

Against Full Transfer – evidence from Swedish learners of German

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The role of the first language in the acquisition of a second language is an important issue in second language acquisition research and different stands have been taken during the past decades. From the perspective of Universal Grammar, Schwartz & Sprouse 1994, 1996 have proposed a Full Transfer/Full Access model according to which the final state of L1 acquisition is used as the initial state of L2 acquisition. They base their argument on the acquisition of German by Turkish learners. In this paper, it will be argued that structures that look as transfer on the surface are parts of universal developmental stages. The assumption is that syntactic rules are not transferable, but the L2 learners are building a new grammar from the lexicon. The order of appearance of syntactic structures can be predicted by Pienemann's Processability Theory. Evidence from Swedish learners show that the German syntactical rules emerge in the same implicational order as in the Turkish learners. The fact that the Swedish learners, unlike the Turkish learners, have the same type of subject-verb inversion in their native languages does not change the order of the sequence.

Introduction

First language influence in second language acquisition has been discussed among teachers and researchers for many decades and is still under debate. The view on the role of transfer has changed considerably over time. During the behaviorist period in the 40s and 50s, transfer of the first language was regarded as the major factor of importance in L2 acquisition. Comparisons between the native and the target languages were even used as predictors of success or failure in L2 acquisition. A great shift of paradigm came in the 1970s when the concept of interlanguage was introduced (Corder 1967, Selinker 1972). Longitudinal studies of L2 acquisition revealed that L1 transfer did not always take place where expected, but that there were sometimes occurrences of non-transfer. One important example was the study on the acquisition of English negation by Norwegian children, where the children did *not* transfer the Norwegian placement into English, but instead used the same developmental route as learners with other first languages (Ravem 1968). Empirical evidence of that kind then challenged the role of transfer as *the only* predictor of success in second language acquisition, and

regarded transfer not as *the only* important factor, but as *one of many possible factors* influencing second language acquisition.

In the renewed interest in language transfer, the concept of transfer is often combined with other phenomena, such as typological distance, degree of markedness, processing load, individual learner strategies etc (Gass & Selinker 1993). Especially within the paradigm of Universal Grammar (UG), there is a strong interest for language transfer (e.g. White 1993, Schwartz & Sprouse 1994, 1996). When L1 influence is found, this can be taken as evidence for the hypothesis that UG is not accessible to the L2 learner, and that the L2 learner has to acquire the L2 through the L1 parameter settings.

According to the 'Full Access/Full Transfer Model' proposed by Schwartz & Sprouse 1994, 1996, learners are expected to use the grammar of their native language (L1) as the initial hypothesis in the acquisition of the second language (L2) grammar. The developing L2 grammar is only changing when input data is not compatible with the initial hypothesis. The Full Transfer Model is tested on data from a Turkish learner of L2 German. In order to evaluate a model of transfer, however, it is important to contrast L2 learners with different L1s against each other. The very occurrence of a particular form in a learner's speech and in the L1 is not enough evidence for transfer. Only if the interlanguages of learners with varying L1s differ in a systematic way, can it be concluded that there is L1 transfer.

In this paper, the Full Transfer Model will be tested on data from Swedish learners of German, whose L1 is typologically different from Turkish but closely related to German. The typological differences that exist between Turkish and Swedish validate the comparison. If we find systematic differences between the interlanguage of the Turkish and the Swedish learners, this can be used as evidence of transfer. If, on the other hand, the same interlanguage structures are used, other processes must be taken into account.

A complicating factor in this investigation is that German is the third language (L3) for the Swedish learners, since English is the obligatory L2 in the schools. This opens up a scenario that is not foreseen by the Full Transfer Model, namely that an increasing amount of learners today have several languages as background, not only one L1. Would the Full Transfer Model predict use of the L1 or use of the L2 as the initial hypothesis for the L3?

The acquisitional problem: German word order

In the pioneering work of the project *Zweitspracherwerb italienischer, portugiesischer und spanischer Arbeiter* (ZISA; Meisel, Clahsen & Pienemann

Table 1. Developmental sequence on the acquisition of German word order (after Meisel, Clahsen & Pienemann 1981)

1. CANONICAL ORDER (SVO)
Paul kaufte ein Buch gestern
Paul bought a book yesterday
2. ADVERB-TOPICALISATION (XSVO)
Gestern Paul kaufte ein Buch
Yesterday Paul bought a book
3. VERB SEPARATION (SV_FOV_I)
Paul will das Buch kaufen
Paul will the book buy
4. INVERSION (XVSO)
Gestern kaufte Paul ein Buch
Yesterday bought Paul a book
5. VERB- FINAL IN SUBORDINATE CLAUSES (SOV)
Als Paul dieses Buch kaufte ...
As Paul this book bought ...

1981), learners with a Romance language background were followed longitudinally when acquiring German as L2. The results pointed at a clear implicational ordering in the acquisition of the German word order rules. This order is shown in Table 1.

This developmental sequence has been used as a point of reference for many L2 researchers and a lot of replicative studies have been done. Most studies have focused on the acquisition of subject-verb inversion in topicalized clauses, which appears to be a major problem area for L2 learners. The studies have involved learners with different first languages, e.g. English (duPlessis et al. 1987, Eubank 1990), Italian, Spanish (Clahsen 1984, Pienemann 1989), Korean (Vainikka & Young-Scholten 1994), Turkish (Schwartz & Sprouse 1994, 1996). There are also studies comparing formal learning of German with informal acquisition (Ellis 1989). However, the sequence has shown a remarkable consistency across L2 learners and acquisitional settings, and it has also proved resistable to instruction (Pienemann 1989, Ellis 1984, 1989). Basically the empirical facts have stayed the same¹, but there have been different explanations in different theoretical frameworks. As a basis for the discus-

¹Except from the first level, the so-called SVO level. According to the ZISA results, level 1 is SVO, but it has been claimed that learners with SOV languages start with SOV, without an intermediate period of SVO (e.g. Schwartz & Sprouse 1994, 1996, Vainikka & Young-Scholten 1994). This claim is discussed below.

sion, I will give a very brief (and simplified) summary of the treatment of the German developmental sequences within two different theories, the Principles and Parameters framework (for further details, see e.g. papers in Meisel 1992 and in Hoekstra & Schwartz 1994) and within Pienemann's Processability theory (e.g. Pienemann 1998a,b, Pienemann & Håkansson 1999).

German word order in the Principles and Parameters framework

The results from the ZISA study have been reanalyzed within the principles and parameters framework in a large number of studies. In a seminal paper comparing L1 and L2 acquisition of German syntax, Clahsen & Muysken 1986 claimed that L2 learners do not have access to UG but use general learning strategies. This claim was refuted in a paper by du Plessis et al. 1987. They argued that all the structures that were used by the L2 learners in fact belong to UG. In a reanalysis of the data they found evidence for some parameters (e.g. the headedness parameter) to be reset before others (the adjunction parameter). Jordens 1988 puts forward a similar suggestion, namely that SOV precedes subject-verb inversion in the L2 learner's restructuring of the L1 grammar.

Different stands are taken about the role of L1 transfer in this acquisitional process. Some researchers claim that the entire L1 grammar is the initial stage in the interlanguage grammar (e.g. Schwartz & Sprouse 1994, 1996). Others claim that only minimal trees (e.g. VPs, Vainikka & Young-Scholten 1994) or lexical and functional projections (Eubank 1994) are transferred.

German word order and Processability Theory

Processability Theory (Pienemann 1998a,b, Pienemann & Håkansson 1999) provides a radically different approach to the acquisition of syntactic structures. The L2 grammar is assumed to emerge from a gradual development of the L2 lexicon and transfer of syntactic rules is of minor importance. Only if the L1 and the L2 share the same lexicon (e.g. like Swedish and Norwegian) are they perceived as being so closely related that the learners make use of the L1 in the processing of the L2. Otherwise the learners have to start from scratch and annotate the new L2 lexicon before proceeding to the processing of grammatical information.

Processability Theory (PT) spells out the processing prerequisites that are needed for different developmental levels. These processing devices will be acquired after each other in an implicational sequence. The description of the processability of individual linguistic structures is based on Lexical Functional Grammar (e.g. Bresnan 1982). Especially relevant to the hierarchy of

processing devices is the exchange of grammatical information between constituents and the morphological processes for agreement are activated by feature unification. Larger and larger entities may be processed.

As a first step in the developmental route the learner identifies and acquires the *words* of the target language. At this level there is no productive morphology and no functional categories. The words occur in invariant forms and chunks are frequent. In the first ZISA studies this level was called the SVO-level. In Processability Theory this level is referred to as the level of canonical order, i.e. the order between the major constituents is stable.

The next step is for the learner to categorize the lexicon, identify word classes and to list the diacritic features of the lexemes in the lexicon. This is the level of *lexical morphology* (e.g. the German suffixes for plural and past tense). At this level preposed adverbials appear. The word order is still canonical, i.e. the same order of the constituents subject, verb and object is used, irrespective of what occupies the first position. In the ZISA terminology, this is the ADV stage.

Lexical morphology is a necessary prerequisite for *phrasal morphology* to be processable. The processing of phrasal morphology allows the learner to exchange grammatical information between head and modifier in a phrase. At this level, the two verbs in compound tense are separated by the object, although the object still occurs after the main verb in simple tense constructions in main clauses. In the ZISA studies this level have been referred to as SEP (separation between auxiliary and main verb) or as PART (separation between verb and verb-particle).

When phrasal morphology has been automatized, *inter-phrasal morphology* is processable. This step implies that the grammatical functions of the words in a clause will be accessible and exchange of grammatical information between phrases is possible. For L2 learners of English this means that subject-verb agreement (3 p. sing [-s]) is processable and for L2 learners of German that subject-verb agreement *and* inversion are processable.

Finally, when interphrasal morphology and the V2 rule in German main clauses have been automatized, the hierarchical relation between main and subordinate clauses is processable and the learner can apply different grammatical rules in *main and subclauses* (V-END).

The Processability levels and their ZISA counterparts are summarized in Table 2.

Table 2. The ZISA sequences and the hierarchy of processing prerequisites (after Pienemann & Håkansson 1999)

ZISA Sequences	PT: Exchange of gram information	PT: Processable outcome
1. SVO	no exchange	word/lemma
2. ADV	no exchange	no morphology
3. SEP	exchange within phrases	categories identified
4. INV	exchange between phrases	lexical morphology
5. V-END	exchange between clauses	phrasal morphology
		inter-phrasal morphology and inversion
		differentiation between main and subclauses

Structural properties of the languages involved

In this section a brief presentation of some relevant properties of the languages involved will be given. Swedish is the L1, English is the L2 and German is the L3 for the learners in the cross-linguistic study. The structures that will be discussed in these languages are subject-verb inversion, VP headedness and subject-verb agreement.

Subject-verb inversion. German and Swedish are verb-second (V2) languages. In V2 languages, the finite verb is always in second place in declarative main clauses, with the subject appearing before (SVX) or after the verb (XVS). The subject has to be placed after the verb in topicalized main clauses, i. e. if the sentence starts with an element other than the subject (giving XVS). In subclauses the word order is always SVO in Swedish and English and SOV in German.

Headedness. The languages in the present study differ in the order between head and complement. English and Swedish are head-initial languages, i.e. the complement occurs after the head in the VP. German is head-final. In main clauses, this is only visible in complex verb constructions.

Simple verb construction

(Swedish)	Han köpte en bok (SVO)
	he bought a book
(English)	He bought a book
(German)	Er kaufte ein Buch (SVO)
	he bought a book

Complex verb construction:

(Swedish)	Han har köpt en bok (SVVO)
	he has bought a book
(English)	He has bought a book (SVVO)
(German)	Er hat ein Buch gekauft (SVOV)
	he has a book bought

Subject-verb agreement. German has subject-verb agreement markings on verbs (and case markings on nouns). Swedish does not have overt subject-verb agreement. English has lost a lot of its agreement markings but it still has the marking in third person singular.

Summarizing, Swedish differs from German in lack of subject-verb agreement, and in headedness of VP. On the other hand, both Swedish and German are V2 languages, i.e. subject-verb inversion takes place in topicalized main clauses. English differs from both Swedish and German in not having subject-verb inversion in topicalized main clauses. Instead, English has a XSV pattern in these clauses. The similarities are distributed as follows:

Table 4. Similarities between the languages discussed in this study.

Language	Feature-in-common:
German, Swedish	verb-second
English, Swedish	head-initial (VO)
German, English	subj-verb agreement

The empirical study – Swedish learners of German

Hypotheses

With the previous information as basis, the following hypotheses can be formulated for the acquisition of German word order rules by Swedish learners:

Hypothesis A. The learners will use L1 transfer. The learners will transfer the L1 subject-verb inversion and place the object after the complex verb.

Predictions for L1 transfer

- i) inversion, i.e. no XSV
- ii) if two-verb constructions, XVSVO structures will be preferred:
Gestern hat Karl gekauft ein Buch
'yesterday has Karl bought a book'

Hypothesis B. The learners will use L2 transfer. If the learners are using the structures from their L2, English, they will use XSV instead of obligatory

subject-verb inversion. In clauses with object and two verbs, the learners will use XSVVO, as in English

Predictions for L2 transfer

- i) no XVS
- ii) if two-verb constructions, XSVVO structures will be preferred:
Gestern Karl hat gekauft ein Buch
'yesterday Karl has bought a book'

Hypothesis C. The learners will process the word order rules in the same order as learners with other L1s. If the learners follow the universal processing principles suggested in Processability Theory, there will be an implicational relationship between the different levels. Use of level 4 structures will imply the processability of level 3 structures, i.e. if learners use inversion they will also use head-final verb-phrases. There will also be a relationship between morphology and syntax and we will expect learners who use inversion also to use inflected verbs² and not infinitives. We will find learners at different stages according to how much exchange of grammatical information they are able to process.

Predictions based on Processability Theory

- i) AVS with inflected verbs
- i) implicational relationship between inversion and verb separation.
i.e. if inversion, then verb separation
Gestern hat Karl ein Buch gekauft
'yesterday has Karl a book bought'
- but, since inversion implies OV, not
Gestern hat Karl gekauft ein Buch
'yesterday has Karl bought a book'

The predictions of hypotheses A, B and C will now be empirically tested on a study with data from Swedish learners of German. This study is a cross-sectional study of 143 school-children taking German as foreign language in Swedish schools. First, a quantitative analysis will be undertaken, and then the examples from three individual learners will be analysed in more detail.

Material and method

In order to investigate if inversion problems occur among Swedish learners at all, an elicitation test was given to 6 classes (143 pupils) in the Swedish comprehensive school. Two classes from 7th grade, two from 8th grade and

²The least to be expected is that they use tense morphology since that is a level 2 structure. Agreement morphology belongs to the same level as inversion and it is, thus, not a prerequisite but a phenomenon that is predicted to occur simultaneously with inversion.

Table 5. Number and ages of informants. Number and percentages of informants using XSV and/or null-subject.

GRADE	AGE	N	XSV/NULL SUBJ	
7	13	48	20	42%
8	14	58	28	48%
9	15	37	5	13%
TOTAL		143	53	

two from 9th grade participated in the study. The pupils in 7th grade had studied German for two months, two hours per week. The pupils in 8th and 9th grade had taken German for one and two years, respectively. All learners had been studying English as a second language since third grade, i.e. it was their fifth, sixth and seventh year of English, respectively.

The task for the learners was to fill in a written form with six translation sentences and four fill-out sentences. The form was designed with the purpose to catch word order variability, and both topicalized and non-topicalized clauses were included. The data was transcribed and word order structures were tagged and analysed with the COALA program (Pienemann 1994).

Results: inversion

A quantitative as well as a qualitative analysis was undertaken. The aim of the quantitative analysis was to investigate whether Swedish learners use ungrammatical XSV clauses at all, and if they do, how these clauses are distributed among the learners. The results (Table 5) show that there is a high variability between learners and also in the production of the individual learner. Of the total number of 143 participants in the study 53 learners (37%) violate the V2 rule on more than one occasion and produce XSV clauses or null subjects. If we look at the different grades, the number of learners using XSV clauses vary between 42% of the learners in their first year of German, 48% of the second year learners and 13% of the third year learners. It is worth noting that all learners who use XSV clauses also use some examples of XVS. The mean proportion of XSV clauses across all the learners is 18% (186 errors in 1037 obligatory contexts).

The fact that the inversion rule is explicitly taught and exercised in the classroom makes it methodologically impossible to decide whether those learners who *do* use inversion correctly actually transfer their Swedish V2 into German or if they have *learned* the target structure in the classroom. The 'successful learners' may be successful because they use Swedish or/and because they study hard. Let us look at the 'unsuccessful learners'. Why don't

they use subject-verb inversion? What do they do *instead* of subject-verb inversion? In the following, we will take a closer look at three learners with Swedish as L1 and analyze their interlanguage rules.

Three Swedish learners, Ludvig, Martin and Niklas

The production from one learner in each grade will be analyzed in more detail. Since this is a cross-sectional study and not a longitudinal one, we cannot generalize and claim that this is the Swedish developmental paths to German syntax, but we will have to accept that there is a large amount of inter-learner variation. Still, we get a picture of what the profiles are like in the first, second and third year of German. The learners are given the code names Ludvig, Martin and Niklas.

Ludvig: First year German. The constructions in topicalized clauses produced by Ludvig can be divided in three different types: null-subject, non-inverted and inverted clauses³:

Null-subject (XV)

- | | | |
|-----|--|---------------------------------|
| (1) | Heute spielt Tennis
Today play tennis | 'Today ___ be playing tennis' |
| (2) | Im Donnerstag kommt nicht
On Thursday comes not | 'On Thursday ___ will not come' |
| (3) | Jetzt gehe ins Kino
Now go to movies | 'Now ___ go to the movies' |

Non-inverted (XSV)

- | | | |
|-----|---|---|
| (4) | Im Cafe er trinkt eine Cola
In Cafe he drinks a Cola | 'In the Cafe he drinks a Cola' |
| (5) | Zweimal pro Woche sie ist bei Max
Twice a week she is with Max | 'Twice a week she is with Max' |
| (6) | Morgen sie ist bei Erik
Tomorrow she is with Erik | 'Tomorrow she is with Erik' |
| (7) | Im Winter wir reisen bei Scwes
In winter we go to Scwes | 'In the winter we will go to Switzerland' |

Inverted (XVS)

- | | | |
|-----|--|---------------------------------|
| (8) | Um halb drei kommt Maria
At half past two comes Maria | 'At half past two Maria comes' |
| (9) | Heute sitzen wir draußen
Today sit we outdoors | 'Today we are sitting outdoors' |

³In the examples, the informant's own spelling is used.

Ludvig tries three different options in his nine examples of topicalization. Three examples (1, 2, and 3) do not conform with any of the grammars involved. Four examples (4, 5, 6, and 7) conform with the L2 grammar and two examples (8 and 9) conform with the L1 grammar. He uses no infinitival forms of verbs. He appears to have acquired parts of the German agreement system in that he uses the correct inflection on the verbs in 3rd person singular (*trinkt, ist, kommt*) and in plural (*sitzen, reisen*). In three examples, however, there is no overt subject, which makes it impossible to know whether *gehe* in *Nun gehe ins Kino* really means 1st person or not.

Summarizing Ludvig's production, he has problems with some basics in the target grammar. He is not certain whether person endings of the verbs means that there has to be an overt subject, agreeing with the verb, or if it means that the subject is superfluous. Sometimes he uses inversion, sometimes not.

Does Ludvig use transfer? It is possible that he indeed does make use of L1 transfer in the correctly inverted examples 8 and 9. The question is then why he doesn't use transfer in all examples. The same reasoning goes for the L2 transfer.

Can his interlanguage production be explained by reference to Processability Theory? Possibly. Ludvig has four examples of levels 2 and two examples of level 4 which could imply that he has just started to process exchange of grammatical information between phrases. Another indication that he is on the verge of being able to process grammatical information at this level is his morphology. He is able to differentiate between singular and plural markings on verbs, but not consistently. The examples of null-subject can be interpreted as use of single phrase structure (only VP)

Martin: Second year German. Like Ludvig, Martin has a variable behaviour. He has four clauses with preposed adverbs and inversion, and four clauses with preposed adverbs without inversion. However, a closer look at his production reveals that the variation is not random but there is a systematic pattern. Martin uses inversion only with intransitive (ergative) verbs. A typical feature in these verbs is that they have only one argument, the internal argument, or the theme. Since the theme often is placed after the verb in the world's languages, ergative verbs can be expected to be 'easy' verb for use of inversion. Martin shares the preference for inversion in contexts with intransitive verbs with many of the learners in this study (cf Ludvig, above). Studies of L1 and L2 acquisition of Swedish have shown a similar preference pattern (Håkansson 1994, Platzack 1990).

There are five examples containing objects. The object appears before the main verb in all examples, which suggests that Martin has acquired this part of the target head-final construction, although he does not use auxiliaries.

An important regularity in Martin's grammar is that all verbs that are inverted are also inflected for agreement. Verbs ending in *-t* or *-e* are placed in second position, whereas verbs ending in *-en* occur after the subject (in fact, also after the object, in final position). Martin's choice of agreement morphemes is not always according to the target norm, but we can regard it as a first attempt to mark agreement. There is a clear difference between the verb forms in inverted sentences (*regne-t*, *komm-t*, *ist* and *schlaf-e*) and the verb forms used in uninverted sentences (participle forms ending in *-en*; two incorrectly used *gekauften*, *gespielen*⁴, and one correctly used *getrunken*).

Although the verbs in two of the four examples with inversion do not always have the correct target agreement marker, they are all marked with suffixes for agreement, not for tense. This implies that there is a systematicity in the way Martin deals with inversion and verb agreement. A reasonable assumption is that Martin is able to process grammatical information across phrases only in clauses with intransitive verbs. When there is possibility of exchange of grammatical information between subject and verb, both inversion and verb suffixes are processable.

Niklas: Third year German. Niklas is at a rather advanced level of German and he manages to invert six out of eight topicalized clauses. Niklas seems to have acquired subject-verb agreement, and he only makes one error on agreement. This clause also violates the inversion rule. In other words, Niklas has the same relationship between agreement and inversion as Martin above. Niklas displays one preference for inversion that is not found in the production of Ludvig and Martin (but, astonishingly enough, in the interlanguage of the Turkish learner in Schwartz & Sprouse 1994, 1996). He uses inversion only when the subject is pronominal.

Headedness of VP

In the examples with only one verb it is not possible to distinguish between the three interpretations: L1 transfer, L2 transfer and processability. This is, however, possible if we look at the examples with two verbs. If the learners were to transfer the Swedish structure into German the result would be example A in Table 6 (*Gestern hat Karl gekauft ein Buch*). If, on the other

⁴The correct forms are *gekauft* and *gespielt*.

Table 6. Structures predicted by the L1 transfer hypothesis, the L2 transfer hypothesis and by Processability Theory

TYPE OF STRUCTURE	INTERPRETATION			OCCURRENCES
	L1	L2	PT	
A. <i>Gestern hat Karl gekauft ein Buch</i>	+			3 (3%)
B. <i>Gestern Karl hat gekauft ein Buch</i>		+		0
C. <i>Gestern hat Karl ein Buch gekauft</i>			+3	101 (97%)

hand, the English structure was transferred the result would be example B (*Gestern Karl hat gekauft ein Buch*). Interestingly, we find only three examples indicating L1 influence and no examples at all indicating L2 influence. Instead, there are 101 examples of the correct target structure, which is predicted to be processable at level 3 in Processability Theory, i.e. earlier than inversion. It is striking that examples of the structure OV in inverted clauses, which is against the predictions from Processability Theory, are only produced by one single learner out of the whole corpus of 143 learners (3 occurrences from the same learner).

Table 6 illustrates the distribution of examples with preposed adverbial, two verbs, subject and object.

Summary of results

The Swedish learners of German show a strikingly high degree of variability in their production of German inversion. We find both target structures and non target structures in the production of the same learner.

This is problematic for the L1 and L2 transfer hypotheses. Hypothetically, we could assume that the examples exhibiting the target XVS are transferred from Swedish and the non-target XSV clauses are transferred from English. But then we must find an explanation as to why different types of transfer occur in different examples.

Another problem for the transfer hypotheses is that use of inversion seems to correlate with use of agreement marker on the verb. If word order is transferred from Swedish there is no explanation as to why agreement is used in precisely those clauses. Neither is there any explanation why the agreement morphology is not used in combination with the XSV word order. If there were a full transfer from English we would expect agreement morphology combined with non-inverted clauses and instead, the opposite was found.

A third problem for the transfer hypothesis is the finding that there are more problems with subject-verb inversion than with the OV construction. If Swedish was the initial hypothesis for the learners, then they should have

more problems with OV than with XVS. The proportion of word order errors is displayed in Table 7.

Table 7. Word order errors in the production from the Swedish learners

ERROR TYPE	INTERPRETATION			OCCURENCES	
	L1	L2	PT	number	%
A. XSV	+	-	+	187	93%
B. Null subject	-	-	+	12	6%
C. VfinVO (Head-initial)	+	+	-	3	1%
				total	202

The results from this study give support to Processability Theory. The following two factors are found in favour of PT:

- (i) inverted clauses with OV dominate over inverted clauses with VO
- (ii) there is a correlation between use of agreement and use of inversion

Discussion

The three hypotheses

The results from the present study of Swedish learners' acquisition disconfirm the hypotheses of L1 and L2 transfer (hypotheses A and B). Three structures have been discussed: (1) inversion, (2) the relation between syntax and morphology (inversion and verb inflection) and (3) VP headedness (illustrated by the placement of object in complex verb constructions). Of these structures, one, subject-verb inversion, is ambiguous as to several possible interpretations: L1 transfer, L2 transfer and processability. The use of inverted XVS clauses can either be influenced by the L1, or belong to level 4 in Processability Theory. The use of uninverted XSV clauses can be due to an influence from the L2, or belong to PT level 2.

The results from the other structures, the relationship between agreement and inversion and the preference of OV headedness do not give ambiguous interpretations. The relationship found between verb inflection and inversion cannot be interpreted as transfer. In neither of the languages involved in the transfer hypotheses is there a relationship between agreement and inversion: the Scandinavian languages have inversion but not agreement, and English has agreement but not inversion. The relationship is, however, what Processability Theory predicts. When exchange of grammatical information between the NP and the VP is processable, this is surfacing both as agreement morphology and as subject-verb inversion in German.

Finally, the transfer hypotheses do not apply to the acquisition of OV. Objects are placed after the main verb in both the L1s and the L2. We could

therefore have expected to find examples of XVSVO or SVVO. In the whole material, only one out of 143 learners produced examples of XVSVO (3 examples). There were no examples at all of XSVVO. This suggests that inversion constitutes a larger problem to the Scandinavian learners than headedness. This order between SOV and XVS is exactly what is predicted by Processability Theory. Head-final VP, where an object separates auxiliary and main verb is expected to be processable at an earlier stage than subject-verb inversion, and to be a necessary prerequisite for inversion, since it involves exchange of grammatical information within phrases, not between phrases.

A comparison with the studies of L2 German by Turkish and Korean learners (Schwartz & Sprouse 1994, 1996, Vainikka & Young-Scholten 1994) reveals that it is this ordering of rules that is interpreted as L1 transfer in the interlanguage of the learners. The early SOV structure is taken as an indication of a Stage 1 structure and the later XVS structure is interpreted as a restructuring at Stages 2 and 3. Thus, the order *first-SOV-then-XVS* is interpreted as transfer when it occurs in the interlanguage of learners that have SOV in their L1 (Schwartz & Sprouse 1994, 1996, Vainikka & Young-Scholten 1994), but as ordering of parameter resetting (duPlessis et al. 1987, Jordens 1988) when it occurs in learners without SOV in their L1. This apparent confusion stresses the point made in the introduction, namely that the very occurrence of a certain structure in the interlanguage of learners of a certain L1 is not enough evidence to decide whether it is a transfer phenomenon or not. It is necessary to compare learners with different L1s acquiring the same L2. Since SOV occurs early in the interlanguage of English and Swedish learners as well as in the interlanguage of Korean and Turkish learners, there seems to be little reason to interpret SOV as evidence for transfer in the latter group.

What is 'the initial state' in L2 acquisition?

In Schwartz & Sprouse (1994, 1996) it is assumed that Cevdet, the Turkish learner, begins with SOV as an initial state (transferred from his L1). Let us look more closely into the basis of the concept of initial state. The data for Stage 1 comes from an interview made when Cevdet had already spent one year in Germany. Furthermore, he had been taught German lessons 10 hours a week for six months. It is therefore highly plausible that Cevdet had already passed through several stages and that what is called Stage 1 in reality represents a much later stage. This weakens the strength of the Schwartz & Sprouse findings; if the L1 grammar serves as the point of departure in L2A,

more problems with OV than with XVS. The proportion of word order errors is displayed in Table 7.

Table 7. Word order errors in the production from the Swedish learners

ERROR TYPE	INTERPRETATION			OCCURENCES	
	L1	L2	PT	number	%
A. XSV	+	-	+	187	93%
B. Null subject	-	-	+	12	6%
C. VfinVO (Head-initial)	+	+	-	3	1%
			total	202	

The results from this study give support to Processability Theory. The following two factors are found in favour of PT:

- (i) inverted clauses with OV dominate over inverted clauses with VO
- (ii) there is a correlation between use of agreement and use of inversion

Discussion

The three hypotheses

The results from the present study of Swedish learners' acquisition disconfirm the hypotheses of L1 and L2 transfer (hypotheses A and B). Three structures have been discussed: (1) inversion, (2) the relation between syntax and morphology (inversion and verb inflection) and (3) VP headedness (illustrated by the placement of object in complex verb constructions). Of these structures, one, subject-verb inversion, is ambiguous as to several possible interpretations: L1 transfer, L2 transfer and processability. The use of inverted XVS clauses can either be influenced by the L1, or belong to level 4 in Processability Theory. The use of uninverted XSV clauses can be due to an influence from the L2, or belong to PT level 2.

The results from the other structures, the relationship between agreement and inversion and the preference of OV headedness do not give ambiguous interpretations. The relationship found between verb inflection and inversion cannot be interpreted as transfer. In neither of the languages involved in the transfer hypotheses is there a relationship between agreement and inversion: the Scandinavian languages have inversion but not agreement, and English has agreement but not inversion. The relationship is, however, what Processability Theory predicts. When exchange of grammatical information between the NP and the VP is processable, this is surfacing both as agreement morphology and as subject-verb inversion in German.

Finally, the transfer hypotheses do not apply to the acquisition of OV. Objects are placed after the main verb in both the L1s and the L2. We could

therefore have expected to find examples of XVSVO or SVVO. In the whole material, only one out of 143 learners produced examples of XVSVO (3 examples). There were no examples at all of XSVVO. This suggests that inversion constitutes a larger problem to the Scandinavian learners than headedness. This order between SOV and XVS it is exactly what is predicted by Processability Theory. Head-final VP, where an object separates auxiliary and main verb is expected to be processable at an earlier stage than subject-verb inversion, and to be a necessary prerequisite for inversion, since it involves exchange of grammatical information within phrases, not between phrases.

A comparison with the studies of L2 German by Turkish and Korean learners (Schwartz & Sprouse 1994, 1996, Vainikka & Young-Scholten 1994) reveals that it is this ordering of rules that is interpreted as L1 transfer in the interlanguage of the learners. The early SOV structure is taken as an indication of a Stage 1 structure and the later XVS structure is interpreted as a restructuring at Stages 2 and 3. Thus, the order *first-SOV-then-XVS* is interpreted as transfer when it occurs in the interlanguage of learners that have SOV in their L1 (Schwartz & Sprouse 1994, 1996, Vainikka & Young-Scholten 1994), but as ordering of parameter resetting (duPlessis et al. 1987, Jordens 1988) when it occurs in learners without SOV in their L1. This apparent confusion stresses the point made in the introduction, namely that the very occurrence of a certain structure in the interlanguage of learners of a certain L1 is not enough evidence to decide whether it is a transfer phenomenon or not. It is necessary to compare learners with different L1s acquiring the same L2. Since SOV occurs early in the interlanguage of English and Swedish learners as well as in the interlanguage of Korean and Turkish learners, there seems to be little reason to interpret SOV as evidence for transfer in the latter group.

What is 'the initial state' in L2 acquisition?

In Schwartz & Sprouse (1994, 1996) it is assumed that Cevdet, the Turkish learner, begins with SOV as an initial state (transferred from his L1). Let us look more closely into the basis of the concept of initial state. The data for Stage 1 comes from an interview made when Cevdet had already spent one year in Germany. Furthermore, he had been taught German lessons 10 hours a week for six months. It is therefore highly plausible that Cevdet had already passed through several stages and that what is called Stage 1 in reality represents a much later stage. This weakens the strength of the Schwartz & Sprouse findings; if the L1 grammar serves as the point of departure in L2A,

we cannot expect to find this point of departure in an informant who has had this much experience of German.

If we now turn to the experience of German in the Swedish learners we find that the learner with the least experience, Ludvig, has been exposed to German instruction only for two months, two hours a week. Maybe this is closer to the notion of an initial state. Note that Ludvig's grammar at this time is characterized by a high variation; he uses three clauses with null-subject, four clauses with non-inversion and two clauses with inversion. His initial hypothesis is not to transfer the Swedish inversion rule, but to try out different patterns.

The Swedish learner from grade 8, Martin, has had 2 hours a week instruction for about 10 months, i.e. approximately 80 hours of instruction. He has developed a clear SOV rule, and uses it in all five examples containing an object. He uses inversion only in clauses with intransitive verbs which suggest that his grammar is lexically governed. It is striking that Martin's preferred structure in contexts with objects is exactly the same type of structure which is used by Cevdet in his Stage 1, namely a SOV structure with the verb in participial form.

Compare the examples below, produced when Cevdet had been in Germany for 18 months (including 6 months of 10 hours a week instruction) and when Martin had received 10 months of 2 hours a week instruction. In Cevdet's case this structure has been interpreted as transfer; in Martin's case it is not possible to interpret it as transfer since Swedish does not have an OV pattern.

Cevdet: *der Mann seine Frau geküßt*
the man his wife kissed
'The man kissed his wife' (Schwartz & Sprouse 1994:335)

Martin: *Gestern Karl ein Buch gekauft*
yesterday Karl a book bought
'Yesterday Karl bought a book'

Optional inversion or lexically driven learning?

The fact that XSV and XVS clauses are commonly found to overlap in German interlanguage grammars, both in studies of production and in studies using acceptability judgements has lead SLA researchers to postulate *optionality* in the use of inversion by L2 learners (Eubank 1994). A question that needs to be investigated further, however, is whether it can be possible to capture systematic rules underlying this surface variation. What may look like

optionality from the researcher's point of view may well be part of a systematic behaviour from the learner's perspective.

One possibility is that learners begin with a structure in a limited context, with specific lexical items, and then increase the number of contexts for the structure. Thus, in studies of subject-verb inversion in Swedish, Norwegian and German as L2s, pronominal subjects have been found to be more favourable contexts than full noun subject (Schlyter 1993, Schwartz & Sprouse 1994, 1996). Other suggestions for favourable contexts are copulas, auxiliaries and modals (Hyltenstam 1977, Bolander 1988, Håkansson 1994), intransitive verbs (Platzack 1990, Håkansson 1994) and short adverbials (Bolander 1988).

In the present study, there are two major contexts that seem favourable for use of inversion, on the one hand intransitive verbs and on the other hand auxiliaries and copula. There are also individual preferences. Some learners prefer pronominal subjects. Others use more inversion when there is a short adverbial sentence-initially. Finally, many learners avoid inversion when there is a negation in the clause. Thus, the processing of inversion seems to be influenced by a complex net of interacting contextual factors.

The 'English illness' story

The Full Transfer Model does not treat cases where more than two languages (the L1 and the L2) are involved. An important question is however, what happens when several languages are acquired as second languages? Will the first language be transferred into the third as well as into the second language? Or will properties from the second language be transferred when the third language is acquired?

There have been very few studies investigating the roles of L1 and L2 in the L3 development. In the studies that have been dealing with the L3 acquisition some different suggestions have been put forward. For example, it has been proposed that degree of similarity between languages determine the influence (Kellerman 1983). It has also been suggested that the type of linguistic phenomenon is crucial. When it comes to which types of phenomena that are transferred from L2 to L3, it has been found that *lexical* transfer is the most common (Ringbom 1987).

The use of XSV by Swedish learners of German is well-known to teachers of German and it has been interpreted as a case of syntactic transfer from the L2, English to the L3, German. The phenomenon is generally called the 'English illness'. However, the findings from the present study refute the idea that English word order is used. If English word order had been used, this

would have been manifested not only in non-inversion, but also in preference for head-initial VP⁵.

Conclusion

The findings of the present study show that the picture is more complicated than is claimed in the Full Transfer Model. There is a large amount of inter-learner as well as intra-learner variation in the development of German word order. There is no robust evidence for full L1 (or L2) transfer. With the exception of one learner out of a total of 143 Swedish learners, all learners produce exactly the same interlanguage structures that have been found in other studies. This means that the acquisition of German word order proceeds in the same steps for Swedish learners as for other learners, who do not have a V2 language as first language. In order to find unambiguous evidence for transfer, we should look for systematic differences in interlanguage structures between learners with varying L1s. For example, inverted clauses with the object after the complex verb could have served as evidence for transfer from Swedish. However, this pattern was found only in a single learner.

In order to gain a better understanding of the role of transfer, we need a more refined model, one that can accommodate individual variation, predict which language (the L1 or the L2) will be used and which structures will be transferred.

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⁵Additional evidence for the processing of inversion being a very problematic area comes from studies of monolingual children with Specific Language Impairment (SLI-children) and aphasics. Violations of V2 are reported from both German and Swedish SLI-children (German: Grimm & Weinert 1990; Swedish: Håkansson & Nettelbladt 1993, 1996). In this case, transfer is out of the question, since there is no other language involved, but difficulties with the processing of grammatical information across phrases is a possible source of their problems.

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Constraints on prosodic phrasing in spontaneous speech

Petra Hansson

1. Introduction

1.1 Purpose

The present paper makes some preliminary hypotheses about the constraints on prosodic phrasing in spontaneous Swedish speech. Within Optimality Theory, linguistic phenomena such as prosodic phrasing are explained through the interaction of constraints (McCarthy & Prince 1993). One may assume that there are a number of constraints that interact to determine what prosodic form an utterance is assigned given its syntactic and information structure. Among these are constraints that both align prosodic phrase structure with syntactic and information structure, as well as constraints that assign word and focal accents and delimit the prosodic phrases' size and accentual content.

The constraints on output representations are hypothesized to be universal. Languages differ only in the ranking order of the constraints. Therefore, it is interesting to investigate in what way constraints previously claimed for other languages can be assumed to interact in Swedish.

In the present paper, results from a production data study will be presented. Taking a number of constraints suggested to exist in other languages as a starting point, a possible constraint hierarchy for Swedish is discussed.

1.2 Optimality theory

Within optimality theory, linguistic phenomena are explained through the interaction of universal constraints. An optimal output form for a given input is selected from among a number of competing surface forms. The form that best satisfies the highest-ranking constraint, on which the candidates conflict, is considered to be optimal, as shown in Tableau 1. Constraints can be violated, but only minimally, i.e. only in order to satisfy a higher ranked constraint. The constraints are universal, but languages may differ with respect to each other in the ranking order of the constraints.