

The Acquisition of Resultative Verb Compounds in Mandarin by English Speakers

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1. Introduction

Within second language research, the interlanguage initial state and parameter resetting were neglected topics until the mid 1990s. More recently, a number of explicit hypotheses have been advanced as to the nature of the initial state in L2 acquisition. One such hypothesis is the Full Transfer/Full Access hypothesis (e.g., Schwartz and Sprouse 1994, 1996) which proposes that the L1 grammar as a whole constitutes the L2 initial state and that subsequent UG-constrained restructuring takes place. This view, expanded in Slabakova (2000, 2001), attempts to investigate the nature of the initial hypothesis Bulgarian learners of English entertain regarding telicity marking and whether adult learners are capable of resetting the telicity marking parameter. It is found that both L1 transfer and parameter resetting are experimentally supported.

This study is designed to investigate the acquisition of telicity marking in Mandarin Chinese. In doing so, we draw results from the investigation concerning the acquisition of resultative verb compounds in Mandarin by English speakers. The generalizations obtained are discussed with a view to identifying the factors such as L1 transfer and the possibility of parameter resetting in the process of second language learning. The results show that English speakers with advanced proficiency of Chinese have few problems in interpreting Chinese telicity marking appropriately. Thus Full Transfer/Full Access finds additional support.

1.1 Telicity marking in Mandarin and English

This study focuses on the second language acquisition of a particular Mandarin verb structure – resultative verb compounds. Mandarin resultative verb compounds (RVCs) consist of two root verbs: V_1V_2 . V_1 is usually an action verb indicating the cause, and V_2 is a stative verb or an action verb indicating a change of state or an action caused by V_1 . One class of RVCs is illustrated in (1) (Li & Thompson, 1981):

(1) zhai-xia (pick-descend), xie-wan (write-finish), sha-si (kill-die)

There is a causal relation between the event represented by the first verb of the compound and the state/result represented by the second verb of the compound. That is why the compound verbs in (1) are called resultative verb compounds.

In Mandarin, change-of-state is typically encoded with RVCs, as illustrated in (2):

(2) Zhangsan *zhai* *-xia* -le pingguo.
Zhangsan *do.picking.action-descend*- PERF apple
Zhangsan picked the apple.

In this sentence, the RVC consists of two verbs, *zhai* ‘do.picking.action’ and *xia* ‘descend’. This is the counterpart of the English change-of-state verb *pick* or verb phrase *pick off*. According to Talmy (2000), the English change-of-state verbs like *pick* could conflate both a cause and a change-of-state by itself while these functions have to be expressed by means of a separate morpheme in Mandarin.

In Mandarin, the difference between simplex activity verbs and resultative verb compounds has to do with telicity. A telic event has a natural endpoint, after which the event cannot conceivably continue as in *Peter ate three pears*. Events without a clear, inherent endpoint are atelic events as in *Peter pushed the car for two minutes*. Atelic events do not necessarily imply completion. Since Verkuyl (1973), it is well accepted that English marks telicity either lexically as in (3) or through the cardinality of the direct object as in (4).

- (3) Josh noticed the girl behind him.
 (4) Josh ate a whole pizza by himself.

Vendler's (1967) four-way classification of verbs is partly based on telicity, as shown in (5):

- (5) *States*: Lacking continuous tenses, predicated for a shorter or longer period of time.
Activities: Continuous tenses with no set terminal point.
Accomplishments: Continuous tenses with set terminal point.
Achievements: Lacking continuous tenses, predicated only for single instants of time.

According to Vendler (1967), English change-of-state verbs (such as *kill*) are accomplishment verbs or achievement verbs that generally specify the fulfillment of the change-of-state and denote telic events.

By contrast, Tai (1984) noted that the first verbs in resultative verb compounds are activity verbs that denote atelic events while the whole resultative verb compounds are accomplishment verbs that denote telic events. That explains why the first component in a resultative verb compound does not in itself assert any change-of-state and therefore an additional result component (V_2) is needed to specify the change-of-state in Mandarin.

To summarize, Mandarin change-of-state meaning is lexically realized by the combination of two verbs, but this option is not available in English. Moreover, Chinese DPs are not inflected for number and definiteness. Thus, the telicity of verb phrases is marked differently in English and Mandarin. It is argued that the difference is a consequence of parametric difference relating to telicity between Mandarin and English.

1.2 Knowledge of telicity marking in second language acquisition

The second language acquisition of aspect has always been a hot topic of research in the field of applied linguistics (Andersen 1989; Shirai and Andersen 1995; Slabakova 2000, 2001; Y. Shirai 1991). For example, the paper by Slabakova (2000) specifically investigated a cross-linguistic aspectual contrast in telicity. Unlike English, which denotes telicity either lexically or through the cardinality of the object, Slavic languages encode telicity by perfective preverbs (PV). The examples in (6) are from Bulgarian.

- (6) a. Ivan čet-e knigi. atelic
 Ivan read-3s/AORIST books
 'Ivan read books.'
 b. Ivan pro-čet-e knigi. telic
 Ivan PV-read-3s/AORIST books
 'Ivan read (a specified quantity of) books.'

In (6a), the atelic English gloss and the atelic Bulgarian interpretation are the same. In (6b), however, the event is understood as having a natural endpoint, i.e., complete. This interpretation is due to the presence of the preverb, a lexically selected morpheme on the verb signaling telicity. Moreover, when a preverb is present, the DP object is interpreted as being a specified cardinality, although it is a bare plural. Obviously, telicity is marked differently in Slavic languages and languages like English. Slabakova argues that the difference between Slavic languages and languages like English is a consequence of a parametric difference relating to a functional category.

Slabakova (2001) further investigates the acquisition of English by native speakers of Bulgarian, a language whose setting of aspectual parameter differs from English, and by native speakers of Spanish, a language with the same setting as English. If the L1 grammar forms the interlanguage initial state, differences are expected, with respect to aspectual interpretation, between these two groups of learners.

The main task is an aspectual interpretation test. It is based on a combination of two clauses in a complex sentence, one of which establishes the context, and the other contains the telic or atelic VP to be tested. The first clause remains constant, as well as the form of the verb in the second clause. The only thing that varies is the cardinality of the direct object in the second clause. To native speakers of English and Spanish, the presence or absence of a determiner in the object DP in these sentences is sufficient to determine the telicity of the second clause and hence the naturalness of the sentence as a whole. For Bulgarian speakers, however, presence or absence of the determiner has no effect on aspectual interpretation.

The overall results reveal that native speakers of English and Spanish-speaking learners of English distinguish sharply between telic and atelic sentences. The Bulgarian speakers, however, show non-significant difference between the two sentence types. The most noteworthy result is that on telic sentences, the Low Intermediate Bulgarian learners of English perform significantly worse than the rest of the learners and controls, whereas the High Intermediate and the Advanced learners perform like the controls. On the other hand, on atelic sentences, Low Intermediate learners as a group perform like the controls and the advanced learners. This fact is predicted by the hypothesis that beginning learners will transfer the L1 value of the parameter, and the high-proficiency Slavic-speaking learners of English will be capable of resetting the aspectual parameter value to the English setting, thus successfully acquiring a property of language almost never taught in language classrooms.

1.3 Research questions and hypotheses

Based on the analyses of telicity, the present study explores

- a. whether English speakers can fully acquire the language-specific ways of packaging information in RVCs.
- b. the effects of the parameter of telicity marking in L2 acquisition of verb compounds.

Two hypotheses are proposed:

Hypothesis 1: If the L2 learners start out with the L1 value of parameter of telicity, then it is predicted that they would not be aware that in Mandarin it is the resultative verb compound that is crucial in determining telicity.

Hypothesis 2: If the L2 speakers' interlanguage grammar will eventually be restructured in response to properties of the L2 input interacting with Universal Grammar, then the grammar of the L2 learners will at some point converge on the relevant properties of the L2. That means there will be an increase of accuracy in the learners' knowledge of telic and atelic interpretation of Mandarin sentences across proficiency levels. High proficiency learners will perform like native speakers.

If these hypotheses are confirmed, then we could conclude that the L2 learners will begin with the L1 value of the parameter of telicity and eventually reset their parameter to the target language in the course of second language acquisition.

2. Experimental Study

2.1 Subjects

The study involved one group of native speakers (n=6), one group of advanced L2 speakers (n=6), one intermediate group (n=6), and one group of beginners (n=6). All subjects were native speakers of English and had never lived in China. They all took a grammar-based placement test when they entered the Chinese language program at The University of Iowa. A control group of 6 native speakers of Mandarin was given the same test as the students.

2.2 Test Design

A story comprehension task was used to assess the subjects' knowledge of the telicity marking in Mandarin.

The test materials consisted of twenty-two stories written in English, with each story followed by a pair of sentences. One sentence contained an RVC and the other contained V_1 of an RVC. There were a total of 15 stories relevant to the study: 8 were change-of-state events and 7 were no-change-of-state events. Example (7) illustrates a no-change-of-state event in which the agent performs an action but the change of state does not take place. By contrast, the outcome of an action is achieved by the agent in a change-of-state event.

No-change-of-state event: *Mary wanted the large juicy apple high on the tree. She jumped many times but she could only brush her finger across the bottom of the apple.*

- (7) a. Mary *zhai-le* pingguo.
 Mary *pick-PERF* apple
 b. Mary *zhai-xia -le* pingguo.
 Mary *pick-descend -PERF* apple.

Sentence (7a) contains a single action verb, and sentence (7b) contains a resultative verb compound. They differ by only one morpheme. The participants have to indicate the appropriateness of the test sentence on a scale from 1 to 3 on the basis of semantic compatibility. Since this is a no-change-of-state event in which the result does not occur, the subjects should reject the use of resultative verb compounds but accept the use of simplex activity verbs.

2.3 Results

Given that the state-change meaning is critical to an RVC, we can expect the subjects who know the distinction to show a strong preference for the RVCs in the change-of-state event, in which the outcome of the action is explicitly specified. However, these subjects should not allow the RVC interpretation in the no-change-of-state event since the outcome caused by the action is not realized. On the other hand, subjects who do not know the distinction might not exhibit this contrast.

Table 1 presents the groups' results in the context of change-of-state events.

Table 1: Mean ratings for Resultative Verb Compounds (RVCs) and action verbs (V_1) in the Change-of-state events.

Group	Resultative Verbal Compounds		Single verbs (V_1)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Controls (n=6)	2.98	0.14	1.98	0.25
Advanced (n=6)	2.73	0.61	1.86	0.51
Intermediate (n= 6)	2.63	0.70	1.69	0.63
Beginners (n=6)	1.96	0.75	2.07	0.74

Note: scale of 1-3: 3 is *most appropriate*

Learners' choices show that in the context of change-of-state stories, high proficiency learners correctly preferred RVCs over V_1 .

For the activity verbs, the overall average score for the controls and high proficiency groups was around 2.0. That means these groups did not reject V_1 in this context. That is not surprising since logically speaking, the resultative verb compounds entail both the action and the state change. For example, in producing the sentence *Mary picked an apple*, two sub-events are involved: The first sub-event is that Mary has performed an action of attempting to pick an apple, and the second sub-event is that the apple necessarily came off. That is why the simplex action verb is accepted by all groups. Crucially, in the change-of-state context, the subject exhibited a very clear preference for RVC over the simplex activity verb.

However, the beginners did not exhibit such a preference. Unlike the controls and high proficiency learners, they gave almost equal scores for both sentences. This suggests that the beginners were not sensitive to the distinction between simplex activity verbs and verb compounds.

Next are the results in no-change-of-state events. Table 2 summarizes the responses of the subjects in the no-change-of-state events.

Table 2: Mean ratings for Resultative Verb Compounds (RVCs) and action verbs (V_1) in the No-change-of-state events.

Group	<u>Resultative Verbal Compounds</u>		<u>Single verbs (V_1)</u>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Controls (n=6)	1.05	0.22	2.90	0.30
Advanced (n=6)	1.36	0.66	2.48	0.71
Intermediate (n= 6)	1.71	0.89	2.17	0.86
Beginners (n=6)	1.85	0.73	1.90	0.75

Note: scale of 1-3: 3 is *most appropriate*

The control group exhibited a strong preference for the activity verbs over the resultative verb compounds. The Advanced group exhibited the same preference, and the score for the RVC was significantly lower than the score for the simple verb. This is consistent with the semantic distinction between these two constructions. However, the responses of beginners as well as the Intermediate group were random. This indicates that they did not recognize the difference between these two verb structures.

In addition, paired two-sample *t*-tests confirmed that control and advanced learners distinguished significantly between the semantic implication of activity verbs and resultative verb compounds, and no significant difference for intermediate learners and beginners with respect to the no-change-of-state events. With respect to the change-of-state events, the control group was sufficiently aware of this contrast, and so were the advanced and intermediate learners, while the judgments for the beginners were much closer together ($p < 0.05$).

3. Discussion and conclusions

The purpose of the experiment was to investigate the extent to which English-speaking learners of Mandarin approximate native speakers of the target language in judging the appropriateness of simplex action verbs of RVCs in the context of change-of-state events and no-change-of-state events. In this section, results are discussed in relation to the two research questions stated at the outset and then a tentative conclusion is presented based on the results.

It is clear that the control group performed as expected. Their scores on both conditions suggest that the distinction in meaning is identifiable on the basis of semantic compatibility, in which a single activity verb yields an atelic interpretation and an RVC a telic interpretation.

Hypothesis 1 is supported. There is good evidence that the low proficiency speakers differed from the high proficiency speakers in their interpretation of change-of-state verbs. The fact that there was no significant difference in performance in two event types suggests that they had difficulty in determining that a change-of-state meaning is crucial to resultative verb compounds. This is expected since this verb structure is not available in their native input.

The responses from the intermediate group and the advanced group indicate that they treated these two structures differently, thereby supporting hypothesis 2. This suggests that English speakers can learn such structure—which is not allowed in their L1. They can add this new construction to their interlanguage and acquire the L2 representation of telic meaning.

In summary, the overall results reveal that the parameter of telicity of the subjects' native language is still operational in the initial state of L2 acquisition. The lack of one particular structure in their native language may significantly affect their accuracy of responses. This is consistent with the view that L2 learners require a certain amount of exposure to the target language before being able to restructure their parameter. By contrast, a developmental trend is found among L2 learners, with the

more advanced learners performing better than their less advanced counterparts. This suggests the possibility of parameter resetting of telicity.

One major issue in the study of second language acquisition has to do with whether native English speakers can fully acquire language-specific ways of packaging information. In this case, with Mandarin resultative verb compounds, the answer seems to be positive based on the results of this experiment.

References

- Andersen, R. W. (1989). La adquisición de la morfología verbal [The acquisition of verb morphology]. *Linguística, 1*, 90–142.
- Li, Charles N., & Thompson, Sandra A. (1981). *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Schwartz, B.D. and R. Sprouse. (1994). Word order and nominative case in nonnative language acquisition: a longitudinal study of (L1 Turkish) German interlanguage. In T. Hoekstra and B.D. Schwartz (eds.), *Language acquisition studies in generative grammar* (pp. 317-68). Amsterdam: John Benjamins.
- Schwartz, B.D. and R. Sprouse. (1996). L2 cognitive states and full transfer/full access model. *Second Language Research 12*: 40-72.
- Shirai, Yasuhiro. (1991). *Primacy of aspect in language acquisition: Simplified input and prototype*. Unpublished doctoral dissertation, University of California, Los Angeles
- Shirai, Yasuhiro, & Andersen, R. W. (1995). The acquisition of tense/aspect morphology: A prototype account. *Language, 71*, 743–762.
- Slabakova, Roumyana. (2000). L1 transfer revisited: the L2 acquisition of telicity marking in English by Spanish and Bulgarian native speakers. *Linguistics 38*: 739-70
- Slabakova, Roumyana. (2001). *Telicity in the second language*. Philadelphia: John Benjamins Publishing.
- Tai, J. 1984. Verbs and times in Chinese: Vendler's four categories. In D. Testen, V. Mishra, & J. Drogo (Eds.), *Parasession on lexical semantics* (pp. 289-296). Chicago: Chicago Linguistic Society.
- Talmy, Leonard. (2000). A typology of event integration. In L. Talmy, *Toward a cognitive semantics. Vol II: Typology and process in concept structuring* (pp. 213-298). Cambridge, MA: The MIT Press.
- Vendler, Z. (1967). *Linguistics in philosophy*. Cornell University Press.
- Verkuyl, H. J. (1973). Temporal prepositions as quantifiers. In F. Kiefer & N. Ruwet (Eds.), *Generative grammar in Europe*. Dordrecht: D. Reidel.
- White, Lydia. (2003). *Second language acquisition and universal grammar*. Cambridge, UK: Cambridge University Press.

Appendix

Please use your intuition to judge how appropriate each sentence in the pair is from the context provided by the stories. You do not have to use a whole number to indicate the appropriateness. You may rate each sentence anywhere on the scale that agrees with your intuition (for example, 75, 1.5, 2) 1 = not appropriate at all 2 = somewhat appropriate 3 = perfectly appropriate

Change-of-state events

1. Timmy was playing with matches, even after his mother told him not to. He lit a match and it burned his finger, so he dropped it, yelping in pain. His mother came into the room and saw he'd started a little fire. She stamped it out and yelled 'how many times do I have to tell you not to play with matches?' Tears ran down Timmy's cheeks while he sucked on his fingers.

a. Mama *ma-ku-le* Timmy.
mother *scold-cry-FERF* Timmy.

b. Mama *ma-le* Timmy.
mother *scold-FERF* Timmy

2. John and Steve were throwing baseball at the abandoned warehouse. John dared Steve to try to hit the window by the roof. Steve threw as hard as he could and a minute later they heard a crash.

a. Steve *da-le* chuangu.
Steve *hit-PERF* window

- b. Steve *da-po-le* chuanguhu.
Steve *hit-break-PERF* window
3. Mr. Jones realized that the rabbit was eating all the lettuce in his garden. One day, Mr. Jones saw the rabbit in his garden, chewing on the lettuce. He grabbed a broom and ran into the garden. Scared, the rabbit hopped as fast as it could into the neighbor's yard.
- a. Jiongsi xiansheng *gan-pao-le* tuzi
Mr. Jones *chase-escape-FERF* rabbit
- b. Jiongsi xiansheng *gan-le* tuzi
Mr. Jones *chase-FERF* rabbit
4. Tarzan had to get across the river. Tarzan held a vine so he could swing across. Tarzan took off running forward and leaped into the air. The vine took him a long way, and at the peak of its swing, he let go. He landed safely on the ground.
- a. Tarzan *dangguo-le* he.
Tarzanswing-pass-PERF river.
- b. Tarzan *dangjin-le* he.
Tarzan fails to *swing-pass* the river.
5. Dirty Harry could hear the woman screaming for help from the other side of the door. He aimed a kick at the door. After three kicks, the door slammed back against the wall.
- a. Hali *ti-le* men.
Harry *kick-PERF* door
- b. Hali *ti-kai-le* men.
Harry *kick-open-PERF* door
6. The bank robber was leaving the bank. The police were waiting for him outside. He shot at the police and the police shot back. After all the confusion, the police found the bobber laying on the ground. He was not breathing.
- a. Jiongcha *she-le* qiangjiefan
policeman *shoot-PERF* robber
- b. jiongcha *she-si-le* qiangjiefan
policeman *shoot-die-PERF* robber
7. Jimmy invited several friends over to his house to play basketball. Jimmy's grandmother decided to make some lemonade for them. She put the lemonade powder in a pitcher and poured water. She added so much water that the pitcher overflowed.
- a. Jimmy de nanai ba pingzi *zhuang-man-le* ningmengzhi
Jimmy's grandma BA bottle *pour-fill-PERF* lemonade
- b. Jimmy de nanai ba pingzi *zhuang-le* ningmengzhi
Jimmy's grandma BA bottle *pour-PERF* lemonade
8. When Jim awoke in the morning, he was very thirsty. On the kitchen table he found a glass full of orange juice. He drank all the juice and quenched his thirst.
- a. Jim *he-le* guozhi.
Jim *drink-PERF* juice
- b. Jim *he-guang-le* guozhi.
Jim *drink-finish-PERF* juice

No-change-of-state events

1. Tom was looking at one of Mr. Smith's antique guns. Tom accidentally pulled the trigger and the gun fired. Unfortunately, the bullet hit Mr. Smith in the arm.
- a. Tom *she-le* Smith.
Tom *shoot-PERF* Smith
- b. Tom *sheshang-le* Smith.
Tom *shoot-injure-PERF* Smith.
2. Sara started to cry because she fell down and skinned her knee. The older brother tried to make her feel better and forget her pain by dramatically falling down himself, but Sara still kept crying.
- a. Gege *dou-le* meimei
brother *amuse-PERF* sister

- b. Gege *dou-le-le* meimei
brother *amuse-happy-PERF* sister
3. Mary wanted the large juicy apple high on the tree. She jumped many times but she could only brush her finger across the bottom of the apple.
- a. Mary *zhai-le* pingguo
Mary *pick-PERF* apple
- b. Mary *zhai-xia-le* pingguo
Mary *pick-descend-PERF* apple
4. Dirty Harry could hear the woman screaming for help from the other side of the door. He kicked the door three or four times but the door wouldn't budge.
- a. Harry *ti-le* men.
Harry *kick-PERF* door
- b. Harry *ti-kai-le* men.
Harry *kick-open-PERF* door
5. Since his alarm clock wasn't working, John asked his wife Jeannie to make sure he got up at 6 a.m. the next morning because he had an important meeting to go to. At six, she called John's name. He groaned, she tapped him on the shoulder, but he shooed away her hand and rolled over.
- a. Gianni *jiao-le* John
Jennie *call-PERF* John
- b. Gianni *jiao-xing-le* John.
Jenny *call-wake-PERF* John
6. Mary returned home and found two candles burning on the dining table. She blew at one of them, but its flame only flickered.
- a. Mary *chui-le* lazhu
Mary *blow-PERF* candle
- b. Mary *chui-mie-le* lazhu
Mary *blow-die-PERF* candle
7. Tom and his friend were building cardboard blocks. When they were almost done, they noticed that one piece was missing. They looked for it everywhere but couldn't find it.
- a. Xiaopengyou *da-le* jimu
Children *build-PERF* blocks
- b. Xiaopengyou *da-hao-le* jimu
Children *build-finish-PERF* blocks

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