Verb placement in L3 French and L3 German: The role of language-internal factors in determining cross-linguistic influence from prior languages

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Abstract

This article explores cross-linguistic influence and the relationship between surface structure and underlying syntactic structure in L3 acquisition of verb placement in L1 Norwegian L2 English learners of L3 German or French, respectively. In these languages, verb placement varies systematically. Previous research has found transfer from both L1 and L2 in similar language combinations. Using an acceptability judgment task, we tested verb placement in non-subject-initial and subject-initial sentences. Findings indicate that L3 French learners performed better on non-subject-initial sentences compared to subject-initial sentences, whereas the opposite was the case in L3 German.

We argue that our findings can be explained by a generative account of verb movement and are compatible with an analysis where verbs do not move, or do not move far enough, in the L3 learners' underlying syntactic representation. Following the assumption that verb movement is a costly operation, we argue that the syntactic operation verb movement is constrained by principles of economy in L3 acquisition, and that economy plays a role in determining cross-linguistic influence in multilingual acquisition. Our account is compatible

with a uniform analysis of the acquisition of verb movement in L1, L2 and L3, and underlines the qualitative similarities in different acquisition processes.

Keywords: L3 acquisition, cross-linguistic influence, verb movement, V2, economy

1   Introduction

Recent decades have seen a massive increase in research on third language (L3) acquisition. Two contentious issues are whether one prior language, the first (L1) or the second (L2), has a privileged role for transfer, and whether transfer is wholesale or property-by-property. The *L2 Status Factor Hypothesis* (L2SF) (Bardel & Falk, 2007, 2012) maintains that the L2 has a privileged role for transfer due to similarities between the L2 and the L3 in learning context and cognitive status. According to the *Typological Proximity Model* (TPM) (Rothman, 2015), on the other hand, transfer instead takes place at the initial stages from whichever language (L1 or L2) is (psycho)typologically more similar to the L3. While the TPM assumes transfer to be wholesale, the *Linguistic Proximity Model* (LPM) (Westergaard et al., 2017) and the *Scalpel model* (Slabakova, 2017) argue that transfer is property-by-property, and that transfer from both L1 and L2 can be present at the same stage of development.

A question having received less attention is the degree to which syntactic language-specific properties influence L3 acquisition. In this study, we investigate how such properties related to

verb movement affect transfer or cross-linguistic influence[1]. We compare two learner groups, where the L3 (German vs. French) differs, but prior languages (L1 Norwegian, L2 English) and learning contexts are constant. We focus on lexical verb placement in main clauses, a phenomenon extensively studied in previous research, but where findings so far leave an unclear picture of what may (or may not) transfer in L3/Ln acquisition and the extent to which factors such as language similarity and order of acquisition of prior languages play a decisive role in the acquisition process. In order to investigate whether language-specific properties concerning verb movement may explain differences in transfer patterns in the two learner groups, we pool data from two previous studies of L3 French (Listhaug et al., 2021) and L3 German (Dahl et al., 2022). Pooling and analyzing the data across target languages allow for new insights into the underlying processes of L3 acquisition and explanations that go beyond those for each individual language. We analyze our data within the theory of generative grammar, where movement of verbs explains their placement in the sentence.

Section 1.1 below provides an overview of verb placement in the languages of the study and the theory of verb movement. We review previous research on acquisition of verb placement

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[1] We use the terms transfer and cross-linguistic influence interchangeably to refer to systematic influence of a previous language on the L3; see e.g., Westergaard (2021).

in section 1.2, before presenting our study and its methodology in section 2. In section 3, results are presented, and section 4 proposes a hypothesis explaining these results.

1.1 *Verb placement in English, French, German and Norwegian*

English, French, German, and Norwegian vary with respect to placement of finite verbs. The present study investigates two types of main clauses with lexical verbs: 1) non-subject initial sentences (Non-SU-I), and 2) subject-initial sentences with adverbs such as *always* and *often* (SU-I). In the following, we describe placement of the finite verb in these sentence types in the four languages, and differences in verb placement are explained through the concept of verb movement in generative theory.

The relevant differences for verb placement are whether the finite verb is the second or the third constituent in the sentence, as demonstrated in 1) and 2) below. In generative theory these differences are explained by differences in the languages' settings for movement of verbs relative to the position in which they are base generated. It is assumed that lexical verbs are generated in the Verb Phrase (VP) and may subsequently move to the Inflection Phrase (IP)[2] and/or to the Complementizer Phrase (CP), see Figure 1.

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[2] IP is sometimes referred to as Tense Phrase (TP).

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                    CP
                 ╱      ╲
              C           IP
                        ╱    ╲
                      I        VP
                             ╱   ╲
                           V      ...
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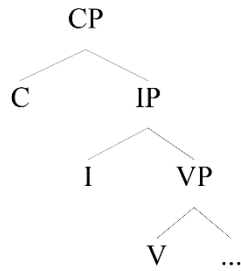
Figure 1 Simplified syntactic tree, CP-IP-VP

As illustrated in 1) and 2) below, which are annotated for base generated (underlying) verb placement and movement, the four languages differ with respect to whether and how far verbs move (e.g., Pollock, 1989; Yang, 2002). In English, lexical verbs never move out of the VP, but remain *in situ*. Auxiliaries, however, move to I in declarative main clauses, and from I to C in certain sentence types such as *yes/no*-questions and *wh*-questions. The auxiliary then becomes the second constituent and English is said to have so-called *residual V2* (Rizzi, 1996). However, for the structures tested in this study, the lexical verb remains in VP, and becomes the third constituent both in Non-SU-I (1a) and SU-I (2a). In French, finite verbs display movement to I, and the verb thus becomes the third constituent in Non-SU-I (1b), and the second constituent in SU-I (2b). In German and Norwegian main clauses, according to so-called symmetric accounts of the V2 phenomenon, all finite verbs move to C, via I, resulting in V2 word order for Non-SU-I (1c, 1d) and SU-I (2c, 2d) (e.g., Holmberg & Platzack, 1995;

Roberts, 2001).[3] An alternative, asymmetric account argues that in SU-I, the verb only moves to I in German and Norwegian (see e.g., Travis, 1991; Westergaard et al., 2019; Zwart, 1997). Here, we adopt a symmetric account for simplicity.

(1)   a. [CP Every morning [IP Marianne [VP *takes* the bus]]].   (X-SU-*V*)

    b. [CP Tous les matins,   [IP Marianne *prend* [VP ~~prend~~ le bus]]].   (X-SU-*V*)

         Every morning   Marianne takes   the bus

    c. [CP Jeden Morgen *nimmt* [IP Marianne ~~nimmt~~ [VP den Bus ~~nimmt~~]]].   (X-*V*-SU)

         Every morning takes   Marianne   the bus.

    d. [CP Hver morgen   *tar*   [IP Marianne ~~tar~~ [VP ~~tar~~ bussen]]].   (X-*V*-SU)

         Every morning takes   Marianne   bus

(2) a. [CP Peter [IP [VP often *eats* sushi]]].   (SU-Adv-*V*)

    b. [CP Peter [IP *mange* [VP souvent ~~mange~~ des sushis]]].   (SU-*V*-Adv)

         Peter   eats   often   sushi

    c. [CP Peter *isst* [IP ~~isst~~ [VP oft Sushi ~~isst~~]]].   (SU-*V*-Adv)

         Peter eats   often sushi.

    d. [CP Peter *spiser* [IP ~~spiser~~ [VP ofte ~~spiser~~ sushi.]]].   (SU-*V*-Adv)

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[3] German differs from the other languages in its underlying word order being SOV (e.g., Haider, 2012), while the underlying word order in French, English and Norwegian is SVO. This difference is not visible in the surface structure of the test sentences in this study.

Peter eats   often   sushi.

1.2   Acquisition of verb placement in L1, L2, and L3

A robust finding from monolingual L1 acquisition is that children tent to be *conservative*
learners (Westergaard, 2021), and do not generally perform movement operations not attested
in the input, presumably because movement is costly (Chomsky, 1995). Findings from L1
acquisition of V2 languages show that children's verb movement is generally target-like as
soon as they start producing finite verbs (e.g., Jordens, 1990; Poeppel & Wexler, 1993;
Westergaard, 2009a), but to the extent that they produce non-target forms, these tend to be
undergeneralizations of the V2 rule, rather than overgeneralizations (e.g., Roeper, 1999;
Waldmann, 2012; Westergaard, 2009b). According to Waldmann (2012, p. 354),   L1
acquisition of the language-specific application of verb movement is subject to a principle of
economy of movement. This pattern reflects the general conservativeness and avoidance of
costly operations in children acquiring their L1, who are "grammatically conservative by
preference" (Snyder, 2007, p. 73). *Economy* thus seems to be an important factor in L1
development.

However, economy may be less important in L2 acquisition. In L2 grammars, there is evidence
of movement operations not attested in the target-language input (cf. Anderssen et al., 2018;
Clahsen & Muysken, 1986; Rankin, 2011; Westergaard, 2003), and Westergaard (2021, p. 7)
describes L2 learners as "not conservative". An open question, also raised by Westergaard
(2021), is whether these differences reflect a fundamental difference between L1 and L2

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acquisition, or whether they may be explained by other factors such as prior language knowledge.

Regarding L2 acquisition of verb movement, Håkansson et al. (2002) argued, based on Processability Theory (Pienemann, 1998), that relevant processing routines must first be acquired before verb movement to C (e.g., V2) occurs in the L2 grammar. They found evidence of non-V2 in L1 Swedish acquirers of German and argue that V2 is not initially transferred from L1 to L2. Furthermore, they argue that these findings stem from general characteristics of the L2 acquisition process. Notably, these learners' German was their L3 since they also knew English as an L2, but Håkansson et al. (2002) maintain that their findings do not result from transfer of non-V2 from L2 English to L3 German.

Other research indicates that V2 may in fact transfer in L2 acquisition. For example, in our specific L1/L2 combination, Westergaard (2003) found transfer of V2 when Norwegian 7-year-old children started to learn L2 English. Similarly, Rankin (2011) found evidence of transfer of V2 in L1 German and L1 Dutch learners of L2 English. Conversely, there is evidence that L2 learners whose L1 does not have V2 transfer non-V2 when acquiring V2 languages (Johansen, 2008). Furthermore, transfer affecting verb movement has been attested for combinations of non-V2 languages. For example, Trahey and White (1993) and White (1990/91) found transfer of verb movement to I in L1 French-speaking L2 learners of English. With the L1-L2 order reversed, Ayoun (1999) and Hawkins et al. (1993) found evidence that L1 speakers of English transfer lack of verb movement to L2 French. It thus seems that in L2

acquisition, the specific realization of verb placement (both movement and non-movement) in the L1 is likely to transfer into the L2.[4]

In L3 research, there is evidence both of failure to move verbs and of non-target verb movement. Such findings are generally attributed to transfer from one prior language. For example, Bohnacker (2006) investigated L1 Swedish speakers with L2 or L3 German, respectively. She found that the L2 learners successfully transferred V2 from Swedish to German, while knowledge of L2 English impeded such transfer, possibly due to non-facilitative transfer from English. Bardel and Falk (2007) found similar results, arguing that the L2 may have a privileged role for transfer because of cognitive similarities between L2 and L3, and that this holds even when L1 and L3 are structurally more similar. Stadt et al. (2016, 2018, 2020a) found transfer from both L1 Dutch (V2) and L2 English (non-V2) in L3 learners of French, with transfer from Dutch being associated with lower proficiency in both English and French, and transfer from English with higher proficiency in English and/or French. Moreover, Stadt et al. (2020b) found that L3 German learners performed better on verb placement relative to adverbs in SU-I than L3 French learners, indicating more transfer from L2 English in L3

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[4] Evidence of cross-linguistic influence regarding verb placement is not unattested in other bilingual populations, such as heritage speakers of Norwegian in the US (Westergaard, Lohndal & Lundquist, 2023) and Dutch-English bilingual children (Bosch & Unsworth, 2021). However, such CLI in these populations seems less prevalent than in L2 acquisition.

French compared to L3 German. Dahl et al. (2022) found transfer of non-V2 from L2 English in L1 Norwegian L3 German learners, while Listhaug et al. (2021) found transfer of V2 from L1 Norwegian to L3 French in a similar learner group. In the latter two studies, however, higher proficiency in L2 was not associated with more evidence of L2 transfer, but rather correlated with more accurate performance in L3 regardless of structural similarities to L1 and L2, respectively.

Previous research indicates that both L1 and L2 may influence the L3 for the phenomena in question. In our previous studies (Dahl et al., 2022; Listhaug et al., 2021), we concluded that there was no indication of wholesale transfer from either previously acquired language. Moreover, we found different patterns of acquisition for Non-SU-I and SU-I both in learners of L3 French and of L3 German. Our findings of differentiated performance for different sentence types are consistent with the claims of the LPM (Westergaard et al., 2017), predicting (facilitative and non-facilitative) transfer from both prior languages in L3 acquisition in the form of property-by-property transfer (Westergaard, 2021). The main driver of transfer in this model is predicted to be similarity in the specific structure in question. Additionally, the Scalpel Model (Slabakova, 2017), which is largely compatible with the LPM, emphasizes the importance of other cognitive and experiential factors, among which may be structural linguistic complexity and misleading input.

In the present study, we further explore the degree to which language-internal characteristics, specifically different instantiations of verb placement, influence L3 acquisition by comparing results across two similar L1/L2 groups learning L3s with different placement of finite verbs.

2 The present study

For the purposes of investigating language-internal factors influencing transfer in L3, we combine data from two previous studies (Dahl et al., 2022; Listhaug et al., 2021), including 13 additional L3 French learners, since Listhaug et al. (2021) had small beginner groups. Pooling data allows for investigation of patterns in the two different L3s in an otherwise comparable population.

We ask the following research questions:

1. Is there an overall effect of target language on accuracy in judgments of verb placement in L3?

2. Is there an overall effect of sentence type on accuracy in judgments of verb placement in L3 French vs L3 German?

3. Do language-specific realizations of verb placement and movement in the L1, the L2, and the L3 influence patterns of transfer in L3A?

2.1 Methods

2.1.1 Participants

The project was registered with the Norwegian Centre for Research Data, and participation was voluntary. Participants were 279 L1 Norwegian learners of either L3 French (n = 125) or L3 German (n = 154), aged 16-17, in their first, second, fourth or fifth year of instructed L3 learning (see Table 1). All were students at upper secondary level at the time of testing and recruited via their teachers. Students in Years 1 and 2 of L3 instruction had started learning the L3 at this level (age 16), whereas students in Years 4 and 5 of L3 instruction had started at

lower secondary level (age 13). All participants had learned L2 English since age 6. They were

tested first in the L3, and in L2 English approximately two weeks later.

Table 1 Participants per year of instruction in L3

Year of L3	1	2	4	5
French (n=125)	22	18	40	45
German (n=154)	18	15	70	51

Participants completed a background questionnaire, which, in addition to questions concerning

language profile and use, asked about L2 and L3 proficiency. A total of 455 students

participated. The following participants were included in the analysis: Those who reported

Norwegian as their only L1, did not report competence in a fourth language higher than that in

L3 French/German nor any diagnoses which may influence acquisition (e.g., autism), and who

completed the test both in L3 and L2. Thus, 176 participants were excluded, predominantly

due to another/an additional L1, high competence in a fourth language or for not completing

both acceptability-judgment tasks.

Participants self-assessed their proficiency in L2 and L3 on a 1-6 scale loosely based on the

Common European Framework of Reference for Languages (Council of Europe, 2001)

descriptions, and also indicated the last grade obtained in each language; grades are on a 1-6

scale, where 6 is excellent and 2 is the lowest passing grade. Table 2 shows mean score,

standard deviation, and range on L2 and L3 proficiency measures in the two L3 groups. T-tests

revealed a significant difference in self-rated L3 proficiency ($t(276) = -2.92$, $p = .004$, $g = 0.35$

95% CI [-0.55, -0.11]), indicating that the French learners rated their proficiency lower than

the German learners. However, there was no significant difference in L3 grades between the two groups nor in L2 proficiency measures.

Table 2 Mean score, SD, and range for measures of proficiency in L2 and L3

	L3 French			L3 German		
	Mean	*SD*	*Range*	*Mean*	*SD*	*Range*
Self-rating L2	5.22	0.89	2-6	5.06	0.94	2-6
Grade L2	4.59	0.74	3-6	4.48	0.82	2-6
Self-rating L3	2.41	0.88	1-5	2.74	0.98	1-6
Grade L3	3.84	1.15	1-6	3.92	0.97	1-6

Although both grades and self-assessment are crude measures of proficiency, these data indicate that the two learner groups had sufficiently similar proficiency levels in L2 and L3, respectively, and that differences in target language behavior are likely not to stem from different proficiency levels in either L2 or L3.

2.1.2 Materials and procedure

To collect data on what L3 learners' grammars both allow and disallow, we used acceptability judgment tasks (AJTs). Relying on AJTs rather than, for example, production tasks allowed data collection at low proficiency levels and from a large number of participants.

The tasks consisted of 48 sentences: 24 test and 24 filler items. Items were semi-randomized, with four items per page. Test items were 12 non-subject initial main clauses with a topicalized element (Non-SU-I) and 12 subject-initial main clauses with a short adverb (SU-I). For each sentence type, word order was manipulated with the finite verb in either the second (verb-2) or third (verb-3) position, resulting in 6 items in each condition (Figure 2). Fillers were 6

grammatical and 6 ungrammatical *wh*-questions, as well as 6 grammatical and 6 ungrammatical simple declaratives, the latter with missing arguments.

	Non-SU-I	SU-I
Verb-2	In the autumn **travels** he to Spain.	My dog **chases** always cats.
Verb-3	In the winter we **sleep** a lot.	My friend often **makes** breakfast.

Figure 2 Example of test sentences per condition

Care was taken to keep items equivalent across languages. Target items only contained lexical verbs, always in the present tense and with habitual aspect. All topicalized elements in Non-SU-I were adverbials (PPs and AdvPs), whereas sentence-medial adverbs in SU-I were short frequency adverbs such as *always, rarely,* and *often*. Vocabulary was simple and based on typical introductory textbooks. Tests were completed during school hours, using pen and paper, with a researcher present. Participants could ask for clarification of unfamiliar words. They were told that all words were spelled correctly with the correct inflectional morphology, and not to pay attention to punctuation. Items were judged on a 4-point Likert scale, with emoticons indicating the end points (Figure 3). For analysis, the scale was converted into numbers, 1 indicating low and 4 high acceptability (see Supplementary Materials for an overview of the task and items).
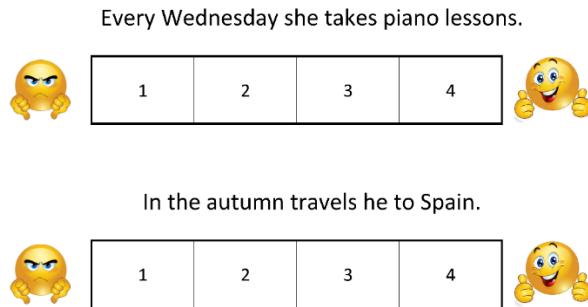
Every Wednesday she takes piano lessons.

| 1 | 2 | 3 | 4 |

In the autumn travels he to Spain.

| 1 | 2 | 3 | 4 |

Figure 3 Example of test items

2.1.3   *Analysis*

Participants' raw ratings were analyzed using cumulative ordinal regression with cumulative link mixed models (CLMM) implemented using the ordinal package (Christensen, 2022) in R (R Core Team, 2021). Analysis of L2 ratings used a CLMM with fixed effects of *Grammaticality* (Grammatical = 0.5, Ungrammatical = -0.5)*, Sentence Type* (Non-SU-I = 0.5, SU-I = -0.5), *L3* (French = 0.5, German = -0.5), and their interactions. The model included random intercepts for participant and item and by-participant random slopes for Grammaticality, Sentence Type, and their interaction. For L3 ratings, the model contained the same main effects and additionally *Year of L3* (continuous, centered) and their interactions as fixed effects. The L3 model included random intercepts for participant and item, by-participant random slopes for Grammaticality and Sentence Type and a by-item random slope for L3. Pairwise comparisons were performed using the emmeans package (Lenth, 2023). Any trials on which participants did not mark a response (5.8% of all trials) or indicated a response between the given categories (0.2%) were excluded from the CLMM.

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Although we conducted primary analyses on raw ratings, we also present summary statistics such as the mean rating per condition. In order to get an insight into the relationship between acceptance and rejection for each participant, we calculated a *discrimination score*. The discrimination score represents a precise measure of acceptance, rejection, and the relationship between the two for each sentence type and allows us to compare accuracy in judgments across sentence types and L3s. The discrimination score was calculated by subtracting the mean score for the non-target from that of the target word order for each participant, for each sentence type. Null-responses were excluded, while responses between categories were included as a .5 decimal. The maximum possible discrimination score was 3, indicating that the participant gave a mean score of 4 to the target and 1 to the non-target word order and higher discrimination scores indicated clearer discrimination between target and non-target word orders. The minimum possible discrimination score was -3, and negative discrimination scores indicated higher ratings for the non-target than the target word order.

3　Results

3.1　L2 English

Table 3 shows mean score, standard deviation, and range on the English AJT per sentence type and verb placement for each L3 learner group.

Table 3 L2 English - Mean score, SD, and range of individual participants' mean score per condition on AJT.

	L3 French group			L3 German group		
	Mean	*SD*	*Range*	*Mean*	*SD*	*Range*
Non-SU-I						
Verb-2	1.51	0.43	1.00-3.00	1.65	0.46	1.00-2.83
Verb-3	3.36	0.43	2.00-4.00	3.24	0.45	1.83-4.00
SU-I						
Verb-2	1.91	0.53	1.00-3.17	2.01	0.59	1.83-4.00

Verb-3	3.37	0.39	2.33-4.00	3.33	0.44	2.00-4.00

Participants tended to rate ungrammatical sentences lower than grammatical sentences (main effect of Grammaticality: $z = 12.217$, $p < .001$) and SU-I sentences slightly higher than Non-SU-I sentences on average (main effect of Type: $z = 2.213$, $p < .05$). There was a significant Grammaticality × L3 interaction $(z = -2.585, p < .01)$, such that the L3 French learners showed a slightly larger effect of Grammaticality than the L3 German learners. No other significant main or interaction effects were observed. A full summary of the CLMM used for analysis can be found in the appendix. Resolving the Grammaticality × L3 interaction showed that there were strong effects of Grammaticality in both learner groups (L3 French: $z = 12.358$, $p < .001$; L3 German: $z = 10.878$, $p < .001$), indicating that both groups clearly discriminated between target and non-target word orders for both sentence types and that verb placement was in place in the L2.

3.2   L3 French and German

Table 4 and Table 5 show mean score, standard deviation, and range on the AJT for each test condition per group for L3 French and L3 German, respectively. For a detailed discussion of these results, the reader is referred to Listhaug et al. (2021) and Dahl et al. (2022), where the main findings were that learners in Years 1 and 2 of L3 instruction did not distinguish between the target and non-target word orders in either sentence type, while in Years 4 and 5, there was a tendency towards clearer distinction between target and non-target word order.

Table 4 *L3 French. Mean score, SD, and range of individual participants' mean score on AJT per test condition per year*

L3 French	
Non-SU-I	**SU-I**

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Year	*Verb-2			Verb-3			Verb-2			*Verb-3		
	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
1	2.42	0.59	1.50-3.17	2.75	0.42	1.83-3.33	2.80	0.40	2.00-3.50	2.74	0.50	1.83-4.00
2	2.62	0.43	1.67-3.17	2.76	0.49	1.67-3.50	2.80	0.49	1.50-4.00	2.99	0.41	2.33-3.67
4	2.14	0.57	1.67-3.67	3.23	0.38	2.50-4.00	3.06	0.36	2.33-2.83	2.68	0.43	1.50-3.33
5	2.23	0.55	1.00-3.50	2.89	0.48	1.83-4.00	2.97	0.59	1.00-3.83	2.66	0.49	1.33-3.50

Table 5 L3 German. Mean score, SD, and range of individual participants' mean score on AJT per test condition per year.

	L3 German											
	Non-SU-I						SU-I					
	Verb-2			*Verb-3			Verb-2			*Verb-3		
Year	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range	Mean	SD	Range
1	2.48	0.41	1.83-3.17	2.63	0.25	1.33-3.33	2.67	0.39	2.00-3.50	2.69	0.25	2.00-3.00
2	2.63	0.70	1.00-4.00	2.77	0.67	1.50-3.67	2.77	0.46	2.17-3.50	2.63	0.38	1.83-3.17
4	3.07	0.56	1.33-4.00	2.55	0.50	1.00-3.67	2.95	0.53	1.50-4.00	2.34	0.50	1.17-3.33
5	2.90	0.46	2.00-4.00	2.59	0.59	1.17-3.83	2.91	0.48	1.83-3.83	2.39	0.55	1.00-3.60

Table 6 summarizes the results of the CLMM. Only three effects, all interactions, reached significance: There was a significant three-way interaction of Grammaticality × Sentence Type × L3 ($p < .05$), a significant Grammaticality × Sentence Type interaction ($p < .01$), and a significant Grammaticality × Year of L3 interaction ($p < .05$). The interaction between Grammaticality and Year of L3 is straightforward to interpret: on average, participants with more years of L3 instruction tended to rate grammatical sentences higher and ungrammatical sentences lower than participants with less instruction did.

To resolve the three-way interaction, we first analyzed the data from each L3 separately. Follow-up analyses revealed a significant Grammaticality × Sentence Type interaction ($z = -2.801, p < .01$) in L3 French, such that participants reliably rated grammatical sentences higher for Non-SU-I ($z = 5.594, p < .001$), but only marginally so for SU-I ($z = 1.874, p = .061$). Analysis of L3 German revealed a significant effect of Grammaticality ($z = -2.908, p < .01$),

but not a significant Grammaticality × Sentence Type interaction ($z < 1$). We also analyzed the data split by Sentence Type. Analysis of the SU-I sentences revealed a marginal effect of Grammaticality ($z = -1.758$, $p < .10$), but not a significant Grammaticality × L3 interaction ($z = -1.406$). Analysis of the Non-SU-I sentences revealed a significant effect of Grammaticality ($z = -5.918$, $p < .001$), but not a significant Grammaticality × L3 interaction ($z = 1.408$).

Table 6 Statistical summary of the ratings of Verb-2 and Verb-3 test sentences in L3 French and L3 German

	Estimate (se)	z-value
Grammaticality	-0.39 (0.27)	-1.421
Sentence Type	0.08 (0.26)	0.306
L3	-0.08 (0.28)	-0.295
Year of L3	0.16 (0.10)	1.633
Gram * Type	-0.99 (0.36)	-2.734**
Gram * L3	-0.53 (0.39)	-1.355
Gram * Year	-0.29 (0.12)	-2.332*
Type * L3	-0.13 (0.42)	-0.316
Type * Year	0.00 (0.10)	0.025
L3 * Year	0.03 (0.14)	0.228
Gram * Type * L3	1.33 (0.64)	2.073*
Gram * Type * Year	-0.09 (0.13)	-0.703
Gram * L3 * Year	-0.12 (0.18)	-0.700
Type * L3 * Year	0.13 (0.14)	0.900
Gram * Type * L3 * Year	0.12 (0.18)	0.646

Even though we did not find significant Grammaticality × L3 interactions when we split the data by Sentence Type, we chose to conduct exploratory post-hoc tests on by-participant discrimination scores (as discussed in Section 2.1.3), which more transparently reflect the discriminative ability we were interested in comparing between groups. Table 7 shows mean discrimination score, standard deviation, and range for each sentence type for each learner

group in L3 French and L3 German. Figure 4 plots the mean discrimination score for each sentence type and L3.

Table 7 Mean discrimination scores, SD, and range per sentence type per L3 learner group.

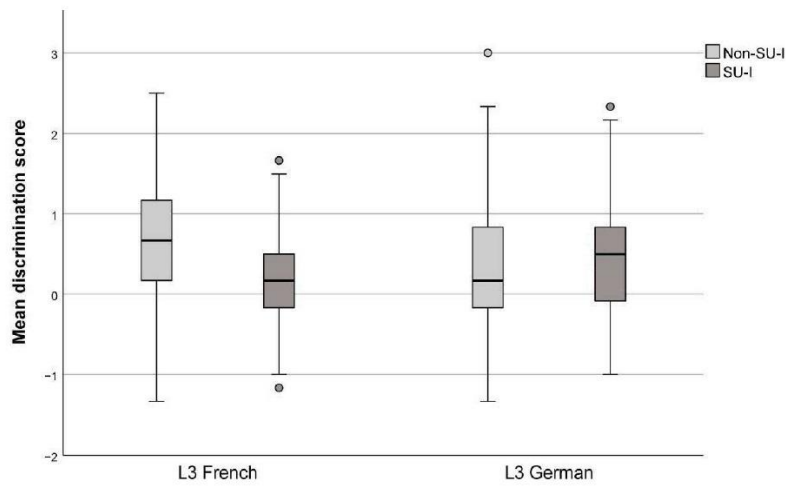| | L3 French | | | | | | L3 German | | | | | |
| | Non-SU-I | | | SU-I | | | Non-SU-I | | | SU-I | | |
Year	*Mean*	*SD*	*Range*	*Mean*	*SD*	*Range*	*Mean*	*SD*	*Range*	*Mean*	*SD*	*Range*
1	0.33	0.55	-0.75-1.17	0.06	0.49	-1.00-1.17	-0.14	0.79	-1.33-1.67	-0.02	0.45	-0.67-1.00
2	0.14	0.55	-1.33-0.83	-0.19	0.47	-1.00-0.50	-0.15	0.34	-0.67-0.50	0.14	0.39	-0.33-0.83
4	1.09	0.64	0.00-2.33	0.38	0.51	-0.83-1.17	0.53	0.75	-1.33-3.00	0.61	0.73	-1.00-2.33
5	0.66	0.67	-1.00-2.50	0.31	0.61	-1.17-1.17	0.31	0.59	-1.00-2.33	0.52	0.64	-1.00-2.17

Figure 4 Mean discrimination score per sentence type pr L3 group. Whiskers denote 95% CI.

We analyzed discrimination scores using linear mixed models.[5] Analysis of the scores revealed a main effect of L3 ($t = -3.137$, $p < .01$) such that discrimination scores were higher in the L3 French group than in the L3 German group. The main effect of L3 was qualified by a Sentence Type × L3 interaction ($t = -6.842$, $p < .001$). Consistent with the results of the analysis above, the L3 French group exhibits higher average discrimination scores for Non-SU-I (mean = 0.66, SD = 0.72) compared to SU-I (mean = 0.22, SD = 0.57). Pairwise comparisons show that this difference is significant ($t = 6.716$, $p < .001$). L3 German learners, on the other hand, exhibit significantly lower discrimination scores for Non-SU-I (mean = 0.31, SD = 0.72) compared to SU-I (mean = 0.46, SD = 0.68) ($t = -2.768$, $p = .0361$). Pairwise comparisons also showed that L3 French learners had higher discrimination scores for Non-SU-I sentences than L3 German learners ($t = -4.238$, $p = .002$), while L3 German learners had higher discrimination scores for SU-I sentences than L3 French learners ($t = 3.042$, $p = .0149$).

When inspecting individual discrimination scores, the same trend is evident as illustrated in Figure 4. 72.8% (91/125) of the L3 French learners had a larger discrimination score for Non-SU-I compared to SU-I sentences, whereas the opposite was the case for the remaining 27.2%

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[5] Models were fit using the lmerTest package (Kuznetsova et al., 2017). Reported p-values were estimated using the Satterthwaite approximation. The model we fit had main effects of Sentence Type, L3 and their interaction and random intercepts by participant. Pairwise comparisons were conducted using the emmeans() function and reported *p*-values are Bonferroni-corrected.

(34/125). Among the L3 German learners, on the other hand, 56.5% (87/154) discriminated more clearly between ungrammatical and grammatical sentences for SU-I, while 43.5% (67/154) discriminated more clearly for Non-SU-I.

4 Discussion

In Listhaug et al. (2021) and Dahl et al. (2022), we argued that our results indicated that both prior languages are available for parsing the L3, which is compatible with the account outlined in Westergaard (2021) and Westergaard et al. (2023). In the present study we investigated whether language-internal properties influence transfer patterns in two otherwise similar learner groups with different L3s. Our first research question asked whether there is an overall effect of target language on judgments of verb placement in L3 in learners with the same L1/L2 combination, whereas the second research question asked whether there is an overall effect of sentence type on judgments of verb placement in L3. Our results suggest an interaction of these two factors. Analyzing raw scores, we detected a three-way interaction of Grammaticality, Sentence type and L3 group. The L3 French learners rated target word orders higher than non-target word orders for Non-SU-I, but not for SU-I, whereas no statistically significant difference between ratings for sentence types was found for the L3 German learners. However, the analysis of discrimination scores shows a significant asymmetry between the groups in which of the two sentence types (SU-I vs Non-SU-I) is more accurate: L3 French learners discriminate more clearly than L3 German learners on Non-SU-I while L3 German learners discriminate more clearly than L3 French learners on SU-I.

Our results for SU-I show the same tendency as findings in Stadt et al. (2020b), who concluded that for adverb placement there was more evidence of transfer from L2 English in L3 French compared to L3 German in their groups of L1 Dutch L2 English learners. However, the fact that the L3 French learners performed significantly better on Non-SU-I compared to SU-I and the asymmetry between L3 groups in discrimination depending on sentence type are new findings. This leads us to our third research question of whether the specific realizations of verb placement in the L1, the L2, and the L3 influence transfer patterns. It is not surprising that one sentence type is more accurate than the other for reasons such as complexity, frequency, and saliency in the input. However, it is puzzling that it is not the same sentence type that is most accurate in both L3s. This means that the explanation is neither simply that Non-SU-I is more difficult to acquire compared to SU-I or vice versa, nor that there is more L2 transfer in L3 French and more L1 transfer in L3 German (cf. Stadt et al., 2020b).

One might argue that the relatively accurate performance in Non-SU-I in L3 French is due to the fact that, following the fronted element, these structures have the same canonical SV word order as subject-initial declaratives in French. Thus, most declarative clauses in French could potentially support verb placement in Non-SU-I. However, given that our results on SU-I in L3 French and on both structures in L3 German seem to indicate an influence from L2 English, which is compatible with previous research (see 1.2), we argue that the explanation of our results is more complex.

4.1   Surface word order, underlying syntactic structure, and economy of movement

We argue that the assumptions of a difference between underlying syntactic structure and surface word order outlined in section 1.1 offer an explanation which cannot be captured by other approaches. In our language combinations, lexical verb placement is assumed to be instantiated either without movement (*in situ*/in V, English), with short movement (to I, French) or with long movement (to C, Norwegian and German).

The structure with most accurate performance and highest overall discrimination scores is Non-SU-I in French. Here target-like performance is compatible with two underlying structures for verb placement: It may reflect target-like verb movement to I, or it may reflect verb placement *in situ* in V, possibly transferred from English. Thus, a learner may arrive at a correct surface structure applying two different underlying analyses. For Non-SU-I in German, on the other hand, target-like judgments must unambiguously reflect (correct) verb movement to C, which could be transferred from Norwegian. Here, the only analysis compatible with the surface structure is long movement, i.e., the more costly process in terms of verb movement. For SU-I in both languages, target-like judgments are ambiguous as to underlying structure: They may reflect underlying verb movement either to I or to C. Again, learners may arrive at a correct surface structure applying two different underlying analyses. Irrespective of the application of these analyses, target-like judgments in this case cannot reflect transfer from English, where lexical verbs remain in V.

We argue that the costliness of verb movement, as described in Section 1.2, is key to understanding our results. The participants in the present study have experience with both a

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language with no movement of lexical verbs (English) and a language with long verb movement to C (Norwegian), and as far as transfer is concerned, have two options. We propose that considerations of economy may lead to a tendency toward a preference for the syntactically less costly option regarding verb movement: No verb movement is preferred over short movement, and short movement over long movement.

This explains the different accuracy patterns for Non-SU-I and SU-I both within and across the L3 groups. The L3 French learners have more accurate performance with Non-SU-I, which may seem target-like with no verb movement, as compared to SU-I, which require short verb movement to I. Importantly, L3 German learners do not show the same pattern as the L3 French learners; in fact, analysis of discrimination scores indicates a tendency towards better performance on SU-I, i.e., the opposite pattern. In German, SU-I may appear target-like with short verb movement to I, while Non-SU-I requires movement to C. Since verb movement is considered a costly process in our framework (see section 1.2), it is reasonable to assume that long verb movement is more costly and thus less economical than short or no movement. It is

possible that upon realizing that verb movement is needed in the target language, learners still entertain a hypothesis of short movement to I over long movement to C.[6]

The increasingly target-like behavior in Years 4 and 5 indicates that a possible tendency to avoid movement becomes less pronounced as learners encounter more evidence of obligatory verb movement, and we see evidence of this also in the individual results for Years 4 and 5. With the limited input of the foreign language context, it is not surprising that target verb movement patterns have not yet been fully acquired and that we still see evidence of mechanisms guiding the acquisition process.

The undeniable influence of English in our L3 data could be explained by invoking the L2SF (Bardel & Falk, 2012). However, our discussion above implies that the stronger role for English compared to Norwegian depends on syntactic properties of English itself, not its L2 status. In our case, and, indeed in a number of other studies finding transfer of verb placement mainly from L2 (e.g., Bardel & Falk, 2007; Bohnacker, 2006; Håkansson et al., 2002), the L2 is English and also happens to be the one prior language with no movement of lexical verbs. In

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[6] This account is particularly appealing if we assume an asymmetric account of V2 (Travis, 1991), where movement to I is actually attested in the L1 (and L3) input in subject-initial declaratives. However, it is conceivable even within a symmetric account where both languages have long movement in SU-I that learners for reasons of economy temporarily entertain short movement as a stage towards long movement.

our opinion, a preference for the less costly option is a more convincing explanation of the predominant role of English. Moreover, the L2SF is proposed for situations where both L2 and L3 are acquired in adolescence or adulthood and largely in formal settings (Bardel & Falk, 2012). In Norway, however, children acquire English formally already from age 6, and are also exposed to English outside of, and often prior to, schooling (Language Council, 2017, 2021). Thus, it is doubtful that English would be cognitively similar to an L3 acquired formally in adolescence. Finally, a systematic review of previous research in L3 (Puig-Mayenco et al., 2020) found no general trend of transfer from L2.

We argue that the costliness of verb movement is key to understanding our results, and that principles of economy form the basis for a uniform analysis of the acquisition of verb movement in L1, L2 and L3. While overgeneralization of verb movement is rarely attested in (monolingual) L1 acquisition, it is common in L2 acquisition (see Section 1.2). However, this does not necessarily mean that additional language acquisition is qualitatively different from monolingual L1 acquisition (Westergaard, 2021); the crucial difference may lie in prior language experience. Importantly, when L1 Norwegian speakers transfer V2 word order in the early stages of L2 English acquisition, they have prior experience with such movement - and only such movement. In other words, all prior language experience tells them that lexical verbs move. Why should the parser not make use of this property? The L3 learners in the present study, on the other hand, have experience with both a language with verb movement to C (Norwegian) and a language with no movement of lexical verbs (English), and, as far as transfer is concerned, have two options. We propose that considerations of economy may lead to a tendency toward a preference for the syntactically less costly option with no verb movement,

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and for short over long movement. This is in line with the trajectory proposed by Waldmann (2012) for the acquisition of L1 Swedish, underlining the qualitative similarities in different acquisition processes.

Our hypothesis is compatible with data from Håkansson et al. (2002) who found a preference for SVO in Swedish learners of German with L2 English, and with Bohnacker's (2006) findings. As pointed out by Pienemann and Håkansson (2007), all participants in Bohnacker's study produced V2 word order, although those with German as a true L2 did so more consistently than those with L2 English and L3 German. This implies that while both groups are able to produce V2, those with experience with English also transfer non-V2, i.e. the least costly option as far as movement is concerned. Our account may also explain findings in Bardel and Falk (2007), who found transfer of non-V2 from L2 English to L3 Swedish, German, and Dutch, but not from non-V2 L1s when the L2 was V2. In our account, we would expect the same result if English were the L1 rather than the L2. In Bardel and Falk's study, this prediction was not investigated, as only one participant had L1 English, while the other non-V2 L1s were typologically more distant from both English and the L3s.[7] Given the overwhelming evidence

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[7] Moreover, in the other L1s grouped with English as non-V2 languages (Italian, Albanian, Hungarian), lexical verbs do not uniformly remain *in situ.*

that language similarity plays a role in L3 transfer (e.g., Puig-Mayenco et al., 2020), it may override considerations of economy.

A preference for avoiding movement may be particularly pronounced when neither prior language is clearly typologically closer to the L3 than the other. This is arguably the case in our language combinations, where both L1 Norwegian and L2 English are Germanic languages. This means that neither L1 nor L2 is obviously more similar to the L3, at least in the sense of language family, regardless of whether the L3 is Germanic (German) or not (French), which may result in the preference for avoiding verb movement not being overridden by typology. This is indeed the case in many studies of verb placement.

As Westergaard (2021) and Slabakova (2017) point out, a myriad of factors likely contribute to determining the source of CLI in L3A. Our data indicate that economy is one of them, along with factors such as structural similarity, so that, given a choice between movement and no movement, the learner may tend toward the latter, all other things being equal.

4.2   Limitations

Our study is limited in relying on acceptability judgments only, and on a relatively coarse 1-4 Likert scale. Our proposal would be strengthened by similar results using different methodologies. In particular, preferences in judgment may not reflect patterns in production, although one must assume that sentence judgments entail some degree of mental representation (see Plonsky et al., 2020). Moreover, Puig-Mayenco et al. (2020) point out that many studies finding predominant transfer from the L2 have used production methods. Insofar as many of these investigated verb placement with L2 English, we may hypothesize that a mechanism

whereby less costly options are preferred has an even stronger effect in production compared to comprehension.

Another limitation is the uneven group sizes, especially few participants in Years 1 and 2. To investigate how mechanisms guiding acquisition interact with development, larger early-learner groups are needed, and preferably also longitudinal studies.

5   Conclusion

We have demonstrated how an account based on considerations of economy may explain verb placement in our data and data from previous studies of verb movement in L3. Our data are compatible with the suggestion that conservative learning, which seems to be a guiding principle in L1, remains relevant in additional language acquisition, but may be overridden by prior language experience. In L2 and L3 acquisition alike, transfer from a prior language may lead to acquisition patterns which look different from that of L1, e.g., in non-target verb movement to C. However, in L3 acquisition, where two languages are in principle available for transfer, the preference for avoiding verb movement may manifest in more evidence of transfer from the language which offers a less costly option. If our suggestion is correct, we would also expect compatible evidence for other phenomena and in other language combinations where one language offers a less costly option, at least when other factors such as linguistic similarity are not likely to be decisive. Thus, we suggest that language-specific properties and considerations of economy must be considered when investigating factors that influence transfer in L3A.

6   Data availability statement

The data that support the findings of this study and accompanying files are openly available in

TROLLing at https://doi.org/10.18710/JBMAPT

7   Acknowledgements

8   References

Anderssen, M., Bentzen, K., Busterud, G., Dahl, A., Lundquist, B., & Westergaard, M. (2018). The acquisition of word order in L2 Norwegian: The case of subject and object shift. *Nordic Journal of Linguistics*, *41*(3), 247-274. https://doi.org/https://doi.org/10.1017/S0332586518000203

Ayoun, D. (1999). Verb movement in French L2 acquisition. *Bilingualism*, *2*(2), 103-125. https://doi.org/10.1017/S136672899900022X

Bardel, C., & Falk, Y. (2007). The role of the second language in third language acquisition: The case of Germanic syntax. *Second Language Research*, *23*(4), 459-484. https://doi.org/10.1177/0267658307080557

Bardel, C., & Falk, Y. (2012). The L2 status factor and the declarative/procedural distinction. In J. Cabrelli Amaro, S. Flynn, & J. Rothman (Eds.), *Third language acquisition in adulthood* (pp. 61-78). John Benjamins. https://doi.org/https://doi.org/10.1075/sibil.46.06bar

Bohnacker, U. (2006). When Swedes begin to learn German: From V2 to V2. *Second Language Research*, *22*(4), 443-486. https://doi.org/10.1191/0267658306sr275oa

Bosch, J. E., & Unsworth, S. (2021). Cross-linguistic influence in word order: Effects of age, dominance and surface overlap. *Linguistic Approaches to Bilingualism*, *11*(6), 783-816. https://doi.org/10.1075/lab.18103.bos

Chomsky, N. (1995). *The minimalist program*. MIT Press.

Christensen, R. H. B. (2022). *Ordinal—Regression models for ordinal data. R package version 2022.11-16* https://CRAN.R-project.org/package=ordinal

Clahsen, H., & Muysken, P. (1986). The availability of Universal Grammar to adult and child learners - a study of the acquisition of German word order. *Second Language Research*, *2*(2), 119 - 193. https://doi.org/https://doi.org/10.1177/026765838600200201

Council of Europe. (2001). *Common European Framework of Reference for Languages: Learning, teaching, assessment - Companion Volume.* Council of Europe Publishing. www.coe.int/lang-cefr

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Dahl, A., Listhaug, K. F., & Busterud, G. (2022). The role of L1 Norwegian and L2 English in the acquisition of verb placement in L3 German. In E. Shimanskaya, T. L. Leal, & C. Isabelli (Eds.), *Generative SLA in the age of Minimalism: Features, interfaces, and beyond (Selected proceedings of the 15th Generative Approaches to Second Language Acquisition Conference).* John Benjamins Publishing Company. https://doi.org/10.1075/lald.67.08dah

Haider, H. (2012). *The Syntax of German*. Cambridge University Press.

Hawkins, R., Towell, R., & Bazergui, N. (1993). Universal Grammar and the Acquisition of French Verb Movement by Native Speakers of English. *Second Language Research*, *9*(3), 189–233. https://doi.org/10.1177/026765839300900301

Holmberg, A., & Platzack, C. (1995). *The Role of Inflection in Scandinavian Syntax*. Oxford University Press.

Håkansson, G., Pienemann, M., & Sayehli, S. (2002). Transfer and typological proximity in the context of second language processing. *Second Language Research*, *18*(3), 250-273. https://doi.org/10.1191/0267658302sr206oa

Johansen, H. (2008). Inversjon i norsk innlærerspråk: En undersøkelse av variasjonsmønstre i skrevne tekster. *NOA norsk som andrespråk*, *24*(2), 50-71.

Jordens, P. (1990). The acquisition of verb placement in Dutch and German. *Linguistics*, *28*(6), 1407-1448. https://doi.org/10.1515/ling.1990.28.6.1407

Kuznetsova, A., Brockhoff, P. B., & Christensen, R. H. B. (2017). lmerTest Package: Tests in Linear Mixed Effects Models. *Journal of Statistical Software*, *82*(13), 1 - 26. https://doi.org/10.18637/jss.v082.i13

Language Council. (2017). *Språkstatus 2017 - Språkpolitisk tilstandsrapport frå Språkrådet [Language policy report from the Norwegian Language Council].* https://www.sprakradet.no/globalassets/vi-og-vart/publikasjoner/sprakstatus/sprakstatus-2017.pdf

Language Council. (2021). *Språkstatus 2021 - Media and culture [Report on language in media and culture from the Norwegian Language Council].* https://www.sprakradet.no/globalassets/vi-og-vart/publikasjoner/sprakstatus/enkeltkapitler-2021/sprakstatus_medium-og-kultur_ny.pdf

Lenth, R. V. (2023). *Emmeans: Estimated marginal means, aka least-squares means. R package version 1.8.4–1* https://cran.r-project.org/web/packages/emmeans/index.html

Listhaug, K. F., Busterud, G., & Dahl, A. (2021). French as a third language in Norway: The influence of the prior languages in the acquisition of word order. *Oslo Studies in Language (OSLa)*, *12*(1), 125-144. https://doi.org/10.5617/osla.8913

Pienemann, M. (1998). *Language processing and second language development: Processabilty Theory*. Benjamins.

Pienemann, M., & Håkansson, G. (2007). Response article Full transfer vs. developmentally moderated transfer: a reply to Bohnacker. *Second Language Research*, *23*(4), 485-493. https://doi.org/10.1177/0267658307080332

Plonsky, L., Marsden, E., Crowther, D., Gass, S. M., & Spinner, P. (2020). A methodological synthesis of judgment tasks in second language research. *Second Language Research*, *36*(4), 583-621. https://doi.org/10.1177/0267658319828413

Poeppel, D., & Wexler, K. (1993). The Full Competence Hypothesis of clause structure in early German. *Language*, *69*(1), 1-33. https://doi.org/https://doi.org/10.2307/416414

Pollock, J.-Y. (1989). Verb movement, Universal Grammar, and the structure of IP. *Linguistic Inquiry*, *20*(3), 365-424. http://www.jstor.org/stable/4178634

Puig-Mayenco, E., González Alonso, J., & Rothman, J. (2020). A systematic review of transfer studies in third language acquisition. *Second Language Research*, *36*(1), 31-64. https://doi.org/10.1177/0267658318809147

R Core Team. (2021). *R: A language and environment for statistical computing*. R Foundation for Statistical Computing. Vienna, Austria.

Rankin, T. (2011). The transfer of V2: inversion and negation in German and Dutch learners of English. *International Journal of Bilingualism*, *16*(1), 139-158. https://doi.org/10.1177/1367006911405578

Rizzi, L. (1996). Residual Verb Second and the Wh-Criterion. In A. Belleti & L. Rizzi (Eds.), *Parameters and Functional Heads : Essays in Comparative Syntax*. Oxford University Press.

Roberts, I. (2001). Head movement. In M. R. Baltin & C. Collins (Eds.), *The handbook of contemporary syntactic theory* (pp. 112-147). Blackwell.

Roeper, T. (1999). Universal bilingualism. *Bilingualism*, *2*(3), 169-186. https://doi.org/10.1017/S1366728999000310

Rothman, J. (2015). Linguistic and cognitive motivations for the Typological Primacy Model (TPM) of third language (L3) transfer: Timing of acquisition and proficiency considered. *Bilingualism*, *18*(2), 179-190. https://doi.org/http://dx.doi.org/10.1017/S136672891300059X

Slabakova, R. (2017). The scalpel model of third language acquisition. *International Journal of Bilingualism*, *21*(6), 651-665. https://doi.org/10.1177/1367006916655413

Snyder, W. (2007). *Child language: the parametric approach*. Oxford University Press.

Stadt, R., Hulk, A., & Sleeman, P. (2016). The influence of L2 English and immersion education on L3 French in the Netherlands. *Linguistics in the Netherlands*, *33*(1), 152 - 165. https://doi.org/10.1075/avt.33.11sta

Stadt, R., Hulk, A., & Sleeman, P. (2018). The influence of L1 Dutch and L2 English on L3 French: A longitudinal study. *Journal of the European Second Language Association*, *2*(1), 63-71. https://doi.org/http://doi.org/10.22599/jesla.42

Stadt, R., Hulk, A., & Sleeman, P. (2020a). L1 Dutch vs L2 English and the initial stages of L3 French acquisition. In C. Bardel & L. Sánchez (Eds.), *Third language acquisition: Age, proficiency and multilingualism.* (pp. 237-261). Language Science Press.

Stadt, R., Hulk, A., & Sleeman, P. (2020b). L2 Influence in L3 Acquisition: The Role of the L3. In A. Trotzke & T. Kupisch (Eds.), *Formal Linguistics and Language Education: New Empirical Perspectives* (pp. 203-221). Springer International Publishing. https://doi.org/10.1007/978-3-030-39257-4_11

Trahey, M., & White, L. (1993). Positive Evidence and Preemption in the Second Language Classroom. *Studies in Second Language Acquisition*, *15*(2), 181-204. https://doi.org/10.1017/S0272263100011955

Travis, L. (1991). Parameters of phrase structure and verb-second phenomena. In R. Freidin (Ed.), *Principles and Parameters in Comparative Grammar* (pp. 339-364). MIT Press.

Waldmann, C. (2012). Moving in small steps towards verb secons: A case study. *Nordic Journal of Linguistics*, *34*(3), 331-359. https://doi.org/10.1017/S0332586512000054

Westergaard, M. (2003). Unlearning V2: Transfer, markedness, and the importance of input cues in the acquisition of word order in English by Norwegian children. *EUROSLA Yearbook*, *3*, 77-101. https://doi.org/10.1075/eurosla.3.07wes

Westergaard, M. (2009a). *The Acquisition if Word Order: Micro-cues, Information Structure, and Economy*. John Benjamins. https://doi.org/10.1075/la.145

Westergaard, M. (2009b). Usage-based vs. rule-based learning: the acquisition of word order in wh-questions in English and Norwegian. *Journal of Child Language*, *36*(5), 1023-1051. https://doi.org/https://doi.org/10.1017/S0305000909009349

Westergaard, M. (2021). Microvariation in multilingual situations: The importance of property-by-property acquisition. *Second Language Research*, *37*(3), 379-409. https://doi.org/10.1177/0267658319884116

Westergaard, M., Lohndal, T., & Alexiadou, A. (2019). The asymmetric nature of V2: Evidence from learner languages. In K. R. Christensen, H. Jørgensen, & J. L. Wood (Eds.), *The Sign of the V – Papers in Honour of Sten Vikner* (pp. 709–733). Dept. of English, School of Communication & Culture, Aarhus University. https://doi.org/10.7146/aul.348.121

Westergaard, M., Lohndal, T., & Lundquist, B. (2023). Variable V2 in Norwegian heritage language: An effect of crosslinguistic influence? *Linguistic Approaches to Bilingualism*, *13*(2), 133-162. https://doi.org/10.1075/lab.20076.wes

Westergaard, M., Mitrofanova, N., Mykhaylyk, R., & Rodina, Y. (2017). Crosslinguistic influence in the acquisition of a third language: The Linguistic Proximity Model. *International Journal of Bilingualism*, *21*(6), 666-682. https://doi.org/10.1177/1367006916648859

Westergaard, M., Mitrofanova, N., Rodina, Y., & Slabakova, R. (2023). Full Transfer Potential in L3/Ln acquisition: Crosslinguistic influence as a property-by-property process. In J. Cabrelli, A. Chaouch-Orozco, J. González Alonso, S. M. P. S. Soares, E. Puig-Mayenco, & J. Rothman (Eds.), *The Cambridge handbook of third language acquisition and processing*. Cambridge University Press. https://doi.org/10.1017/9781108957823.010

White, L. (1990/91). The Verb-Movement Parameter in Second Language Acquisition. *Language Acquisition*, *1*(4), 337-360. https://doi.org/10.2307/20011359

Yang, C. D. (2002). *Knowledge and learning in natural language*. Oxford University Press.

Zwart, C. J.-W. (1997). *Morphosyntax of Verb Movement. A Minimalist Approach to the Syntax of Dutch*. Kluwer Academic Publishers.

Appendix

Table 8 Statistical summary of the ratings of test sentences in L2 English by L3 French and German learners.

	Estimate (se)	*z*-value
Grammaticality	-4.54 (0.37)	12.189

Sentence Type	-0.78 (0.36)	2.201
L3	-0.07 (0.13)	0.524
Gram * Type	-1.02 (0.71)	-1.439
Gram * L3	-0.58 (0.23)	-2.585
Type * L3	-0.04 (0.12)	0.359
Gram * Type * L3	0.31 (0.24)	1.301

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