Difficulties in the acquisition of two word order rules by adult learners of Dutch

Hulstijn, J.H.

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This chapter reports results of an investigation of L2 speech monitoring by adult second language learners, and of the relation between monitoring, implicit and explicit knowledge of two L2 grammar rules, and cognitive style. A detailed account is given in a doctoral dissertation (Hulstijn, 1982). The study comprises an investigation into the extent to which 32 adult learners of Dutch exhibited a command of the two Dutch word order rules (inversion and verb final), and the extent to which they had an explicit and/or implicit knowledge of these rules. The word “knowledge” is used to refer to the results of metalinguistic activities, in contrast to the realization of grammar rules in primary linguistic processes such as comprehension and production.

One of the findings of this cross-sectional study is that the 32 subjects were significantly more proficient in inversion than in verb final, and that verb final performance of the 16 subjects whose LI is English is significantly inferior to the 16 subjects with mother tongues other than English. This chapter will address itself specifically to the following questions that arise from the findings:

- Why is verb final more difficult than inversion?
- Is there any evidence of L1 interference?
- Why are verb final and inversion—probably—acquired later than adverbial fronting and splitting of main verb and auxiliary?

First, however, a brief description is presented of the three elicitation procedures of this study as well as a simple formulation of the two word order rules under investigation.
INVERSION AND VERB FINAL

Consider the following examples (the finite verb forms are printed in italics):

1. David blijft misschien thuis
   (David stays perhaps at home)
2. Misschien blijft David thuis
   (Perhaps stays David at home)
3. *Misschien David blijft thuis
   (Perhaps David stays at home)

In sentence 1 the subject precedes the finite verb. In 2 a constituent other than the subject has assumed first position, and the subject has moved to the third position. In traditional school grammar this is called "inversion." (Transformational grammar assumes SOV to be the underlying word order for Dutch; the verb placement transformation moves the finite verb to second position; cf. Koster, 1975.) Many foreigners make errors of type 3. Examples 4 and 5 represent subordinate clauses:

4. ... dat David thuis blijft
   (... that David at home stays)
5. *... dat David blijft thuis
   (... that David stays at home)

From 4 we can see that the finite verb takes the final position in a subclause. Many second language learners make errors of type 5. (Henceforth INV indicates inversion and VF indicates verb final.)

DATA COLLECTION

In this study three kinds of data were elicited in the following order:

- Implicit knowledge of INV and VF by means of a sentence correction test.
- Speech production data by means of a story retelling task in L2.
- Explicit knowledge of INV and VF by means of an interview procedure.

Note that implicit and explicit knowledge are inferred from the learner's performance concerning metalinguistic activities, whereas the story retelling task requires the learner to perform in primary linguistic processes: comprehension of the stimulus texts and reproduction of the information contained by the stimulus texts, in his own words.
ELICITATION OF IMPLICIT KNOWLEDGE:
SENTENCE CORRECTION TEST

In this test, the learners have to look for errors in stimulus sentences, and correct these errors. This is a metalinguistic activity. The learners do not have to tell why they think that a particular sentence is wrong; they only have to correct the error. This is why we have labeled this test an elicitation of implicit knowledge.

SUBJECTS

The test was taken by 157 adult learners of Dutch. All of them had completed at least secondary school in their home countries, and all had taken Dutch lessons, although some more than others. Length of residence in Holland ranged from only a few months to nine years. There was a great variability in L1: English (54), Romance languages (29), Indonesian (12), Arabic (11), Turkish (8), Hebrew (6), other languages (37). The reason for this heterogeneity is that this test functioned as a filter for selecting subjects who could be expected to exhibit variability in their command of both INV and VF.

MATERIALS AND PROCEDURES

The test consists of 40 Dutch sentences, each printed on a separate page. The vocabulary is simple.

- Ten sentences contain an inversion error in a declarative main clause with an adverbial constituent in initial position (cf. example 3).
- Ten sentences contain a verb final error in a subclause beginning with the conjunction “dat” (cf. example 5).
- Ten sentences contain errors of other kinds.
- Ten sentences contain no error at all.

Only the 10 INV sentences and the 10 VF sentences are scored; the remaining 20 sentences function as distractors. The 40 sentences are randomly ordered, the order being the same for all learners. They were told that most sentences contained an error in grammar, and that they had to correct these errors with a pencil. Half a minute was allowed for the correction of each sentence. Scores were computed for INV and VF separately; a maximum of 10 and a minimum of zero. Every item that had not been corrected at all, or that had been wrongly corrected, was marked as an error.

ELICITATION OF L2 SPEECH:
THE STORY RETELLING TASK

SUBJECTS

By means of the sentence correction test just mentioned, as well as a vocabulary test, 32 learners were selected who could be expected to exhibit variability in
their command of both INV and VF—they had scores between 1 and 9. This group of subjects (henceforth Ss) consisted of 16 native speakers of English (4 male, 12 female; mean age = 32; mean length of residence in Holland = 2.8 years) and 16 learners with other native languages (8 male, 8 female; mean age = 24; mean length of residence = 1.3 years). Their native languages are French (2), Spanish (2), Italian (1), Portuguese (1), Greek (1), Turkish (5), Hebrew (1), Indonesian (2), and Japanese (1). The Romance languages, Greek and Indonesian are SVO, just like English; Japanese and Turkish are SOV; Hebrew is originally VSO, but modern colloquial Hebrew is almost SVO. These 32 Ss performed in the story retelling task and in the interview.

**TASK AND MATERIALS**

The elicitation procedure—for all 32 Ss individually—is as follows. The subject listens to passages of L2 speech, which range in length from 25 to 36 words. He has to render, also in L2, the information of these stimulus texts. The topic of the stimuli concerns matters of everyday life; the vocabulary is simple. The subject can hear the stimulus text by means of a headset. In front of him there is a screen on which a so-called response frame is projected with a slide projector. This response frame consists of a few words that force him to produce a sentence structure of the required type.

For example, in order to force the Ss to produce a subclause in their reproduction of a stimulus text, a written response frame is offered consisting of a phrase such as “This man says that...” or “This lady believes that...”. Ss are instructed to start their response by reading aloud the frame that has been presented to them after they have listened to the stimulus text.

To elicit inversion structures, the response frame consists of an adverbial phrase taken from the first sentence of the stimulus text.

In this way, with each response at least one obligatory linguistic context for either INV or VF is elicited. After the response frame the subject chooses his own words for the remainder of the response; he is thus free to supply INV and VF structures as often as he wishes. The basic instructions read as follows (translated into English):

- First you hear a short text.
- Next you see a slide with a few words.
- Then you have to retell what you have heard.
  1. Start with the words from the slide.
  2. Continue in your own words.

Apart from the items which function for purposes of training there are 48 responses for every S that are recorded on tape, transcribed, and scored for statistical analysis. The data consist of 1536 responses (32 Ss, 48 items) yielding 768 contexts elicited by INV frames and 768 contexts elicited by VF frames. The 1536 responses also contained 1015 additional contexts for INV and 731 contexts for VF, besides those elicited directly by the response frames.
ELICITATION OF EXPPLICIT KNOWLEDGE: THE INTERVIEW

After the story retelling test each subject was interviewed. During the first part of this interview, held in Dutch, the sentences of the sentence correction test were discussed. Each subject was shown his own copy of the booklet containing the 40 test sentences that he had had to correct. (Generally, there was an interval of a few weeks between the administration of the sentence correction test and the story retelling test plus interview.) The interviewer asked questions of the following kind (translated here into English):

- Is this sentence right or wrong? Do you know why?
- Why did you correct this sentence in this way?
- Have you ever heard of "inversion," "main clause," "subclause"?

The interviewer persisted with his questioning until he felt that the subject had made explicit everything about INV, VF and the distinction between main clause and subclause that existed in his mind. Therefore, the most frequent question was "why"?

WHY IS VF MORE DIFFICULT THAN INV?

Before I address myself to the question of why VF is more difficult to learn than INV, I present evidence from the three elicitation procedures mentioned in the previous section, that VF can indeed be considered a more difficult rule than INV. Probably VF is therefore mastered later than INV, although I cannot present decisive evidence for this claim, since my data stem from a cross-sectional study and not from a longitudinal study.

RESULTS OF THE THREE ELICITATION PROCEDURES

The 157 learners that took the sentence correction test scored significantly better for INV than for VF; for INV, M = 5.2, SD = 3.71, for VF, M = 4.0, SD = 3.85; t (156) = 4.806, p < .001. By means of this sentence correction test, 32 Ss were selected from the sample of 157 Dutch learners. These 32 Ss scored a little better on INV (M = 5.4) than on VF (M = 4.7), but this difference is not significant (F(1,30) = 1.82). However, in the story retelling task their INV performance (83 percent correct) differed greatly from their VF performance (47 percent correct). Finally, in the interview 12 of the 32 Ss exhibited an explicit knowledge of INV against only 8 Ss that showed an explicit VF knowledge. Six of them had explicit knowledge of both rules. Nevertheless, in the experiment, each of these six learners made more errors with VF than with INV.

I take these data (L2 speech production, implicit knowledge, and explicit knowledge) as evidence that VF is harder to learn than INV and is more often fully mastered at a later stage than INV.
THE DISTINCTION BETWEEN MAIN CLAUSE AND SUBCLAUSE

Many learners of Dutch seem to have problems with learning to distinguish main clauses from subclauses. This is probably the most important reason for VF being harder than INV. The difficulty of subclause word order, however, is shown not only by the quantity of VF errors. Below I present data concerning three main clause word order rules that Ss also incorrectly apply in subclauses. I also give examples of VF application in main clauses which is also incorrect.

SPLIT VERB CONSTRUCTIONS

In SVO languages such as English and the Romance languages, auxiliaries (modal auxiliaries or tense auxiliaries) and main verbs (infinitives or past participles) are not split in main clauses (e.g., 6 and 7) or in subclauses (e.g., 8 and 9):

6. English: David has eaten an apple
7. French: David a mangé une pomme
8. English: . . . that David has eaten an apple
9. French: . . . que David a mangé une pomme

In Dutch and German, however, auxiliaries and main verbs are split in main clauses, while in subclauses they remain together at the end of the clause. (In Dutch either internal order is correct.) Examples:

10. German: David hat einen Apfel gegessen
11. Dutch: David heeft een appel gegeten
12. German: . . . dass David einen Apfel gegessen hat
13. Dutch: . . . dat David een appel gegeten heeft
14. Dutch: . . . dat David een appel heeft gegeten

It is remarkable that in the L2 speech data I found a great number of split constructions in subclauses such as 15, although one would expect, in general, discontinuous strings to be harder than continuous strings.

15. *. . . dat hij heeft een appel gegeten

Moreover, from learners with SVO mother tongues, one would expect transfer errors of the following type:

16. *. . . dat hij heeft gegeten een appel

But surprisingly, this type of error was almost never made, although 25 of these 32 Ss have an SVO mother tongue. There were only 6 errors of type 16, but 158 errors of the main clause type 15.

I obtained similar evidence from a sentence correction test that I used in a pilot study (Hulstijn, 1980: p. 151, table 4). This test was designed in the same way as the sentence correction test of the present study. It consisted of 48 items,
7 of which contained the nonsplit construction of type 16. The test was administered to 18 learners of Dutch with English as their L1. They changed this construction 71 times (= 56 percent) into the equally wrong split construction of type 15.

**ADVERBIAL FRONTING IN SUBCLUSES**

Adverbial fronting in main clauses is frequent in German and Dutch (e.g., 17 and 18), but this is almost always ungrammatical in subclauses (e.g., 19 and 20):

17. German: Heute bleibt David zu Hause
18. Dutch: Vandaag blijft David thuis
19. *German: ... dass heute David zu Hause bleibt
20. *Dutch: ... dat vandaag David thuisblijft

Verhagen 1980 discusses under what pragmatic conditions such clauses can be acceptable in standard Dutch. Generally, such clauses can only be acceptable if the adverbial constituent itself does not belong to the focus of the clause, but the subject does belong to the focus; i.e., either the subject is the only focus constituent or the whole string to the right of the adverbial is the focus, including the subject. Such sentences, however, rarely occur; they are “marked.” The reason is that adverbials (at least predicate adverbials and phrases indicating time or place) usually belong to the focus of subclauses and are usually not felt to constitute the topic. Furthermore, the subject of the subclause, if it is a definite NP, does not belong to the focus in unmarked clauses.

 Whereas subclauses with fronted adverbials are seldom produced by native speakers, and almost always have a highly marked status, in the speech data from second language learners in the present study such clauses are very frequent indeed: 227 out of a total of 1360 subclauses (16.7 percent).

**INVERSION IN SUBCLUSES**

Adverbial fronting in main clauses causes inversion (cf. 18). Inversion in subclauses is impossible, since fronting in subclauses is almost always ungrammatical, as I have argued in the previous section, and since the finite verb in a subclause takes the final position. In the data, however, I find many such inversion constructions:

21. *... dat vandaag blijft David thuis

This is an even stronger indication that learners do not know what subclauses are. Out of the 227 subclauses with fronted adverbials just mentioned, there are 99 that show inversion of type 21. I also found 4 instances of inversion in subclauses that contained a preposed object NP, e.g.,

22. *... dat die oude huizen gaan ze slopen (subj. 13, item 41) (... that these old houses will they pull down)
VERB FINAL IN MAIN CLAUSES

There are two other types of errors that indicate that learners often cannot make a distinction between main clauses and subclauses. In Dutch the conjunctions en "and," maar "but," and want "because, for" are not followed by a subclause since they are coordinating conjunctions. The data in this study, however, contain 13 instances of VF incorrectly applied in clauses beginning with one of these conjunctions, e.g.,

23. *en de kinderen het reclameprogramma goed vind (s6, i32)
   (and the children the commercials like)

Also, I found 6 instances of VF in main clauses beginning with the subject, e.g.,

24. *Deze winkels oude meubels heeft (sE11, i52)
    (These stores old furniture have)

EVIDENCE FROM THE INTERVIEW

In trying to elicit explicit knowledge of VF, I often found that learners did not have a clear understanding of the distinction between main clauses and subclauses. Some learners could only say that the verb goes at the end, but they were not able to state when this is so and when not. Others said that the verb goes at the end after the word dat; they therefore were led to change the correct sentence en dat is erg gevaarlijk "and that is very dangerous," in which dat is not a conjunction but a demonstrative, into the incorrect order en dat erg gevaarlijk is. Others maintained that a subclause is the second clause in a sentence. Many learners admitted during the interview that they had never really understood the VF rule because of their lack of understanding of the subclause notion.

FIRST LANGUAGE INTERFERENCE?

In designing this study, I assumed that differences in L1, along with differences in educational systems and teaching/learning styles in the home country, might affect the extent to which L2 learners monitor their L2 speech. That is why I decided that, in selecting 32 Ss for this investigation, I would make sure that 16 of them had the same mother tongue (English).

The analyses of variance show that both non-English and English Ss are affected in the same degree by the experimental treatments (Hulstijn, 1982: chap. 9); the interactions are not significant. Nevertheless, it turns out that the English group did less well than the non-English group on VF across all treatments but that their performance on INV was equally as good. How can we explain this difference? Is it due to L1 transfer?

In scoring the speech data from the story retelling task, I distinguished 13 types of VF errors, on linguistic grounds. None of these error types, however, are made exclusively or almost exclusively by either group. One of the largest
error categories is split verb constructions as in 15, but both groups make this type of error. The second largest error category consists of instances of adverbial fronting as in 20. But such subclauses are made by non-English (113) as often as by English Ss (114). (Such clauses were scored as VF errors if the verb was not final: non-English 72 versus English 86 errors.)

Furthermore, many errors in subclauses containing only a finite main verb, as in 5, might be interpreted as due to interference from English. But even the Ss that had Turkish and Japanese as L1s made such errors, e.g.,

25. *... dat er is goede restaurant dichtbij haar werk
   (... that there is good restaurant near her work)
   (s16, i36; L1 = Japanese)
26. *... dat de winkels zijn op zaterdagmiddag open
   (... that the stores are on Saturday afternoon open)
   (s16, i65; L1 = Turkish; this subject does not speak English)
27. *... omdat de taxi is duurder dan de bus
   (... because the taxi is more expensive than the bus)
   (s9, i11; L1 = Indonesian)
28. *... dat ze houdt van film
   (... that she likes movies)
   (s8, i30; L1 = Hebrew)

Although it is clear that generally VF is more difficult than INV and is therefore not fully mastered until later, it is not clear why speakers of English do worse on VF than speakers of other languages. Note that of the 16 non-English Ss, 9 have SVO mother tongues and 14 speak English more or less fluently. Moreover, in the interview, s16 (Japanese), s1 (Indonesian), and s8 (Hebrew) stated that they compare Dutch with English. Just like the five Turkish Ss, they emphasized that they do not compare Dutch with their L1 because they sense Dutch to be totally different. (The Turkish Ss were amazed when I pointed out to them in the interview that Turkish has a verb final rule also; it had never occurred to them to make a comparison.)

The difference between the English group and the non-English group is probably due to the bias from the sentence correction test: the English Ss happened to do less well than the non-English Ss (although all 32 Ss met the selection criteria). But even when members of the non-English group are matched with members of the English group on their scores in the sentence correction test, we see that the English native speakers do worse: there are four non-English Ss with an SVO mother tongue that each have the same scores in this test (for INV and VF) as four members of the English group. Comparing their VF scores in oral production (the story retelling task), we observe that this non-English subgroup scores 55 percent correct, against 26 percent for the English subgroup.
WHY ARE INV AND VF LATE ACQUIRED RULES?

In this final section I relate my findings to those of Meisel (1980) and Clahsen (1980). Within the framework of the ZISA research project, Meisel and Clahsen elicited L2 speech data from 12 Spanish and Italian workers in Germany, acquiring German without formal instruction. (German has the same INV rule and almost the same VF rule as the Dutch language.)

Meisel found that INV and VF are acquired later than adverbial fronting and particle. Adverbial fronting stands for the placement of an adverbial constituent in the initial position of a declarative main clause, as in 17 and 18. Particle deals with what I have labeled "split verb constructions," as in 10 and 11. In his attempt to explain this order, Meisel states that adverbial fronting and particle differ from INV and VF in that they do not necessarily separate the main verb from its object NP: "one could say that the verb and its object constitute a kind of perceptual Gestalt which resists interruption" (p. 27). However, as Meisel himself admits, INV and VF do not necessarily separate the verb from the object either. When the finite verb is an auxiliary, the nonfinite main verb remains next to the object; but when the finite verb is also the main verb, it is separated from the object by INV. Compare:

29. Vandaag heeft David drie appels gegeten
   (Today has David three apples eaten)
30. Vandaag eet David drie appels
   (Today eats David three apples)

Nevertheless, it is conceivable that auxiliary inversion is first acquired in split verb contexts such as 29, leaving the main verb next to the remainder of the predicate, and that main verb inversion as in 30 is acquired only later, as it splits the main verb from the remainder of the predicate. What is the evidence for this claim?

In a study on the acquisition of Swedish by 160 adult immigrants, Hyltenstam (1978, 1981) found a clear implicational relation for INV in yes/no questions: auxiliary inversion preceded main verb inversion (the learners were tested twice with an interval of five weeks). However, such an order was not found in declarative main clauses with preposed adverbials. (Swedish, German, and Dutch have INV rules in yes/no questions and in declarative clauses with preposed constituents.) Hyltenstam concludes: "One might speculate that different kinds of inversion actually are not processed as one linguistic unit at a psychological level" (1981: 187).

Lalleman (1980), in her analysis of data from interviews with eight Turkish and Moroccan foreign workers with varying levels of competence in Dutch, could not confirm the claim that auxiliary inversion is always acquired prior to main verb inversion. From the 94 INV errors in Lalleman's corpus, 62 consisted of noninverted main verbs, whereas of the 132 correct inversions, 51 consisted of main verb inversions.
In my data from 16 English and 16 non-English middle-class learners of Dutch, I find many errors, as well as many nonerrors for both subject-auxiliary inversion and subject–main verb inversion. The number of uninverted main verbs (186) is even three times larger than the number of uninverted auxiliaries, but I believe that these figures cannot be used to prove or sustain any claim at all, since the overall number of INV errors is low: 248, which is 16 percent.

Lalleman notes another interesting characteristic in the speech of her subjects. She found 100 structures showing inversion in declarative main clauses without preposed constituents, i.e., cases of INV where INV is not allowed: *verb + subject + rest. In 76 out of these 100 cases, the verb was a main verb, yielding separation of verb and object even when verb and object must remain together. (Note that this order is correct in yes/no questions: verb + subject + rest?) In my data I also found this construction, not only among the five Turkish Ss, but also with others, e.g.,

31. *Ga ik naar China's restaurant
   (Go I to China restaurant)
   (s7, i36; L1 = Turkish)

32. *Was ik in mijn bed gedurende vijf dagen
   (Was I in my bed during five days)
   (s11, i19; L1 = French)

33. *Speelt zij in de tuin
   (Plays she in the garden)
   (s16, i31; L1 = Japanese)

34. *Heb ik honderd gulden voor hem betaald
   (Have I hundred guilders for it paid)
   (sE12, i51; L1 = English)

There are 11 instances of such declarative clauses with an initial finite verb. But also, there are 21 instances of declarative clauses showing INV after coordinate conjunctions such as en “and,” maar “but,” want “because, for” and of “or,” e.g.,

35. *En moet hij om acht uur werken
   (And must he at eight o'clock work)
   (s15, i9; L1 = Turkish)

36. *Maar vind ik dit baan niet leuk
   (But find I this job not pleasant)
   (s16, i43; L1 = Japanese)

37. *... of kijk zij een televisieprogramma
   (... or watches she a television program)
   (sE10, i68; L1 = English)

Unfortunately Meisel and Clahsen do not present separate figures for main verb INV and for auxiliary INV from the ZISA data.
DISCUSSION

In evaluating the evidence that I have presented, one has to bear in mind two points. First, my data, as well as Lalleman’s, are obtained from a cross-sectional study; hence it is hard to draw conclusions concerning a temporal order. Second, my study focuses more on what can be labeled as ultimate attainment, skilled performance, or mastery of a rule, rather than on the initial stages of acquisition. However, a longitudinal in-depth study such as the ZISA project offers the opportunity to pinpoint precisely the initial stages of rule acquisition by identifying the first occurrences of obligatory contexts for a certain rule and the first occurrences that that rule is applied.

In conclusion, I suggest that the sequence of developmental stages that has been observed by Meisel and his colleagues and probably exists also for Dutch, viz., the acquisition of adverbial fronting and split verb constructions prior to INV and VF, can be partly explained by the following linguistic facts. Adverbial fronting has a clear semantic or discourse function, often topicalization (cf. Meisel, 1980: 26). Auxiliary—main verb splitting also has a semantic motivation, namely, modality, aspect, or tense. However, INV in declarative clauses and VF are purely syntactic rules; i.e., they have no semantic function. Both rules involve the manipulation of word order in a sometimes complicated way. The language learner has to differentiate syntactic and morphological concepts such as main clause and subclause, adverb and conjunction, coordinate and subordinate conjunction, as well as finite and nonfinite verb form. Therefore, we should not be surprised that many learners get confused and make errors such as the ones that I found:

1. Split verb constructions in subclauses, cf. 15.
2. Adverbial fronting in subclauses (20).
3. Inversion after a fronted adverbial in subclauses (21).
4. Verb final in main clauses beginning with the subject (24).
5. Verb final in main clauses beginning with a coordinating conjunction (23).
6. Sentence initial inversion in declarative main clauses (31).
7. Inversion after a coordinating conjunction in declarative main clauses (35).

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