SYNTACTIC OPTIONALITY IN L2 GRAMMARS

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Abstract: *In this article we present evidence of optional constructions in the interlanguage of learners of German as a second foreign language. We focus on the acquisition of the verb raising parameter by two groups of adolescents who are in their fourth year of secondary education in schools of the Basque Country. Our data come from a written production task and from a grammaticality judgement task. We analyse the acquisition of word order in the German sentence (SVO, SOV and VSO) in light of the Minimalist proposals (Chomsky 1994, 1995; Zwart 1997). In contrasting data coming from these groups, we conclude that the learners' interlanguage shows optionality of verb movement at least in intermediate stages of acquisition. Our study supports some of the most discussed studies of optionality in the literature to date (Beck 1998; Eubank 1993/94; Lardiere 2000, among others).*

Keywords: syntactic optionality, verb raising parameter, word order, Minimalism.

Resumen: *En este artículo presentamos evidencia de construcciones opcionales en la interlengua de aprendices de alemán como segunda lengua extranjera. Nos concentramos en la adquisición del parámetro de ascenso verbal por parte de dos grupos de adolescentes que cursan 4º de Educación Secundaria Obligatoria en centros del País Vasco. Nuestros datos provienen de una tarea de producción escrita y otra de juicios de gramaticalidad. Analizamos la adquisición del orden de palabras de la oración alemana a la luz de las propuestas minimalistas (Chomsky 1994, 1995; Zwart 1997). Al contrastar los datos de estos grupos, concluimos que la interlengua de los aprendices muestra movimientos opcionales del verbo, por lo menos en lo que respecta a los estadios intermedios de adquisición. Nuestro trabajo avala los hallazgos de algunos de los estudios sobre opcionalidad más debatidos en la literatura hasta el momento (Beck 1998; Eubank 1993/94; Lardiere 2000, entre otros).*

Palabras clave: opcionalidad sintáctica, parámetro de ascenso verbal, orden de palabras, Minimalismo.

1. Introduction

The existence of optionality is well attested in natural languages. Pre-theoretically, it can be defined as the coexistence within an individual grammar of two or more variants of a given construction, which:
1) make use of the same lexical resources, and
2) express the same meaning.

The existence of optionality within both stable (native and non-native) and developing grammars poses a challenge for contemporary formal models of generative grammar which assume competition for well-formedness and rule out optional syntactic operations. In the Minimalist Program (MP), syntactic optionality is excluded within the computational system because of economy principles which require an optimal realization of interface conditions (N. CHOMSKY 1995). As a result, movement which is possible but not necessary is not permitted.

It has been argued that optional constructions are a necessary part of language change. D. LIGHTFOOT (1991) has pointed out that if language were a perfect system, that is, a pure instantiation of invariable Universal Grammar principles and binary parameters, diachronic

language change would not be possible. Similarly, V. J. COOK (1992) has argued that if the computational system is a perfect system without the possibility of optional representations, the knowledge representations of bilingual or multilingual speakers would be impossible to describe.

This article presents evidence from written production data and grammaticality intuitions of foreign language learners about optional constructions.

2. The German sentence

In German we can distinguish three types of word orders: SVO, SOV and VSO. The SVO order is typical of the main sentence. German is a V2 language, that is, a language which requires that the finite verb remains in the second position, as in (1):

(1) *Ich nehme oft   das Auto* vs. * *Ich oft   nehme das Auto.*
    I   take   often the car   vs. I   often take   the car
    "I often take the car"

The SOV order appears in subordinate clauses, as can be observed in (2):

(2) *Weil   ich ein neues Auto habe, bin   ich froh.*
    because I   a   new car   have   am   I   happy
    "I am happy because I have a new car"

The VSO order comes in sentences which start with an adverb, a subordinate clause, an object or a prepositional phrase, such as (3):

(3) *Montags   kaufe   ich die Zeitung.*
    Mondays buy   I   the newspaper
    "On Mondays, I buy the newspaper"

With respect to coordinate clauses, SVO is the default order. After the coordinating conjunction comes a clause with the SVO order:

(4) *Ich bin müde, aber ich gehe ins   Kino.*
    I   am tired but I   go   to the cinema
    "I am tired but I go to the cinema"

German has been classified as a head final language (SOV) by authors such as F. WEERMANN (1989). From this underlying construction SOV, the other possible structures would be derived, namely, SVO and VSO. From recent proposals such as the MP (N. CHOMSKY 1994 and others), some other word order analyses have been proposed among which we take J. W. ZWART´S (1997). This author adopts Kayne´s idea that movement is to the left, even in SOV languages. In Germanic languages with asymmetry such as German or Dutch, sentences with orders SOV and VSO derive from the canonical order SVO applying the rules [± movement of the verb].

J. W. ZWART (1997) makes use of the principle of economy and the checking theory proposed by the MP. For this author, lexical elements are bundles of features to be spelled out in a postsyntactic component called Morphology. Morphology is unable to spell out formal features (F-features) that are not part of a morphosyntactic complex containing lexical-categorical features (LC-features). Overt movement is a combination of F-movement and LC-feature movement. All movement for feature checking purposes is F-movement. LC-movement takes place as a Last Resort movement in order to create a morphosyntactic complex containing both F-features and LC-features.

For J.W. ZWART (1997), in main sentences such as (1), the verb (V) features of Subject Agreement (AgrS) are strong and attract the F-feature of the verb. The F-features of the verb move to AgrS. In order to make a morphosyntactic complex interpretable for Morphology, the LC-features of the verb move and adjoin to AgrS. The verb therefore gets spelled out in AgrS.

In embedded clauses as in (2), the V features of AgrS are strong and attract the F-feature of the verb. AgrS (containing the F-features of the verb) moves on to Complementizer (C). Since C is lexically filled, the F-features of the verb are united with the LC-features of the C. There is no need for movement of the LC-features of the verb to C. The verb therefore gets spelled out in V.

In inversion constructions as in (3), C does not contain LC-features. Therefore, the LC-features of the verb must move in order to be an interpretable object for Morphology.

3. L2 acquisition studies and the verb raising parameter

Within L2 acquisition research in the Principles and Parameters framework, there are two proposals which have dealt with optionality in interlanguage. According to the Minimal Trees Hypothesis of A. VAINIKKA and M. YOUNG-SCHOLTEN (1994, 1996), verb movement is optional in intermediate stages of acquisition. L. EUBANK´S proposal of Valueless Features (1993/94) considers that verb movement is already optional in the first stages of acquisition and it is followed by late stages when the parameter is reset. EUBANK proposes that INFL features are inert in the initial state, rather than being either strong or weak. Eubank related this inertness to absence of overt inflection in the early stages, claiming that, as learners acquire morphology, they also acquire appropriate feature strength.

In a more recent version of this hypothesis, M. L. BECK (1998) proposes that feature strength is considered to be permanently impaired. Even the grammars of advanced interlanguage speakers are assumed to suffer from this impairment. Her proposal also differs from Eubank's in that there is no causal relationship between morphology and feature strength, that is, interlanguage feature strength will remain impaired even if inflectional morphology is totally accurate.

Moreover, D. LARDIERE (2000) and P. PRÉVOST and L. WHITE (2000) consider optionality as a surface problem, as a specific difficulty with the morphological instantiations of the features. On the other hand, for D. ROBERTSON and A. SORACE (1999), the effects of optionality are confined to syntax, instead of inflection, resulting from inappropriate lexical entries (namely, abstract strong features entering the derivation). For them, there will be occasions in which the strong feature is selected, enters the Numeration and leads to residual V2 effects.

R. HAWKINS (2001) sums up those ideas as follows: learners may have difficulty in interpreting L2 input, mapping derivations onto morphological forms or accessing lexical items. It is a breakdown in computation, rather than representation.

4. The study

Our study was conducted in an institutional setting. We focus on the acquisition of the verb raising parameter by two groups of adolescents who are in their fourth year of secondary education in schools in the Basque Autonomous Community (B.A.C.) and who are learning German as a second language after English.

4.1. The subjects

Table 1 displays the details of the subjects in the study:

Table 1. Subjects

Group I		
Model A[1], L1: Spanish, L2: English, L3: German	Age	Years / hours a week of exposure to German
4º E.S.O. (n=12)	15-16	4 years/2 hours
Group II		
Model D[2], L1: Basque/Spanish/Spanish and Basque, L2: English, L3: German	Age	Years / hours a week of exposure to German
4º E.S.O.[3] (n=20)	15-16	4 years/2 hours

4.2. Materials

a. Questionnaire about the academic background and previous linguistic knowledge
b. Proficiency level tests
c. Written production task with the title *Was hast du heute gemacht?* "What have you done today?"
d. Grammaticality judgement task. This task consisted of 81 items, out of which 38 were distractors. We included sentences with the orders SVO, SOV, VSO and coordinate sentences.

5. Results and discussion

In this section we present the results of the written production task and the grammaticality judgement task.

5.1. Written production task

Table 2 shows the results obtained by Group I in this task:

Table 2. Written production task. Group I

	Correct	Incorrect	Total	% Correct	% Incorrect
SOV	8	2	10	80,0%	20,0%
VSO	52	35	87	59,8%	40,2%
SVO	42	0	42	100,0%	0,0%
COORD	27	8	35	77,1%	22,9%
TOTAL	129	45	174	74,1%	25,9%

The following generalizations can be drawn from the results of the written production task:

a. Predominance of errors with the structures requiring the VSO order
b. Predominance of VSO sentences
c. Optional movement of the verb and the object
d. *adv SVO is produced when the inversion of the subject is required
e. The VSO order is produced after the coordinating conjunction
f. The SVO order is produced after COMP
g. There are no errors with the SVO order
h. Difficulty hierarchy: VSO>COORD>SOV>SVO

We explain these results taking into account Zwart's analysis of the German sentence. The structures which require VSO in native German reveal a high degree of errors. According to J. W. ZWART (1997), the VSO order in German requires two rules of movement, that is, the one for movement of the feature [F] of the verb and the one for movement of the feature [LC] to C. In this case, the lack of VSO is explained by the presence of the SVO order after the adverbial element, as shown in (5):

(5) *In der Abend,   Ich habe gegessen.*
    in the afternoon I   have eaten
    "In the afternoon, I have eaten"

In this case, there is no selection of the strong feature of AgrS, which blocks the movement of the feature [F] to C and prevents the last resort movement of the feature [LC] of the verb. Therefore, the verb can't lexicalize in an initial position after the adverb or another lexical element in a topic position.

We have also observed optional movements of the verb and the object as in (6):

(6) a. *Dann habe ich gegessen.*
    then have I eaten
    "Then I have eaten"
   b. *Dann ich habe gegessen.*
    then I   have eaten
    "Then I have eaten"

In this example, the learner produces the VSO order after the adverb in some occasions, as required in native German, and in others, an SVO order. Similarly, we have observed optional movement of the object. Even though the orders SVO, SOV and VSO are manifested in the interlanguage of the learners, we can appreciate optional movements. As M. L. BECK (1998) and C. GRÜMPEL (2000), among others, have suggested, this optionality can be explained in terms of differences in the acquisition of an L1 and an L2. The strong features of AgrS and Object Agreement (AgrO) are not fixed as in the L1. In the L2, there is a new selection of the value for each operation.

The percentage of errors with coordinate sentences is due to the interpretation of the coordinating conjunction as adverbial material. The learners make use of inversion as if *aber* "but", *und* "and", *denn* "then", *oder* "or" where adverbs in topic position, as shown in (7):

(7) *und habe ich geschlafen in die Klasse.*
    and have I   slept   in the class
    "and I slept in class"

The non-native constructions with the SOV order are attributed to the absence of the rule [+movement of the O] and therefore, SVO is adopted after C, as in (8):

(8) *Wenn ich habe die Schule gefinished.*
    when I   have the school finished
    "When I have finished the school"

It seems to be the case that the SVO order is the default order. It is the underlying order in all languages, following the proposals of J. W. ZWART (1997), R. KAYNE (1994) and C. PLATZACK (1996).

Let's now move to the results of Group II which are presented in Table 3:

Table 3. Written production task. Group II

	Correct	Incorrect	Total	% Correct	%Incorrect
SOV	34	6	40	85,0%	15,0%
VSO	157	53	210	74,8%	25,2%
SVO	52	4	56	92,9%	7,1%
COORD	86	12	98	87,8%	12,2%
TOTAL	329	75	404	81,4%	18,6%

We can establish the same generalizations as for Group I. They differ in the following:

a. Use of the SOV order after the coordinating conjunction
b. There exist errors with the SVO order when perfect tenses are used
c. Difficulty hierarchy: VSO>SOV>COORD>SVO

When the participants produce coordinate sentences, they use not only the VSO order, as if the coordinating conjunction was an adverb, but also an SOV order, as if this conjunction was a C. In this case, there is movement of the object and the verb remains *in situ*, as we can observe in (9):

(9) *und wir zu Hause gehen.*
    and we to house go
    "And we go home"

Unlike Group I, Group II makes errors with respect to SVO when perfect tenses are involved. In those cases, they apply the rule [+verb movement] but they don't apply the rule [+object movement], as shown in (10):

(10) *Ich habe trinken Milch mit Cola-Cao.*
    I   have drunk milk   with Cola-Cao
    "I have drunk milk with Cola-Cao"

The difficulty hierarchy is nearly the same as in Group I.

Despite statistically significant differences between Group I and Group II (t=1.9842; p-value≈0.024)[4], we can conclude that the verb and object movements are optional, given the distribution of non-native forms in all the production. That is, the rules [+movement of the verb] and [+movement of the object] have not been incorporated in the interlanguage of these two groups yet.

5.2. Grammaticality judgements

Table 4 shows the results obtained by Group I in this task:

Tabla 4. Grammaticality judgements. Group I

	Correct judgements	Incorrect judgements	Total	Correct %	Incorrect %
Main clause SVO	96	21	117	82,1%	17,9%
Inversion VSO	88	40	128	68,8%	31,2%
Coordinate sentence	108	66	174	62,1%	37,9%
Subordinate clause	64	29	93	68,8%	31,2%
TOTAL	356	156	512	69,5%	30,5%

As in the preceding section, we present some generalizations which can be drawn from the data coming from the grammaticality judgement task. The following generalizations apply for Group I:
a. Overgeneralization of SOV to constructions requiring SVO in native German
b. *adv SVO is accepted for those sentences which require the inversion of the subject
c. Overgeneralization of SOV to structures which demand VSO
d. SVO is accepted after COMP
e. VSO is accepted after COMP
f. [LC] features are attributed to the coordinating conjunction
g. VSO is accepted after the coordinating conjunction
h. Difficulty hierarchy: COORD>VSO>SOV>SVO

We have observed overgeneralization of the SOV order in constructions which require SVO and VSO in native German. In the case of overgeneralization of SOV to SVO, the learners extend the object movement rule to the main sentence without applying verb raising, which they would have produced if they had had the German grammar internalized. That is, they apply the rules of [- movement of the verb] and [+movement of the object] (typical of the subordinate clause) to the main sentence, as we can observe in (11):

(11) *Das Kind der Mutter das Buch gegeben hat.
     the boy the mother the book given   has
     "The boy has given the book to his mother"

In addition to this, there's an overgeneralization of SOV to VSO. The students apply the rule [+movement of the object] when they overgeneralize the order of the subordinate clause because of the fact of having an initial element which they seem to identify as C as illustrated in (12):

(12) *Heute Peter seiner Freundin die Uhr gezeigt hat.
     today Peter his   friend   the watch shown has
     "Today Peter has shown his friend the watch"

The structures which require VSO display a high amount of mistakes. We have to remember that the VSO order in German requires two movement rules: movement of verbal feature [F] and movement of feature [LC] to C. Feature [F] of the verb is attracted by AgrS [+strong] and goes on to C, where the verb is lexicalized due to the movement of the [LC] feature of the verb. The lack of the VSO order is explained either by an SVO order, that is, the initial order is not altered, or by an overgeneralization of the SOV order, as shown in (13) and (14):

(13) *Heute der Freund schenkt der Freundin   einen Ring.
     today the friend gives   the girlfriend a   ring
     "Today the friend gives a ring to his girlfriend"

(14) *Heute Peter seiner Freundin die Uhr gezeigt hat.
     today Peter his   girlfriend the watch shown has
     "Today Peter has shown the watch to his girlfriend"

In (13), there seems to be an impairment in the interpretation of the feature [+strong] of AgrS, which prevents the movement of the feature [F] to C and the last resort movement of the feature [LC] of the verb. Threrefore, the verb cannot be lexicalized in an initial position after the adverb or another lexical element in a topic position. In (14), in the case of overgeneralization of SOV, the learners apply the rule [+movement of the object] typical of the subordinate clause. They seem to identify the initial element as a complementizer.

The non-native constructions with the SOV order are attributed to a lack of the rule [+movement of the object] and, then, SVO is adopted after C as in (15):

(15) *Weil   ich habe ein neues Auto, ich bin froh.
       because I   have a   new   car   I   am happy
       "I am happy because I have a new car"

The participants also accept VSO after the C as illustrated in (16). The [F] verbal feature of the verb raises correctly to C, but they also raise the [LC] feature of the verb erroneously because they have not interpreted the feature [LC] of the C. Therefore, the verb is lexicalized in C and not in situ, as in the case of native German. However, the rule [+movement of the object] is applied correctly, as given in (16):

(16) *Wenn einkaufen geht meine Mutter, braucht sie Geld.
       when shopping   goes my   mother needs   she money
       "When my mother goes shopping, she needs money"

The rate of incorrect judgements in coordinate sentences is due to the fact that the [LC] features which belong to C are attributed to the coordinating conjunctions. Consequently, the learners have the intuition of [-movement of the verb], as shown in (17):

(17) *Ich gehe jetzt ins Bett, oder ich das Fußballspiel   sehe.
       I   go   now to bed or   I   the football match see
       "I go to bed now or I watch the football match"

Apart from that, there have been some interpretations of the coordinating conjunction as adverbial material. Inversion is applied as if aber "but", und "and", oder "or" were adverbs in topic position, as illustrated in (18):

(18) *Er hat gearbeitet und hat sie geschlafen.
       he has worked   and has she slept
       "He has worked and he has slept"

In general, the learners have intuitions of these structures because all of them are present in their interlanguage and are accepted to a great extent. The correct judgements rate is over 60%. The structure which causes more problems is the coordinate sentence, followed by VSO and SOV. The SVO order presents the least amount of problems. As J. W. ZWART (1997) and R. KAYNE (1994) have pointed out, SVO is the unmarked order and the underlying order in all languages. Our learners seem to depart gradually from this order and incorporate the marked structures little by little. The orders SOV and VSO show nearly the same rate of correct judgements (VSO with 68.7% and SOV with 68.8%). That is, the movements of the features [F] and [LC] of the verb and the object are accepted as correct. The learners seem to have the same intuitions for these structures.

Table 5 shows the results obtained by Group II in this task:

Table 5. Grammaticality judgements. Group II

	Correct judgements	Incorrect judgements	Total	Correct %	Incorrect %
Main clause SVO	159	40	199	79,9%	20,1%
Inversion VSO	151	67	218	69,3%	30,7%
Coordinate sentence	201	77	278	72,3%	27,7%
Subordinate clause	127	33	160	79,4%	20,6%
TOTAL	638	217	855	74,6%	25,4%

With regard to Group II, we can establish the same generalizations for Group I. They differ only in the difficulty hierarchy:

a.   Difficulty hierarchy: VSO>COORD>SOV>SVO

When contrasting data from Group I and Group II in the grammaticality judgement task, we have not observed statistical significant differences (t=0.6446; p-value≈0.2596). Additionally, we have found the same typology of errors for both groups.

Our results are quite consistent with previous research (M. L. BECK 1998; L. EUBANK 1993/94) since we have evidence of optional movement at intermediate stages of acquisition. However, it contradicts some of these studies. For example, Eubank's morphology-before-syntax position is not supported by our results because our subjects show mastering of inflection and inaccurate syntax. On the other hand, our study doesn't support Lardiere's syntax-before-morphology position since we have found optional movements contrary to Lardiere's subject (Patty).

Our findings are in line with Robertson and Sorace's assumption that effects of optionality are confined to syntax, instead of inflection, resulting from inappropriate lexical entries. The learners have lexical/functional categories and the strength features in their lexicons. Even if certain forms have been acquired, there may nevertheless be occasions when these are not accessible for processing reasons. In other words, there seems to be some kind of temporary breakdown between the syntax and the lexicon.

6. Conclusion

This paper has focused on the written production and grammaticality judgements of two groups of adolescents who learn German as an L3. We have offered evidence of optional verb movement. The results have also revealed that SVO is the first structure to be acquired as the Initial Hypothesis of Syntax proposed by C. PLATZACK (1996) claims. Data has shown that VSO is more difficult than SOV, contrary to the results of the ZISA project (H. CLAHSEN, J. MEISEL and M. PIENEMANN 1983). These results might have pedagogical implications: instead of presenting the VSO order before SOV in class as it is usually done, it would be more beneficial for students to introduce SOV before VSO. According to Zwart's framework, VSO is more difficult than SOV because students seem to be more sensitive to an explicit complementizer with inherent [LC] features. This explicit complementizer tells them that they need a verb in final position. When they face VSO, abstract movement is difficult to detect. [LC] features of the verb have to move to C.

Finally, the optionality attested in our data pose a conceptual challenge to formal grammatical theory. According to the MP (N. CHOMSKY 1994, 1995), optionality is excluded within the computational system because of economy principles. Our study has shown that optionality is part of intermediate stages of acquisition. As E. C. KLEIN AND M. CASCO (1999) and S. PAPP (2000) have pointed out, intermediate stages are characterized by variability and indeterminacy, and, for this reason, it would be interesting to replicate this study in advanced stages of acquisition.

Acknowledgements

Notes

[1] The language of instruction in Model A is Spanish and Basque is taught as a second language.
[2] Basque is the language of instruction for Model D and Spanish is taught as a second language.
[3] E.S.O. stands for *Enseñanza Secundaria Obligatoria* "Compulsory Secondary Education".
[4] In order to compare the proportions for Groups I and II we have used a two-sample binomial test.

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