

# Backward Transfer from L3 French to L2 English Production of Relative Clauses by L1 Cantonese Speakers in Hong Kong

Bronson Hui  
Fanling Kau Yan College

## Abstract

This paper reports a case of ‘backward transfer’ involving L3 French influence on L2 English relative clause production by Cantonese-speaking university students in Hong Kong. Although substantial research has revealed that forward transfer, from a previously acquired language to a later acquired one, affects all linguistic subsystems, backward transfer has received less attention. In this study, both Cantonese-English bilinguals learning French as L3 (the experimental group) and bilinguals of Cantonese and English (the control group) performed a written picture elicitation task where they produced different kinds of relative clause in English as the language being tested. The production of both groups was compared quantitatively and qualitatively. Quantitatively, the frequency counts of different types showed that the experimental group was influenced by French in terms of syntactic formulation of subject-extracted (SRC) and object-extracted relative clauses (ORC). They tended to (1) employ a full SRC with a relative pronoun as opposed to a reduced relative clause, and (2) insert a relative pronoun, which is optional, in ORCs. It was also observed that L3 French can account for some errors the experimental group produced, such as the use of the human relative pronoun *who* for non-human antecedents, and others that they did not produce, such as subject relatives with inappropriate omission of relative pronouns. It is concluded that backward transfer from L3 French to L2 English did take place in the production of relative clauses in this study, and hence that transfer is bidirectional in multilingual contexts.

## Introduction

Compared with positive and negative transfer, the distinction between forward and backward transfer, which involves the transfer from a previously acquired language to a later acquired language and vice versa, has received little attention. As forward transfer is found in all linguistic subsystems from pragmatics, rhetoric, semantics, syntax to morphology, phonology, phonetics and orthography (Hammarberg, 2001; Odlin, 2003), it seems to set the norm for the study of transfer in SLA and third language acquisition (TLA), for example, Leung (2002, 2005). However, Cook (2003) points out that transfer is said to affect ‘*either* language’ in Weinreich’s (1953, p.1) terms, in bilingual contexts. While there has been some research investigating backward transfer in bilingual contexts, ie. L2→L1 (for example, Cook, 2003; Pavlenko & Jarvis, 2002; Porte, 2003), to the author’s knowledge, there does not seem to be any study designed to do the same in multilingual contexts, L3/n →L1/2.

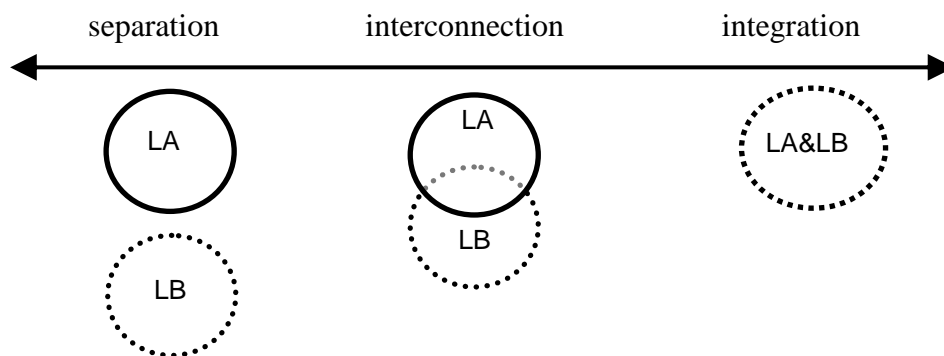
The present study aims at examining the possible influence of L3 French on L2 English production of relative clauses (RCs) by university students in Hong Kong in terms of their tendency to use the syntactic structures that have French equivalents and in terms of the types of error that they produce. The key research question is:

*Does the acquisition of L3 French influence the production of relative clauses (RCs) in L2 English by Cantonese-speaking university students in Hong Kong?*

## Forward and Backward Transfer

Considering forward transfer as the norm in the field, one of the prevailing conceptions may be that the source of transfer has to be the previously learned language of the learners and that the influenced language is the target language in the course of SLA. This conception explains why L1 and L2 have usually been the sources of transfer under the studies in bilingual and multilingual contexts respectively. However, there are times when L2 becomes the dominant language in a bilingual's mind, especially when they use L2 much more than L1 for a long period of time. For example, Porte (2003) describes how the L1 output of EFL (English as a Foreign Language) teachers is influenced by an L2 environment. This kind of influence on L1 is one of the most common contexts for discussing backward transfer from L2 to L1.

In fact, the study of backward transfer, according to Cook (2003, p. 2), has emerged from the notion of multi-competence which refers to 'the knowledge of two or more languages in one mind'. This broader notion, often contrasted with the concept of interlanguage which is specific only to a certain target language, allows further exploration into the relationship among different languages in one mind and how interactions and transfer take place. The possible relationships are described in the integration continuum (Cook, 2003, p. 9), as shown in Figure 1. At the separation end, it is hypothesized that language A (LA) and language B (LB) are totally separated and that they do not interact with each other at all. As a result, transfer does not take place in either direction. At the integration end, however, LA and LB are integrated into one system. According to Cook (2003, p. 7), the discussion of the model at this end 'is not about the influence of L2 on L1 but about the balance between elements of a single language system', and 'there is no point to counting "languages" in a single mind'.



**Figure 1.** The integration continuum of possible relationships in multi-competence

Research on transfer, according to Cook (2003), assumes interconnection of languages in a bilingual's mind where the two languages are linked and interact with each other. Depending on the strength of the link, forward transfer takes place when the development of L2 is subject to L1, while backward transfer occurs when L2

exerts influence on L1. In fact, as acknowledged by Cook (2003, p. 2), the concept of multi-competence and the integration continuum '[do] not preclude multiple languages and multilingualism'. However, very little research has focused on backward transfer in multilingual contexts, i.e. L3 → L1/2.

## **Contrastive Analysis of Three Types of Relative Clause in English and French**

In the study, three types of RC were examined, namely subject-extracted relatives (SRCs), object-extracted relatives (ORCs) and indirect-object-extracted relatives (OiRCs). These three types of RC in French and English are contrasted below to provide a background for understanding.<sup>1</sup>

### ***Subject-extracted Relatives (SRCs)***

In both English and French, the relativized positions are left with a null gap as shown in (1) and (2). The relative pronouns (RELs) are also obligatory in SRCs in both languages. In English, the REL and the verb of the RC can be replaced by the present participle of the verb in the active voice as in (3) and past participle in passive as in (4) to form reduced RCs. French has a similar pattern in the passive voice as illustrated in (5). The key difference is that active participle clauses in French as in (6) are infrequent.

1. the lady<sub>j</sub> [who/that  $\emptyset_j$  wants to marry John]
2. la femme<sub>j</sub> [qui  $\emptyset_j$  veut épouser John]  
DET lady REL want to-marry John<sup>2</sup>  
'the lady who/that wants to marry John'
3. the lady [standing there]
4. the lady [hit by the car]
5. l'homme [tué dans la maison]  
the man killed in DET house  
'the man killed in the house'
6. l'homme treconnaisant [qu'il avait eu 100 à l'examen]  
DET man knowing that he have have 100 in DET exam  
'the man knowing that he had had 100 marks in the exam'

### ***Direct-object-extracted Relatives (ORCs)***

In ORCs, both languages leave a gap in the relativized position in the same manner as in SRCs. The key difference is that a REL is optional in English as in (7) but obligatory in French as in (8).

7. the lady<sub>j</sub> [(that/who/whom) John wants to marry  $\emptyset_j$ ]
8. la femme<sub>j</sub> [\* (que) John veut épouser  $\emptyset_j$ ]  
DET lady REL John want to-marry  
'the lady that/who/whom John wants to marry'

### ***Indirect-object-extracted Relatives (OiRCs)***

OiRCs and oblique relatives were treated as if they were the same in this paper because they demonstrate syntactic similarity. OiRCs in French involve the obligatory movement of the preposition to the left before the REL (pied-piping) as in (9) or a special REL such as *dont* in (10). In contrast, pied-piping as in (11) is optional in English. When the preposition is not moved, it is known as preposition-stranding as in (12). In the case of preposition-stranding in English OiRCs, the REL is again optional.

9. la société<sub>j</sub> [pour laquelle je travaille  $\emptyset_j$ ]  
 DET society for REL I work  
 ‘the society for which I work’
10. la femme<sub>j</sub> [dont je parle  $\emptyset_j$ ]  
 DET lady REL+de I talk  
 ‘the lady to whom I talk’
11. the lady<sub>j</sub> [to whom I talk  $\emptyset_j$ ]
12. the lady<sub>j</sub> [(that/who/whom) I talk to  $\emptyset_j$ ]

## **The Study**

### ***Research Hypothesis***

Based on the contrastive analysis outlined above, if backward transfer takes place, the experimental group, whose L1 is Cantonese, L2 English and L3 French, should be relatively more inclined, compared with the control group, who are bilinguals of Cantonese and English, to employ the target structures in English that have French equivalents in the production of relatives. Therefore, three hypotheses were formulated to test for backward transfer in the present study, which are as follows:

*H1:* In the production of SRCs in English, the experimental group is more inclined, compared with the control group, to employ a full-SRC with a REL rather than a reduced SRC starting with the present participle as the latter structure is infrequent in French.

*H2:* In the production of ORCs in English, the experimental group is more inclined, compared with the control group, to employ an ORC with a REL which is optional in English but obligatory in French.

*H3:* In the production of OiRCs in English, the experimental group is more inclined, compared with the control group, to employ pied-piping as opposed to preposition-stranding which is prohibited in formal and continental French.

### ***Participants***

Two groups of undergraduates were recruited from a university in Hong Kong and divided according to their linguistic profiles. The experimental group of 31 students with L1 Cantonese, L2 English and L3 French were third-year French majors who had received at least 400 hours of instruction in French as a foreign language.<sup>3</sup> The control group was comprised of 25 bilinguals whose L1 is Cantonese and L2

English. At the time of the present study, they were in their second or third year of undergraduate study in the Faculty of Arts or Faculty of Social Sciences. Both groups had had more than 16 years' experience of learning English as a second language. According to their Hong Kong Advanced Level Examination (HKALE) results in Use of English, the language proficiency of the experimental group was slightly better, but the difference was not significant (Table 1).

**Table 1**

*Mean scores for English proficiency for both groups*

	Experimental Group (n=26) ##	Control Group (n=25)	
Mean for Eng. Proficiency#	2.846	3.24	t = -1.5978, n.s.

# The lower the score, the better their English, in that a grade "A" scores 1 while a grade "F" scores 6.

## Five participants in the experimental group had not taken the HKALE and were therefore not included in the calculation of the mean score.

### *Materials*

The participants were given a written picture elicitation task in which twenty four pictures and questions designed to elicit their written production of RCs were presented, eight for each type of RC. In the task, the participants were asked to answer the questions using the specified verbs, presented in their base forms (see Appendix 1 for sample stimuli).

### *Data Analysis*

The responses were classified according to the syntactic formulation of the RCs and the grammaticality of RC-related structures. The errors were further classified into error types for a qualitative analysis. Quantitatively, a z-test for proportions was performed based on the frequency of the target responses (Table 2) in order to compare the differences in the tendency to formulate RCs.

**Table 2**

*Target responses of different types of RC*

	Target responses	Examples of the target responses
SRC	Use of a full SRC (as opposed to a reduced RC)	<i>The one who is watching TV</i> has short hair.
ORC	Use of a REL (as opposed to omission of a REL)	<i>The one who Tom hit</i> is sent to the hospital.
OiRC	Use of pied-piping (as opposed to preposition-stranding)	<i>The one of which John thinks</i> is higher.

Qualitatively, structural errors related to RC formation were classified and analyzed in order to identify traces of potential transfer from L3 French. Whether certain error types were produced by a particular group was also examined.

## Results

Results of the study are presented in this section. Quantitative data are shown first to demonstrate the participants' preference in RC formulations, followed by the classified error types found in the responses of both groups.

### *Preference in Relative Clause Formulations*

Quantitative data confirmed *H1* and *H2* in that the experimental group was more inclined, compared with the control group, to use (1) full SRCs as opposed to reduced SRCs (Table 3) and (2) ORCs with a REL as opposed to ORCs without a REL (Table 4). There was no statistical difference in the choice of pied-piping between two groups, which failed to support *H3* (Table 5). That may be attributed to a ceiling effect in the statistical sense, since a general strong preference (85–89% of the responses) towards preposition-stranding made any differences between the groups not likely to emerge.

**Table 3**

*Mean for use of target structure (full-SRC) in SRC production*

	Experimental Group (n=31)		Control Group (n=25)		
	Well-formed Full- SRCs	Well-formed SRCs	Well-formed Full- SRCs	Well-formed SRCs	
	244	267	180	203	
Mean for full-SRCs	0.9139 (244/267)		0.8654 (180/203)		$z=1.6930$ , $p<0.05$ (one-tailed)

**Table 4**

*Mean for use of target structure (ORC with REL) in ORC production*

	Experimental Group (n=31)		Control Group (n=25)		
	Well-formed ORCs with REL	Well-formed ORCs	Well-formed ORCs with REL	Well-formed ORCs	
	100	127	60	93	
Mean for ORCs with REL	0.7874 (100/127)		0.6452 (60/93)		$z=2.4301$ , $p<0.05$ (one-tailed)

**Table 5**

*Mean for use of target structure (pied-piping) in OiRC production*

	Experimental Group (n=31)		Control Group (n=25)		
	Well-formed Pied-piping	Well-formed OiRCs	Well-formed Pied-piping	Well-formed OiRCs	
	14	123	15	102	
Mean for pied-piping	0.1138 (14/123)		0.1471 (15/102)		$z=0.7407$ , n.s.

### ***Error Types***

Only syntactic errors related to the RC construction were identified, together with an analysis of whether one group of participants produced more of a certain type of error (see Appendix 2 for a summary table). Error types that help demonstrate L3 French influence are presented in this section first, namely the incorrect use of the human REL *who* for non-human antecedent and inappropriate omission of REL, followed by other errors that may not show backward transfer, namely redundant relative marking in reduced relatives and inappropriate omission of the preposition in OiRC.

#### *Incorrect Use of the Human REL Who for Non-human Antecedents*

Five tokens of responses with the human REL *who* for a non-human antecedent as in (13) were produced, all of which were from the experimental group.

13. \*the dog who is chasing a cat

#### *Inappropriate Omission of RELs*

Six tokens were found with inappropriate omission of RELs as in (14) and (15), five of which were produced by the control group. Among the five tokens produced by the control group, three were made by a single participant.

14. \*Peter hold the book has stars.  
15. \*The one stood outside 10B has a ponytail.

#### *Redundant Relative Marking in Reduced Relatives*

There were three tokens of redundant relative marking in reduced relatives. All of the three tokens were produced by one participant in the control group. In these cases, the REL was not dropped appropriately while the verb form was changed to its participle form as in (16) and (17).

16. \*the girl who standing outside 10B  
17. \*the girl that hit by Tom

#### *Inappropriate Omission of Prepositions in OiRCs*

The prepositions in OiRCs seemed to have induced a number of errors from both groups. A number of participants omitted the preposition before the noun in the indirect object position of the RCs as in (18). Both groups produced virtually the same proportion of errors of this kind. The experimental group produced 22 out of 145 attempts on OiRCs (15.17%), compared with 17 out of 119 in the control group (14.29%). The difference is not significant.

18. \*the pig Mr Chan is thinking

### *Summary of Results*

The results in relation to L3 French influence are summarized below:

- Frequency counts supported *H1* and *H2* in that the experimental group tended to (1) use full SRCs as opposed to reduced SRCs more than the control group, and (2) use RELs in ORCs more than the control group.
- Error classification showed that the experimental group produced a particular kind of errors, viz. the use of *who* for non-human antecedents as in (13). In contrast, they tended not to produce those errors involving inappropriate omission of RELs, as in (15), which the control group produced.
- Quantitative data failed to confirm *H3*, in that there was no significant difference in employing pied-piping in OiRCs in the two groups. This may be attributed to a ceiling effect, since 85–89% of the responses used preposition-stranding instead of pied-piping.

### **Discussion**

In the light of the results, the hypotheses that were supported by quantitative data are first revisited with discussion based on contrastive analysis and a hypothesized transfer pathway, followed by an examination of possible L3 influence illustrated through error analysis.

#### *SRC and ORC Production by the Experimental Group*

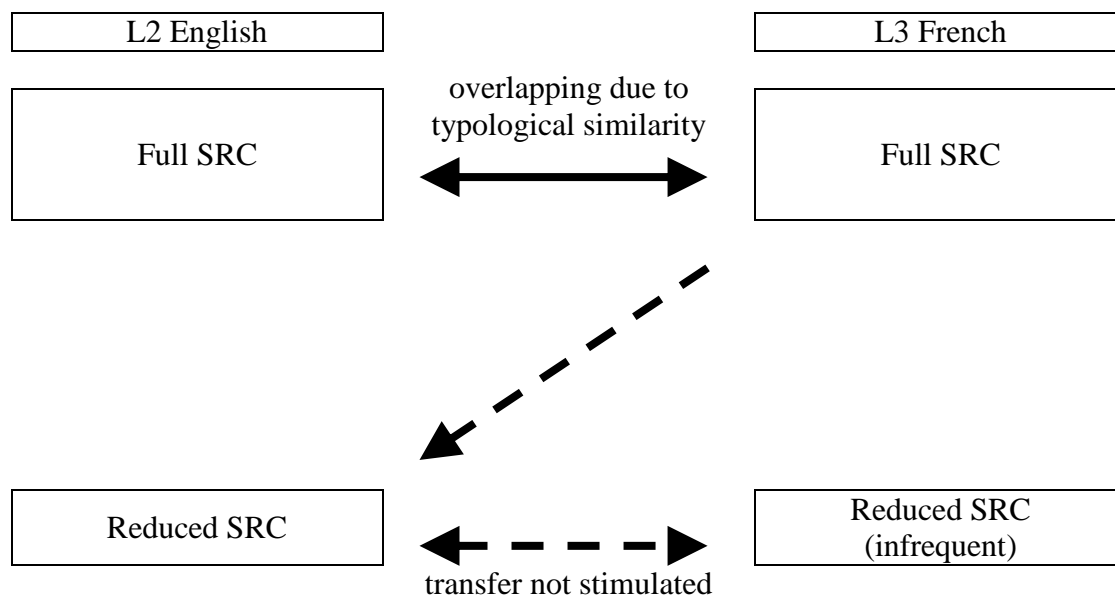
Quantitative frequency counts showed that the experimental group was more inclined than the control group to use a full SRC and to insert a REL in ORC production, which confirmed *H1* and *H2* respectively.

The tendency for the experimental group to produce full SRCs can be explained by the infrequent use of reduced RCs in French, except on very formal occasions. Formulating SRCs in French would almost always mean constructing full SRCs with a REL. As a result, transfer of the reduced SRC structure between L2 and L3, as shown by the dotted two-way arrow (Figure 2), and transfer from the L3 full SRC structure to the L2 reduced SRC structure, as shown by the inclined and dotted arrow, are generally not stimulated in the experimental group's mental grammar. What facilitates backward transfer towards L2 English full SRCs and accounts for the tendency to use them is typological similarity, or overlapping, between French and English in full SRC formulation as illustrated by the two-way arrow in Figure 2 and in (19) and (20).

19. la Femme<sub>j</sub> [qui  $\emptyset$ <sub>j</sub> veut épouser John]  
     DET lady REL     want to-marry John  
     ‘the lady who/that wants to marry John’
20. the one who wants to marry John

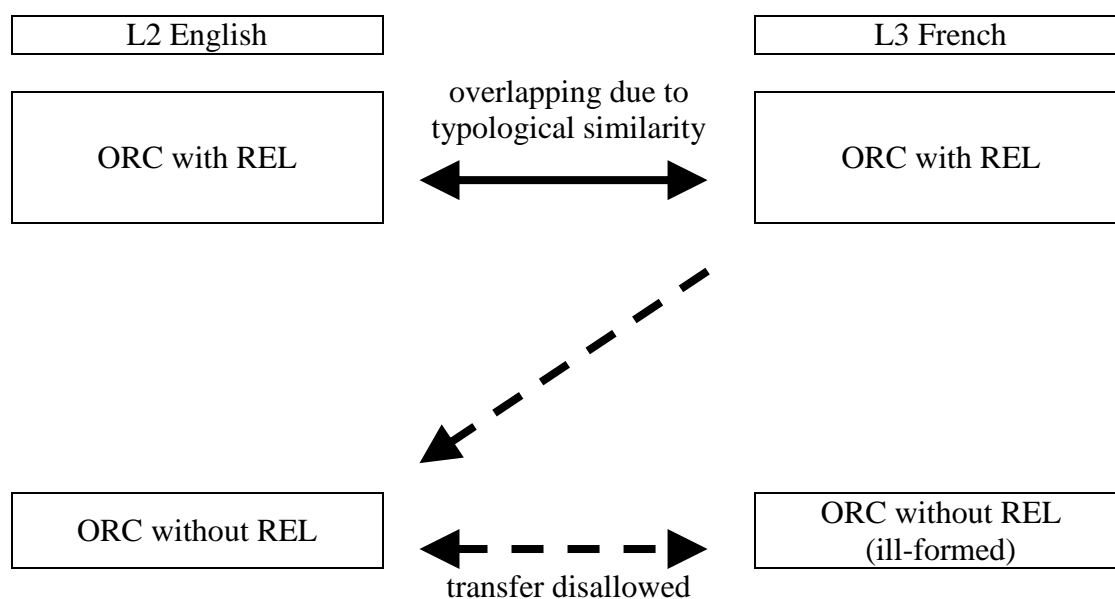
Backward transfer may also take place when learners ignore, consciously or not, the backward splitting from the one option in L3 French with full SRCs to two in L2 English with both full and reduced SRCs, making transfer towards the L2 English full SRC structure the only sound option from L3 to L2 (right to left in the figure).





**Figure 2.** Hypothesized transfer pathway of SRC production

The hypothesized transfer pathway for SRC production discussed is similar to that of the observed tendency to employ a REL in ORC production. RELs are obligatory in ORCs in French but not English. When backward transfer takes place, learners of French tend to keep the REL in the production of English ORCs because of the overlapping between the two languages with regard to ORCs with RELs (Figure 3). They ignore or are not aware of the backward splitting relationship between English and French because transfer towards the production of ORCs without REL in English is disallowed given that such a construction is ungrammatical in French.



**Figure 3.** Hypothesized transfer pathway of ORC production

## ***Error Analysis***

### ***Over-extension of the Human REL by the Experimental Group***

Some participants in the experimental group employed a human REL *who* for a non-human antecedent in the SRC context as in (21). This can partly be explained by contrasting the REL systems in English and French. In French, even though there are different RELs, such as *qui* and *que*, the choice of REL depends on the syntactic function of the gap in the RCs. For example, when the REL functions as the subject of the RC, *qui* is used as in (22). In English, however, the choice depends on the semantic nature of the antecedent. In cases where the head noun is human, *who* is used as in (23), and in others, *which* is used as in (24).

21. \*the dog who is chasing the cat
22. le chien<sub>R<sub>j</sub></sub> [qui  $\emptyset$ <sub>j</sub> poursuit le chat]  
DET dog REL chase DET cat  
'the dog which is chasing the cat'
23. the one<sub>j</sub> (the boy) [who  $\emptyset$ <sub>j</sub> played with fire]
24. the one<sub>j</sub> (the dog) [which  $\emptyset$ <sub>j</sub> is chasing the cat]
25.  $\emptyset$ <sub>j</sub> 想 嫁比 John 嘅] 女人<sub>j</sub>  
séung gabéi John ge néuihyán  
want marry-to John PAR lady  
'the lady who/that wants to marry John'

Meanwhile, it seems possible to rule out the likelihood of L1 influence on the non-target use of human REL as in (21), in the light of the distance between the linking particle *ge* and the subject gap position in the RC in Cantonese. Cantonese RCs are pre-nominal, and in the cases of SRCs, the relativized gap is at the beginning of the RCs where the linking particle *ge* is at the end, as in (25). Cantonese differs from the two European languages in which the REL and the gap share the same position. This dissimilarity to the two European languages may mean dissimilar grammatical processing during production, which in turn does not stimulate possible transfer. In contrast, the similar grammatical processing shared by French and English can lead to the conclusion that French, instead of Cantonese, has a role in the production of this type of non-target REL use of *who* as in (21).

Interestingly, errors of this kind—*who* for *which* in the SRC production as in (27)—were not found in the ORC production of either group. For example, given a prompt designed to elicit ORCs, the antecedent of which was non-human as in (26), participants from both groups employed the correct REL. However, there were not sufficient data or evidence to make any sound conclusion.

26. the horse which Tom is riding
27. \*the horse who Tom is riding

### ***Inappropriate Omission of RELs in SRCs by the Control Group***

Cases of inappropriate omission of RELs were found mostly in the control group (five in the control group versus one in the experimental group). In these errors,

participants inappropriately omitted the RELs in SRCs as illustrated in (14) and (15), repeated here as (28) and (29):

28. \*Peter hold the book has star.  
 29. \*The one stood outside 10B has a ponytail.

This type of error is different from zero-subject relatives discussed in Gisborne (2000) and Newbrook (1998) because they focus on the existential examples and other similar structures as illustrated in (30) which they claim to be not the results of L1 influence. In contrast, the inappropriate omission of REL found in this study is the ‘rare’ type as in (31) described by Newbrook (1998, p. 47).

30. \*This is the student did it. (example from Newbrook, 1998, p. 47)  
 31. \*The student did it want to see you. (example from Newbrook, 1998, p. 47)

Newbrook (1998, p. 47) suggests that cases like (31) are rare because of their ‘[apparent] processing difficulty’. However, Newbrook may have exaggerated that. On the one hand, there is no doubt that ambiguity arises in the grammatical processing of (31). On the other hand, Cantonese speakers may be very used to processing multiple verb phrases in one clause as a result of serial verb constructions in Cantonese as in (32), which are, however, considered to be disallowed in English. Although it is not clear what role, if any, serial verb constructions may play in SRC formulations in L2 English, serial verb constructions are similar to SRCs with inappropriate omission of RELs in that the verb of the main clause and that of the RC share the same agent in both cases as in (32) and (33).

32. 我 幫 你 打 電話  
 ngóh bōng néih dá dihnwá  
 I help you make phone-call  
 ‘I will make a phone call for you.’ (example from Matthews, 2006, p. 74)  
 33. The man who killed the woman turned himself in to the police.

The verb *bōng* ‘help’ in (32), according to Matthews (2006, p. 74), means “‘help you by making the call’ not ‘help you to make the call’ so the two verbs [*bōng* ‘help’ and *dá* ‘call’] share the same subject’. Similarly, when the head noun is in the subject position of the main clause as in (33), the two verbs, one in the main clause (*turned*) and one in the SRC (*killed*), also share the same subject. The sharing of the same subject in well-formed serial verb constructions in Cantonese and SRCs in English may account for the errors with inappropriate omission of RELs as in (31). So, Cantonese may have played a role in the production of this kind of error.

If L1 Cantonese has a role in the production of the errors of this kind as shown in (28) and (29), we need to ask why the experimental group did not seem to produce them. It might be logical to suggest that L3 French influence appears to be able to neutralize, in some cases, the possible negative transfer from L1 Cantonese, especially given that a REL is always obligatory in French RCs as discussed earlier. If this is so, the phenomenon that the acquisition of an L3 can override L1 influence has theoretical and applied implications which deserve further research.

### *Other Errors Found*

One type of error observed is what Newbrook called (1998, p. 48) ‘redundant’ REL in reduced RCs as in (34) and (35). All of the three tokens of this type were made by one participant in the control group, which is not representative. However, potential cases of L3 transfer hypotheses can be formulated for further research.

34. \*the one that stolen by Peter
35. \*the girl that hit by Tom
36. The man attacked by the shark attacked the officer.
37. L’homme qui a été attaqué par le requin a attaqué  
 DET man REL HAVE BE attack by DET shark HAVE attack  
 l’officier.  
 DET officer  
 ‘The man attacked by the shark attacked the officer.’
38. Quand l’homme qui avait été attaqué par le requin attaquait l’officier,  
 When DET man REL HAVE BE attack by DET shark attack DET officer  
 a femme l’a stoppé  
 his wife him HAVE stop  
 ‘When the man attacked by the shark was attacking the officer, his wife stopped him.’

Newbrook (1998, p. 48) claims that (34) and (35) are the results of the ‘confusion between the use in English verb forms in -ed in the past tense ... and in the non-finite past participle’. A similar -ed confusion is illustrated in (36). In processing sentence (36), learners would need to identify which one is the main verb and which is not. Should that be the case, learning French might potentially clarify the confusion in English because French has two forms of equivalents of the past tense in English: *passé composé*, the French equivalent of the past tense to describe past and completed actions, as in (37), or the imperfect, *l’imparfait*, for describing past states of being, as in (38). After figuring out the main verb, a French learner needs to decide whether to use the *passé composé* or *l’imparfait* in constructing (36) in French. This extra point of consideration, together with a completely different verb form construction for *passé composé* or *l’imparfait*, may act as the source of clarification for the confusion about verb forms in English suggested by Newbrook (1998). Learning French (or other typologically similar European languages) might then have a role in the metalinguistic awareness with respect to verb forms in the mental grammar of learners of English. Unfortunately, there were not ample samples from the present study to analyze this possible L3 influence in this type of error.

Besides the verb form confusion, Gisborne (2000) adds that the redundant REL follows the lack of post-nominal modification in Cantonese and the Hong Kong variety of English. The head nouns in Cantonese noun phrases, according to Matthews and Yip (1994, p. 88), ‘always comes at the end of the phrase, after all the expressions which modify it’. In that sense, Gisborne (2000, p. 362) suggests that the reduced RCs, when acting like an adjective and being placed after the noun, seem unusual to Cantonese speakers and hence disallowed, which results in ‘relative marking even in participial [reduced] relatives’. If this is the case, learning L3 French might reinforce the legitimacy of post-modifiers because French and English both have post-modifiers. Again, with the limited data collected in this study, the notion of L3 French

neutralizing L1 negative influence cannot be proved in the present study. However, it seems to be an area that deserves further examination.

### ***Theoretical and Pedagogical Implications***

If backward transfer from L3 to L2 is confirmed to be possible, much research can be done to investigate the applicability of the findings in traditional forward transfer in the field of SLA and TLA, such as the effect of factors like psychotypology, language proficiency of the source of transfer and the influenced interlanguage. Efforts can then be made to find out whether forward and backward transfer is of the same nature and of the same mechanism of operation. If differences are observed, it will be interesting to find out if such differences result from the course of TLA as an extra language learning experience or from linguistic factors such as typological similarities and differences. If differences are not observed, the order of acquisition can be ruled out in the investigation of how transfer takes place.

As for pedagogical implications, teachers of foreign languages, especially those in regions where multilingualism is common, could possibly take advantage of any other foreign languages known to the learners regardless of their order of acquisition, in cases where positive transfer is possible. In contrast, in cases where negative transfer takes place, teachers may then consider not only the language(s) that the learners have previously acquired but also their L3/n to be the source(s) of transfer. This may help teachers to figure out why students make mistakes that could not be explained previously.

### **Conclusion**

This study has provided evidence to show that backward transfer in multilingual contexts, and specifically transfer from L3 to L2, is possible. Quantitative frequency counts showed that the experimental group seemed to be influenced by French, in that they tended to (1) employ, more than the control group, a full SRC with a REL as opposed a reduced RC starting with a non-finite present participle, and (2) insert, more than the control group, a REL, which is optional, in ORCs. Qualitative error analysis also suggests that the influence of L3 French may explain some of the errors that participants produced and/or did not produce. For example, the experimental group produced RCs with the non-target use of the human REL *who* for non-human antecedents. By contrast, subject relatives with inappropriate omission of RELs were mostly found in the responses from the control group. This type of error can be attributed to the negative influence of L1 Cantonese, which appears to be neutralized in some cases in the experimental group. It can be concluded that backward transfer from L3 French to L2 English did take place in the production of RCs in this study, and hence transfer is a two-way street in multilingual contexts.

### **Notes**

- 1 Although Cantonese, participants' L1, is a potential source of transfer in their production, relevant structures in Cantonese are only discussed where appropriate, as in the discussion section, because the main focus of the present study is on the backward transfer from L3 to L2 and that L1 influence is assumed to be cancelled out by comparing two groups of participants who share the same L1, namely Cantonese.
- 2 Key: DET = determiner

- 3 The French proficiency of the participants was not tested since it was assumed that they had basic competence sufficient to make French as a source of transfer after 400 hours of instruction.

## References

- Cook, V. (2003). Introduction: The changing L1 in the L2 user's mind. In V. Cook (Ed.), *Effects of the second language on the first* (pp. 1–18). Buffalo: Multilingual Matters.
- Gisborne, N. (2000). Relative clauses in Hong Kong English. *World Englishes*, 19, 357–371.
- Hammarberg, B. (2001). Roles of L1 and L2 in L3 production and acquisition. In J. Cenoz, B. Hefesen, & U. Jessner (Eds.), *Cross-linguistic influence in third language acquisition: Psycholinguistic perspectives* (pp. 21–41). Clevedon: Multilingual Matters.
- Leung, Y.-K. I. (2002). *Functional Categories in second and third language acquisition: A cross-linguistic study of the acquisition of English and French by Chinese and Vietnamese speakers*. Unpublished doctoral dissertation, McGill University, Canada.
- Leung, Y.-K. I. (2005). L2 vs. L3 initial state: A comparative study of the acquisition of French DPs by Vietnamese monolinguals and Cantonese-English bilinguals. *Bilingualism: Language and Cognition*, 8(1), 39–61.
- Matthews, S. (2006). On serial verb constructions in Cantonese. In A. Y. Aikhenvald, & R. M. W. Dixon (Eds.), *Serial verb constructions: A cross-linguistic typology* (pp. 69–87). Oxford, England: Oxford University Press.
- Matthews, S. & Yip, V. (1994). *Cantonese: A comprehensive grammar*. London: Routledge.
- Newbrook, M. (1998). Which way? That way? Variation and ongoing changes in English relative clause. *World Englishes*, 17, 43–59.
- Odin, T. (2003). Cross-linguistic influence. In C. J. Doughty, & M. Long (Eds.), *The handbook of second language acquisition* (pp. 436–486). Malden, NJ: Blackwell.
- Pavlenko, A., & Jarvis, S. (2002). Bidirectional transfer. *Applied Linguistics*, 23(2), 190–214.
- Porte, G. (2003). English from a distance: Code-mixing and blending in the L1 output of long-term resident overseas EFL teachers. In V. Cook (Ed.), *Portraits of the L2 user* (pp. 103–119). Clevedon: Multilingual Matters.

**Appendix 1 Sample Items of the Picture Elicitation Task**

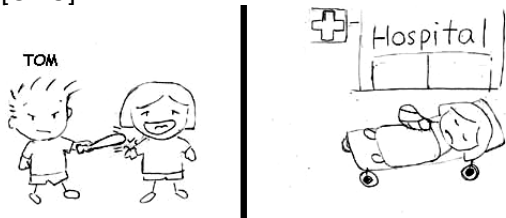
[SRC]



Who has short hair?

\_\_\_\_\_ (watch)

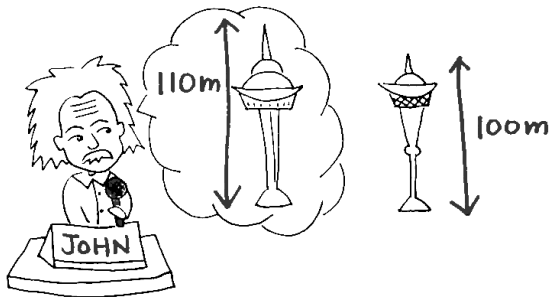
[ORC]



Who is sent to hospital?

\_\_\_\_\_ (hit)

[OIRC]



Which tower is higher?

\_\_\_\_\_ (talk)

## Appendix 2 Summary of Error Types<sup>#</sup>

	Error Type	Example	Frequency		Produced mainly by
			Experimental Group	Control Group	
1	Incorrect use of a human REL for a non-human antecedent	*The dog who is chasing the cat	5	0	Experimental group
2	Zero-subject relatives	*Peter hold the book (has stars).	1	5 <sup>##</sup>	Control group
3	Redundant relative marking in reduced RCs	*The girl who standing outside 10B	0	3 <sup>###</sup>	Control group
4	Incorrect omission of prepositions in OiRCs	*The pig Mr Chan is thinking	22	17	Both groups

<sup>#</sup> Only syntactic errors related to RC constructions were processed.

<sup>##</sup> Three of them were produced by a single participant.

<sup>###</sup> All of them were produced by a single participant.