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The role of the second language in third language acquisition: the case of Germanic syntax

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In this study of the placement of sentence negation in third language acquisition (L3), we argue that there is a qualitative difference between the acquisition of a true second language (L2) and the subsequent acquisition of an L3. Although there is considerable evidence for L2 influence on vocabulary acquisition in L3, not all researchers believe that such influence generalizes to morphosyntactic aspects of the grammar. For example, Håkansson *et al.* (2002) introduce the Developmentally Moderated Transfer Hypothesis (DMTH), which incorporates transfer in Processability Theory (PT). They argue against syntactic transfer from L2 to L3. The present study presents counter-evidence to this hypothesis from two groups of learners with different L1s and L2s acquiring Swedish or Dutch as L3. The evidence clearly indicates that syntactic structures are more easily transferred from L2 than from L1 in the initial state of L3 acquisition. The two groups behave significantly differently as to the placement of negation, a difference that can be attributed to the L2 knowledge of the learners in interaction with the typological relationship between the L2 and the L3.

Keywords: L3 acquisition, Processability Theory, verb second, negation, transfer from L2 to L3, acquisition of Swedish and Dutch, Germanic languages

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I Introduction

The aim of this article is twofold:

- to evaluate the Developmentally Moderated Transfer Hypothesis (DMTH), as proposed by Håkansson *et al.* (2002); and
- to argue, in opposition to Håkansson *et al.* for syntactic transfer from second language (L2) to third language (L3), by presenting new data on sentence negation in the acquisition of L3 Swedish and Dutch.

In the last two decades, studies have emerged that indicate that the acquisition of a non-native language is qualitatively different from first language (L1) acquisition, and that acquisition of a true L2 is also different from that of subsequent non-native languages (L3), since the L3 learner has already acquired (at least) one L2 (up to some level), and this knowledge plays a role in the acquisition of other foreign languages (Hufeisen, 1998; Cenoz and Jessner, 2000; Cenoz, 2001; 2003). It has been proposed that L2 status is an important factor in L3 acquisition: Williams and Hammarberg (1998) and Hammarberg (2001) suggest that among the languages known to the learner – L1 and L2(s) – the L2 is more likely to have an impact on the process of L3 acquisition. The so-called L2 status factor will be further investigated in this article.

Most studies dealing with L2 influence concentrate on vocabulary, but some syntactic studies have also emerged in recent years (Bardel, 2000; 2006; Falk, 2002; Leung, 2002; 2003; 2005a; 2005b; Sjögren, 2002; Bardel and Falk, 2004; Flynn *et al.*, 2004; Bohnacker, 2005; 2006). In this domain, a number of researchers have considered the impact of the L2 on the L3 to be insignificant. A position against L2 syntactic transfer is taken by, for instance, Håkansson *et al.* (2002), who propose the Developmentally Moderated Transfer Hypothesis (henceforth DMTH) to account for transfer within Pienemann's (1998) Processability Theory (henceforth PT).¹

In the present study we argue against the DMTH and PT and in favour of syntactic transfer from L2 to L3, by comparing learners with different L1s and L2s who acquire Swedish and Dutch as L3. The study deals with the placement of negation in the initial state of L3 Swedish and Dutch.

¹ However, for critical discussions of the developmental sequences suggested by PT and DMTH in relation to transfer, see Klein Gunnewiek, 2000; Bohnacker, 2005; 2006.

In the target languages, sentence negation is post-verbal in the main clause due to raising of both thematic and non-thematic verbs to a complementizer head, giving rise to the so-called verb-second (V2) rule, a word order rule shared by all Germanic languages except English. Sentence negation is an early interlanguage (IL) feature, it is easily identified in IL syntax and, further, if the learner places the negator after the finite verb in the main clause, this is a clear indicator that verb raising has occurred. The design of the data collection – the learners fall into two groups: one, whose L1 is a V2 language but whose L2 is not, and another, whose L1 is a non-V2 language but whose L2 is a V2 language – allows the study to test a non-transfer hypothesis, as well as hypotheses of transfer from either L1 or L2.²

The study deals with learners in the initial state of acquisition (Schwartz and Sprouse, 1996). In order to obtain data that include the very first words produced in the target language, absolute beginners were recorded during their first lesson in the foreign language. The target language was taught via the so-called Direct Method (Baker and Prys Jones, 1998: 671), according to which learners produce semi-spontaneous speech in interaction with their teacher.³

II Views on transfer

1 *Transfer vs. non-transfer hypotheses*

Research on the presence or absence of transfer in L2 acquisition has mainly given rise to two competing views: the idea that learners to some extent rely on their L1 and transfer features of the L1 into the L2 (transfer hypotheses), and the competing idea that they do not (non-transfer hypotheses).

Transfer hypotheses differ in terms of the presumed impact of the L1 grammar. Schwartz and Sprouse (e.g. 1994; 1996) argue in favour of a full transfer model, i.e. the Full Transfer/Full Access Hypothesis (FT/FA), according to which all syntactic properties of the L1 initially

² Negation in subordinate clauses is excluded from consideration. This is because the learners are absolute beginners and hardly produce any subordinate clauses.

³ This method of data collection has the disadvantage that one might encounter relatively few occurrences of the item under investigation, and different numbers of tokens from different learners. However, the method captures real beginners' speech in a foreign language, and allows evaluation of the PT since oral production is involved and not written metalinguistic tasks (Pienemann, 1998).

constitute a base for the new developing grammar, which is constructed with the involvement of Universal Grammar (UG). Other transfer hypotheses do not predict a complete transfer of the L1 grammar. These weaker views all suggest different levels of involvement of the L1 grammar; for instance, that there is only transfer of the lexical categories, as alleged by Vainikka and Young-Scholten (1994; 1996) or that both lexical and functional categories are transferred, but that feature strength (the property that drives overt movement) is not (Eubank 1993/94; 1994). After this initial transfer phase, the learner is assumed to construct an interlanguage grammar (ILG) on the basis of L2 input and of UG.

The non-transfer hypotheses suggest that the learner's L1 is of minor importance in the acquisition process. Proponents – for instance Clahsen and Muysken (1986; 1989) – argue that neither the L1, nor UG are involved; there are only general (cognitive) learning strategies that guide the learner in the development of a new grammar. Others, for instance Epstein *et al.* (1996; 1998), suggest that UG alone is involved, and thus the learner will initially create an ILG drawing on UG options. The original version of PT (Pienemann 1984; 1998) also adheres to the idea that there is no transfer in the learner's developing grammar, but instead inevitable universal processability stages, independent of the L1 (for further discussion, see Section 2).

Regardless of the basic theoretical assumptions (such as UG, general learning strategies or processability hierarchies), transfer hypotheses all share the notion that the acquisition of a particular language will look very different depending on the learner's L1, whereas the non-transfer hypotheses predict that the acquisition of a particular language will look more or less the same, since all learners are assumed to behave similarly.

2 Processability Theory and the Developmentally Moderated Transfer Hypothesis

The theoretical base of PT (Pienemann, 1998) is a universal hierarchy of processing procedures, and follows Levelt's (1989) model of speech production. Lexical functional grammar (LFG) rules determine the building of phrasal categories. PT hypothesizes that processing procedures and the

necessary exchange of grammatical information between constituents are acquired in a specific implicational sequence:

- 1) lemma access;
- 2) category procedure;
- 3) phrasal procedure;
- 4) S procedure;
- 5) subordinate clause procedure.

The key issue in (original) PT is that every learner has to develop the ILG stepwise, as in 1–5 above, constrained by the developing ability to process, which is independent of the L1.

However, with the incorporation of the DMTH, PT does not completely exclude the possibility of transfer: ‘PT predicts that, regardless of linguistic typology, only those linguistic forms that the learner can process can be transferred to the L2’ (Håkansson *et al.*, 2002: 251). In other words, as claimed further by Pienemann *et al.* (2005: 147), the processability of the language being acquired acts as a constraint on transfer and may override, for instance, typological distance/proximity. Moreover, processability has a facilitating effect, which operates in the case of structural overlap between L1 and L2, but only when ‘the L2 has developed to the point at which the L1 structure is processable’ (Pienemann *et al.*, 2005: 147). In other words, it seems as though PT/DMTH accommodates only positive transfer, and not negative transfer. Hence, Pienemann *et al.* (2005) do not exclude the possibility that transfer might have an impact on acquisition, which might be manifested in terms of accuracy or speed, once the process is acquired. This is illustrated by Haberzettl’s study (2000) of the acquisition of split-verb constructions⁴ by Turkish learners of German who ‘acquired it categorically and with native-like correctness once the structure emerged’ (Pienemann *et al.*, 2005: 145).

⁴ The split-verb construction allows constituents to separate the finite part of a verb construction from non-finite parts like participles or particles as in (i):

- (i) er hat ein Bier getrunken
 he has a beer drunk
 ‘He has drunk/drank a beer.’

3 *Håkansson et al. (2002): some criticisms*

Håkansson *et al.* (2002) question whether there is transfer from both L1 and L2 through an investigation of the non-native acquisition of the verb second (V2) construction. In the V2 construction, finite verbs (either thematic or non-thematic) occupy the second position in the main clause, whether the sentence-initial position is occupied by the subject or a non-subject (Holmberg and Platzack 1995; Vikner 1995). As already observed, the raising of the finite verb to this position leads to the post-verbal placement of negation. These properties are illustrated in examples (1)–(4):

- 1) Ginger pratar nu.
Ginger speaks now
'Ginger speaks now.'
- 2) Nu pratar Ginger.
Now speaks Ginger
'Now Ginger speaks.'
- 3) *Nu Ginger pratar.
Now Ginger speaks
- 4) Ginger pratar inte.
Ginger speaks not
'Ginger doesn't speak.'

Håkansson *et al.* relate the issue of transfer to the core ideas of PT and, with data from Swedish learners of German, they challenge the FT/FA hypothesis (Schwartz and Sprouse, 1994; 1996). The Håkansson *et al.* data show that a group of Swedish native speakers does not transfer the V2 rule from the L1, although the rule applies to both L1 Swedish and target German. In spite of the word order correspondence between Swedish and German, the learners in the Håkansson *et al.* study incorrectly place the verb in third position, when the clause is non-subject initial, as in the following example (2002: 257):

- 5) *Dann er waschen eh der Schlange.
then he wash eh the snake

This sentence would be just as ungrammatical in Swedish as in German:

- 6) *Sen han tvätta eh ormen.
then he wash eh snake-the

Håkansson *et al.* reach the conclusion that even though Swedish and German are typologically proximate, the hypothesis of full transfer from L1 (as suggested in FT/FA) cannot be corroborated. Instead, the authors claim that the data can be accounted for by processability constraints, according to which certain properties of any second language are acquired in a predictable implicational order (i.e. first *a* then *b*, not *b* before *a*) independently of earlier acquired languages.

A fundamental question is how developmentally moderated transfer can be either confirmed or disconfirmed. If the ILG has to wait for a positive transfer effect until it has reached a particular processability level, then transfer itself becomes superfluous. If the structure is already processable in the ILG, transfer is not a necessary strategy. There is, of course, the possibility that a structure becomes processable in the target language because of the facilitating effect of positive transfer from L1, and it would be interesting to investigate if this is the case, by comparing learners with different L1s.

An additional factor in the study is that the participants acquired English as an L2 before they started learning German as an L3. Håkansson *et al.* briefly discuss the possibility of transfer from L2 to L3:

Given that in our study German was in fact the third language of the informants and that English was the second, it may be easy to conclude that the non-application of INV (or V2) was due to transfer from English. In fact, this explanation is popular amongst Swedish schoolteachers of German ... [who] disrespectfully term this phenomenon the 'English illness' (2002: 269).

This explanation is, however, rejected by the authors: 'such a proposal is not compatible with the data from our study' (2002: 269). It is hard to agree with this statement, given the design and results of the study. There is nothing in the data *per se* that clearly contradicts transfer from English L2. On the contrary, V3 structures are present in the L2 (English) and found in the actual output of the learners.

Thus, one might wonder upon what grounds Håkansson *et al.* refute the idea of L2 transfer into L3. The authors treat only a 'transfer-all' hypothesis as a theoretical possibility (p. 269), so that anything but transfer of a complete cluster of rules 'shared by the L1, the L2 and the L3' (p. 269) is rejected. It is the absence of a certain structure ('declarative main clauses with preposed adverbs') in some of the participants'

data that leads the authors to the conclusion that transfer from L2 (English) is not the case:

It is evident from this analysis that 6 of the 20 learners produce SVO only and no ADV. If one followed the transfer view, they would appear to have transferred selectively only one word order pattern known from their L2 (English) (Håkansson *et al.*, 2002: 269).⁵

It is not clear from the text, if ‘no ADV’ is equal to ‘no adverbs at all’ or to ‘no fronted adverbs’. Indeed, if the six participants produced sentences without adverbs, there were, of course, no fronted adverbs in these learners’ productions; but sentences without adverbs are grammatical in all three of the languages involved, so this would not tell us anything about transfer from any language.

On the other hand, it is possible to interpret Håkansson *et al.* as though the six learners produced adverbs, but not in clause initial position. But if this is the case, we do not know where in the sentences they were placed, an issue that could give us further information about the learners’ ILGs. There are, in fact, three possibilities for an adverb to appear in an SVO structure, even if it is not ‘fronted’:

- SVOA: Er wäscht die Schlange (dann).
- SVAO: Er wäscht (dann) die Schlange.
- SAVO: Er (dann) wäscht die Schlange.

The refutation of an L2 transfer hypothesis is thus based on the absence of adverbs – whether at all or in a particular position remains unclear – in some of the participants’ speech. This is a somewhat unexpected line of reasoning: the absence of a part of speech in oral production data can hardly be taken as an argument against transfer. The absence might, quite naturally, have other causes than transfer. An adverb is not an argument, but an adjunct and, thus, optional: there might be a lexical or semantic–pragmatic reason for the production of a clause without an adverb, or it may simply be the case that the learner has not acquired the appropriate lexical item.

Hence, the data presented by Håkansson *et al.* do not provide sufficient evidence against the L2 transfer hypothesis; on the contrary, according to

⁵ i.e. SVO. Unfortunately, what is presented in their tables is only the number of ‘main clauses with subject and verb’ (Håkansson *et al.*, 2002: 256–57). The absence/presence of objects is not indicated. It is assumed that objects are present and placed in a final position.

the design and the results, it seems quite possible that L2 transfer is exactly what is taking place. Therefore, in this article we explore the possibility of L2 transfer into L3 by considering whether thematic and non-thematic verbs have raised over negation.

III Negation

In this section, the placement of negation is briefly described in the languages relevant to the study (Dutch and Swedish as L3; Dutch, English and German as L1 or L2; Albanian, Hungarian and Italian as L1). We also survey some earlier studies of the acquisition of negation in non-native Swedish. Sentence negation is described within a traditional generative framework, with the phrases VP–IP–CP (Chomsky, 1986), since the goal of our study – to account for transfer by comparing structures in different languages – does not require any further detailed description of Swedish and Dutch phrase structure (for a more detailed account, see for example Zwart, 1993; Platzack, 1998).

1 Negation in Swedish

It has already been observed that the V2 property has consequences for the placement of the negative marker in the Swedish main clause. All finite verbs (regardless of verb type) are raised to C^o, while the negation remains in its original position above the VP, as illustrated in (7). The same holds for other Germanic languages, except for English.

- 7) a. Ginger pratar *inte*.
 Ginger speaks NEG
 ‘Ginger doesn’t speak.’
- b. Ungerska är *inte* svårt.
 Hungarian COP NEG complicated
 ‘Hungarian isn’t complicated.’
- c. Ginger har *inte* pratat.
 Ginger AUX NEG spoken
 ‘Ginger hasn’t spoken.’

In his study of adult L2 learners of Swedish, Hyltenstam (1977; 1978) found systematic variation in the placement of negation in relation to the verb in a formal written test: correct placement was first acquired in main clauses with non-thematic verbs. In a second stage, correct placement in

main clauses with thematic verbs was acquired. On the other hand, correct placement of negation in subordinate clauses (i.e. pre-verbal placement) was acquired in the subsequent third and fourth stages, first with thematic verbs (negation + thematic verb) and then with non-thematic verbs (negation + non-thematic verbs).

Hyltenstam's results indicate that it is easier for a learner to place negation post-verbally (in the main clause) with respect to auxiliaries, than with respect to thematic verbs. And, it also indicates that it is easier to place negation pre-verbally (in the subordinate clause) with respect to thematic verbs than with respect to auxiliaries. Relying on the results of Hyltenstam (1977; 1978), Pienemann and Håkansson (1999) build a hypothesis as to how acquisition of negation can be accounted for within the implicational order suggested by PT. This is illustrated in Table 1.⁶

Table 1 Development of negation

Hyltenstam's results	Predictions based on the processability hierarchy
Subordinate clause: neg AUX V	Level 5, step 2, subordinate-clause procedure
Subordinate clause: neg V	Level 5, step 1, subordinate-clause procedure
Main clause: V neg	Level 4, interphrasal procedure
Main clause: (AUX) neg V	Level 2, category procedure
Main clause: neg V	Level 2, category procedure

Notes: V = thematic verb; AUX = non-thematic verb.

Source: Pienemann and Håkansson, 1999: 416, Table 19.

In short, Håkansson and Pienemann suggest that post-verbal negation with non-thematic verbs is acquired at level 2, whereas post-verbal negation with thematic verbs will not occur until the learner has reached level 4 in the PT hierarchy.

2 *Negation in Dutch and German*

Because of the V2 property, the placement of the finite verb in the declarative main clause is the same in Dutch/German as in Swedish:

- 8) a. Dutch: Ginger spreekt *niet*.
- b. German: Ginger spricht *nicht*.

⁶ The reader may have noticed that Hyltenstam's results only represent target-like structures, which is the reason for excluding level 3 in the PT hierarchy, since it would yield an ungrammatical structure, namely Adv S V O.

Ginger speaks NEG
 ‘Ginger doesn’t speak.’

- 9) a. Dutch: Hongaars is *niet* moeilijk.
 b. German: Ungarisch ist *nicht* schwierig.
 Hungarian COP NEG complicated
 ‘Hungarian isn’t complicated.’
- 10) a. Dutch: Ginger heeft *niet* gesproken.
 b. German: Ginger hat *nicht* gesprochen.
 Ginger AUX NEG spoken
 ‘Ginger hasn’t spoken.’

3 Negation in English

Verb raising in English (which is not a V2 language) distinguishes thematic from non-thematic verbs, and this has a bearing on the surface pattern of the English negative clause. While non-thematic verbs raise to IP and leave negation in a post-verbal position, thematic verbs remain, uninflected, in the VP, as illustrated in (11):

- 11) a. Ginger does *not* speak.
 b. Hungarian is *not* complicated.
 c. Ginger has *not* spoken.

4 Negation in Albanian, Italian and Hungarian

The remaining L1s relevant to the present study – Albanian, Italian and Hungarian – are like English in not being V2, but differ from the previously described languages in that they have pre-verbal negative markers in the main clause (as well as in subordinate clauses). This goes for the Albanian negation *nuk* (Turano, 2000),⁷ Italian *non* (Zanuttini, 1997) and Hungarian *nem* (É. Kiss, 2002). This is illustrated below in the examples (12a–c) with present tense. The marker is also pre-verbal in all three languages with a non-thematic verb (13a–c). In Hungarian, the copula can be missing under certain circumstances, for example in the present indicative third person singular (13c). The noun or adjective then acts as lexical head of the predicate (É. Kiss, 2002: 71–72). The negative marker appears before the noun or the adjective. In the examples (14a–c) we illustrate how sentence negation is placed with a compound verb form.⁸

⁷ Albanian has four different negative elements. For the sake of simplicity, sentence negation is here illustrated with *nuk*.

⁸ Since there is no perfect tense in Hungarian, we illustrate this with the future auxiliary, which is always preceded by negation (not + future auxiliary + infinitive).

- 12) a. Albanian: Ginger *nuk* flet.
 b. Italian: Ginger *non* parla.
 c. Hungarian: Ginger *nem* beszél.
 Ginger NEG speaks
 'Ginger doesn't speak.'
- 13) a. Albanian: Hungarishtja *nuk* është e vështirë.
 Hungarian NEG COP DEF complicated
 b. Italian: L'ungherese *non* è difficile.
 DEF-Hungarian NEG COP complicated
 'Hungarian isn't complicated.'
 c. Hungarian: A magyar nyelv *nem* nehéz.
 DEF Hungarian language NEG complicated
- 14) a. Albanian: Ginger *nuk* ka folur.
 b. Italian: Ginger *non* ha parlato.
 Ginger NEG AUX spoken
 'Ginger has not spoken.'
 c. Hungarian: Ginger *nem* fog beszélni.
 Ginger NEG AUX speak
 'Ginger will not speak.'

IV The present study

1 Participants

The study involved two sets of participants. The first set (data collection A) consisted of five learners of Swedish as an L3, who were recorded during group lessons. The second set (data collection B) was made up of four learners of either Dutch or Swedish as L3, recorded individually. The learning situation was the same for all participants: all learners were absolute beginners, and the learning was formal and took place during lessons outside the language community. Data were recorded during the lessons. Furthermore, only oral communication and training took place during the lessons, i.e. no reading or writing exercises were involved. The distribution of L1s, L2s and L3s is summarized in Tables 2 and 3. Each participant is identified by the L2(s) they speak and a number; e.g. EN1 speaks English as an L2 and is the first participant in the group of learners who have English as an L2.

2 Data collection

Data collection A: All five participants in the first set (all female and aged between 21 and 23) were taking part in the same Swedish class

simultaneously. The course was compulsory for a group of students in linguistics at the Catholic University of Nijmegen (the Netherlands), and consisted of ten 45-minute lessons during the autumn of 2002. The lessons were video-taped and audio-recorded at the Max Planck Institute and transcribed in CHAT format (MacWhinney, 2000).⁹ The learners were recorded from the very beginning of the language course. It is important to note that all five learners received exactly the same input, i.e. correct structures produced by the teacher as well as correct and incorrect structures produced by the other learners in the group. Thus, there was no risk that learners with a certain language background would receive special treatment. The teacher interacted with every pupil in a similar way and to a similar extent, so that all had equal chances to produce the structures that were being taught. The Swedish negative sentence was introduced during the first lesson and in the following lessons it was used by both teacher and learners, to a varying extent and in different contexts, depending on the topic of conversation. Because of this method of elicitation, the number of negative sentences varies from one recording to another.

After the course had finished, the participants were asked about their knowledge of other foreign languages. Self-estimation may not be an objective method of identifying exact proficiency in a language, but it would not have been feasible to test proficiency level in all the background languages of the learners in a precise way. Three of the learners reported having high proficiency in English L2 and two of the learners reported high proficiency in German and/or Dutch. Thus, three of the learners – EN1, EN2 and EN3 – have the non-V2 language English as a strong L2 and a V2 language as L1 (Dutch). The other two learners in

Table 2 The learners and their knowledge of V2 languages, data collection A

Learner	Sex	First language	Second language	Target language
EN1	F	Dutch + V2	English	Swedish + V2
EN2	F	Dutch + V2	English	Swedish + V2
EN3	F	Dutch + V2	English	Swedish + V2
D/G1	F	English	German/Dutch + V2	Swedish + V2
D/G2	F	Hungarian	Dutch + V2	Swedish + V2

⁹ We would like to thank Marianne Gullberg for the collaborative work with the data collection.

the Dutch/German (D/G) group have a V2 language (German or Dutch) as a strong L2, and a non-V2 language, either English or Hungarian, as L1.

As far as learners in the EN group are concerned, the word order pattern in their strongest L2 (English) differs from the L3 (Swedish), while the word order pattern of the L1 (Dutch) is the same, as far as the placement of negation in the main clause is concerned. As for the D/G group, sentence negation is placed after the thematic verb in their strongest L2 (Dutch/German), just like in Swedish, which is not the case in their L1s (English/Hungarian).

Data collection B: Data from the second set were collected during four 'one-to-one' lessons. The learners of Dutch were found via the University of Stockholm and thus recorded there. One learner of Swedish was found via the European Parliament and recorded in Brussels. In none of these four cases was the L3 spoken in the environment: the participant in Brussels was given a lesson in Swedish and the other three participants recorded in Stockholm were given a lesson in Dutch. The distribution of background languages in this set of participants is similar to set A: two of the learners have a V2 language as L1 and a non-V2 language as an L2 (EN4 and EN5), and the other two have a non-V2 language as an L1 and a V2 language as an L2 (D/G3 and D/G4).

Only one lesson per subject was given to this set of participants, but since the lessons consist of 45 minutes of one-to-one exposure and production, they supply sufficient data from each individual in the initial state. For this set of participants there was a more specific focus on eliciting negated sentences, i.e. more questions were asked to which the learner had to respond negatively.

Table 3 The learners and their knowledge of V2 languages, data collection B

Learner	Sex	First language	Second language	Target language
EN4	F	Swedish + V2	English	Dutch + V2
EN5	M	Swedish + V2	English	Dutch + V2
D/G3	M	Italian	German/Dutch + V2	Swedish + V2
D/G4	M	Albanian	German + V2	Dutch + V2

3 Hypotheses and predictions

The design of the study enables the following four hypotheses to be tested:

- a) There is no transfer from any previously known language (the non-transfer hypothesis).
- b) Properties of the L1 are transferred (the L1 transfer hypothesis).
- c) Properties of the L2 are transferred (the L2 transfer hypothesis).
- d) Transfer occurs according to the Cumulative Enhancement Model of Flynn *et al.* (2004).

a The non-transfer hypothesis: According to this hypothesis, all learners proceed uniformly in development, independently of the background languages they know. It is therefore predicted that there will be no difference between the participants who learned English as an L2 or Dutch/German as an L2 in their treatment of word order in Swedish. They will all produce the same structures from the beginning and follow the same development, possibly the one predicted by Processability Theory, markedness theories or Universal Grammar. Pre-verbal negation is expected to appear before post-verbal negation in both groups, given the results of previous studies of the acquisition of negation in Swedish.

b The L1 transfer hypothesis: If the L1 fully determines the acquisition of any non-native language (compare Schwartz and Sprouse, 1996), differences will be found between the EN group and the D/G group. There will be no difficulty in placing negation post-verbally for the learners who have a V2 language as their L1, Dutch or Swedish, since the L1 and the target L3 have the same word order as far as negation in main clauses is concerned. The same prediction would also be made by a weaker L1 transfer hypothesis like the DMTH (Håkansson *et al.*, 2002). The speakers of an L1 with V2 will possibly show higher accuracy if the structure is processable, but all learners would pass through the same developmental stages (Pienemann *et al.*, 2005).

c The L2 transfer hypothesis: If the L2 supersedes the L1 as a source of transfer, L2 speakers of Dutch/German (the D/G group) will place negation post-verbally, as in Swedish, while the other group who have

English as an L2 (the EN group) will distinguish between thematic and non-thematic verbs in relation to negation placement, since this is a property of English.

d Transfer according to the Cumulative Enhancement Model: According to Flynn *et al.* (2004), all languages known (L1 and L2) may act as a source for transfer, but the L2 only supersedes the L1 when the structure ‘searched for’ is not present in the L1: ‘Language learning is cumulative, all languages known can potentially influence the development of subsequent learning’ (2004: 5). If this is correct, no differences between the participants in the present study are predicted, since all know a language with post-verbal negation, either L1 or L2. Put simply, this hypothesis is like a sum of Hypotheses b and c. In the Flynn *et al.* study, the possibility of L2 overriding L1 as a transfer source, as hypothesized in Hypothesis c, is not, and cannot be, tested because the background languages of the participants do not rule each other out. Flynn *et al.* point out that ‘subsequent testing demands [a design where certain properties] . . . match in the L1 and the L3, but not in the L2’ (2004: 14) in order to fully determine the source for transfer. In her study, Leung (2002: 13) also points out the need for an additional control group in order to pinpoint the source of transfer. Both Flynn *et al.* and Leung reach the conclusion that typology is a crucial factor in the choice of transfer source (in other words, the more typologically proximate the L2, or the L1, is to the L3, the more likely it is to be transferred). However, with the design of their studies, it is not possible to evaluate the L2 status factor *per se*, and thereby rule out other potential factors in polyglot behaviour, since they lack the relevant control group. With the design of our study this can however be tested.

4 *Scoring*

In quantifying cases of finite verb placement with respect to negation, only utterances containing at least a subject, verb and negation were counted. All other instances of negation in the data – partial sentences, anaphoric negation and constituent negation (i.e. negation of constituents other than verbs) – were discounted. Repetitions by the same individual were excluded. The remaining negative sentences were counted for instances of pre-verbal and post-verbal negation.

5 Results

Individual results from participants in data collection A are presented in Tables 4 and 5. In the first recording the D/G group produced 12 examples of post-verbal negation out of 15 negated sentences, whereas the EN group produced only 3/14. Although the number of structures is relatively small, the difference between the two groups is significant ($p < 0.01$).¹⁰ For the D/G group, 6 out of the 12 instances of post-verbal negation involve non-thematic verbs, and the other 6 thematic verbs. In the previous studies of L2 Swedish by Hyltenstam (1977; 1978), post-verbal placement of negation with thematic verbs was considered to

Table 4 Negation placement, data collection A, recording 1, individual level

	D/G1	D/G2	EN1	EN2	EN3
<i>Pre-verbal:</i>					
+ them	2	1	2	4	3
- them	–	–	2	–	–
total ± them	2	1	4	4	3
total ± them group		3			11
<i>Post-verbal:</i>					
+ them	3	3	1	–	–
- them	4	2	–	–	2
total ± them	7	5	1	–	2
total ± them group		12			3
Total		15			14

Notes: + thematic verbs = lexical verbs; – thematic verbs = *be, have* (aux/poss) and the modal *can*.

Table 5 Negation placement, data collection A, recording 2, individual level

	D/G1	D/G2	EN1	EN2	EN3
<i>Pre-verbal:</i>					
+ them	1	–	2	–	1
- them	–	–	1	–	1
total ± them	1	–	3	–	2
total ± them group		1			5
<i>Post-verbal:</i>					
+ them	2	5	–	–	–
- them	3	4	1	–	1
total ± them	5	9	1	–	1
total ± them group		14			2
Total		15			7

Notes: + thematic verbs = lexical verbs; – thematic verbs = *be, have* (aux/poss) and the modal *can*.

¹⁰ For all the statistical findings in this study, the chi-square test was used, or, in the case of small expected frequencies, Fisher's Exact Test (Montgomery, 1991). All analyses were carried out using the SAS system (SAS Institute Inc, 1999–2001).

emerge late. Only the performance of the EN group, showing dominant pre-verbal placement of negation, is consistent with this observation. Typical examples of pre-verbal negation by the EN group are shown in (15).

- 15) a. Nej, Anna inte är lärare.
 no Anna NEG COP teacher
 'No, Anna isn't a teacher.' (EN1)
- b. Jag inter* studerar engelska.
 I NEG study English
 'I don't study English'. (EN2)
- c. Jag inte går till universitetet.
 I NEG walk to university-the
 'I don't walk to the university.' (EN3)

In the second recording, the D/G group almost exclusively places negation post-verbally (14/15 cases), whereas the EN group produces 5 pre-verbal and 2 post-verbal negations. Further, post-verbal negation occurs only with non-thematic verbs for the EN group.¹¹ The difference between the two groups as to post-verbal negation is still significant ($p < 0.01$). In later recordings the EN group gets closer to target-like placement, but remains different from the D/G group. Production over the 9 samples for each group is shown in Tables 6 and 7.

These tables indicate in column 2 the level in the Processability Theory at which each type of negation is expected to emerge (from Pienemann and Håkansson 1999). The fact that the number of negated sentences varies from recording to recording is due to the type of data collection procedure. As is clear from Table 6, the EN group produces negation patterns typically consistent with level 2 during the first four recordings. In contrast, Table 7 shows that the D/G group produces negation patterns consistent with level 4 of PT from the first recording.

Data from set B complete the picture. Since data were collected from informants in group B individually, the absolute numbers of utterances involving negation are higher than those for group A. These are presented in Table 8. As Table 8 shows, D/G3 and D/G4 only produces

¹¹ An anonymous *Second Language Research* reviewer suggested that it might be the case that the EN-group, albeit being advanced speakers of English, 'treat *don't* as a chunk and as an equivalent for the negation marker in the target language'. This is an interesting possibility, but is irrelevant since the negative element precedes only thematic verbs in English, and since the learners of the EN-group mainly separate thematic and non-thematic verbs.

Table 6 Distributional analysis of processing procedures, levels 2–4, EN-group

Structure	PT Level	Rec 1	Rec 2	Rec 3	Rec 4	Rec 5	Rec 6	Rec 7	Rec 8	Rec 9	Rec 10
Thematic V negative	4	1	—	—	—	2	4	1	4	—	—
Non-thematic V negative	2	2	2	2	—	1	3	4	4	9	—
Negative thematic V	2	9	3	—	2	2	1	2	2	—	—
Negative non-thematic V	2	2	2	3	—	1	1	—	1	1	—
Total negative sentences		14	7	5	2	6	9	7	11	10	—

Note: Rec = Recording

Table 7 Distributional analysis of processing procedures, levels 2–4, D/G-group

Structure	PT Level	Rec 1	Rec 1	Rec 3	Rec 4	Rec 5	Rec 6	Rec 7	Rec 8	Rec 9	Rec 10
Thematic V negative	4	6	7	—	2	4	1	1	2	2	5
Non-thematic V negative	2	6	7	2	—	3	2	—	—	1	—
Negative thematic V	2	2	1	—	—	—	—	—	—	—	—
Negative non-thematic V	2	1	—	—	—	—	—	—	—	—	—
Total negative sentences		15	15	2	2	7	3	1	2	3	5

Note: Rec = Recording

post-verbal negation with both thematic and non-thematic verbs. EN4 and EN5 behave in a different manner, producing altogether 28 utterances with pre-verbal negation, and 17 with post-verbal negation. The difference between the two groups is highly significant ($p < 0.001$). While both non-thematic and thematic verbs appear with post-verbal negation in the D/G group, the EN group mostly uses post-verbal negation with non-thematic verbs.

Table 8 Negation placement, data collection B, individual level

	D/G3	D/G4	EN4	EN5
<i>Pre-verbal:</i>				
+them	–	–	16	12
–them	–	–	–	–
total ±them	–	–	16	12
total ±them group		–		28
<i>Post-verbal:</i>				
+them	21	15	1	4
–them	15	20	5	7
total ±them	36	35	6	11
total ±them group		71		17
Total		71		45

Notes: +thematic verbs = lexical verbs; –thematic verbs = *be*, *have* (aux/poss) and the modal *can*.

V Discussion

In Section IV four hypotheses were presented; these are repeated here:

- There is no transfer from any previously known language (the non-transfer hypothesis).
- Properties of the L1 are transferred (the L1 transfer hypothesis).
- Properties of the L2 are transferred (the L2 transfer hypothesis).
- Transfer occurs according to the Cumulative Enhancement Model of Flynn *et al.* (2004).

This section discusses the extent to which the data collected support each. According to Hypothesis a), all non-native language learners proceed uniformly and independently of the existing languages they speak. If this hypothesis were correct, there would be no difference between the two groups EN and D/G in the placement of negation in L3 Swedish and/or Dutch. As we have seen, results indicate that there is a statistically

significant difference. If Hypothesis b) were correct, an L1-derived difference between the two groups should be found. The EN group, who have Dutch or Swedish as the L1, should outperform the D/G group when it comes to placing negation post-verbally. The same would hold for the DMTH of Håkansson *et al.*, which holds that the V2 property of the L1 would facilitate acquisition of V2 in Swedish once the structure is processable. However, results of the present study show that the D/G group, who do not have a V2 L1, outperform the EN group in producing post-verbal negation. If Hypothesis c) is correct, the D/G group would initially produce target-like negated structures, whereas the EN group would produce pre-verbal negation, especially with non-thematic verbs. This is exactly what was found. Finally, Hypothesis d) predicts the same outcome as Hypothesis 1; i.e. there should be no difference between the groups. The positive influence of all previous languages – L1, L2(s) – would facilitate the learning task for both groups, hence yielding overall target-like structures from the outset. This was not confirmed by the results.

Therefore, only Hypothesis c) – the one that might be termed the ‘Germanic illness hypothesis’ and that is dismissed by Håkansson *et al.* (2002: 269; see Section II above) – is corroborated by our data, although English L2 does not appear to be transferred completely. Learners with English L2 should have (relatively) low incidence of post-verbal negation with thematic verbs, which they have. But, the results from our EN group are not as clear cut as those of the D/G group, since the English system is not fully transferred into the L3, i.e. there is no complete distinction of pre- and post-verbal placement of negation according to verb type. Nevertheless, there is a tendency in the EN group to favour pre-verbal negation with thematic verbs and post-verbal negation with non-thematic verbs. A possible explanation for this somewhat blurred picture, compared to the D/G group, might be that the English negation system is not categorical, unlike in the other Germanic secondary languages, and is therefore not as susceptible to transfer. It is an obvious fact, however, that none of the learners in the EN group systematically transfers the placement of negation of his or her L1, although the L1 shares the V2 rule with the L3 (compare Håkansson *et al.* 2002).

The results from the EN group, with dominating pre-verbal negation, could of course also be interpreted in terms of the developmental sequence for negation described in Section III, with pre-verbal negation the default

placement in early ILGs. However, such an interpretation cannot account for the results of the D/G group. A more plausible alternative is that the L2 is transferred in both groups.

VI Conclusions

In sum, our data support the hypothesis that the L2 status factor is stronger than the typology factor in L3 acquisition: the typological proximity between L1 and L3 is not enough for the EN group to resort to L1 transfer. Instead, the results clearly point to positive transfer of the placement of negation/V2 from L2 to L3 in the D/G group. The data thereby contradict PT and the DMTH, as suggested by Håkansson *et al.* (2002). Typological proximity thus seems to favour transfer from L2 to L3, but not from L1 to L3. There is, however, nothing in our data that would falsify an L1 transfer hypothesis in the case of true L2 acquisition. Our data concern only L3 acquisition. The results from the present study shed new light on the issue of typology: in L3 acquisition, the L2 acts like a filter, making the L1 inaccessible.

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