The Periphrastic Topic Structures in Chinese-English Interlanguage

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ABSTRACT

Periphrastic topic structures, as Chinese-style topic structures, belong to the category of prepositional topic fronting constructions in TSOV sequences. Findings from studies on periphrastic topic structures are inconsistent and present only a fragmented understanding. Therefore, the present study is conducted to make up for the gap and aims to reveal the developmental features of periphrastic topic structures (henceforth PTS) through investigating the production and the recognition of PTSs in Chinese college English learners’ Chinese-English interlanguage. The result suggests that with advances in learners’ English proficiency levels, periphrastic topic structures diminish from the preliminary stage to the intermediate stage gradually, but present a much higher degree of fossilization at the advanced level. Theoretically, this finding may further support Yang’s findings(2008) and validate the Selective Fossilization Hypothesis model (SFH model) proposed by Han (2009).

Key words: Chinese-English Interlanguage, Developmental Features, Periphrastic Topic Structures, Selective Fossilization Hypothesis

INTRODUCTION

Chinese is claimed to be a topic-prominent language (henceforth TPL), while English is categorized into a subject-prominent language (henceforth SPL) (Li and Thompson, 1976; Xu and Langendoen, 1985). The subject performs a crucial function in the subject-predicate constructional sequence while the topic is an indispensable element in the topic-comment syntactic structure. Chinese English learners, due to their deficient mastery of target language pragmatic objectives, often produce a large quantity of erroneous English sentences possessing Chinese grammatical characteristics at different stages of SLA (Yang, 2008).

Yang (2008) studied six types of topic-prominent constructions produced by three groups in a spontaneous oral task and a careful translation task including Double Nominative (DN), Existential Constructions(EN), Pseudo Passives(PP), Null Element(NL), Periphrastic Structures(PTS), and Subject-predicate Disagreement (SPD) and found that with the promotion of learners’ English proficiency levels, some topic-prominent parameters would constantly decrease, but others, especially PTS, would plateau even at advanced stages of TL development. Based on Yang’s findings, the current study further aims to explore the developmental features of periphrastic topic structures in the Chinese-English interlanguage (henceforth CEIL) of Chinese college English learners among different proficiency levels so as to draw conclusions concerning whether or not cross-linguistic typological transfer interacts with the selective fossilization during the process of second language acquisition. The research target of the investigation is periphrastic topic structures which belong to Chinese-style topic-prominent syntactic constructions and exist pervasively in Chinese college English learners’ CEIL, even at the advanced proficiency level (Yang, 2008). Therefore, on the basis of philosophies about the cross-linguistic typological transfer and the Selective Fossilization Hypothesis (Han, 2009), two principal research questions were formulated in an effort to deepen our understanding about periphrastic topic structures in the Chinese-English interlanguage:

(1) Does learners’ topic-prominent syntactic structure knowledge interfere with their production and recognition of periphrastic topic structures in a Chinese-English translation test and a grammaticality acceptability judgment test?

(2) What is the developmental pattern of the periphrastic topic structures in college English learners’ Chinese-English interlanguage?

It is expected that the current study will reveal the developmental patterns of Chinese English learners’ Chinese-English interlanguage from the perspective of periphrastic topic structures and provide support for the Selective Fossilization Hypothesis Model (Han, 2009). What’s more, the analysis will provide some evidence for investigating the
development of interlanguage in specific aspects with the theoretical framework of fossilization.

LITERATURE REVIEW

Typological Language Transfer Philosophies

For speakers of a TPL learning a SPL, typological language transfer occurs when learners apply TPL properties into SPL syntactic devices so that the process of second language acquisition is promoted or suspended. In respect to typological transfer in the field of SLA, there exist two mutually opposite controversies (Yang, 2015). One view holds that interlanguage at the early stage of SLA possesses the universal feature of “topic-comment” and is irrelevant to the learners’ native language (henceforth NL). Odlin (1989), Klein (1986), Clahsen and Muysken (1986) asserted that English learners from different L1 backgrounds produced similar topic-comment structures, which validated that there was no typological transfer in interlanguage systems. The other view states that the topic-prominent stage in the initial stages of learning is evidence of language typology transforming from L1 to L2. Schachter (1979) and Rutherford (1983) studied English sentences produced by learners whose native language was TPL, which demonstrated that English learners from TPL produced a large quantity of English sentences possessing obvious features of TPL. Furthermore, Sasaki (1990) investigated the existential constructions in the written language produced by Japanese English learners (with Japanese being a TPL) and claimed that with advances in students’ proficiency levels, the use of TPL syntax was transformed gradually into the more appropriate use of SPL syntax. Along these lines, Givón (1995) argued that the initial stage in SLA was parallel to TPL, which meant there was a systematic transferable process from L1 to L2 rather than the occurrence of a universal TPL level. Finally, after noting a lack of research regarding possible transfer for speakers of SPLs learning TPLs, Jung (2004) studied English learners’ acquisition of Korean (a TPL) and validated that learners applied SPL syntax in their TPL constructions.

The Selective Fossilization Hypothesis Model

Han (2009) first proposed the Selective Fossilization Hypothesis (henceforth SFH) in interlanguage so as to extend the field of fossilization research. SFH considers two influential factors which engender selective fossilization, including L1 markedness and L2 input robustness. Han suggests that each of these is determined by two sub-variables: Frequency and variability. Frequency represents the quantitative properties of a given linguistic usage in the L1 or the L2. Variability refers to the form-meaning function of a given linguistic usage (Han, 2013).

According to Han (2009), the given usage in one’s TL occurs on an input robust continuum between ROBUST (frequent, invariable) and NON-ROBUST (infrequent, variable). The corresponding usage in one’s NL appears on a markedness continuum between MARKED (infrequent, variable) and UNMARKED (frequent, invariable) (Figure 1). Each parameter is determined by the interaction and the relevant strength of sub-variables of frequency and variability (Qi, 2009). Figure 1 explicates the intersectional functions about L1 markedness and L2 input robustness in order to demarcate four zones indicating four conditions in SLA. The first zone stands for UNMARKED in L1 and ROBUST in L2; the second zone signifies MARKED in L1 and ROBUST in L2; the third zone symbolizes MARKED in L1 and NON-ROBUST in L2, the fourth zone embodies UNMARKED in L1 and NON-ROBUST in L2. Accordingly, the first and third zones (I and III) are defined as either the acquisition zone or the fossilization zone respectively, depending on a variety of factors. The second and fourth zones (II and IV), however, represent the acquisition and fossilization zones respectively. Han (2009) argues that structures that fall into zone II are likely to be acquired by L2 learners, while those falling into zone IV are likely to fossilize before NL-like mastery is achieved. The concentric circles from inner to outer symbolize various degrees of acquisition or fossilization. The most outside circle in zone IV, for example, represents the highest degree of fossilization.

Periphrastic Topic Structures

Definition and features

Periphrastic topic structures originally derive from the marked topic constructions induced by prepositional phrases in Chinese. They belong to a category of “Chinese-style” topic structures, a term originally advanced by Chafe (1976). The origin of “periphrasis” is a Greek word in which “peri” means “round about” and “phrase” means “to express”. Thus, the periphrastic structure is used to express something in a round-about way. This structure is what Yip and Matthews (1995) term “periphrastic topic constructions”. They claim that the periphrastic topic construction is a common interlanguage structure which represents topic-prominent features in interlanguage. The Chinese syntactic structures contain prepositional phrases like 对于 (duiyu), 关于 (guanyu), 至于 (zhiyu), and 对于…来说 (duiyu...laishuo) which are equivalent to ‘for...’, ‘as for...’, ‘about...’, or ‘speaking of...’ in interlanguage.
The periphrastic structure, often followed by a noun, a phrase, a sentence and sometimes with an intonation break, sets a boundary between topic and comment construction (Yang, 2008: 126).

There are many semantic and grammatical constraints in English topic constructions. The co-referential relationship occurs between the topic and some constituent or a null element in the comment. In Chinese, the semantic constraints in topic structures are relatively less and the relation between the topic and the comment is loose. Chinese English learners transfer the loose topic-prominent structures in Chinese into the process of producing English structures. Therefore, the phenomenon is defined as a new kind of transfer process that results in expressing NL topic-prominent functions through TL syntactic forms (as seen in [1]).

(1) (a) 对于成功男性，人们更关注的是他们的社会地位而不是他们的能力。

Duiyu chenggongnanxing, renmen gengguanzhudeshi tamende shehuidiwei erbushi tamende nengli.

(b) For successful men, people pay more attention to their social status instead of their capability.

The syntactic structures of (a) and (b) are the same, but there exist a few differences in terms of the topic structures. The relationship between the topic and the comment is relatively loose in (a) whereas the relationship between the topic and the comment in (b) is closely correlated. In (a), the constituent chenggongnanxing (‘successful man’) in the topic and the constituent tamende (‘their’) in the comment may not refer to the same kind of people. Therefore, the relation between the topic and the comment in (a) is universally characterized as “aboutness” in the literature (Yuan, 2017: 44). In (b), the constituent ‘successful men’ in the marked topic structure is co-referential with the pronominal element ‘their’ in the comment construction.

Classifications

In periphrastic topic constructions, three dimensions of relationships are identified between topics marked by prepositional phrases and their comments, including a syntactic relationship, a semantic relationship, and a pragmatic relationship (Yuan, 1996; Xu and Liu, 1998/2003; Nie, 2007; Zhou, 2012). Accordingly, periphrastic topic structures in CEIL are divided into the following five subcategories.

In terms of the syntactic dimension, there exists the argument co-indexing relationship (henceforth AC) between the topic and subject or object in the comment. That is to say, the subject or the object connected by the predicate in the comment constituent constitutes the co-indexation with the topic by means of null elements, pronominal elements, and co-occurrence with the nominal phrase (henceforth NP) in the topic (Yuan, 1996; Xu and Liu, 1998), as seen in (2).

(2) (a) 关于这个提议，[]经过几天的讨论，[ ]已经有了结果。

Guanyu zhege tiyi, jingguo jitiande taolun, yijing youle jiegou.

‘As for this proposal, it underwent several days’ discussion and had the final results.’

(b) 对于这个问题，张老师谈[ ]比我谈[ ]会更好。

Duiyu zhege wenti, Zhanglaoshi tan [ ] bi wo tan hui genghao.

‘As for this question, teacher Zhang will explain it better than me.’

(see Appendix A)

The prepositional phrases guanyu and duiyu in (a) and (b) belong to the category of topic markers. The subject of the comment in (a) forms an anaphora with the topic zhegetiya (‘this proposal’) by means of null elements. In (b), the object in the comment is co-indexed with the topic zhegewayenti (‘this question’) through null elements. (The square brackets in two sentences stand for null elements.)

In terms of the semantic dimension, firstly, there is the valence relationship (henceforth VR) between the topic and the NP in the comment. In Chinese, NPs possess the design feature of valence (Yuan, 1992). The valence of NPs refers to the phenomenon that the valence NP and its related NP comprise a semantic dependent relationship. In periphrastic topic structures, the topic marked by prepositional phrases is a sememe (downgraded object or downgraded argument or semantic component) of the valence NP in the comment (Yuan, 1992; Herbst, 1988; Zhu, 1998). In other words, the valence NP in the comment and the NP in the topic form an integrated logical semantic relationship (Xu and Liu, 1998) (as seen in[3]).

(3) (a) 至于理想，每个人有自己的想法。

‘Zhiyu lixiang, meigeren you zijide xiangfa.

‘As to the dream, everyone has his or her own ideas.’

(b) 对于工作安排，我没有任何意见。

Duiyu gongzuoanpai, wo meiyou renhe yijian.

‘About the work arrangement, I don’t have any opinions.’

(see Appendix A)

In (a), the topic constituent lixiang (‘the dream’) is a sememe of the valence NP xiangfa (‘idea’) in the comment. Therefore, there exists a valence relationship between the topic and the NP in the comment. The object yijian (‘opinions’) in the comment of (b) is the valence NP and the topic is a semantic component of it. The possessor of yijian (‘opinions’) refers to me (‘the speaker’) and focuses on the work arrangement.

There still exists the superordination-hyponymy register relationship (henceforth SH) between a topic and an argument connected by the predicate in a comment (Xu and Liu, 2003; Yuan, 2017). Specifically, the topic is the superordinate concept for the argument in the comment. Both constituents express a universal set and subset respectively, such as in fruit and apple, or animal and tiger (as seen in [4]).

(4) (a) 至于北京的名胜古迹，我已经去过颐和园。

‘Zhiyu Beijingdeningshengguji, wo yijing quguo Yihuo.

‘As to the historical sites in Beijing, I have been to the Summer Palace before.’

(b) 就中国菜而言，我吃过北京烤鸭。

Jiu zhongguocai eryan, wo chiguo Beijingkaoya.

‘As for Chinese dishes, I have eaten Beijing Roast Duck before.’

(See Appendix A)

In (a) and (b), the topics Beijingdeningshengguji (‘the historical sites in Beijing’) and zhongguocai (‘Chinese
In a word, the comments provide further explanation and interpretation for the topics. This semantic relation, therefore, is beyond the syntactic category.

Related Studies about TPL and SPL

Some studies have concentrated on the typological influence of topic-prominent structures in the NL during the process of acquiring English as a target language (henceforth TL). Fuller and Gundel (1987), for example, examined the functions of topic-prominent structures in the process of adults’ acquiring English as a second language. They found support for the hypothesis that the general TPL features could influence the developmental route of interlanguage. Yip (1995) investigated the design features of two interlanguage syntactic structures, namely, Pseudo-passives and peripheral topic structures. The subjects were intermediate and advanced English learners from Taiwan, Mainland China and HK. He came to the conclusion that Chinese English learners often utilized English syntactic structures to perform topic communicative functions in Chinese. In addition, Yang(2008) studied six types of topic-prominent constructions produced by Chinese English students among three groups in a spontaneous oral task and a careful translation task and found that learners among three proficiency groups, to some extent, have transferred the topic-prominent structures to the Chinese-English interlanguage and they tend to produce more subject-prominent constructions with the development of their English proficiency levels.

On the contrary, other studies have delved into the cross-linguistic role of subject-prominent structures with English native speakers as subjects and a TPL as the acquired entity. Jung’s investigation (2004) contradicted the hypothesis that there existed an early general stage of topic-prominence in L2 acquisition. With the promotion of learners’ L2 performance, they gradually became more conscious of the normal structures of the TL. Furthermore, Liu (2015) examined the developmental process for English native speakers’ acquiring topic-prominent sentences in Chinese. His results indicated that low-level subjects behaved on a par with native speakers for certain types of topic structures, and these learners could produce new constructions at the initial stage of learning. Similarly, Yuan (2017) investigated English native speakers’ acquisition of Chinese base-generated-topic sentences. The results showed that English native speakers were more likely to make full use of TL syntactic devices and semantic information, rather than NL devices and information, during their processing of Chinese base-generated-topic sentences.

There exist some limitations about these previous studies. For one thing, the majority of investigations have investigated the developmental patterns of TPL and SPL during the process of SLA in a broad sense, but few studies touch the specific aspects of SLA. Furthermore, most relevant research has explored the interference of cross-linguistic typological transfer between NL and TL, but ignored the influence of fossilization during the different stages of SLA.
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RESEARCH METHODOLOGY

Participants

Ninety Chinese English learners at a prestigious university in China were selected as the participants. They were then divided into three groups representing different English proficiency levels. Group One represented the preliminary level and these students consisted of freshmen who were non-English majors. Group Two was the intermediate level and they were English major junior students. Group Three was the advanced level with third-year postgraduate students majoring in English linguistics. Subjects in the preliminary group had obtained excellent English grades in their entrance examinations and learned English for at least eight years. The full mark of the college entrance English examination in China is 150 and a score range of 120 to 150 stands for the excellent level. Participants in the intermediate group had passed the TEM-4 (with a score range of 70 to 79) and learned English for almost eleven years. Subjects in the advanced group had passed the TEM-8 (with a score range of 70 to 79) and learned English for at least fifteen years. The TEM-4 (Test for English Majors-Band Four) and the TEM-8 (Test for English Majors-Band Eight) are the two standardized tests as a productive task, aimed to measure college English majors’ comprehensive English performance including listening, speaking, reading, writing, and translation. The TEM-8 is more advanced than the TEM-4. The full marks of the two tests are 100 and the scores of them have the same ranks. A score range of 60 to 69 stands for the passing marks, 70 to 79 represents the relatively good marks, and 80 to 100 signifies the excellent marks. Additionally, the dividing boundary is not absolute.

Instruments

Two instruments were used in the current research: a Chinese-English translation test (CET) and a grammaticality acceptability judgment test (GAJ). The Chinese-English translation test, as a productive task, aimed to investigate whether the subjects among the three groups transferred the topic-prominent structures in Chinese into their CEIL directly. The grammaticality acceptability judgement test, as a recognition task, aimed to examine whether the subjects in the three groups had completely acquired the subject-prominent syntactic knowledge in English.

The Chinese-English translation test was comprised of twenty Chinese sentences. The stimuli relevant to the study was the five types of periphrastic topic structures including AC, VR, SH, DJ, and TC, with each type in three test sentences (see Appendix A for all the 15 test sentences used in these 5 types). The other five sentences were distractor sentences. They were randomly embedded among the fifteen test items. This task was designed to elicit subjects’ production of periphrastic topic structures. Considering the fact that learners’ individual L2 performance may exert a varying influence on their production, only high-frequency words were included in the test sentences of the two tasks.

The grammaticality acceptability judgment test consisted of twenty English sentences. Again, there were three sentences representing each type of periphrastic topic structures and five additional distractor sentences (see Appendix B for all the 15 test sentences used in these 5 types). The test sentences were presented in a random order. This task was analogous with the one designed by Yuan (2017) in order to examine learners’ awareness and sensitivity to the subject-prominent syntactic structures in English. Participants were instructed to judge the degree of grammatical acceptability for the target sentences using a four-point Likert scale. The four options were transformed into 1, 2, 3, and 4 respectively. 1 represented Completely Unacceptable. 2 signified Probably Unacceptable. 3 represented Probably Acceptable. 4 indicated Completely Acceptable. 2 and 3 were included in the Likert scale in order to capture subjects’ simultaneous recognition for the target sentences (also see the instructions in Appendix B).

Procedures of Data Collection and Analyses

Data collection and analyses were carried out with the aid of EXCEL and SPSS 24.0. First, the five types of periphrastic topic structures in the two tests were manually marked with AC, VR, SH, DJ, and TC respectively. Next, the relative frequencies of produced periphrastic topic structures among the three proficiency levels in the Chinese-English translation test and the inaccuracies for recognizing the target sentences in the grammaticality acceptability test were counted and tabulated into a table using EXCEL. Then, the comparisons about the numbers and the percentages of productions in the CET and inaccuracies of recognition in the GAJ were made so as to reveal the developmental tendency of periphrastic topic structures. Finally, the production and the inaccuracy of recognition about each PTS parameter in the two tests were investigated using one-way ANOVA in SPSS 24.0 in an effort to reveal the significant difference between each group.

RESULTS AND DISCUSSION

Cross-linguistic Typological Transfer from NL to TL

The standards to judge subjects’ production in the Chinese-English translation test depended on whether the sentences were grammatically correct in English and conformed to the subject-prominent syntactic structures. The target sentences in the grammaticality acceptability judgment test originated from the literal translation of prepositional topic fronting constructions in Chinese. Therefore, numbers three (Probably Acceptable) and four (Completely Acceptable) represented faulty choices.

The numbers and relative frequencies of produced PTSs in the CET and the inaccuracies for recognizing PTSs in the GAJ are shown in Table 1.

Table 1 reveals that the inaccuracies for recognizing periphrastic topic structures in the GAJ at each proficiency level are larger than the relative frequencies of produced PTSs in the CET (82.67%–73.11% at the preliminary level; 57.33%–54.67% at the intermediate level; 63.56%–57.33% at the advanced level). In the CET, when learners at the
intermediate and advanced stages produced TL structures after they had read the Chinese constructions, they may have resorted to their previously acquired TL knowledge and utilized processing strategies to check whether their produced syntactic structures accorded with the expressive norms of the TL. The fifteen English periphrastic sentences provided in the GAJ, however, correspond with prepositional topic fronting constructions in Chinese. Subjects among the three groups probably assumed that those sentences conform with semantic and pragmatic norms of the TL in their potential consciousness rather than employing their multi-dimensional processing mechanisms to test the applicability of such constructions in English.

Therefore, a general conclusion can be drawn that subjects tend to rely almost exclusively on topic-prominent structures in Chinese to produce and recognize periphrastic topic structures in the two tests, which answers the first research question. In a word, the cross-linguistic typological transfer from the NL permeates the whole continuum of SLA. This finding does not validate Odlin’s (1989), Klein’s (1986), Clahsen & Muysken’s (1986) hypothesis that there was no typological transfer in interlanguage systems, but reveals that some salient linguistic items from NL was transferable to the production of TL during the process of Second Language Acquisition (Schachter, 1979; Rutherford, 1983; Sasaki, 1990; Givon, 1995; Yip, 1995; Jung, 2004; Yang, 2008).

Table 1. The manifestations of PTSs among the three group

| Proficiency Levels | Number of PTSs (CET) 3×30×5 | Relative Frequencies | Number of PTSs (GAJ) 3×30×5 | Inaccuracies |
|--------------------|-------------------------------|----------------------|-----------------------------|--------------|
| Preliminary (n=30) | 329                           | 73.11%               | 372                         | 82.67%       |
| Intermediate (n=30)| 246                           | 54.67%               | 258                         | 57.33%       |
| Advanced (n=30)   | 258                           | 57.33%               | 286                         | 63.56%       |

Table 2. Multiple comparisons for AC structures between three groups in the two tests

| Tasks | Level (I) | Level (J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |
|-------|-----------|-----------|-----------------------|------------|------|------------------------|
|       |           |           |                       |            |      | Lower Bound  | Upper Bound |
| CET   | PL        | IL        | 0.500                 | 0.267      | 0.154| -0.138     | 1.138       |
|       | PL        | AL        | -0.500                | 0.267      | 0.092| -0.071     | 1.204       |
|       | AL        | PL        | 0.067                 | 0.267      | 0.966| -1.138     | 0.138       |
|       | AL        | IL        | -0.567                | 0.267      | 0.092| -0.204     | 0.071       |
|       | IL        | PL        | 0.067                 | 0.267      | 0.966| -0.704     | 0.571       |
|       | IL        | AL        | -0.967*               | 0.235      | 0.003| 0.240      | 1.360       |
|       | AL        | PL        | 0.800*                | 0.235      | 0.003| 0.407      | 1.526       |
|       | AL        | IL        | -0.800*               | 0.235      | 0.003| -1.360     | -0.240      |
|       | IL        | AL        | 0.167                 | 0.235      | 0.758| -0.393     | 0.726       |
|       | IL        | PL        | -0.967*               | 0.235      | 0.000| -1.526     | -0.407      |
|       | IL        | AL        | 0.167                 | 0.235      | 0.758| -0.726     | 0.393       |

*The mean difference is significant at the 0.05 level.

Note: AC stands for argument co-indexing relationship; CET stands for Chinese-English translation test; GAJ stands for grammaticality acceptability judgment test; PL stands for Preliminary Level; IL stands for Intermediate Level and AL stands for Advanced Level.
group and the advanced group was not significant \((p = 0.785)\). The difference between the preliminary group and the intermediate group, and that between the preliminary group and the advanced group, however, showed the statistical significance \((p = 0.003; p < 0.001)\).

As seen in Table 3, in the CET, there was statistically significant difference between the preliminary group and the advanced group \((p = 0.041)\). However, the difference between the preliminary group and the intermediate group and that between the intermediate group and the advanced group exhibited non-significance \((p = 0.437)\). In the GAJ, the difference between the preliminary group and the intermediate group and that between the preliminary group and the advanced group were significant \((p = 0.001; p = 0.045)\). In addition, the difference between the intermediate group and the advanced group was not significant \((p = 0.407)\).

According to Table 4, in the CET, the difference between the preliminary group and the intermediate group and that between the preliminary group and the advanced group showed the statistical significance \((p = 0.011; p = 0.027)\). The difference between the intermediate group and the advanced group showed non-significance \((p = 0.942)\). In the GAJ, the difference between the preliminary group and the intermediate group and that between the preliminary group and the advanced group were significant \((p = 0.011; p = 0.045)\). In addition, the difference between the intermediate group and the advanced group was not significant \((p = 0.407)\).

### Table 3. Multiple comparisons for VR structures between three groups in the two tests

| Tasks | Level (I) | Level (J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |
|-------|----------|----------|-----------------------|------------|-----|------------------------|
|       |          |          |                       |            |     | Lower Bound | Upper Bound |
| CET   | PL       | IL       | 0.333                 | 0.270      | 0.437 | -0.311     | 0.978       |
|       |          | AL       | 0.667*                | 0.270      | 0.041 | 0.022      | 1.311       |
|       | IL       | PL       | -0.333                | 0.270      | 0.437 | -0.978     | 0.311       |
|       |          | AL       | 0.333                 | 0.270      | 0.437 | -0.311     | 0.978       |
|       | AL       | PL       | -0.667*               | 0.270      | 0.041 | -1.311     | -0.022      |
|       |          | IL       | -0.333                | 0.270      | 0.437 | -0.978     | 0.311       |
| GAJ   | PL       | IL       | 0.867*                | 0.233      | 0.001 | 0.310      | 1.423       |
|       |          | AL       | 0.567*                | 0.233      | 0.045 | 0.010      | 1.123       |
|       | IL       | PL       | -0.867*               | 0.233      | 0.001 | -1.423     | -0.310      |
|       |          | AL       | -0.300                | 0.233      | 0.407 | -0.857     | 0.257       |
|       | AL       | PL       | -0.567*               | 0.233      | 0.045 | -1.123     | -0.010      |
|       |          | IL       | 0.300                 | 0.233      | 0.407 | -0.257     | 0.857       |

*The mean difference is significant at the 0.05 level.

Note: VR stands for valence relationship structures; CET stands for Chinese-English translation test; GAJ stands for grammaticality acceptability judgment test; PL stands for Preliminary Level; IL stands for Intermediate Level and AL stands for Advanced Level

### Table 4. Multiple comparisons for SH structures between three groups in the two tests

| Tasks | Level (I) | Level (J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |
|-------|----------|----------|-----------------------|------------|-----|------------------------|
|       |          |          |                       |            |     | Lower Bound | Upper Bound |
| CET   | PL       | IL       | 0.600*                | 0.203      | 0.011 | 0.116      | 1.084       |
|       |          | AL       | 0.533*                | 0.203      | 0.027 | 0.049      | 1.018       |
|       | IL       | PL       | -0.600*               | 0.203      | 0.011 | -1.084     | -0.116      |
|       |          | AL       | -0.067                | 0.203      | 0.942 | -0.551     | 0.418       |
|       | AL       | PL       | -0.533*               | 0.203      | 0.027 | -1.018     | -0.049      |
|       |          | IL       | 0.067                 | 0.203      | 0.942 | -0.418     | 0.551       |
| GAJ   | PL       | IL       | 1.167*                | 0.235      | 0.000 | 0.605      | 1.728       |
|       |          | AL       | 0.700*                | 0.235      | 0.011 | 0.139      | 1.261       |
|       | IL       | PL       | -1.167*               | 0.235      | 0.000 | -1.728     | -0.605      |
|       |          | AL       | -0.467                | 0.235      | 0.123 | -1.028     | 0.095       |
|       | AL       | PL       | -0.700*               | 0.235      | 0.011 | -1.261     | -0.139      |
|       |          | IL       | 0.467                 | 0.235      | 0.123 | -0.095     | 1.028       |

*The mean difference is significant at the 0.05 level.

Note: SH stands for superordination-hyponymy relationship structures; CET stands for Chinese-English translation test; GAJ stands for grammaticality acceptability judgment test; PL stands for Preliminary Level; IL stands for Intermediate Level and AL stands for Advanced Level.
group and the advanced group were statistically significant \((p < .001; p = 0.011)\). However, the difference between the intermediate group and the advanced group was not significant \((p = 0.123)\).

As shown in Table 5, in the CET, the difference between the preliminary group and the advanced group and that between the intermediate group and the advanced group were not significant \((p = 0.645; p = 0.179)\). The difference between the preliminary group and the intermediate group was significant \((p = 0.023)\). In the GAJ, none of the multiple comparisons indicated significant differences between the groups.

As mentioned above, the difference between the preliminary level and the intermediate level showed the significant difference. However, the difference between the intermediate level and the advanced level displayed statistical non-significance. It is demonstrated that periphrastic topic structures diminish from the preliminary stage to the intermediate stage gradually, but present a much higher degree of fossilization at the advanced level, which explains the second research question.

| Tasks | Level (I) | Level (J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |
|-------|-----------|-----------|----------------------|------------|------|------------------------|
| CET   | PL        | IL        | 0.467                | 0.261      | 0.023 | -0.155, 1.088          |
|       | AL        | PL        | -0.233               | 0.261      | 0.645 | -0.855, 0.388          |
|       | IL        | AL        | -0.700               | 0.261      | 0.179 | -1.321, -0.079         |
|       | AL        | IL        | 0.233                | 0.261      | 0.645 | -0.388, 0.855          |
| GAJ   | PL        | IL        | 0.500                | 0.228      | 0.078 | -0.044, 1.044          |
|       | AL        | PL        | 0.400                | 0.228      | 0.191 | -0.144, 0.944          |
|       | IL        | AL        | -0.500               | 0.228      | 0.078 | -1.044, 0.044          |
|       | AL        | IL        | -0.100               | 0.228      | 0.900 | -0.644, 0.444          |

Table 6. Multiple comparisons for TC structures between three groups in the two tests

| Tasks | Level (I) | Level (J) | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval |
|-------|-----------|-----------|----------------------|------------|------|------------------------|
| CET   | PL        | IL        | 0.600*               | 0.217      | 0.019 | 0.082, 1.118           |
|       | AL        | PL        | 0.333                | 0.217      | 0.281 | -0.185, 0.852          |
|       | IL        | AL        | -0.600*              | 0.217      | 0.019 | -1.118, -0.082         |
|       | AL        | IL        | -0.267               | 0.217      | 0.441 | -0.785, 0.252          |
| GAJ   | PL        | IL        | 0.467                | 0.221      | 0.093 | -0.060, 0.993          |
|       | AL        | PL        | 0.233                | 0.221      | 0.543 | -0.293, 0.760          |
|       | IL        | AL        | -0.467               | 0.221      | 0.093 | -0.993, 0.060          |
|       | AL        | IL        | -0.233               | 0.221      | 0.543 | -0.760, 0.293          |

* The mean difference is significant at the 0.05 level.

Note: DJ stands for definitive judgment structures; CET stands for Chinese-English translation test; GAJ stands for grammaticality acceptability judgment test; PL stands for Preliminary Level; IL stands for Intermediate Level and AL stands for Advanced Level.
According to the SFH model (Han, 2009), the TSVO sequence, as a Chinese-style topic structure, is more frequent, less marked, and less variable in Chinese than in English. Thus, it falls on the unmarked category on the L1 markedness continuum. In contrast, TSVO is a peripheral syntactic structure in English, which is less frequent, more marked, and more variable in English than in Chinese. Therefore, it is labeled as NON-ROBUST on the L2 input robustness continuum. Accordingly, the periphrastic topic structures in CEIL are defined as the UNMARKED (frequent, invariant) on the Chinese markedness continuum and are labeled as the NON-ROBUST (infrequent, variable) on the English input robustness continuum, which reveals that periphrastic topic structures fall into the fourth zone (the fossilization zone). In addition, the fossilization of periphrastic topic structures in CEIL can be further expounded by the Numerical Value Model of SFH (Han, 2009). The two paramount variables of SFH (L1 markedness and L2 input robustness) are exemplified by means of the following formula:

\[ P_{foss} = \frac{A}{M_{11}} - BR_{12} (A > 0; B > 0) \]

In this formula, \( P_{foss} \) stands for the probability of fossilization. \( M_{11} \) symbolizes L1 markedness. \( R_{12} \) signifies the input robustness of L2. The signs A and B refer to coefficients. \( M_{11} \) leads to fossilization while \( R_{12} \) is inversely proportional to the appearance of fossilization. In other words, the probability of fossilization equates UNMARKED of L1 and NON-ROBUST of L2. The periphrastic structure is labeled as UNMARKED in Chinese and NON-ROBUST in English. Accordingly, the fossilization probability of periphrastic topic structures is much higher for Chinese learners of English than for English learners of Chinese.

CONCLUSIONS

The current study mainly explores the developmental features of periphrastic topic structures in the Chinese English learners’ CEIL. Two conclusions can be drawn on the basis of data analysis, results and discussions enumerated above. First, periphrastic topic structures, as Chinese-style topic-prominent constructions, are transferable to the production of Chinese college English learners’ Chinese-English interlanguage, which has provided the evidence that cross-linguistic typological transfer appears pervasively in the process of second language acquisition. Second, the periphrastic topic structures in Chinese college English learners’ CEIL tend to diminish from the preliminary stage to the intermediate stage gradually but present a much higher degree of fossilization at the advanced level. Therefore, it is universally concluded from the two findings that the cross-linguistic typological transfer from NL and the selective fossilization of some NL linguistic items pervade the entire process of second language acquisition, which further validates Yang’s findings (2008) and confirms the Selective Fossilization Hypothesis model (SFH model) proposed by Han (2009).

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APPENDIX A. CHINESE-ENGLISH
TRANSLATION TEST

(Note that only Chinese characters were used in the experiment. Pinyin and English literal translations that retain the Chinese word order are provided here for readers of this article.)

Please fill out some basic information:
Grade:_________;Speciality:_________;Age:_________

English Proficiency Level: TEM-4/TEM-8
Serial Number:_________ (keep blank)

Instruction: Translate the following Chinese sentences into English.

1. 关于这个提议，经过几天的讨论，已经有了结果。(Type AC)
   Guanyu zhege tiyi, jingguo jitiande taolun, yijing youle jiefu.
   ‘As for this proposal, it underwent several days’ discussion and had the final results.’

2. 至于理想，每个人有自己的想法。(Type VR)
   Zhiyu lixiang, meigeren you zijide xiangfa.
   ‘As to the dream, everyone has his or her own ideas.’

3. 至于北京的名胜古迹，我已经去过颐和园。(Type SH)
   Zhiyu Beijingdemingshengguji, wo yijing quguo yiheyuan.
   ‘As to the historical sites in Beijing, I have been to the Summer Palace before.’

4. 昨天芝加哥发生了一场大火。(Distractor Sentence)
   Zuotian zhijiage fashengle yichang dahuo.
   ‘A big fire broke out in Chicago yesterday.’

5. 关于限制私家车数量，他代表支持的一方。(Type TC)
   Guanyu xianzhi sijiache shuliang, ta daibiao zhichide yifang.
   ‘As to putting a limit on private cars, he is in support of it.’

6. 对于高等数学，我是外行。(Type DJ)
   Duiyu gaodengshuxue, wu waihang.
   ‘Speaking of the advanced mathematics, I am a layman.’

7. 关于这个合同而言，我们还需要进一步协商。(Type AC)
   Jiu zhegehetong eryan, women haixuyao jinyibu jieguo.
   ‘In terms of this contract, we still need to negotiate it further.’

8. 你应该把车停在这里。(Distractor Sentence)
   Ni yinggai ba che tingzai zheli.
   ‘You should have parked your car here.’

9. 关于这次事故的发生，厂长应该承担主要责任。(Type VR)
   Guanyu zixi de xiaochi fengshen, changzhang daibiao zhichide yaozhi.
   ‘In regard to the historical sites in Beijing, I have been to the Summer Palace before.’

APPENDICES
Duiyu zhengxi yinggan, wo gongzuo anpai, wo meiyou renhe yijian.

‘As for work arrangement, I have no opinion.’

15. 关于职业选择，我和我女朋友都希望做教师。(Type TC)
   Duiyu zhiyexuanze, wohewon upengyou dou xiwang zuo jiaoshi.
   ‘For the career choice, I and my girlfriend both want to be teachers.’

16. 关于电脑操作，我们应该参加一个短期培训班。(Type VR)
   Guanyu dianpu zuochao, wo men yanggou xiaqiban.
   ‘As for computer operation, we should attend a short-term training class.’

17. 对于这个问题，张老师谈得比我谈得更好。(Type AC)
   Duiyu zhengxi wenti, Zhang laoshi tan bi wo tan hui jingao.
   ‘As for this question, teacher Zhang will explain it better than me.’

18. 关于电脑操作，我们应该参加一个短期培训班。(Type DJ)
   Guanyu diannao zuochao, women yanggou canjia yige duan qi peixun ban.
   ‘As to the computer operation, we should attend a short-term training class.’

19. 对于感情，我只知道我们俩相互喜欢。(Type TC)
   Duiyu qinggan, wo zhizhidao wo menlia xianghu xihuan.
   ‘As for emotion, I only know that we fall in love with each other.’

20. 马丽，我们校长的女儿，刚从牛津大学毕业。(Distractor Sentence)
    Mali, women xiaozhangde nuer, ganggou cong niu jing xiazi yu biye.
    ‘Mary, our headmaster’s daughter, has just graduated from Oxford.’

APPENDIX B. GRAMMATICALITY ACCEPTABILITY JUDGMENT TEST

Please fill out some basic information:
Grade: _______; Specialty: _______; Age: _______
English Proficiency Level: TEM-4/TEM-8
Serial Number: _______ (keep blank)

Instruction: Please judge the degree of grammatical acceptability for the following English sentences. There are four options on a Likert scale. The four options were transformed into 1, 2, 3, and 4 respectively. Number one represented Completely Unacceptable, two signified Probably Unacceptable, three represented Probably Acceptable, and four indicated Completely Acceptable.

1. In reference to the case, underwent the investigation four indicated Completely Acceptable.
   (Type DJ)
   2. As for swimming, I have no interest.
      (Type AC)
   3. The masterpiece the famous writer finished before dying has just published.
      (Distractor Sentence)
   4. For XiaoZhang, the price of the city is very high.
      (Type DJ)
   5. Mary sought her textbooks, but didn’t find nowhere.
      (Distractor Sentence)
   6. At the mention of French, we always think they are very romantic, but they also have their own individuality.
      (Type AC)
   7. As for the developmental process of dialects, Professor Li makes a deep research.
      (Type VR)
   8. In regard to fruits, I like to eat watermelons the most.
      (Type SH)
   9. One of my classmates, he has already graduated from Peking University.
      (Distractor Sentence)
   10. Concerning the general election, he is the firm advocate of John Trump.
       (Type DJ)
   11. There are three boys and two girls absent from the lecture.
       (Distractor Sentence)
   12. Referring to the hometown, everyone has their own particular emotion.
       (Type VR)
   13. With respect to cooking meals, I can only scramble eggs.
       (Type SH)
   14. As to improving English communicative skills, you had better live abroad for some time.
       (Type TC)
   15. With reference to achieving goals, we should face difficulties optimistically and challenge ourselves continuously.
       (Type TC)
   16. About the content of this book, I have forgotten.
       (Type AC)
   17. The small town happened a serious traffic accident ten days ago.
       (Distractor Sentence)
   18. In regard to the tea, Mr Zhou only drinks the Tie Guan Yin.
       (Type SH)
   19. Considering the salaries and benefits, I decided to work in Greece company.
       (Type DJ)
   20. As for the plot of most movies, we can generalize that the justice must conquer the evil.
       (Type TC)