (TopP) in the left periphery of the sentence, in the sense of Rizzi (1997).

It should be pointed out that although base-generated-topic (henceforth BGT) sentences are common in Chinese, Chinese also allows topic structures in which the topic is a result of movement, as indicated in the sentence in (2), where the topic *Zhe ben shu* ''this book'' is originally based-generated as the object of the verb *xihuan* ''like'' before it is topicalized to the Specifier of TopP. While this kind of Chinese topic sentences are not the focus of the study, their existence in Chinese is likely to affect both native Chinese speakers' and L2 Chinese learners' processing of Chinese BGT sentences, as will be shown in our empirical study.

(2) *Zhe ben shu$_i$ wo bu   xihuan t$_i$.*
     this CL   book   I   not like
     This book, I don't like.

---

[1] The topic in (1) should not be treated as being the same as the left dislocated NP, *John*, in the following example, because the left dislocated NP in English, although also base-generated, has to be co-indexed with a constituent in the sentence, as shown by the co-indexation between *John* and the pronoun *him* in the following example.

(i) John$_i$ I don't trust him$_i$.

[2] Shi (2000) argues that every topic must be syntactically licensed and that it cannot be merely semantically related to the comment as a whole. However, his argument has been challenged by many linguists, including Pan and Hu (2001, 2002), who provide counter-evidence to Shi's analysis. As pointed out by Xu (2006), if Shi were correct, there would be no significant structural difference between topic-prominent languages and other languages.