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Acquisition of L3 French Object Clitics by L1-Sinhala-L2-English Speakers

*Chandeera Gunawardena**[1]

Abstract

This study has two goals: first, to investigate prior language influence in the acquisition of object pronominalisation in the third language (L3) French by speakers whose first language (L1) grammar allows null objects; and, second, to find out whether non-native behaviour in relation to object pronominalisation is modulated by task type. I compare L3 speakers of French whose L1 is Sinhala and L2 English with L2 speakers of French whose L1 is English. Sinhala allows null objects, whereas null subjects are not allowed in French and English. Using data from a speaking task and acceptability judgement tasks, I found that the L3 speakers omit objects in production while demonstrating knowledge of the obligatory nature of French clitic pronouns in comprehension. The proficiency-matched L2 speakers, by contrast, do not omit objects. Drawing on Amaral and Roeper's (2014) Multiple Grammars account of multilingual knowledge, I argue that the increased processing load of the production task compared with the comprehension task leads to the L3 speakers resorting to structures available in their L1. While the L2 speakers may also resort to L1 structures under increased cognitive load, their L1 does not include null objects, hence null objects do not arise in the L2 group.

Keywords: L3 French, L1 Sinhala, object clitics, processing load, null objects

[1] Corresponding Author: PhD University of Kelaniya, Sri Lanka, Department of Modern Languages, University of Kelaniya, Sri Lanka;
Email: chandeera@kln.ac.lk, ORCID ID; https://orcid.org/0000000325864051

1. Introduction

The acquisition of object clitic constructions in French has been widely studied in monolingual first language (L1) acquisition (Jakubowicz & Rigaut, 2000), simultaneous bilingual acquisition (Müller & Hulk, 2001), and in sequential second language (L2) acquisition (Derakhshan & Shakki, 2019; Grüter & Crago, 2012; Rogers, 2010). A common finding across all learner populations is that acquisition of French object clitics is a gradual process, and non-target use during that process is characterized by object omission, rather than by misplacement of clitic pronouns (Grüter & Crago, 2012). The present study adds to this evidence base by investigating the acquisition of clitic pronouns in French as a third language (L3). Specifically, the study compares L3 French speakers whose L1 is Sinhala and L2 is English with L2 French speakers whose L1 is English. Sinhala is a language that allows null objects, while English does not. Comparison of these two groups thus allows investigation of the role of cross-linguistic influence in the multilingual acquisition of French object clitics. In so doing, the study has two goals: first, to shed further light on the acquisition of French object clitics; and second, to contribute to the ongoing debate about the role of prior languages in L3 acquisition.

Within L3 acquisition research, there are a number of proposals about the role of previously acquired grammar. The influential Typological Primacy Model (TPM) (Rothman & Cabrelli Amaro, 2010; Rothman 2011) proposes that, at the initial state of L3 acquisition, an unconscious decision is made to adopt either the L1 grammar or the L2 grammar as the preliminary interlanguage grammar for the L3. This decision is made on the basis of perceived similarity between the L3 and one of the prior languages, where the similarity may be at the level of the lexicon, phonology, morphology or syntax. Acquisition then proceeds by means of evidence in the target language input motivating changes to the initial-state grammar (as proposed for L2 acquisition under Schwartz & Sprouse's (1996) Full Transfer/Full Access hypothesis). Thus, under this approach, either prior language may transfer but once that initial-state transfer is made, transfer effects from the unselected language are not expected. Other L3 acquisition models propose that transfer may arise on a structure-by-structure basis from both prior languages during the course of development (Slabakova, 2017; Westergaard et al., 2017). Alternatively, the L2

Status Factor model, focusing on cases where both L2 and L3 are learned formally in the classroom, predicts transfer from the L2, on the grounds that, in a classroom setting, language development is a function of explicit meta-linguistic knowledge, and this epistemological similarity between the L2 and L3 will lead to the transfer of the L2 grammar (Bardel & Falk, 2007). Research is ongoing as to which proposal best accounts for the evidence and certain research design factors specific to L3 acquisition research have been identified as crucial. First, the collection of data on the L2 knowledge of L3 speakers is essential for evaluating potential L1 or L2 influence, since a target property of the L2 clearly cannot influence the L3 if the speaker has not acquired that property in their L2. Second, the collection of both comprehension and production data is desirable. In their meta-analysis of research on transfer in L3, Puig-Mayenco et al. (2020) found that use of a production task correlated with finding an effect of L2 transfer. In other words, the type of task may bias towards a particular transfer outcome. They also speculate that the increased cognitive demands of production, as compared with comprehension, could lead to susceptibility to L2 influence for processing reasons perhaps unconnected with underlying linguistic representations. They argue that comprehension tasks may more reliably capture reflexes of the emerging L3 architecture. Whether this conjecture is on the right lines or not, it is clear that the inclusion of both types of data will lead to a more holistic picture of how prior languages affect the L3.

The present study incorporates these design considerations in its endeavour to offer novel data on the question of the source of transfer in L3 acquisition, by investigating a previously unstudied L1–L2–L3 combination. The broad, two-part research question is given in (1):

1. a. Is acquisition of French object clitics different in L3 speakers whose L1 (Sinhala) allows null objects but whose L2 (English) does not, compared with L2 speakers, whose L1 (English) does not allow null objects?

   b. Further, is non-native behaviour in relation to object pronominalisation modulated by task type (comprehension v. production)?

The paper is organised as follows. First, previous studies on French object pronominalization will be reviewed. Then, object pronominalisation in French,

English and Sinhala will be discussed. Based on this, hypotheses will be articulated and finally, the findings will be discussed in light of the hypotheses.

2. Literature Review

A small number of previous experimental studies have focused on non-native acquisition of French object pronominalisation. Grüter and Crago (2012) investigated knowledge of object clitics and object omission in the L2 French of two groups of 5–10-year-old children whose L1s were Spanish or Chinese. Spanish has a clitic pronoun grammar similar to French, whereas Chinese does not have clitic pronouns and allows null objects. Data were collected by means of a production task and a comprehension task. The production task used questions about pictures to elicit pronouns. The comprehension task was a truth-value judgement task. Participants heard sentences containing a verb that could be either transitive (2a) or intransitive (2b), paired with a picture, such as a girl using a rope hooked over a rock to hoist a bag for (6a–b).

2. a. Dora le monte sur le rocher
   Dora it pulls up on the rock
   'Dora is pulling it up on the rock.'
   b. Dora monte sur le rocher.
   Dora climbs on the rock
   'Dora is climbing on the rock.'

If the participants have knowledge of clitic pronouns they would judge (2a) as true in such a context, but (2b) as false. However, if they allow null objects, they may judge (2b) to be true, assigning it the meaning given in (2a). In the judgement task, levels of accuracy were similar between the two groups in both the clitic condition (70–77%) and the null object condition (93–100%). However, in the production task, the L1-Spanish group produced significantly more clitic pronouns than the L1-Chinese group, and the L1-Chinese group exhibited significantly more object omission. Grüter and Crago (2012) argued that the judgement task results

suggest both groups have a target-like French clitic pronoun grammar, and that object omission arose in the Chinese group not because of transfer from their L1, but due to processing limitations imposed by the cognitively more demanding task. They argued that the Spanish group overcame the processing limitations due to the facilitative effect of having a clitic object grammar in their L1.

Rogers' (2010) study of L1-English L2-French acquisition also employed a production task and a comprehension task. The participants were all post-age-11 learners of French, grouped by proficiency from beginner to high advanced. The dominant response pattern in the production task at all levels was to include the full lexical noun in the answer instead of a pronoun, suggesting a tendency to avoid clitic pronouns, though accurate use of clitic pronouns was recorded in around 30% of the advanced groups' responses. Some null objects were produced among other non-target responses, though the rate is not recorded. The AJT included grammatical sentences with object clitics, and ungrammatical sentences with clitic pronouns placed post-verbally, or with object omission. Rogers found around 50% acceptance of all sentence types in the beginner groups, but target-like acceptance and rejection patterns by more advanced levels.

Finally, Kong (2015) investigated L3 French, focusing just on null objects. The participants' L1 was Chinese and L2, English, and they were in their second year of a university French class. Their French level is described as elementary and English as advanced, on the basis of proficiency tasks taken in each language. An error correction task was used, which included sentences with missing objects in matrix and embedded clauses. Rates of correct identification of the ungrammatical null objects were no higher than 24.8%. Kong accounts for this in terms of L1 influence, drawing on acquisition models based on the critical period hypothesis, which propose that certain abstract syntactic features from the L1 cannot be altered in post-critical-period non-native language acquisition (Tsimpli & Dimitrakopoulou, 2007). Specifically, Kong (2015) argued that the syntactic features involved in licensing null objects in Chinese cannot be 'unlearnt' and thus continue to apply in the participants' L3 French, leading them to allow ungrammatical object omission.

2.1. Object Pronominalisation

Cross-linguistically, referential object pronouns can be null or overt. Furthermore, overt object pronouns can be either free or bound morphemes. All three types of object pronouns are represented in the three languages in this study: Sinhala has both null and overt object pronouns with the latter being free morphemes; English has overt free morpheme object pronouns; and French has overt bound morpheme object pronouns, or clitics. The contrast between the three types of object pronominalisation can be seen in the French example dialogues in (3a–c), where Speaker A's utterance establishes the noun le journal '*the newspaper*' as the antecedent of pronominal reference necessitated in Speaker B's response. The response in (3a) illustrates a French object clitic pronoun before the inflected auxiliary: the clitic is the masculine singular form le, reduced to l' before the vowel onset of the auxiliary. The responses that follow in (2b–c) illustrate long-observed restrictions on object clitics in French (Kayne, 1975): that they cannot occur in the post-verbal object position (3b), though this is the site of full DP objects; and that they cannot be null (3c).

3. Speaker A: Est-ce que tu as lu le journal?
   is-it that you have read the newspaper
   'Have you read the newspaper?'

a. Speaker B: Oui, je l' ai lu.
   yes, I it have read
   Yes, I've read it.'

b. Speaker B: *Oui, j'ai lu le.
   yes, I've read it

c. Speaker B: *Oui, j'ai lu.
   yes, I've read

According to Sportiche's (1996) widely accepted account of the syntax of French object clitics, they are a form of agreement marker that left-adjoins to the inflected

verb and that licenses a phonetically null post-verbal argument. Thus, the sentence in (3a) can be represented more technically as (4), where pro indicates the null pronoun internal argument of the verb, and the indices indicate the relationship between the object clitic and the post-verbal argument of the verb.

4. Je l'i ai lu proi
   I it have read

If the clitic is absent, the null pronoun cannot be licensed, leading to the ungrammaticality of (3c).

The free morpheme pronouns of English occur in post-verbal object position (5a–b). As in French, however, null pronouns are not licensed (5c).

5. Have you read the newspaper?
   a. Yes, I've read it.
   b. *Yes, I it have read / *I've it read
   c. *Yes, I've read ø

Turning to Sinhala, the canonical word order is SOV, which means the object argument of a verb typically precedes the verb, whether the object is a full nominal phrase (6a), or a pronoun (6b). Null arguments, including null objects (6c) occur frequently, particularly in the colloquial language (Gair, 1970; Henadeerage, 2002).

6. a. Speaker A: oyya paterə kiyyaw-a də?
   you newspaper read-PAST.2.SG Q
   'Have you read the newspaper?'

   b. Speaker B: ow mamə eka kiyyaw-a
   yes I it read-PAST.1.SG
   'Yes, I've read it.'

   c. Speaker B: ow mamə ø kiyyaw-a
   yes I read-PAST.1.SG

'Yes, I've read it.'

Objects can also occur post-verbally in Sinhala, when the object is focussed, as in (7) (Thampoe, 2017).

7. mamə kiyyawn-e paterə / eka
   I read-FOCUS newspaper / it
   'It's [the newspaper / it] that I read.'

To my knowledge, there are no syntactic accounts of null objects that focus specifically on Sinhala. However, Butt (2001), investigating null objects in a range of other Indo-Aryan languages, invokes discourse structure as instrumental in licensing null objects. This resonates with the approach to null objects in Chinese, which are argued to be licensed through their relationship with a topic phrase in the syntactic structure (Huang, 1984; Li & Thompson, 1976). It remains to be seen whether such an approach applies to Sinhala. It seems clear, however, that the grammar of null objects in Sinhala is different from that of the clitic–pro relationship in French, and different again from English where the internal argument of the verb cannot be null. These cross-linguistic differences are summarised in Table 1.

Table 1
Cross-Linguistic Differences: Referential Object Pronominals

Property	French	English	Sinhala
pre-verbal clitics/pronouns	✓□	×	✓□
post-verbal clitics/pronouns	×	✓□	(✓□)*
null objects	×	×	✓□

*Only in focus constructions.

2.2. Hypotheses

The acquisition task for both L1-Sinhala L2-English L3-French speakers and L1-English L2-French speakers involves acquiring an object pronoun realisation mechanism that is not instantiated in their previously acquired languages. If the

French interlanguage grammar is influenced by English, then, in descriptive terms, the acquisition task involves reconfiguration so that object pronominals are pre-verbal clitics that license a null object pronoun, rather than post-verbal overt object pronouns. However, if the interlanguage grammar is influenced by Sinhala, then the task involves 'unlearning', or pre-emption, of the mechanism that licenses null objects, in addition to acquiring clitic pronouns. Given the evidence from both Grüter and Crago (2012) and Kong (2015) that the L2/L3 French by speakers of null-object L1s appears to allow null objects to some degree (and leaving aside, for now, Grüter and Crago's argument against an L1-influence account of null objects in their data), I make the following hypotheses:

8. Hypothesis 1: Crosslinguistic influence

The L1-Sinhala L2-English L3-French group will allow null object pronouns in French more than the L1-English L2-French group does.

9. Hypothesis 2: comprehension v. production behavior

The L1-Sinhala L2-English L3-French group will produce null objects in a French speaking task to a greater extent than they accept them in a judgement task, as measured against the L1-English L2-French group.

Both of these hypotheses predict influence from Sinhala, and so, if confirmed, would provide evidence compatible with L3 acquisition models that propose transfer from the L1. However, a conclusion of L1 influence may not be clear cut, if object pronominalisation in the L2 interlanguage also showed evidence of influence from Sinhala. For this reason, the experiment investigates the L3 group's L2 knowledge as well as their L3 knowledge, as described in the following section.

3. Methodology

3.1 Participants

Two groups of non-native French speakers and two native control groups took part in the study. The participants were recruited using convenience sampling. The two experimental groups comprised 30 adult L3 French speakers whose prior languages

were L1 Sinhala and L2 French (age: 20–25), and 27 adult L2 French speakers whose L1 was English (age: 18–54). The two native control groups included 17 L1-French speakers (age: 20–24) and 17 L1-English speakers (age:17–28). The L3 and L2 speakers were recruited from universities in Sri Lanka and the UK, respectively. All non-native speaker participants were enrolled in intermediate-level French classes either as part of a French language degree, or as an extra-curricular class. The L2 participants had learnt French as part of their secondary school curriculum (typically from age 11). The L3 French participants had started learning French in upper secondary school (age 16-17). Additionally, they had followed French language courses offered by the Alliance Française. They had acquired their L2 English through the Sri Lankan education system where English as a second language is introduced from primary school (at the age of 7 or 8). The native French and English control participants were also university students in the UK.

The French proficiency level of the non-native French groups, and the L2-English proficiency level of the L3-French group were measured by means of general proficiency tests. A cloze test developed by Tremblay and Garrison (2010) was used as a French proficiency measure. The authors report that the main purpose of creating the cloze test was to create a valid, reliable and practical tool which helps researchers to discriminate between L2 French learners from a wide range of proficiency levels. This cloze test had been validated by recruiting French learners from the University of Illinois. A multiple-choice Quick Placement Test (QPT, Oxford University Press, 2001) was used to test English proficiency. Due to time constraints, six of the 30 L3 French speakers, unfortunately, did not complete the English proficiency task. Details of the non-native participants' background and proficiency scores are given in Table 2.

Table 2
Non-native Participant Groups' Information

	Age (Mode, range)	Mean years (SD) of formal French instruction	Mean French proficiency score (SD) (out of 45)	Mean English proficiency score (SD) (out of 60)*
L3 French (*n* = 30)	21 (20–25)	3.94 (0.26)	14.37 (3.85) Range: 8–22	39.79 (4.25) Range: 31–48
L2 French (*n* = 27)	18 (18–54)	6.71 (0.59)	16.15 (4.61) Range: 10–25	n/a

*Note: The English proficiency data come from 24 of the 30 L3 participants.

French proficiency test scores of both groups fall into the level described as "novice high" in Tremblay (2011). Welch's two sample t-test reveals no significant between-group difference (t = 1.57, df = 50.9, p = 0.121). The L3 group's L2 English proficiency scores map onto the B1 and B2 (lower and upper intermediate) levels of the Common European Framework of Reference for Languages (Council of Europe, 2001).

3.2. Experiment Materials

The experiment included both French and English test instruments. The data on non-native French were collected by means of three instruments: an audio acceptability judgement task (AJT), a written AJT, and an oral production task. It was decided to collect judgement data as they allow us to understand what structures are allowed and disallowed by native and non-native speakers (Marsden et al., 2018; Ionin & Zyzik, 2014). Further, judgement data were used because it allows measurement of knowledge of *un*grammaticality: specifically that omission of object pronouns is ungrammatical in French. The experiment included both audio and written AJTs because the audio AJT potentially allows measurement of transfer that may occur only in a spoken context. As object pronouns are omitted more frequently in spoken than written Sinhala (see Section 2), evidence of transfer from Sinhala might be evident in the auditory environment but not the written. Research has shown that that

the language produced by L2 learners, despite processing and parsing difficulties, shows the most directly the state of learners' interlanguage (Myles, 2005). Therefore, oral production data were also included in the study.

These three tasks were completed by the L3, L2 and native French groups. The L3 group additionally completed English versions of the audio AJT and the production task, which were also completed by the native English control group. The order of completing the tasks was: French cloze test (proficiency task), French audio AJT, French written AJT, French production task; then (for the L3 group only, three hours later), English audio AJT, English production task, English proficiency task. All participants gave informed consent to their participation, prior to engaging with the experiments, and the research was approved by the authors' university department ethics committee.

3.2.1. The Acceptability Judgement Tasks

Each item in both the audio and written versions of the AJTs comprised a question and answer. Participants were asked to judge the acceptability of the answer, which was either grammatical by virtue of inclusion of an object clitic (10a), or ungrammatical due to omission of an object clitic (10b).

10. Question:

Est-ce que tu vois tes amis?

is-it that you see your friends

'Do you see your friends?'

a. Answer (grammatical condition):

Oui, je les vois souvent.

yes I them see often

'Yes, I see them often.'

b. Answer (ungrammatical condition):

*Oui, je vois souvent.

Yes I see often

Ten question–answer items were created, with each item occurring once with a grammatical answer, and once with an ungrammatical answer. An additional thirty items (15 grammatical, 15 ungrammatical) were included, using the same question–answer format, but with the grammaticality depending on the position of the adverb. These served as distractors and were mixed quasi-randomly with the clitic items. The audio and written versions of the French AJT used the same test items, but with the reverse order of presentation in the written AJT. The English version of the AJT followed the same design. An example English test item is given in (11).

11. Question:
Do you see your friends?

a. Answer (grammatical condition):
Yes, I see them often.

b. Answer (ungrammatical condition):
*Yes, I see often.

All the AJTs were created using the psycholinguistic experiment software PsychoPy v3.0 (Peirce, 2007). Participants engaged with the task via a computer in the presence of the researcher. The audio files for the audio AJTs were recorded by native French and English speakers, respectively. Participants heard each question and answer just once, and then selected their rating on a scale of 0–6, where 0 meant 'completely unacceptable' and 6 'perfectly acceptable'. On selection of the rating, the test automatically advanced to the next item. In the written AJT, the question and answer for each item were presented together, along with the rating scale. Participants could work through the items at their own pace.

3.2.2. The Oral Production Tasks

Each production task item provided a context by means of text and a picture, then asked a question about the context. Participants gave spoken answers to the questions. For example, for the picture in Figure 1, first the contextualising sentence given in (12a) was presented. Two seconds later the picture was displayed below,

and the adverb maintentant 'now' appeared (11b) as a prompt word below the picture. After another two-second delay, the question (11c) was presented both as an auditory recording and on the screen below the picture. Participants were asked to answer the question orally, incorporating the prompt word. Their answers were audio-recorded. The target answer for this question is given in (11d).

Figure 1
Context Picture

12. a. Context sentence:

Simon	a	acheté	un sandwich	ce	matin.
Simon	has	bought	a sandwich	this	morning

'Simon bought a sandwich this morning.'

b. Prompt word:
maintenant 'now'

c. Question:

Qu'est-ce	qu'	il	fait	avec	ce	sandwich?
What is it	that	he	does	with	this	sandwich

'What is he doing with the sandwich?'

d. Target answer

Il	le	mange	maintenant.
He	it	eats	now

'He's eating it now.'

The production task included ten stimuli designed to elicit object clitics, like (11), mixed with fifteen distractor items that focused on adverb placement. The English version of the task followed the same design as the French version.

3.3. Predictions

Considering the task designs in light of the hypotheses given in (8–9), the following specific predictions arise:

13. a. Prediction 1a: French AJTs

There will be an interaction between group and grammaticality, whereby the L3 group has higher ratings than the L2 group on the ungrammatical object pronouns. Further, this effect will be bigger in the audio AJT than the written AJT.

b. Prediction 1b: French production tasks

The L3 group will produce more ungrammatical object omission than the L2 group.

14. Prediction 2: comprehension v. production

Relative to the L2 group, the L3 group will have a higher rate of object omission in the production task than its rate of acceptance of ungrammatical object omission in the AJTs. Statistical tests were used to test these predictions. The English experiment results were used as supplementary data, to further contextualise the L3 French group's performance on the French tasks.

4. Results

The results of the French tasks are presented first before outlining the results of the English test instruments.

4.1. French Acceptability Judgment Tasks

Mean ratings for the audio and written AJTs for all three groups are given in Table 3

and presented graphically in Figure 2. Considering the native French control group first, the results confirm expectations, with ratings close to the maximum in the grammatical condition, and close to zero in the ungrammatical condition. The two non-native groups also have lower ratings for the ungrammatical than grammatical conditions, though their ratings for the ungrammatical conditions are closer to the midpoint of the scale rather than to zero.

Table 3

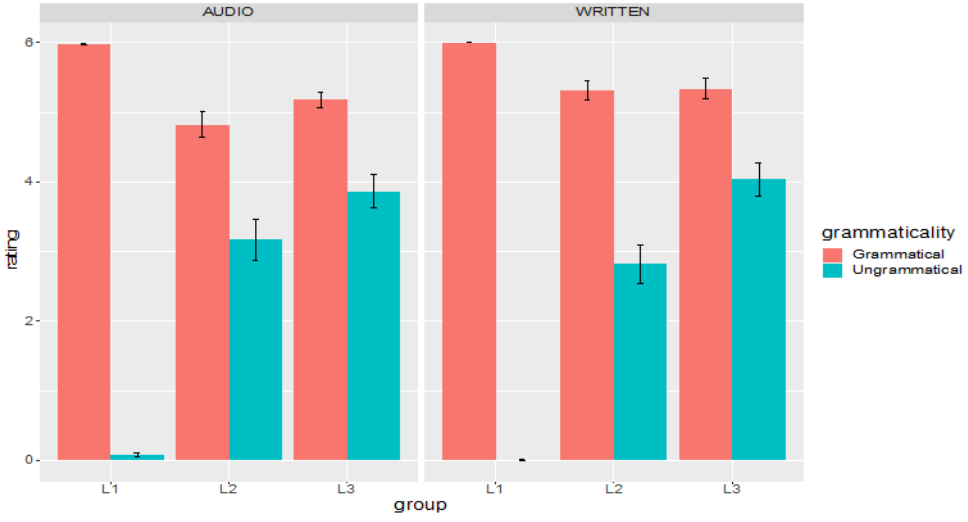
Mean Ratings (SDs) on the Scale of 0–6 in the French AJTs

	Audio AJT		Written AJT	
	Grammatical	Ungrammatical	Grammatical	Ungrammatical
Native French (*n* = 17)	5.98 (*0.06*)	0.08 (*0.12*)	6.00 (*17.00*)	0.02 (*0.01*)
L2 French (*n* = 27)	4.83 (*0.93*)	3.17 (*1.56*)	5.32 (*0.75*)	2.82 (*1.45*)
L3 French (*n* = 30)	5.18 (*0.62*)	3.86 (*1.31*)	5.34 (*0.79*)	4.04 (1.31)

Note. 'G' = 'Grammatical'; 'U' = 'Ungrammatical'

Figure 2.

Mean Ratings on the French Audio and Written AJTs,by Group



To test Prediction 1a (given in (12a)), a mixed-effects ordinal regression model was fitted to the raw AJT ratings for the two non-native groups, using the *ordinal* package (Christensen, 2018), in the R statistical environment (R Core Team, 2020).[1] The model's fixed effects were task (audio, written), grammaticality (grammatical, ungrammatical), and group (L2, L3), along with their interactions. Random intercepts were included for participants and items, with task and grammaticality and their interaction as random by-participant slopes, and task, grammaticality and group and their interaction as random by-item slopes. Sum coding (1, –1) was applied to all three variables. Following standard practice in the field, the significance level (alpha) is set at .05. The results of the model are given in Table 4. The three-way interaction (task × grammaticality × group) is not significant (p = .19), which means that Prediction 1a — that the L3 group will have higher ratings than the L2 group on the ungrammatical object pronouns, particularly in the audio AJT — is not confirmed.

Table 4

Results of the Ordinal Regression Model on the French AJT Ratings

	Estimate	SE	z value	p	
Task	−0.184	0.101	−1.828	.068	.
Grammaticality	1.3912	0.181	7.654	<.001	***
Group	−0.363	0.140	−2.599	.009	**
Task×Grammaticality	−0.252	0.109	−2.312	.021	*
Task×Group	0.090	0.090	1.004	.315	
Grammaticality×Group	0.200	0.144	1.383	.167	
Task×Grammaticality×Group	−0.124	0.109	−1.141	.254	

Note. Formula = rating ~ task * grammaticality * group + (1 + task * grammaticality | participant) + (1 + task * grammaticality * group | item)

However, the effect of grammaticality is significant ($p < .001$). This confirms that, even though the magnitude of the non-native groups' differentiation between grammatical and ungrammatical is small (compared with the native French group), it

[1] The native French group is not included in the statistical model because it is already clear from the descriptive data that this group differs from the non-native groups. Since the hypothesis concerns differences between the L3 and L2 group, not between the native and non-native groups, it is not necessary to complicate the model structure by including the native French group.

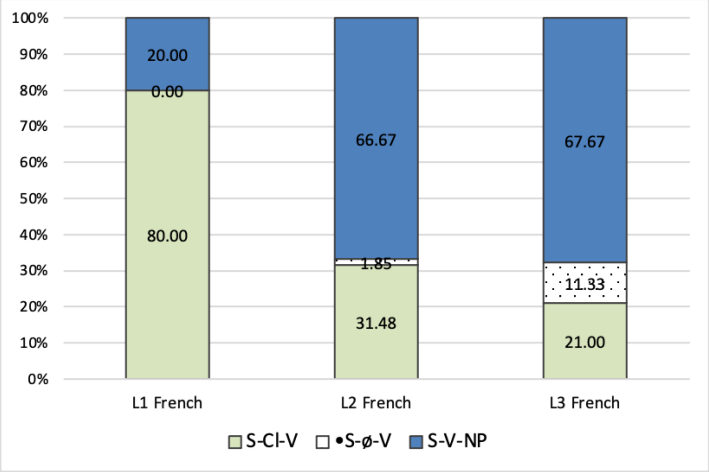
is nonetheless unlikely to be due to chance. This suggests that both non-native groups are sensitive to the ungrammaticality of object clitic omission in French. Moreover, there is an interaction of task and grammaticality (p = .021). This suggests that the ratings for the grammatical versus ungrammatical conditions change depending on the task modality. Examination of the descriptive results suggests that this is due to slightly higher ratings in the grammatical condition and lower in the ungrammatical condition in the written task than in the audio task. However, the absence of an interaction of these factors with group shows that this applies similarly across both groups. Finally, there is a significant effect of group, whereby ratings are somewhat higher in the L3 group than the L2 group across all the data, regardless of grammaticality or modality.

4.2. French Production Task

Three types of response were recorded in the oral production data: target responses using a subject-clitic-verb structure, which were coded as S-Cl-V; grammatical responses that used a full noun phrase instead of an object clitic, coded as S-V-NP; and ungrammatical responses with object omission, coded as *S-ø-V. Figure 3 illustrates the proportions of each response type, by group.

Figure 3

Percentage of Each Response Type in the French Production Task, by Group



As in the AJT data, there are considerable differences between the native French control group on the one hand, and the two non-native groups on the other. The native French participants provided the target S-Cl-V structure 80% of the time, whereas the L2 and L3 groups provided it only 31.48% and 21% of the time respectively. The majority of non-native responses (>66%) were grammatical, nonetheless, using repetition of the full noun phrase (S-V-NP) instead of an object clitic pronoun. A small proportion of responses in each of the non-native groups demonstrated object omission: 1.85% in the L2 group and 11.33% (34 out of 300 responses) in the L3 group. Object omission responses were given between 1 and 4 times by 21 out of the 30 L3 participants, across 8 of the 10 test items.

A chi-square test of independence was used to examine the relationship between group (L2 or L3) and response type (S-Cl-V, S-V-NP, S-ø-V). The relationship was found to be significant (χ^2 (2) =24.71, p ≤.001). This means that belonging to the L3 group is significantly associated with object omission. This supports Prediction 1b, that the L3 group will produce more ungrammatical object omission than the L2 group—with the caveat that even the L3 group's rate of object omission, at 11.33%, is relatively low.

Looking at the outcomes of Predictions 1a and 1b together allows us to address Prediction 2 (13), that, relative to the L2 group, the L3 group will have a higher rate of object omission in the production task than its rate of acceptance of ungrammatical object clitic omission in the AJTs. Since there was no difference between the non-native groups relating to grammaticality in the AJTs, whereas there was significantly greater production of object omission by the L3 group than the L2 group in the production task, Prediction 2 is supported.

4.3. English Acceptability Judgement Task

Table 5 presents mean ratings by the native English control and L3-French (L2-English) groups on the grammatical (subject-verb-pronoun) and ungrammatical (subject-verb-ø) conditions in the English audio AJT.

Table 5
Mean ratings (SDs) on the scale of 0–6 in the English audio AJT

	Grammatical	Ungrammatical
Native English (n = 17)	5.43 *(0.08)*	0.66 *(0.16)*
L3-French (L2-English) (n = 30)	4.75 *(0.42)*	3.93 *(0.51)*

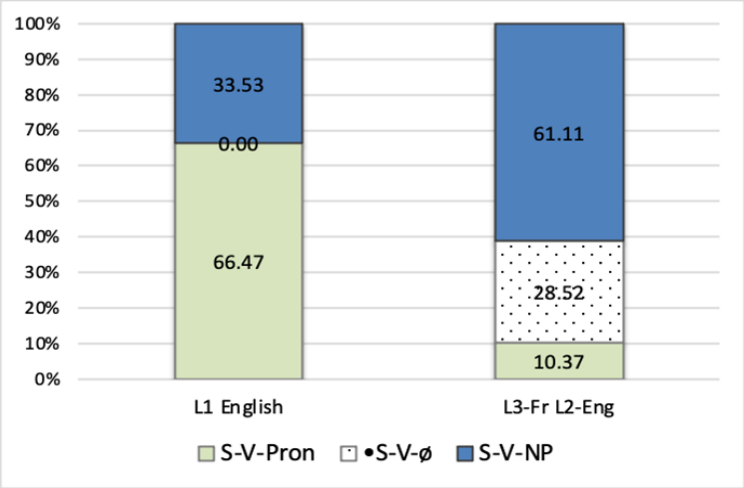
As in the French AJTs, there is a striking difference between the native control group and the L3-French (L2-English) group. The native group has high ratings in the grammatical condition and close to zero in the ungrammatical; whereas the L3-French (L2-English) group's ratings are much closer together, although the grammatical condition still receives higher ratings than the ungrammatical condition. A mixed-effects ordinal regression model was conducted to test the effect of grammaticality on the L3 group's raw ratings. Random intercepts for participants and items were included along with random slopes of grammaticality for each random effect. The results showed a significant effect of grammaticality ($\beta = 1.042$, SE = 0.208, z = 5.004, $p < .001$), confirming that even though the magnitude of the grammatical–ungrammatical differentiation is relatively small, it is nonetheless robust, and can be taken to indicate sensitivity to the ungrammaticality of object omission in the L3 group's L2 English.

4.4. English Production Task

The English production task data from three of the L3-French L2-English participants had to be excluded due to poor recording quality, so the results reported here are from 27 participants. The responses were coded as target subject-verb-pronoun structures, S-V-Pron; full noun phrase structures, S-V-NP; or ungrammatical object omission structures, *S-V-ø. The distribution of each type of structure is illustrated in Figure 4.

Figure 4

Percentage of Each Response Type in the English Production Task, by Group



Again, there is a resemblance between these results and the French production task results. The predominant structure in the native English control group was the target S-V-Pron, with S-V-NP being produced about a third of the time, and no object omission. In the L3-French L2-English group, the S-V-NP structure was favoured, but then object omission was the next most common response, being produced 28.5% of the time. Object omission responses were given between 1 and 5 times by 26 out of the 27 L3 participants, and on all of the 10 test items.

The implications of the English results for the question of the source of transfer are discussed in the next section.

5. Discussion

The two hypotheses (8–9, repeated in 14–15) were formulated in terms of the L3 group's L1, Sinhala, influencing the participants' behaviour:

15. Hypothesis 1: Crosslinguistic influence

The L1-Sinhala L2-English L3-French group will allow null object pronouns in French more than the L1-English L2-French group does.

16. Hypothesis 2: comprehension v. production behaviour

The L1-Sinhala L2-English L3-French group will produce null objects in a French production task to a greater extent than they accept them in a judgement task, as measured against the L1-English L2-French group.

The results showed that Hypothesis 1 was confirmed in the production task, but not in the AJTs, where there was no difference between the two groups in relation to null objects. The combined findings for the AJTs and production task also allow a verdict on Hypothesis 2. Since there was no difference between the two groups in the AJTs, but the L3 group had a higher rate of object omission in the production task, this hypothesis is confirmed. Together, although Hypothesis 1 was only partially supported, these findings suggest that the L3 group's knowledge of Sinhala played a role in their behaviour; for, if not, there should be no reason for the L3 group to differ from the L2 group. In the following discussion, I consider the implications of the L2 English results for explanations of the L3 French findings, and I propose an account that does not depend on specifying either the L1 or the L2 as a privileged source of transfer, drawing on Amaral and Roeper's (2014) Multiple Grammars approach. I then discuss implications of the present findings for L3 acquisition models, and propose an avenue for further research.

5.1. Accounting for both the L3 and the L2 Evidence from L1-Sinhala L2-English L3-French

The findings suggest that the L3 group's performance in the French production task was influenced by their L1 Sinhala grammar, which allows object omission. However, before aiming to draw conclusions about the source of transfer, it is important to consider the L3 group's English results. They were very similar to the French results, with evidence of sensitivity to the ungrammaticality of object omission in the AJT, but a non-trivial rate (28.5%) of omission of objects in the production task. This suggests that the L3 group's L2 English grammar is essentially the same as their L3 French grammar with regard to null objects. In both languages, there is awareness that null objects are ungrammatical (shown in the AJT data), but also a level of object omission, nonetheless, in production. This means that the

mechanism for allowing null objects in the L3 group's French could arise via transfer from their L2 English (presumably via Sinhala) or direct from their L1 Sinhala.

Whether null objects come directly from the L1, or via the L2 interlanguage, it is striking that they are a feature of the L3 participants' spoken French, but not of their comprehension, where the results demonstrate sensitivity to their ungrammaticality. This resonates with Grüter and Crago's (2012) finding that null objects emerged in the spoken L2 French of their L1-Chinese group, but not in this group's comprehension data. Further, like the L1-English L2-French group in the present study, Grüter and Crago's L1-Spanish L2-French group did not produce null objects. However, while Grüter and Crago accounted for this in terms of the relatively higher processing demands of the oral task being mitigated via transfer of a clitic pronoun grammar from Spanish, this argument cannot be applied directly to the L1-English L2-French group in the current study, since English does not have a clitic pronoun grammar. If higher processing demands combined with the absence of a clitic pronoun grammar in the L1 lead to object omission, then object omission might be expected in the L1-English L2-French group, too.

The results suggest that both of the non-native French groups have acquired a clitic pronoun grammar for French, on the basis of the AJT results. Furthermore—and still in line with Grüter and Crago—I suggest that the emergence of object omission in the L3 group's production task data is due to the increased cognitive demands of this task. However, I argue that the fact that object omission occurs only in the L3 group and not in the L2 group is due to the availability of null objects in the L3 group's mental grammar. Amaral and Roeper (2014), among others, have proposed that the different grammars of the languages known by a multilingual (or, indeed, multi-dialectal) speaker all co-exist within a single grammar store. In Amaral and Roeper's terms, this takes the form of subsets of rules, or sub-grammars. Under this approach, the L3 speakers' mechanisms for licensing null objects in Sinhala, and for representing clitic pronouns in French, can be construed as sub-grammars within 'the proliferation of sub-grammars that populate the grammar of the multilingual speaker' (Amaral & Roeper, 2014, p. 27). Selection of the appropriate sub-grammars

should be conditioned by the language of current use, so the null object grammar should not be selected when French is in use, provided that the speaker has already acquired the target sub-grammar that prohibits null objects. However, there is ample evidence from multilingual processing research that all the languages a speaker knows are active during language processing (Kroll et al., 2012; Lauro & Schwartz, 2017), and that the language(s) not currently in use must be inhibited (Bialystok, 2011). If the ability to inhibit is attenuated under increased processing load, this could lead to selection of the null object sub-grammar from the more dominant L1 as a 'default', instead of the L3 French clitic pronoun sub-grammar, even if the latter has been acquired. Such an account can also explain the occurrence of null objects in the L3 group's L2 English production data; and the absence of null objects in the L1-English L2-French production data. In the latter case, the speakers' set of sub-grammars does not include a null object sub-grammar at all.

The absence of null objects in the production data of Grüter and Crago's L1-Spanish group can be accounted for in the same way. One might ask, though, how this approach can explain the behaviour of Kong's (2015) L1-Chinese L2-English L3-French speakers, who allowed null objects in an error-correction task. I assume that an error-correction task is also more cognitively demanding than an AJT, because the participant must actively look for ungrammaticalities and produce (in writing) a correction when ungrammaticalities are identified; as opposed to simply selecting a rating based on one's intuition in an AJT, without pressure to search for errors. Thus, the cognitive demands of error correction may also mean decreased capacity for inhibiting the languages not in use, and hence activation of the L1 null object sub-grammar. However, Kong's study did not investigate whether the participants had also acquired French clitic pronouns, nor whether they accepted null objects in their L2 English, so a full comparison with the current study is not possible.

5.2. Implications for Models of L3 Acquisition

Kong (2015) argued that his participants' acceptance of null objects provided evidence against the TPM. Recall that, under the TPM, the prior language that is unconsciously perceived as linguistically closest to the L3 is argued to transfer in

full at the initial state of L3 acquisition. Kong (2015) assumed that this would be English in his L1-Chinese L2-English L3-French speakers. Given that the L2 interlanguage of the L3 group in the current study was ultimately shown to allow null objects, unlike a target English grammar but in line with their L1 Sinhala, the data in the current study cannot be used to shed light on L1 versus L2 as the source of transfer in L3 acquisition. However, even if the L2 interlanguage grammar had been found to disallow null objects, it is not clear what the TPM would predict for L1-Sinhala L2-English L3-French. The three languages belong to three distinct language families, Indo-Aryan, Germanic and Romance, and similarities between French and both Sinhala and English can be identified. For example, word stress could lead to Sinhala being perceived as more similar to French, as both Sinhala and French have a regular word stress pattern (word-initial syllable stress in Sinhala, word-final syllable stress in French) in contrast to the more irregular syllable stress in English (Wasala & Gamage, 2005). Turning to the lexicon, French and English have a lot of vocabulary with shared etymology, though there is also a lot of basic vocabulary that comes up early in a French course—when the transfer decision must be made—that is not cognate with English. Further similarities and differences arise in morphosyntax (e.g., all three languages have tense and person verbal morphology—though person morphology occurs only in written Sinhala (Gair & Karunatillake, 1999)), and syntax (e.g., SVO word order in French and English, SOV in Sinhala). In short, the TPM does not make a clear prediction for this language combination, which raises questions about the explanatory scope of this model.

The L2 Status Factor does not find support in the current data, though this could be argued to be due to the different learning settings of the L2 English (primary school) versus the L3 French (senior years of secondary school, and university). Since this model proposes transfer on the basis of meta-linguistic knowledge, the quality of meta-linguistic knowledge may be so different in the two languages due to the different learning settings, that L2 transfer may not, after all, be predicted in this case.

The findings are compatible with the Scalpel Model, which also adopts a

Multiple Grammars approach, and which, crucially, allows for a range of factors to shape prior language influence. This could potentially include processing factors, though Slabakova (2017) does not specify this.

In sum, the current findings cannot adjudicate between different models with regard to the source of transfer in L3 acquisition, in part because of one of the design strengths of the current study, whereby the participants' L2 knowledge, was measured as well as their L3 knowledge—and found NOT to match a target English grammar; and in part because of features of the models' themselves.

However, the current study offers a clear direction for follow-on research, that could adjudicate in relation to the proposed relationship between processing demands and the use of a non-target grammar. This proposal leads to the prediction that increasing processing load will increase the use of object omission when object omission is part of the most established language (the L1 in the current case). I recommend testing this prediction through further comprehension and production experiments that incorporate a systematic increase of the processing burden as a variable in the design.

6. Conclusion

The aim of this study was to find out whether acquisition of object pronominalisation differs between L3 and L2 French when the L3 speakers' L1 allows null objects but the L2 speakers' L1 does not; and, further, to find out whether non-native behaviour in relation to object pronominalisation is modulated by task type. The experimental results yielded a positive answer to both questions: the L3 group used null objects in production but was sensitive to their ungrammaticality in comprehension; while the L2 group did not allow null objects. Further, it was shown that the L3 group also allowed null objects in their L2 English production. I argued that this result can be accounted for in terms of the L3 group falling back on their L1 null object sub-grammar as a result of the increased processing demands of the production task. Further research designed to manipulate the level of processing demand could probe this further.

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About the Author

Chandeera Gunawardena is currently working as a Lecturer at the University of Kelaniya, Sri Lanka. I completed a PhD in Linguistics at the University of York, UK. I have an MA from the University of Sorbonne, France and a BA from the University of Angers, France. I work primarily in second language (L2) and third language (L3) acquisition, focussing on the L2/L3 acquisition of phenomena at the syntax–semantics interface, with a special interest in the L3 acquisition of French and other European languages.