Experimental Evidence of the Transfer Of L1 Implicature in L2 Acquisition

Author(s): Ron Cowan and Brad Reed

Proceedings of the Sixteenth Annual Meeting of the Berkeley Linguistics Society (1990), pp. 94-102

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Ron Cowan & Brad Reed
University of Illinois

This paper discusses what we believe to be an interesting example of a pragmatic constraint on the use of a specific syntactic structure. In order to accept our use of the term `pragmatic' one must be prepared to grant that in linguistics pragmatics is concerned with the planning of communication as well as its interpretation. We recognize that some readers may be unhappy with this, but we feel that the phenomenon we are describing belongs as much to pragmatics as it does to discourse, since, in one instance, it has a type of implicature which is neither completely conversational or conventional. The constraint we will describe is regulated by the speaker's sensitivity to specific contextual features in the ongoing discourse. Our modest goal will be to characterize the conditions which could lead to the development of the constraint. In the course of pursuing this goal we will first demonstrate the robustness of the constraint by showing that it is subject to transfer in second language learning. We will then examine changes associated with this structure which provide a basis for our hypothesis of how this constraint can arise. Finally, we will provide cross-linguistic evidence which supports our hypothesis.

The syntactic structure in question is the so-called *bei* passive in Mandarin. As 1 shows, it involves subject-object inversion with the concomitant insertion of the particle *bei.*

(1) a. Zhang da le wo `Zhang hit me'
(name) hit perf. me

b. Wo *bei* Zhang da le `I was hit by Zhang'
I pass. (name) hit perf.

Like its English counterpart, the *bei* passive may delete the agent NP; however, since Mandarin is a topic prominent language, the *bei* passive is not used to highlight objects as the English passive often is. This can be accomplished by the topicalization transformation in 2, which is identical to the English 'yiddish movement' transformation, said to exist in all languages.

(2) Zhang wo yi jing kan le.
(name) I already see perf.

`Zhang, I've already seen'

In subject prominent languages like English, the passive is often employed to bring an object into focus when it has been established as the theme or topic of discourse. Thus sentence 3a is generally preferred over 3b because it maintains the theme-rheme flow, or what is often referred to as the 'given-new contract' (Haviland & Clark 1974) in the preceding discourse. In Mandarin the *bei* passive could not be used for this purpose. Instead, some other device such as the *shi...da* construction in 4a or the construction shown in 4b would be employed.

(3) It had been one lousy morning. Bill had gotten up late for work. Rushing through breakfast he had burned his toast twice. When he got to the office he found a nasty letter from the IRS, and then to top it all off...

a. He was bitten by my pet cobra, Coral.
b. Coral, my pet cobra, bit him.

(4) Jien tien women zhai ke tang shan tao lun yi ben
today we in class discuss one class.

shu ta miao xei le zhang zheng gei ren min
book it describe perf. war cause people

dai lai de ku nan
bring nom. hardship

`In class today we were talking about a book that describes the war. It relates the hardships people endured then'

a. Nei ben shu shi wo mu gin xie de
that class. book is my mother write nom.

`That book was written by my mother'

Wo yuanlai dasuan xie yi ben yuanguan
I originally planned write one class. about

Tian'an men shijiande shu keshi ni zhidao ma
Tianamen incident book but you know ques.

`I had originally planned to write a book about the Tienamen incident, but, you know...

b. Nei ben shu yi jing cu ban le
that class. book already published perf.

`That book has already been published'

The *bei* passive is subject to lexical constraints. The logical object tends to be animate (Cheng personal communication) and the verb normally describes how the object is `dealt with, manipulated or handled in some way' (Li & Thompson 1981:501). A sentence like 5 is thus ungrammatical because the verb does not express disposal. In addition to these lexical constraints the *bei* passive is subject to the constraint which is the topic of this paper — it occurs almost exclusively in discourse contexts that express adverse or unfortunate events (Chao 1968:72, Li & Thompson 1976:467, Li & Thompson 1981:493). Thus the Chinese equivalent of the English discourse in 3 could be appropriately completed with the *bei* passive sentence in 6 since it describes a series of unfortunate events. But it is not possible to use a *bei* passive to complete either discourse in 4, due to the absence of elements of adversity. Li & Thompson (1981: 495) point out that this constraint is so strong that a sentence like 7 with a neutral verb would, in the absence of a preceding discourse, have the implicature that the speaker did not want to be seen.

(5) * Ta *bei* ta de tong xue hen le
he pass. his nom. classmates hate perf.

`He is hated by his classmates'

(6) Ta *bei* she yao le
he pass. snake bit perf.

`He was bitten by a snake'

(7) Wo *bei* lao shi kan jian le
I pass. teacher see perf.

`I was seen by the teacher'

An interesting question for theories of second language acquisition and discourse processing is whether this constraint associated with the *bei* passive would be transferred by Chinese speakers learning an SVO subject prominent language like English. Judging from examples 4 through 7, a reasonable hypothesis might be that the Chinese learners will be more sensitive to the situations described in an English discourse than to the topicality signals in deciding whether or not to use an English passive. To test this hypothesis, we ran an experiment with 36 native speakers of Chinese who were studying at the University of Illinois and 18 native speakers of English, also students, who served as a control group. The Chinese subjects were divided into two groups — intermediate (with a mean TOEFL score of 530) and advanced (with a mean TOEFL of 586) — on the basis of their English proficiency. All of the subjects viewed 60 sequences of three slides in Chinese and English, 40 of which were experimental sequences and 20 of which were distractor sequences. Experimental sequences were classified as positive or negative depending upon the contextual features of the episode depicted. Negative episodes were operationally defined as those in which the subject was in some way adversely affected or some negative action,such as a theft, took place. Positive episodes were defined as those in which there was no such adverse or negative effect or where the action was of a positive or neutral nature such as someone helping someone else.

For the first two frames of every sequence a tape recording in Chinese and English described the actions being portrayed. Below the scene depicted in the final slide were two sentences, one an English passive or a *bei* passive, the other, an active sentence in English or Chinese. A typical sequence, with English and Chinese recordings written under the first two slides, and a Chinese and English version of the third slide is shown in the Appendix.

Sequences were balanced to insure an equal number of animate and inanimate objects and situations where the topic was up or down. By topic up is meant that the passive sentence brought the object into focus so that it matched the theme of the preceding sentence as in 8. In topic down situations the logical object either did not match the theme or had not appeared in the preceding sentence.

(8) Example of a topic up sequence (Negative situation)
Slide 1: A boy was walking.
Slide 2: The boy didn't watch where he was going.
Slide 3: a. The boy was hit by a truck.
b. A truck hit the boy.

The Chinese subjects were assigned to one of four groups composed of from seven to ten subjects. Each group received an English test running order and a Chinese test running order. The control group subjects were also assigned to four groups. Each group was given sixty-item response sheets. The subjects were told that they were participating in a test of style and that they were to indicate their preference for one sentence or the other in the third slide by marking either (a) or (b) on the response sheet. They were instructed to indicate their interpretation of each sequence of three slides as either negative or positive by marking a plus or a minus beside each item on the response sheet. Negative and positive situations were defined for the subjects in the manner

shown. The sequences were then projected while the accompanying sentences were played. A three to five second pause separated each frame and a seven second pause separated sequences. The Chinese subjects were given the Chinese test first and the English test seven days later. All subjects were paid for their participation.

Since the subjects' interpretations of the episodes as positive or negative were important to the study, the first thing we did was correlate their responses in this regard to the original sequence divisions on the target sequences. The correlations were high for both groups — .82 for the Chinese subjects and .88 for the American subjects. The first analysis of variance (ANOVA) was run on just the Chinese speakers' performance on both the English and Chinese test. The factors involved were language (Chinese vs. English), proficiency (intermediate vs. advanced) situation (negative vs. positive), object (animate vs. inanimate), topic (up vs. down) and sentence type (active vs. passive). There were significant main effects for situation $F(1,34) = 69.05$ $p < .00001$, object $F(1,34) = 6.4919$ $p < .015$, and topic $F(1,34) = 19.12$ $p < .0001$. The lack of a main effect for language simply indicates that the Chinese subjects did not perform any differently on the English or the Chinese sequences with regard to their selection of passives. Similarly, the lack of a main effect for proficiency indicates that there was no significant difference in performance on both tests attributable to knowledge of English. There were a number of very significant interaction effects, all of which looked like the one in Figure 1, which shows the Chinese subjects performance operating across languages and proficiency levels.

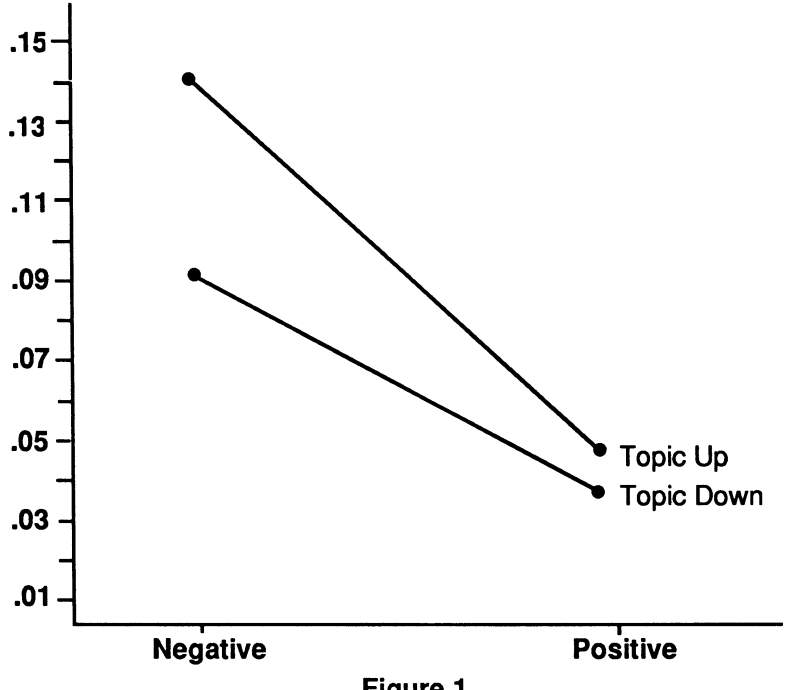

Figure 1
Situation x Topic Position Interaction

It is clear that situation is the dominant influence, with negative situations constituting the optimal condition for use of the passive. Within the negative situation, topic position exerts a stronger influence than it does in positive situation.

Of course this does not prove that Chinese transfer their preference for the passive in negative situations in second language learning. To discover if this is in fact the case, we must compare the Chinese speakers' performance on the English passive with that of the control group, which is what the next ANOVA did. Here we found an extremely strong main effect for language group $F(1,52) = 10.65$ $p < .0019$, which reflected the Chinese subjects' significantly higher choice of the passive than the English speakers'. However the decisive evidence is the interaction $F(1,52) = 5.273$ $p < .025$ between language group and situation shown in Figure 2. This clearly supports the claim that the Chinese speakers were transferring their preference for the connection between passives and negative situations to the second language. Although the American control group did choose the passive more often in negative than in positive situations, the difference is quite small, suggesting that the Americans are not sensitive to the situation as a whole.

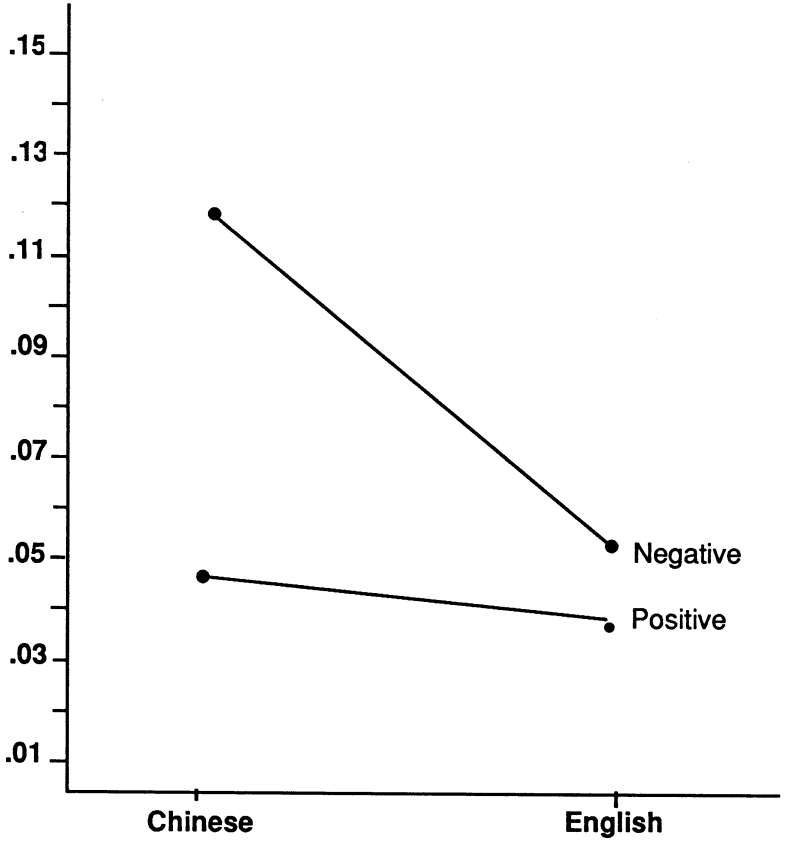

Figure 2
Language Group x Situation Interaction

To clarify this tendency among the American control group subjects, an ANOVA was performed on their data alone. The factors included situation, object, and topic position. Predictably, the only factor showing a significant effect alone was topic position $F(1,17) = 14.655$ $p < .0013$.

The results indicate that the Chinese subjects' preference for using the *bei* passive in discourse describing negative or adverse situations is robust and is transferred to the grammatical construction that is seen as formally equivalent in the the target language — the English passive. Even those Chinese subjects most proficient in English were more sensitive to the situation than the topicality signals in processing discourse in a second language. These results are important for discourse processing and second language learning because they constitute one possible cause for second language learners' inability to master the organizational structure of the target language discourse.

Given these findings, one might hypothesize that this constraint governing the use of the *bei* passive is fairly resistant to change. But, in fact, it appears that the *bei* passive is being gradually extended to non-adverse contexts on Mainland China as a result of translations from Russian and English documents. In another experiment which used the same procedure but only Chinese sentences (Reed & Cowan 1989), we found that Taiwanese subjects were more constrained in their choice of the *bei* passive in negative situations than in positive or neutral situations than Mainland Chinese subjects. Although Mainland Chinese subjects selected *bei* passives more often in non-adverse contexts than the Taiwanese subjects, the difference between the two groups was not significant. We were thus forced to conclude that we had only weak evidence for some change in the restriction governing the use of the *bei* passive on Mainland China as opposed to Taiwan. Had our experiment included agentless passives, we might have been able to obtain a more revealing result with regard to the two Chinese populations. Recently it has been noted (Pei & Chi 1987) that agentless *bei* passives are being extended to non-adverse contexts. Thus, for example, a verb like tell, which was formerly restricted to active constructions like that shown in 9a now regularly appears with the *bei* passive as in 9b.

(9) a. Renjia gaosugou wo `People have told me'

b. Wo *bei* gaosu `I have been told'

This development has its origin in the translations of English reports made available to the Chinese news agency by the international wire services. The translators who work for the widely broadcast Reference News, have, over time rendered agentless English passives like `it was reported...' in the Chinese *bei* passive. However this expanded use of agentless *bei* passives has been restricted (to date) largely to writing, and it remains to be seen whether it represents the first stage in the breakdown of the situational constraint which pertains to *bei* passives with agents.

This development brings us to our final point, an account of what leads to the constraint governing the use of the *bei* passive.[1] Our hypothesis is that when a language possesses more than one way of maintaining the given-new contract in discourse, and the passive is not the primary means employed for this purpose, the passive with agent, which is the marked form of this construction is likely to undergo the kind of development we have seen with the Chinese *bei* passive. This implies that the unmarked form, the agentless passive, represents a conscious choice by the speaker to de-emphasize the agent. This is often done when the speaker wishes to report something that is a generalization or statement about which no direct reference to the agent needs to be made.

Cross-linguistic evidence supporting our hypothesis is found in a number of South Asian languages. Pandharipande (1976, 1982) has pointed out that in Hindi, Marathi and Nepali the passive with agent has taken on a specific meaning of capability which is determined by agent internal conditions, such as headache, hatred, happiness, physical or

psychological pain. etc., that is, various states which would could result in a volitional act. Note that this capability interpretation of the passives with agent in examples 10a-c is not expressed in the corresponding active sentences in 10d-f.

(10)

Hindi: a. Mujh se kuch bhī kahā nahī gayā
me by anything said not went

Marathi: b. Mājhyā kaḍūn kahīhī bolla gela nāhī
me by anything said went not

Nepali: c. Mabāṭa kehi bhaniena
me by anything said+pass.+m. pl.+ not

'I wasn't able to say anything'

Hindi: d. Mɛ ne kuch bhī nahī kahā
I ag. anything not said

Marathi e. Mī kāhīhī mhaṭla nāhī
I anything said not

Nepali f. Maile kehi (pani) bhanīna
I ag.m.anything (too) say+pt.+neg.

'I did not say anything'
* 'I was not able to say anything'

What makes this case virtually identical to the one we have described for the *bei* passive is that the passive with agent is blocked when the preceding context indicates that the agent does not have any control over the act expressed by the verb. In Hindi opening the door, which is normally considered a volitional act, is performed `unknowingly or under the influence of alcohol' in 11a. It must therefore be expressed in an active sentence since these contextual circumstances exclude the passive version shown in 11b. Agentless passives in these three languages will either be interpreted presciptively i.e. `one doesn't do that' or, if the appropriate context has been set up, as having the volitional reading.

(11)

a. Anjāne mẽ us ne darwāzā kholā ɔr vah
naše kī dhundh mẽ
'Unknowingly
'Under the influence of alcohol he opened the door

bāhar calā gayā.
and went out'

b. ?? Anjāne mẽ (us se) darwāzā kholā gayā ɔr
naše kī dhundh mẽ
vah bāhar calā gayā

'The door was opened by him unknowingly/under the influence of alcohol'

Obviously we welcome data from other languages which would assist in refining this hypothesis that passives with agents are likely candidates for developing the syntactic-pragmatic intersection we have described.[2] For the present we prefer to frame the hypothesis in its weakest form, that is, as a possible development which can occur irrespective of language typology if the appropriate conditions are present. Confirmation of the hypothesis would provide at least a small increment in our understanding of the mechanisms of diachronic syntactic change, and it would demonstrate one way in which syntactic-pragmatic phenomena can override universal conditions governing the organization of discourse in the production of natural language.

Notes

1. The authors wish to thank Hans Hock for his very insightful observations about passives in different languages. His comments greatly aided the development of the hypothesis proposed in this paper.

2. Dan Slobin has indicated that there is additional evidence from Turkish that supports this hypothesis. Because of the deadline constraints we were unable to incorporate this evidence in our paper.

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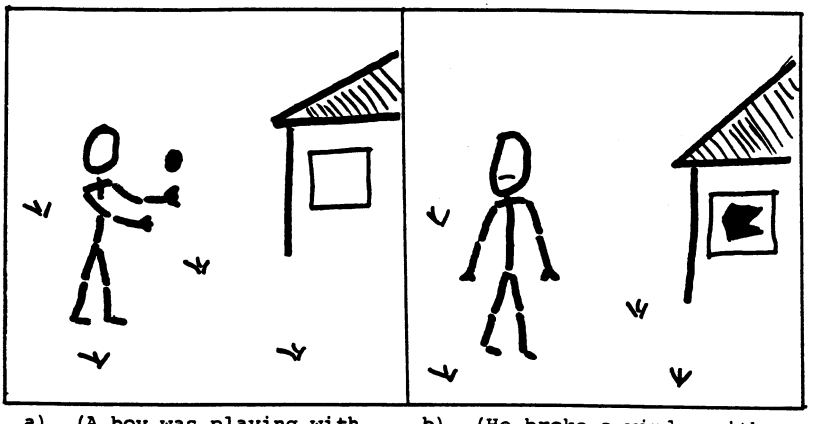
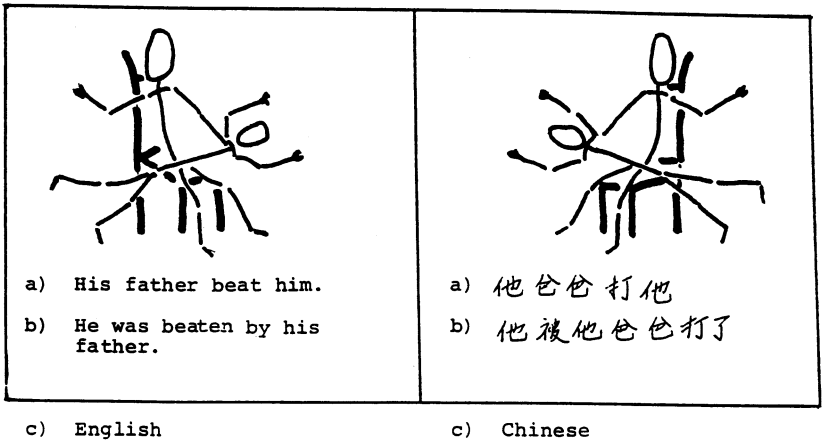
APPENDIX
Sample Negative Sequence

Sequence #3--negative



a) (A boy was playing with a ball.)
(一個小男孩在玩球)

b) (He broke a window with the ball.)
(他用球打破了玻璃)



a) His father beat him.

b) He was beaten by his father.

c) English

a) 他爸爸打他

b) 他被他爸爸打了

c) Chinese