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The influence of L1 Dutch and L2 English on L3 French: A longitudinal study

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This longitudinal study investigates negative transfer from L1 Dutch and L2 English into L3 French in the first three years of French education in a Dutch/English secondary immersion school. We focus on two word order constructions in declarative root clauses where the three languages differ: V-to-C movement (+Dutch, −French) and V-to-T movement (−English, +French). The results of a grammaticality judgement task and a gap-filling task show that the L3 learners transfer a large amount from L1 Dutch in the initial stages of the first year of French education followed by a dramatic decline in the second and third year of French education. At the onset of L3 learning, L2 English is less activated; however, its influence intervenes and stays stable in later years of learning.

1. Introduction

A crucial question in the research field known as third language acquisition (L3A) is *which* prior language is the source of transfer into the L3, the L1 and/or the L2. Existing models of L3A take different perspectives: the role of the L1 may be maximised (L1 transfer scenario, Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b), the role of the L2 may be as well (L2 status factor [L2SF], Bardel & Falk, 2007, 2012; Falk & Bardel, 2011), or both background languages can be potential sources of transfer depending on (*perceived)* typological resemblance (Typological Primacy Model [TPM], Rothman, 2011, 2013, 2015), on abstract structural similarity (Linguistic Proximity Model [LPM], Mykhaylyk et al., 2015; Westergaard et al., 2016) or on the facilitating or neutral nature of transfer (Cumulative Enhancement Model [CEM], Flynn et al., 2004). Another question to explore is *when* transfer occurs in the learning process. Current L3-models predict transfer from either the L1 or the L2 in the initial stages of acquisition (TPM, Rothman, 2011, 2013, 2015; Bardel & Falk, 2007). However, it is also important to consider the interplay between the background languages in different stages of L3-learning, which becomes clearer in empirical data on L3 development.

This paper is a longitudinal study that investigates the development of the influence of L1 (Dutch) and L2 (English) on L3 French acquisition, starting in the initial stages. To collect the data, Dutch/English immersion secondary school students were followed over a period of two years. The study investigates syntactic transfer by looking at two verb placement constructions in which L3 French differs from L1 Dutch and L2 English, i.e. V-to-C movement, (+Dutch, –French) and V-to-T movement (–English, +French). We report findings from a grammaticality judgement task (GJT) and a gap-filling task (GFT).

The paper is organised as follows. In section 2, the increasing interest of development in the L3 research field is discussed. In section 3, the linguistic description is presented. In section 4, we also take a closer look at some previous studies, since the present research builds on a recent cross-sectional study. Section 5 then describes the design and the method of this empirical study, followed by the results in section 6. The paper concludes with a discussion of the findings (section 7) and a number of concluding remarks (section 8).

2. Theoretical background
2.1. Transfer models in L3A
The field of L3A research is developing rapidly and L3-models aim to predict regularities in transfer – by focusing on order of acquisition (L2SF, Bardel & Falk, 2007, 2012, Falk & Bardel, 2011, and the L1 transfer scenario, Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b) or general typological grouping (TPM, Rothman, 2011, 2013, 2015). According to the L2SF, the L2 is the primary source of transfer in L3A because the L2/Ln differs cognitively from the L1. Support at a syntactic level has been found especially in the initial state, for instance in a study on the placement of sentence negation (Bardel & Falk, 2007), and also in intermediate learners in a study on object pronouns (Falk & Bardel, 2011).

Although it has not yet been postulated as an L3-model, various studies have found L1 transfer in the initial stages. In two mophosyntactic studies on the acquisition of the

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null subject parameter (2014a) and of restrictive relative clauses (2014b), Hermas posits that the L1 (Arabic) and not the L2 (French) is the default source of (non)-facilitative transfer for *beginning learners* in the initial stages of English (L3). However, in a study on the acquisition of the restrictive relative clause with the same language pairing, *pre-intermediate* L3 learners also showed (facilitative) transfer from the L2. Jin (2009) found negative influence of Chinese (L1) in Norwegian (L3) with English as an L2 in the acquisition of null objects. Na Ranong & Leung (2009) observed a positive effect from Thai (L1) in the acquisition of null objects in learners of Mandarin (L3) with L2 English. The TPM (Rothman, 2011, 2013, 2015), however, proposes that both the L1 and the L2 are potential sources of transfer. In the initial stages of L3A, the L3 learner copies the full grammar of the background language perceived to be the most similar one onto the L3. L3 learners go through a hierarchy of linguistic cues that guides the internal parser to determine which previously acquired language is the most suitable for transfer. In this hierarchy of cues, the lexicon is at the highest level (followed by phonological/phonotactic cues, functional morphology and syntactic structure, in that order) (Rothman, 2013).

Other L3 models assume property-by-property transfer regardless of the order of acquisition or perceived typology. Flynn et al. (2004) proposes property-by-property transfer that occurs when transfer is facilitating or neutral (CEM, Flynn et al., 2004). The LPM suggests that transfer occurs when a linguistic property receives supporting evidence from either the L1 or the L2 (Mykhaylyk et al., 2015; Westergaard et al., 2016). The Scalpel Model (Slabakova, 2016) is in agreement with the LPM: transfer can occur from both the L1 and the L2; that is, the learner uses the grammars (figures out the relevant features and properties) with scalpel-like precision depending on the acquisition task. However, this indicates that many other factors affect transfer, such as construction frequency, availability of clear unambiguous input, prevalent use and structural linguistic complexity, among others (Slabakova, 2016, p. 7). This increased focus on development demonstrates that the field is ready for a 'shift in focus towards understanding L3A more completely' (González Alonso & Rothman, 2016, p. 4). Furthermore, the L3 literature also shows an interest in a less static approach by studying the effect of interfering factors that are to some extent connected to development, such as L2 and L3 proficiency (Jaensch, 2009; Sánchez, 2014; Sánchez & Bardel, 2017), L2 exposure/L2 frequency of use (Dewaele, 2001; Hammarberg, 2009; Stadt et al., 2018) or metalinguistic knowledge attained either in the L1 or in the L2 (Sanz, 2000; Jessner, 2008; Falk, Lindqvist & Bardel, 2015; Bardel & Sánchez, 2017).

2.2. Longitudinal studies in L3A

There are almost no longitudinal studies in L3A, quite possibly because L3 research is a relatively new field. The only longitudinal study at a syntactic level we know of in L3A is the one carried out by Sánchez (2017). This includes a four-year longitudinal study and concerns transfer of head-initial features from the L1 (Spanish/Catalan) or head-final values from the L2 (German) into L3 English in immersion students. She found that in the L3 early grammars (after 33 and 66 hours of instruction), the learners treated English as a head-final language as found in the L2.[1]

3. Linguistic description

In Dutch clauses that start with a sentence-initial adverbial phrase, the finite verb moves to C and appears in the second position of the clause, which results in an XVSO word order (also known as the V2-rule) (den Besten, 1983), as illustrated in (1). In declarative root sentences containing manner/frequency adverbs, the word orders in French and English differ: in French, the finite verb moves to T and therefore the verb appears before the adverb, as illustrated in (2) whereas in English there is no verb movement, resulting in Adverb-Verb word order in the same type of clause, as shown in (3) (Pollock, 1989).

(1) Vandaag   kijkt   Manon   een film
    *Aujourd'hui regarde Manon   un film
    Aujourd'hui Manon regarde un film.
    'Today Manon is watching a movie.'

(2) Thomas   mange   souvent   une banane
    *Thomas   eats   often   a banana
    'Thomas often eats a banana.'

(3) Thomas   often   eats   a banana
    *Thomas   souvent mange   une banane
    'Thomas often eats a banana.'

In **Table 1**, we present the movement types and the corresponding differences between languages. It is important to emphasise that where Dutch and French differ, English and French share the same word order – and therefore, the XSVO word order in French could also indicate positive influence from English. Conversely, where English and French differ, Dutch and French share the same word order, and thus, V-Adv word order could indicate positive influence from Dutch. This study focuses on *errors*, this means XVSO and Adv-V word order in French, since in later stages of L3 learning it is hard to distinguish between positive influence and acquisition of L3 knowledge.

Table 1: Dutch, English and French word order in declarative root clauses.

Movement type	Word Order	Dutch	English	French
V-to-C movement	XVSO (+V2)	Yes	No	No
V-to-T movement	Verb-adverb	Yes	No	Yes

4. Influence of L1/L2 and immersion education on L3 French

In previous research, Stadt et al., (*unpublished manuscript, in press*, 2016, 2018) investigated L1/L2 influence cross-sectionally in different stages of L3A (in Y1, Y3 and Y4 students). This section discusses the most important findings from these studies, in order to provide the context of the present study, allowing us to explore how longitudinal data can contribute to the findings of other studies. The previous studies were conducted in the same secondary school as this study: a partial Dutch/English bilingual secondary school in which students can receive either Dutch/English immersion or regular non-immersion secondary education. We examined syntactic transfer by means of a grammaticality judgement task (GJT) and a gap-filling task (GFT) in different groups of learners: in first-year participants who were initial-state learners of French (Stadt et al., *unpublished manuscript*), and in both Y3 and Y4 Dutch/English immersion *and* non-immersion students (Stadt et al., 2016, 2018). To detect transfer, we tested the same verb placement constructions as in this study: V-to-C movement (–French, +Dutch), in which case in Dutch the verb appears in the second position of the clause, i.e. XVSO word order (also known as the V2-rule) (as illustrated in example (1)) and V-to-T movement (+French, –English), in which case the adverb appears post-verbally (V-Adv) in French (as illustrated in example (2)) and pre-verbally (Adv-V) in English (as illustrated in example (3)).

The results of the cross-sectional studies showed that participants lean greatly on their L1 Dutch at the onset of learning French (Stadt et al., *unpublished manuscript*), much more than on their L2 English. That is to say, the initial-state learners massively transfer the V2-rule into French (XVSO errors in 72.3% [GFT] and 64.6% [GJT] of the cases), whereas the first-year participants transfer the English Adv-V word order in 10.9% (GFT) and 33.5% (GJT) of the cases (Stadt et al., *unpublished manuscript*). In later stages of acquisition, the participants 'unlearn' the Dutch V2-rule to the point that they make V2 errors in only 2.6% and 11.3% of the cases (in regular and immersion Y4 participants, respectively) (data as reported from a GJT in Stadt et al., 2018).[2]

We found more substantial influence of the English Adv-V word order in later stages of L3 learning. The number of Adv-V mistakes increased from Y1 to Y3 in the immersion group in the production task, from 6% to 21.4% ($p = 0.003$) (Stadt et al., *in press*), which we interpreted as the L2 needing L2 exposure before it becomes an important source of transfer.[3] The Y3 immersion participants who had received a considerable amount of L2 input in the daily school context also showed significantly more transfer from the L2 than from the L1 (42.4% vs 24.6%, $p = 0.012$) (Stadt et al., 2016). Regarding the Y4 participants, the data also showed that the L2 was significantly more important than the L1 in *both* the immersion and the non-immersion group (32.7% vs 11.3%, $p = 0.005$ and 25.3% vs 2.6%, $p = 0.005$, respectively) (Stadt et al., 2018).

However, we also found that the influence of the L1 does not simply decrease in the same way that the influence of the L2 increases after three years of L3A. There is

also an interesting interplay between the background languages in the cross-sectional developmental process. This interplay depends on the developmental stage of the learner and the amount of L2 exposure the learner receives in the daily context. Although we found a decrease of L1 influence in L3A, in the Y3 *non-immersion* group – where participants are not exposed to English in the daily school context – the L1 remained a relatively important source of transfer as compared to the Y3 immersion group. That is, the Y3 regular participants made significantly more mistakes due to Dutch influence than the Y3 immersion participants (37% vs. 24.6%, $p = 0.033$) (Stadt et al., 2016). We explained this by stating that only in the immersion group (where participants receive enough L2 exposure) is the influence of the L1 overridden by the L2.

Since we tested participants at the onset of Y1 and others at the end of Y3 and Y4, the previous analysis was based on cross-sectional data with a 'developmental gap' because we only tested intermediate learners of French in Y3 and Y4. Therefore, the present study aims to explore the developmental pattern of one and the same group of participants at the onset of Y1, Y2 and Y3. As such, we can study the interplay between the background languages in L3 development described above and explore whether there is a 'point' in the acquisition process when the L2 'takes over' the L1 as the preferred source of transfer in L3A.

5. Design
5.1. Research question and predictions
As mentioned above, we aim to enrich existing knowledge on the roles of the L1 and the L2 in different stages of L3A by investigating to what extent and at what point of the L3 learning process the L2 overtakes the L1 as the source of transfer. The research question is as follows:

> RQ: How does the influence of the background languages (L1 and L2) develop over time in the learning process?

Based on the cross-sectional study in support of massive L1 transfer at the initial stages in the same population (Stadt et al., *unpublished manuscript*), and in line with the L1 transfer scenario in L3A (Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b) in the initial stages,[4] we formulated the following prediction:

> Prediction 1. Transfer from the L1 in the initial stages (Y1) of L3 acquisition.

Based on previous studies in which we found almost no transfer from the L1 in Y3/Y4 immersion students and an important L2 role in Y3/Y4 immersion students (Stadt et al., 2016, 2018) and following the studies in support of L2 (French) as a source of transfer in *pre-intermediate* L3 (English) (e.g., Hermas, 2015), we put forward:

> Prediction 2. A decrease of L1 influence and an increase of L2 influence in L3 acquisition starting in Y2.

5.2. Context of study

The secondary school where we collected the data is a partly bilingual secondary school that has integrated a Content and Language Integrated Learning (CLIL) educational system of the International Baccalaureate in the first four grades of secondary school (viz., the Middle Years Programme [MYP]). This programme offers more than 50% of all school subjects in English. Because of this international programme and also because of the ubiquitous presence of English in the Netherlands – which results in English input outside school in, for instance, games, television series and music, the participants are exposed to English in their daily lives. The overall scholastic aptitude of the participants is comparable because of the Dutch secondary school system. In the Dutch system students are divided into three different tiers after elementary school, and in the school where the study took place, students are enrolled in the two highest tiers.[5]

5.3. Participants

We examine the involvement of the L1/L2 in the developmental process of the L3 by following a group of participants over a time span of two years of study in which we tested them three times: Y1 participants in the first week of the bilingual programme at the average age of 12.8, Y2 at the age of 13.8 and Y3 at the age of 14.9. The average age in the Y3 group is different due to participants who we could no longer follow in Y3.

5.3.1. First-year participants

For the data collection in Y1, we tested all participants in their first regular school week. We used the data from 18 participants (average age 12.8), as we had to tackle the following criteria: they had to be native speakers of Dutch, excluding bilinguals, participants with a bilingual parent and participants who had been in extensive contact with other languages besides Dutch outside the school context (such as through relatives or a stay abroad). Furthermore, since English is the L2, the first-year participants took an English gap-filling task with declarative root clauses that contain a manner/frequency adverb as illustrated in Example (4) below. We only considered the results of the participants who had an adequate accuracy on Adv-V word order in English.[6] We tested the knowledge of the English Adv-V word order with a GFT. Since we wanted to control for English verb placement, the participants simply had to put the verb in the right gap. The subject and object of the sentence and a manner/frequency adverb were given. The participants were instructed to choose the gap they presumed to be correct in English. The test contained 24 items, eight of which tested the Adv-V word order and 16 were fillers. All participants who made more than three mistakes were excluded.

Example of sentences from the English GFT:

(4) Paul _____ sometimes _____ an apple.   *eats*
     'Paul sometimes eats an apple.'

Although English is mandatory in the last two grades of Dutch elementary schools, the quality and quantity of English teaching (and hence the first-year participants'

proficiency) in elementary school differs considerably (Unsworth et al., 2015). Therefore, after the English GFT test, we also checked the learners' proficiency level in English using two standardised placement tests: Meara's vocabulary size test (Meara, 2010) and the Anglia placement test. The participants needed to have reached at least elementary level of the standardised Anglia placement test.[7]

The first-year participants were initial-state learners of French. However, to be able to take the test, they needed some L3 French lexical input. Therefore, we used the first week of secondary school to present them with vocabulary. The training consisted of several online exercises in which we incorporated the words that we used in the test. The participants also had to learn these words as a homework assignment. We made sure that they did not come into contact with the sentence structures to be tested since that could have constituted a rehearsal of the experimental test.

5.3.2. Second- and third-year participants

At the second time of data collection, the participants had been enrolled in the immersion context for one year, and testing took place at the start of their second year. The third time of testing took place at the start of their third year. All students needed to have A1 L2 proficiency level (as defined in the Common European Framework of References [CEFR]) to pass from Y1 to Y2 and A2 proficiency level to pass from Y2 to Y3. We checked the students' L2 proficiency by means of the end grades of Y1 and Y2 (which is an average of reading, listening, writing and oral skills).

The setting of French acquisition was exclusively in the formal school context. The participants were required to have A1 level (CEFR, receptive knowledge) in French after two years of instruction. However, L3 proficiency is not the focus of this study, so just as in Y1, the tests had to be very easy to take. Although we used the same tests as in Y1, we made sure that the Y2 and Y3 participants were still familiar with the vocabulary used in the tests: since we are focusing on word order, their vocabulary should not be a hurdle. As mentioned above, the constructions that we tested had not been part of the French curriculum. Nevertheless, since the participants had received a considerable amount of authentic L3 input at the time of testing in Y2 and Y3, we only concentrated on errors to avoid confusing positive transfer with L3 knowledge. We also report the correct answers to reveal the L3 learners' progress.[8]

5.4. Experimental tasks

We report data from a grammaticality judgement task (GJT) and a gap-filling task (GFT) testing the two constructions as illustrated in **Table 2**: (1) declarative root clauses with manner/frequency adverbs (V-Adv word order in French and Adv-V word order in English) and declarative root clauses starting with a sentence-initial adverb (+V2 in Dutch and –V2 in French). The GJT contained seven test items per construction, four of which were grammatical and three were ungrammatical, and 18 fillers, while the GFT contained eight items per construction and eight fillers. The fillers were very simple sentences with SVO word order. The same tests were used in Y1, Y2 and Y3. Since the Y1 participants were initial-state learners, we

Table 2: (Un)Grammaticality in French.

Structure	Declarative root clauses starting with a sentence initial adverb	Declarative root clauses with manner/frequency adverb
Grammatical	XSVO (–V2)	V-Adv
Ungrammatical	XVSO (+V2)	Adv-V

used simple short sentences with many cognates, such as 'chocolat', 'film' or 'série'.

Examples from the GJT:

(5) a. En France Manon mange les crêpes.
  b. *En France mange Manon les crêpes.
  'In France Manon eats pancakes.'

(6) a. Manon aime vraiment les biscuits.
  b. *Manon vraiment aime les biscuits.
  'Manon really likes biscuits.'

Examples from the GFT:

(7) Jean _____ parfois _____ au cinéma. *va*
  'Jean sometimes goes to the cinema.'

(8) Aujourd'hui _____ Manon _____ une fête. *organise*
  'Today Manon is organising a party.'

In the first and second year, the participants took the tests in the French class. In the third year, we tested them after school.

6. Results

This section presents the group results. Since we tested 18 participants in Y1 and Y2 and 14 participants in Y3, we will report and analyse two data sets separately: one on the basis of 18 participants, presented in **Tables 3** and **4** (comparing Y1 to Y2), and one on the basis of the 14 participants who reached Y3, presented in **Tables 5** and **6** (comparing Y1 to Y2 to Y3). The V2-errors in Y1 and Y2 are in **Tables 3** and **5** and the Adv-V errors in **Tables 4** and **6**. We also report the accuracy scores because they reveal the L3 learners' progress.

What stands out is the decrease in the number of V2 errors from Y1 to Y2 in both tasks. A close inspection of the table shows a difference between receptive knowledge (GJT) and guided production (GFT): Y1 participants make more guided production errors than judgement errors, and Y2 participants make more judgement errors than guided production errors. **Table 4** shows that the number of English Adv-V errors stays stable across years and in both tasks. However, the participants show more judgement errors than guided production errors.

A repeated-measures ANOVA with TIME as the between-subjects factor and STRUCTURE as within-subject factor showed a significant main effect for V2-errors in both tasks: GJT, (F(1.00, 17.00) = 18.51; $p < .001$, η^2_p = .52 and GFT, (F(1.00, 17.00) = 68.95; $p < .001$, η^2_p = .80). However, the difference between the two groups on Adv-V constructions is not significant: GJT, (F(1.00, 17.00) = .173; $p = .682$, η^2_p = .010) and GFT, (F(1.00, 17.00) = .024 ; $p = .878$, η^2_p = .001).

Table 3: Results of V2 constructions in GJT and GFT for Y1 and Y2.

+V2	Errors/total percentage	SD	Accuracy
Y1 GJT	83/126 (65.9%)	1.42	34.1%
Y2 GJT	41/126 (32.5%)	1.60	67.5%
Y1 GFT	115/144 (79.9%)	2.12	20.1%
Y2 GFT	19/144 (13.2%)	2.15	86.8%

Table 4: Results of Adv-V constructions in GJT and GFT for Y1 and Y2.

Adv-V	Errors/total percentage	SD	Accuracy
Y1 GJT	39/126 (31%)	1.69	69%
Y2 GJT	43/126 (34.1%)	1.58	65.9%
Y1 GFT	21/144 (14.6%)	1.82	85.4%
Y2 GFT	22/144 (15.3%)	1.73	84.7%

Table 5: Results of V2 constructions in GJT and GFT for Y1, Y2 and Y3.

+V2	Errors/total percentage	SD	Accuracy
Y1 GJT	66/98 (67.3%)	1.49	32.7%
Y2 GJT	34/98 (34.7%)	1.65	65.3%
Y3 GJT	25/98 (25.5%)	1.12	74.5%
Y1 GFT	93/112 (83%)	2.13	17%
Y2 GFT	18/112 (16.1%)	2.40	93.9%
Y3 GFT	2/112 (1.8%)	0.36	98.2%

Table 6: Results of Adv-V constructions in GJT and GFT for Y1, Y2 and Y3.

Adv-V	Errors/total percentage	SD	Accuracy
Y1 GJT	34/98 (34.7%)	1.74	65.3%
Y2 GJT	32/98 (32.7%)	1.78	67.3%
Y3 GJT	30/98 (30.6%)	1.56	69.4%
Y1 GFT	17/112 (15.2%)	1.97	84.8%
Y2 GFT	15/112 (13.4%)	1.64	86.6%
Y3 GFT	26/112 (23.2%)	1.83	76.8%

Table 5 presents the data of V2 and **Table 6** that of the Adv-V word order of the 14 participants in Y1, Y2 and Y3. In these tables, we only took into account the participants that reached Y3.

These data show the same decrease in the number of V2 errors, especially from Y1 to Y2. The data also show that the Y1 participants make more errors in the GFT than in the GJT. However, in Y2 and Y3 it is the other way around: students make more judgement errors than production errors.

The repeated-measures ANOVA with TIME as the between-subjects and STRUCTURE as within-subject factor showed a significant main effect of the dependent variable V2 errors in both the GJT (F(1.81, 23.60) = 15.49; $p < .001$, $\eta^2_p = .54$) and in the GFT (F(1.74, 22.59) = 51.69, $p < .001$, $\eta^2_p = .80$). We remark that the effect size in GJT is medium and the effect size in GFT is large. Post hoc tests using the Bonferroni corrections revealed a significant difference between Y1 and Y2 in both tasks (GJT, $p < .001$; GFT, $p < .001$) but not between Y2 and Y3 (GJT, $p = 0.630$; GFT, $p = 0.287$). Therefore, we conclude that there is a significant decrease in V2 errors after the first year. Regarding the Adv-V errors, we did not find a significant effect of the dependent variable Adv-V errors in both the GJT (F(1.978, 25.715) = .108, $p = 0.896$, $\eta^2_p = .01$) and the GFT (F(1.362, 17.701) = 1.011, $p = 0.355$, $\eta^2_p = .07$). In the GFT, we do see a tendency of increase of Adv-V errors from Y2 to Y3.

7. Discussion

This study examined the longitudinal development of L1 Dutch/L2 English influence on L3 French in V-to-C and V-to-T movement constructions. It sought to explore how the influence of the L1 and L2 develops in the first two years of the L3 learning process.

In light of the statistical analysis, we revisit the learning predictions, repeated here for convenience:

Prediction 1. Transfer from the L1 in the initial stages (Y1) of L3 acquisition.
Prediction 2. A decrease of L1 influence and an increase of L2 influence in L3 acquisition starting in Y2.

Prediction 1. The first prediction regarding L1 transfer in the initial stages of French learning is confirmed, which aligns with the L1 transfer scenario (Na Ranong & Leung, 2009; Jin, 2009; Hermas, 2010, 2014a, 2014b). This is true only for the Y1 participants. At the onset of L3-learning, the Y1 participants appear to have massively transferred the L1 Dutch V2-rule into L3 French, although the transfer of the L2 English equivalent construction would have been facilitative (L1 Dutch ≠ L2 English = L3 French). Group results show that they accepted the Dutch word order at the rate of 65.9% (**Table 3**) and 67.3% (**Table 5**) (GJT) and produced the Dutch word order at the rate of 79.9% (**Table 3**) and 83% (**Table 5**) (GFT). Since only two constructions are investigated, we need to interpret the transfer of the V2-rule in the initial stages with caution. More research on other constructions is needed to learn more about the extent to which the L1 is transferred in the initial stages.

With regards to the English word order in French, we found an acceptance rate of 31% (**Table 4**) and 34.7% (**Table 6**) (GJT) and a production rate of 14.6% (**Table 4**) and 15.2% (**Table 6**) (GFT).[9] Even though the participants were accurate on the English Adv-V word order, they are not yet exposed to enough English input for the L2 to play a significant role in the L3. There is not enough L2 frequency of use and L2 exposure (Dewaele, 2001; Hammarberg, 2009). It could also be the case that the participants need more L3 input to perceive similarities between L3 French and L1 Dutch or L2 English (which can result in both negative and positive transfer). Since the only input these participants received was lexical input to enable them to take the tests, it could be the case that they were not yet able to make appropriate assumptions at the syntactic level.

Prediction 2. Another important finding is the decrease of L1 transfer after the initial stages. The tasks show a highly significant decrease of L1 transfer from Y1 to Y2 with respect to the number of V2 errors. The results of this study gave us more insight into the transition point where L1 influence decreases, which occurs relatively quickly after the initial stages. Even though there is still some descending tendency from Y2 to Y3, most participants 'unlearned' the V2-rule within the first year of instruction in French. Recall that English and French share the XSVO word order (and differ from Dutch XVSO). Therefore, the decrease in L1 transfer after the initial stages are in favour of L2 English facilitative transfer (but maybe L3 acquisition). These findings are in line with Hermas (2015), who found L2 transfer in later stages of development. Although we have to be cautious with the interpretation of accuracy rates, since positive transfer could also indicate L3 knowledge, it is still relevant to highlight that there is a large increase in positive L2 influence with respect to the XSVO word order from Y1 to Y2 (34.1% to 67.5% in the GJT and 20.1% to 86.8% in the GFT). This confirms the second prediction and the results of a previous (cross-sectional) study in which we found an increase of the L2 from Y1 to Y3 (Stadt et al., *in press*).

Although we found an influence of L2 English in the L3 French acquisition (which is in line with Hermas (2015), who found that pre-intermediate learners transfer from both L2 French and L1 Arabic into L3 English), no evidence of an *increase* in Adv-V errors was found in this longitudinal study. Although we did find a small increase from Y2 to Y3 in the guided production task, this is not in accordance with the results of a previous study where L2 increased significantly from Y1 to Y3 in a guided production task (Stadt et al., *in press*). We suggest that the differences between the current study and the previous ones could be due to the fact that in the first two years of L3-learning, the L2 is (for most participants) not yet sufficiently activated to play a more important role in L3A. Note that the data collection in this longitudinal study took place at the start of the third year whereas in the cross-sectional study the data collection of the Y3 students took place at the end of the school year (Stadt et al., *in press*). It takes more time in the immersion context for the L2 to demonstrate a group effect. Nevertheless, it

is still interesting to see that we did find that the number of Adv-V errors remains statistically stable across the years and in both tasks despite an increase in L3 proficiency.[10]

Transfer from both the L1 and the L2 i.e. simultaneous influence of two linguistic systems on the L3, is called combined crosslinguistic influence (De Angelis, 2007). At a certain stage of development, that is in Y2, the influence of Dutch and English is comparable in both tasks. In the GJT, students made V2-errors in 32.5% (**Table 3**) and 34.7% (**Table 5**) of the cases and Adv-V errors in 34.1% (**Table 4**) and 32.7% (**Table 6**) of the cases. The same goes for the GFT: whereas V2-errors in Y2 are made in 13.2% (**Table 3**) and 16.1% (**Table 5**) of the cases, Adv-V errors are made in 15.3% (**Table 4**) and 13.4% (**Table 6**) of the cases. In other stages of development, the influence seems to be sequential, not simultaneous. That is, L1 transfer in the initial stages of Y1 followed by more L2 transfer in subsequent stages (from Y2 to Y3). In Y1 participants, who just finished elementary school, where foreign language education plays an insignificant role, the L1 is intuitively 'the first option' to resort to. In Y2, both languages play a simultaneous role (De Angelis, 2007) and from Y2 to Y3, a tendency of an increase in Adv-V errors (from the L2) was found in the GFT (13.4% to 23.2%).

8. Conclusion

This longitudinal study investigated the development of the influence of L1 Dutch and L2 English in the first two years of L3 French acquisition amongst L2 immersion secondary school pupils. The first finding was the significant decrease in V2 errors (L1 Dutch) that occurred relatively early in the L3 initial stages; it took about one year of instruction in French for the L3 learners to start transferring less from the L1. This result deepens the understanding of the developmental pattern of L1 influence since previous cross-sectional work only indicated that L1 influence decreased somewhere between the initial stages and the end of Y3 (Stadt et al., *in press*). Further (longitudinal) studies on the decline of the L1 influence on the L3 are needed. The second finding showed no significant increase of the L2 influence in the first three years of L3A. More research on L2 influence should be undertaken with other constructions. In future research, it would also be interesting to compare L3 learners with L2 learners of French to investigate to what extent it is English rather than L3 knowledge that plays a role. Finally, other language combinations could provide more insights into the interplay between L1 and L2 in L3A.

Notes

[1] Sánchez (2015) also carried out a longitudinal L3 study at the lexical level. This includes a four-year longitudinal study in which she examined L1/L2 activation and progressive readjustment of L2 activation and blending over the course of the first 200 hours of instruction among 93 Spanish/Catalan immersion participants (L2 German and L3 English). Sánchez found that learners resort to their L2 at the onset of L3A, followed by a decline after 100 hours of L3 instruction. No evidence was found for L1 activation.

[2] Westergaard (2003) also pointed out that participants 'unlearned' the V2-rule in a study on the acquisition of L2 English (–V2) by L1-Norwegian (+V2) primary-school pupils.

[3] The increase in number of Adv-V errors from first-year participants to third-year participants is significant only in the production data.

[4] It is difficult to define when a learner is in the initial stages of acquisition since the length of the initial stages depends on various factors such as quantity and quality of input, and context (González Alonso J., & Rothman J., 2016). For the purpose of this study, in which case students receive three 45-minute classes of French education per week, we limit the initial stages to the first weeks of learning. Therefore, we only consider the Y1 students as learners in the initial stages.

[5] At the end of elementary school, Dutch pupils take a national standardised test, called the CITO test to get an idea of their overall learning ability. On the basis of this test (and in accordance with the recommendation of the primary school teacher), the pupils are placed in one of the three tiers in secondary school: low (VMBO), intermediate (HAVO) or high (VWO).

[6] We set an accuracy minimum of 5/8 to ensure that the learners would have minimal knowledge of the Adv-V word order to transfer into the L3. We also set this accuracy minimum for practical reasons. Otherwise, the number of participants would be too low.

[7] http://anglianetwork.eu/practice/placement-test/. Only one first-year participant had reached 'elementary' level according to the Anglia Placement test. Five students had obtained pre-intermediate level, seven 'intermediate level', three 'proficiency level' and two 'masters level'. We also calculated the correlation between the first-year participants' L2 proficiency (using the standardised Meara vocabulary size test [Meara, 2010]) and the number of Adv-V errors. We found a weak correlation (coefficient of minus .104) that was not significant ($p = .663$).

[8] This study was approved by the ethics committee of the ACLC, University of Amsterdam. Reference numbers for approval can be found at http://aihr.uva.nl/about-aihr/ethics-committee/ethics-committee.html.

[9] The students show a more target-like production in the GFT than in the GJT. With regards to the low number of errors in the GFT, an anonymous reviewer suggested that if a learner does not produce an ungrammatical sentence, it does not necessarily mean that the learner knows it is incorrect, but that it is the less preferred alternative to the correct one.

[10] One anonymous reviewer suggested the need to interpret the results of the GJT with caution. Although the results for grammatical and ungrammatical items are collapsed, it would have been better to present them separately: if the participants accept the grammatical V-Adv word order, it is still possible that they also accept the ungrammatical Adv-V. Furthermore, the number of items in the GJT is small and not balanced, which is a methodological limitation.

Additional Files
The Additional files for this article can be found as follows:

- **Appendix A.** Linguistic tests. DOI: https://doi.org/10.22599/jesla.42.s1
- **Appendix B.** Individual results. DOI: https://doi.org/10.22599/jesla.42.s2

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