THE ALTERNATION HYPOTHESIS: ACQUISITION OF DUTCH WORD ORDER BY TURKISH AND MOROCCAN FOREIGN WORKERS[1]

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We describe the acquisition of Dutch word order (in particular the positions of the verb and the preposition) by 16 Turkish and Moroccan foreign workers residing in Amsterdam. Our theoretical framework is the Alternation Hypothesis, which states that when the target language offers an alternation between two patterns (e.g., verb final and verb second, as in Dutch), a second language learner will tend to overgeneralize the pattern existing in his or her first language (e.g., verb final in Turkish, verb second in Moroccan Arabic). The hypothesis is partly confirmed by our data. Reliance on first language structures is frequent in the early stages of the process of acquisition of the alternating orders involved, but almost absent in later stages.

This article deals with the varieties of Dutch acquired as a second language by Turkish and Moroccan foreign workers ("Gastarbeiter") in the Netherlands, and, in particular, with word order phenomena. We will try to investigate to what extent structures which occur in Turkish and Moroccan, their own native languages, influence the word order of their Dutch. A second question is to what extent and how this syntactic interference from their native languages interacts with other aspects of the acquisition process of Dutch as a second language, such as rule overgeneralization and acquisition of restricted "foreigner talk" structures.

Clearly then, the research reported on contributes to the long-standing debate about the role of "interference" in second language acquisition. We will make a very specific contribution, however, by exploring a hypothesis about the acquisition of forms which alternate in the target language. We call this the Alternation Hypothesis:

Assume that in target language A there is an alternation between two surface structures, and that in source language B only one of these two surface structures occurs. Then speakers of source language B acquiring

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language A will overgeneralize in their interlanguage grammar the structure which corresponds most closely to the structure in their own language.

The study of the acquisition of Dutch as a second language is of particular interest for the testing of this alternation hypothesis. There are two types of structures where we find an alternation in word order: the verb phrase and the prepositional phrase. In the two native source languages studied here, the word order corresponds precisely to each of the two Dutch alternatives.

On the basis of the contrastive analysis hypothesis, which in its strongest form assumed that where the structures of two languages differed, interference would occur, early studies have stressed the substantial role interference plays in the second language acquisition process (Duškova 1969, Stockwell, Bowen, and Martin 1965). However, as many of the errors made by second language learners did not seem to be explainable on the basis of the structure of the native language, but were rather comparable to those children make in acquiring their first language (Dulay and Burt 1972, 1974), the issue of language transfer was slowly abandoned. Instead, various authors (Nemser 1971, Selinker 1972, Corder 1975) pointed out the emergence of an *interlanguage* system: The second language learner creates a grammar often containing features which are reducible neither to the native language nor to the target language.

The alternation hypothesis goes against much current work on second language acquisition, both in Europe and in North America, which stresses universal aspects of language acquisition, both first and second. In fact, the notion of transfer most compatible with the alternation hypothesis is not a mechanistic one. Rather, it presupposes that language learning involves the creative task of grammar construction and simply hypothesizes that one of the guidelines the learner has for second language grammar construction is the structure of the first language. As Taylor (1975:73) has put it:

> These findings appear to be consistent with a theory which considers second language acquisition to be an actively creative process dependent upon a student's ability to assimilate and subsume new information into already existing cognitive structures. The overgeneralization and transfer learning strategies appear to be two distinctly different linguistic manifestations of one psychological process: reliance on prior learning to facilitate new learning.

We will begin by presenting the word order possibilities in Dutch, Turkish, and Moroccan Arabic (Section I). In Section II, we will briefly describe the research design and data collection procedures. In III, we will

focus on the preposition phrase results, and in IV on the verb phrase results. In Section V, we look at interference in a developmental perspective, and in VI, we adopt various other perspectives. Section VII briefly summarizes our findings.

I. THE WORD ORDER OF DUTCH, TURKISH, AND MOROCCAN ARABIC

Dutch

In Dutch affirmative main clauses we find the tensed verb, but not possible infinitival complements and participles, in second position, that is, after the first constituent:

(1) a. ik *zag* gisteren een beer
        I saw yesterday a bear
    b. gisteren *zag* ik een beer
        yesterday saw I a bear
(2) ik *wil* een beer *zien*
     I want a bear to see

Note in (1) that only one constituent can precede the tensed verb; in (1)a this is the subject, in (1)b, a temporal adverb. Note in (2) that main verb *wil,* "want," and infinitive *zien,* "to see," are separated.

In Dutch subordinate clauses, all verbs occur at the end:

(1)*... omdat ik gisteren een beer *zag*
        because I yesterday a bear saw
(2)*... omdat ik een beer *wil zien*
        because I a bear want to see

Given the contrast between (1)-(2) and (1)*-(2)* we can see that Dutch shows an alternation between verb second (V2) and verb final position (Vfin) for tensed clauses. Note again that infinitives and participles occur always at the end.

A slightly different situation holds for prepositional phrases. Mostly we find prepositions in Dutch:

(3) a. *in* het huis
        in the house
    b. *op* het dak
        on the roof

The locative prepositions often have a postpositional counterpart, with a

directional meaning:

(3) a.* het huis *in*

the house into

b.* het dak *op*

the roof onto

Some elements occur only as postpositions, and sometimes we find prepositional phrases with both a pre- and a postposition:

(4) *naar* Parijs *toe*

to Paris to

"to Paris"

The contrast between (3) and (3)* again shows a surface alternation in the Dutch word order patterns.

In the Netherlands the two largest single groups of migrant workers have Turkish and Moroccan Arabic as their first language.

Turkish

In Turkish we find the verb invariably at the end of the sentence:[2]

(5) Halil dün kitabı *okudu*

Halil yesterday the book read

Similarly, we find only postpositions, in addition to postposed case markers (CAs):

(6) antikacı-*dan iceri*

antique CA inside

"inside an antique dealer's"

(7) agustos-*tan beri*

August CA since

"since August"

Moroccan Arabic

The word order of Moroccan Arabic is made complicated by the fact that we must distinguish between verbal (generally verb-initial) and nominal (generally verb-second) sentences.[3] Examples are:

(8) *safet* l-mesṭa dyali

saw-she comb my

"she saw my comb"

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[2] This sketch of Turkish grammar is based in part on Lewis (1967).

[3] These data were found in Harrell (1962).

(9) s̩-serraq *dda* l-werqa de-l-weld

    the thief took ticket the boy's

    "the thief took the boy's ticket"

We find only prepositions:

(10) a. *fe*-d-dar

      in the house

    b. *qeddam* d-dar

      in front of the house

Implications for the alternation hypothesis

Schematically, we can present the word order possibilities of the three languages with respect to each other, as in Figure 1. In Turkish we find postpositions (XP) and verb final (XV) constructions; Moroccan Arabic shows prepositions (PX) and verb-initial or verb-second constructions (VX); in Dutch there is alternation between these two. Given these relationships, we can formulate a specific version of the alternation hypothesis:

    a. Moroccans learning Dutch will overgeneralize V2 and PX structures, and avoid Vfin and XP structures.

    b. Turks learning Dutch will overgeneralize Vfin and XP structures, and avoid V2 and PX structures.

Various other formulations of these hypotheses are imaginable, such as one claiming that structures similar to source structures are acquired earlier than structures dissimilar to source structures. Another one would claim that structures dissimilar to source language structures are learned irregularly, and similar structures regularly. The general principle of the alternation hypothesis does not hinge on any of these specific conceptions of what the role of knowledge of first language structures in second language learning might be. We will return to this when discussing the results of the research.

II. RESEARCH DESIGN AND DATA COLLECTION PROCEDURES

We did a cross-sectional study, conducting 30- to 45-minute informal interviews with sixteen informants—eight speakers of Turkish and eight speakers of Moroccan Arabic, with various levels of acquisition of Dutch. Our analysis is based on the transcribed texts of these interviews.
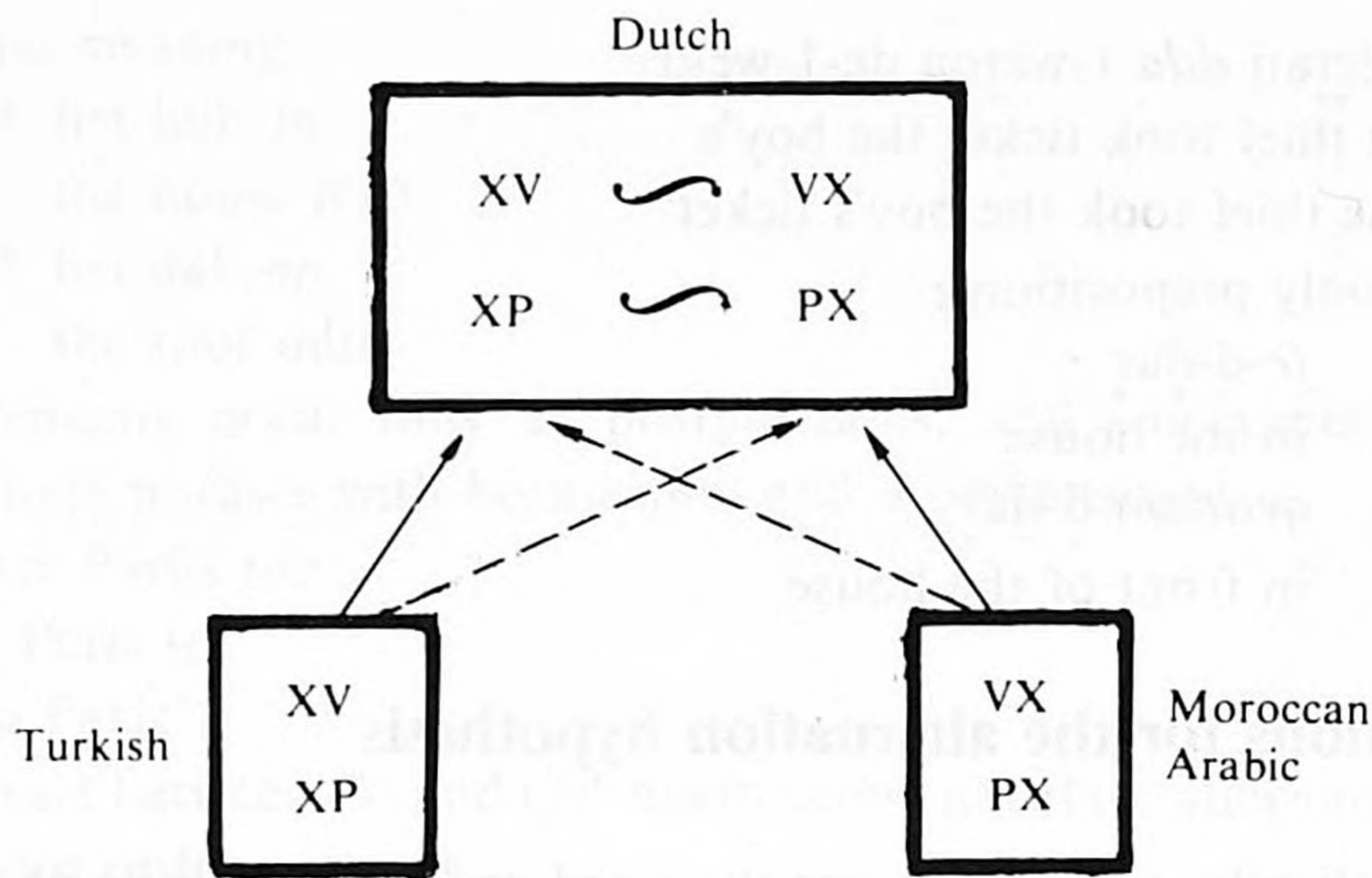
Dutch

Figure 1. Basic word order patterns in Dutch, Turkish, and Moroccan Arabic and the alternation hypothesis.

Topics discussed with informants included their work situation, their lives in their own countries and here, their experiences with Dutch, etc. The informants were all between 21 and 48 years of age, with an average age of 35. They had been living in the Netherlands between one and fifteen years, averaging nine years of residence. Two of the Turks and three of the Moroccans were married to or living with native Dutch speakers. They held a variety of jobs, ranging from unskilled factory worker to assistant social worker. Only 5% of the Turkish and Moroccan population in the Netherlands take a Dutch language course, and the group interviewed for this project all had learned Dutch untutored, as adults.

The transcribing was not done phonetically but intended to make the speech immediately fit for syntactic analysis. From each interview we selected 100 consecutive utterances, sometimes interspersed with remarks by the interviewer, and always from a lively fragment of discourse after the first ten minutes of the interview. These utterances were analyzed as T-units,[4] our basic unit for word order analysis.

We analyzed the data—100 T-units for each informant—in two ways: We first looked at oblique noun phrases, for the possible presence of pre- or postpositions. Second, we studied the position of the verb in the sentence, distinguishing four verb positions:

V1:   the verb in the first position with a subject present

V2:   the verb in the second position, or the verb in first position when

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[4]T-units are established by separating coordinated clauses but counting subordinate clauses together with their matrix clauses (cf. Hunt 1970).

the subject was absent

V3:   the verb in third position, e.g., after a focus-fronted element and the subject

Vfin: the verb in final position, scored as such only when there was a preceding complement (object, prepositional phrase, adverb); otherwise, verbs would have been counted as both V1 and Vfin in one-word utterances, V2 and Vfin in two-word utterances, etc.

Since we were dealing with a cross-sectional study, some way had to be found to compare the informants, without making reference to the variable studied (Larsen-Freeman and Strom 1977). For this purpose, a compound syntactic index was devised, based on four measures:

a. Mean number of words per T-unit
b. Percentage of cases of agreement in number and person between the subject and the verb
c. Percentage of realized pronominal subjects
d. Percentage of realized determiners (articles, possessives, and demonstratives)

By multiplying the means in (a) by ten, a measure comparable to the percentages was reached (ranging from 32 to 99), and we could calculate an average percentage over the four measures per informant. These averages were then transformed into z-values, indicating the distance from the mean of the averages of all informants from the two ethnic groups. These z-values are represented in Table 1.

The Moroccans as a group are slightly more advanced (average S.I. .12) in their acquisition of Dutch than our Turkish informants (average S.I. -.12). This implies that part of the differences that we may find between the two groups could be due to the overall slightly lower level of proficiency of the Turkish group.

The syntactic index used to rank the speakers was found in the study of a similar group of informants reported on in Muysken (1980) to correlate highly ($r = .82$) with a ranking on the basis of judgments by two groups of 20 Dutch language students of the foreigners' proficiency. The question of whether the measures used are language-neutral is very hard to answer, both because the workings of Turkish and Moroccan Arabic syntax need much more careful investigation and because it is unclear at this point to what extent unrelated languages can have subsystems that are comparable, such as verb agreement or determiner systems. In any case, a closer look at Table 1 does not reveal major differences in patterning on the four measures employed between the two groups.

Table 1

The informants ordered according to the z-values of the syntactic index, based on the average E of the four measures A, B, C, and D

	A	B	C	D	E	SI		A	B	C	D	E	SI
M6	8.2	99	97	87	9.1	1.27	T1	9.9	93	95	82	9.2	1.38
M4	6.7	99	83	77	8.1	.83	T2	8	89	84	77	8.2	.92
M8	5.9	88	87	73	7.7	.61	T3	6.2	61	68	75	6.6	.22
M7	5.2	93	80	63	7.2	.40	T5	4.5	79	66	55	6.1	- .05
M5	6.8	67	79	55	6.7	.28	T6	5.7	71	55	42	5.6	- .19
M3	4.5	65	49	26	4.7	- .62	T4	6.2	59	64	32	5.4	- .24
M2	4.4	67	27	38	4.4	- .72	T8	3.2	63	27	22	3.6	-1.07
M1	4.6	27	52	12	3.5	-1.09	T7	3.3	10	10	4	1.4	-1.93

A= mean number of words per T-unit, B= percentage of cases of agreement in number and person between subject and verb, C= percentage of realized pronominal subjects, D= percentage of realized determiners (articles, possessives, and demonstratives).

III. PRE- AND POSTPOSITIONS

We find postpositions with the Turkish speakers, as in (11), but also some in the speech of Moroccans. Besides a greater number in the Turkish case, there is an interesting structural difference. In the case of Dutch compound pre- and postposition combinations, the Turkish speakers will often use only the second element of the compound, while Moroccans will use both. In (11), examples are given from Turkish speakers; (12) is from a Moroccan speaker:

(11) a.   of buurthuizen *toe* (T2)
           or community centers to
     b.   *naar* maatschappelijk werkers *toe* (T2)
           to social workers to
     c.   andere man *samen* (T7)
           other man together

(12) *naar* Spaanse *toe* (M5)
      to Spanish to

The same Turkish speaker (T2) sometimes uses a compound preposition, as in (11)a, and sometimes a reduced one, as in (11)b. The case of (11)c is more complicated: The occurrences of *samen*, "together," as a postposition in the Dutch of Turkish speakers could be analyzed as a reinterpretation of *samen* from adverb to postposition. Alternatively, they may correspond to the native Dutch construction which contains a preposition *met*, as in (11)c*, but then with *met* deleted:

(11) c.* *met* de andere man *samen*
          with the other man together

The total number of postpositions in the sample of the Turkish and Moroccan speakers is not large enough, however, to do a statistical comparison of the two groups.

As to prepositions, Turks use significantly fewer of these ($p < 0.05$) than Moroccans, where they are obligatory in Dutch. Particularly the locative preposition *in*, "in," is often deleted by Turks. Moroccans, on the other hand, showed a considerable tendency to use the wrong type of preposition where one was needed, and particularly to underdifferentiate semantically. Both groups overextended the use of prepositions to contexts where in Dutch no prepositions occur, e.g., before subjects and objects and before infinitival complements. Examples are given in (13) and (14), respectively:

(13) *voor* haar moet zelf weten (M8)
      for her must herself know
      "she should know it herself," i.e., "it's her own business"

(14) huis *voor* de vrouw en kinderen nemen hierheen (M2)
      house for the wife and children take to here
      "a house so that I can bring my wife and children here"
Table 2 presents the relevant figures illustrating the differences between
Turkish and Moroccan Arabic speakers of Dutch.

Table 2
Average number of wrong and absent prepositions, with percentages of error types for
the category of wrong prepositions

	Average for Moroccans	Average for Turks
Preposition errors	10.6	7.5
Selection errors	75.5%	61.1%
Prep. before subject/object	14.9%	16.7%
Prep. before inf. complement	9.6%	22.2%
Preposition absent	6.6	19.0

There appeared to be no relation between the number and type of
prepositions used and the level of proficiency of the informant, while the
use of the correct preposition was evidently more frequent for the more
advanced speakers.

We assume that the fact that prepositions in the speech of the Turks are
significantly more frequently absent is primarily due to some type of
interference from Turkish and that the slight difference in overall level of
proficiency cannot solely account for it. For speakers of Turkish, the
problem of learning a prepositional language manifests itself through the
strategy of avoidance.

One might assume, on the basis of the experience gained in first language
acquisition studies, that it is not so much interference which has led to the
adoption and creation of postpositions in the foreigners' Dutch, but rather
a general acquisition strategy such as "Pay attention to the end of the
word," proposed by Slobin (1973). Postpositions in Dutch are not really
part of their complements, however, not even phonologically on the
surface. Instead, they are marked by a pause and a rising intonation, as can
be seen in (3)b* *dak op*. Furthermore, we find postpositions in the speech of
the Turks which do not correspond to Dutch prepositions, as *samen* in
(11)c.

IV. THE POSITION OF THE VERB

With respect to the position of the verb in the speech of Turkish and Moroccan foreign workers learning Dutch, we must of course distinguish between main and subordinate clauses: Dutch main clauses show V2 order, Dutch subordinate clauses Vfin. We will first discuss main clauses, and then separately subordinate clauses.

Following the distinctions between four surface positions for the verb, established in Section II above, we find one significant difference between the Turkish and Moroccan speakers: with respect to Vfin (see Table 3). Turks tend to place the verb in final position significantly more frequently than Moroccans ($p < 0.05$). As we saw above, the Turks on the whole are slightly less advanced than the Moroccans. This difference, however, cannot account for the significant differences that we have found between the two groups, so that we can conclude that the general result is in accordance with the alternation hypothesis.

Table 3
Distribution in percentages of the verb in main clauses, in averages for both ethnic groups

	Verb position			
	V1	V2	V3	Vfin
Average for Moroccans	10.5	77.1	8.7	4.0
Average for Turks	7.6	57.8	10.8	24.0

Moroccans, on the other hand, tend to place the verb more frequently than Turks in first and second positions, but the results are not significant. Note also that more than 7% of the Turkish Dutch main clauses had the verb in initial position. This result is in no way predicted by the alternation hypothesis; we will return to it in Section VI. The very general results given in Table 2 are in no way indicative of the full complexity of the placement of verbs in the speech of the Turkish and Moroccan foreign workers. To grasp this complexity we must look at verb placement in a developmental perspective.

In subordinate clauses we find also that the Turkish speakers show more verb final structures than the Moroccans: 17 out of 28 cases (60%) for the Turks, 20 out of 53 cases (37%) for the Moroccans. On the whole, this result again tends to confirm the alternation hypothesis. There are reasons for

caution in this, however. first, if we only look at tensed verbs, the difference is much smaller: The Turks place 10 out of 20 tensed verbs in final position (50%), the Moroccans 20 out of 47 (42%). Second, only advanced speakers of both nationalities use subordinate clauses (here defined syntactically as overt subordinates with a complementizer; there is no rule of complementizer deletion in Dutch), and the number of such clauses in our sample is limited.

V. THE DEVELOPMENT OF VERB PLACEMENT IN MAIN CLAUSES

It was mentioned already that comparing the Moroccan speakers with the Turkish speakers in two groups obscured the considerable development characterizing the acquisition of word order, resulting in sizable differences between more and less advanced speakers.

For the purpose of making the developmental data more manageable and surveyable, we divided the eight informants of each nationality into three groups—one beginning, one intermediate, and one advanced, clustering together speakers with comparable proficiency (see Table 4).[5] We will look at the word order data in terms of these three levels.

Table 4

Informants grouped into levels of proficiency, based on the syntactic index (I= low proficiency, II= intermediate, III= high)

	Level I	Level II	Level III
Turks	T7, T8	T4, T5, T6	T1, T2, T3
Moroccans	M1, M2, M3	M5, M7	M4, M6, M8

First, we separated the sentences in our sample in which both a verb and a subject were present, from those with only a verb, since it turns out there were rather large differences between them. Consider first the subjectless clauses. We have distinguished here between VX (the verb preceding objects, manner verbs, prepositional phrases, etc.) and XV structures, and as is shown in Table 5, there is a sharp distinction between the two groups. The Turkish speakers use considerably more XV structures than the Moroccan speakers. Furthermore, both groups use fewer of these structures in the more advanced stages. The distribution of XV structures per ethnic group and per level of proficiency is presented in Figure 2.

[5] T3 is put in the most advanced group to insure that the average level in the most advanced groups would be roughly similar.

Table 5
VX versus XV word order in subjectless clauses for the three levels in the two ethnic groups (tenseless verbs in parentheses)

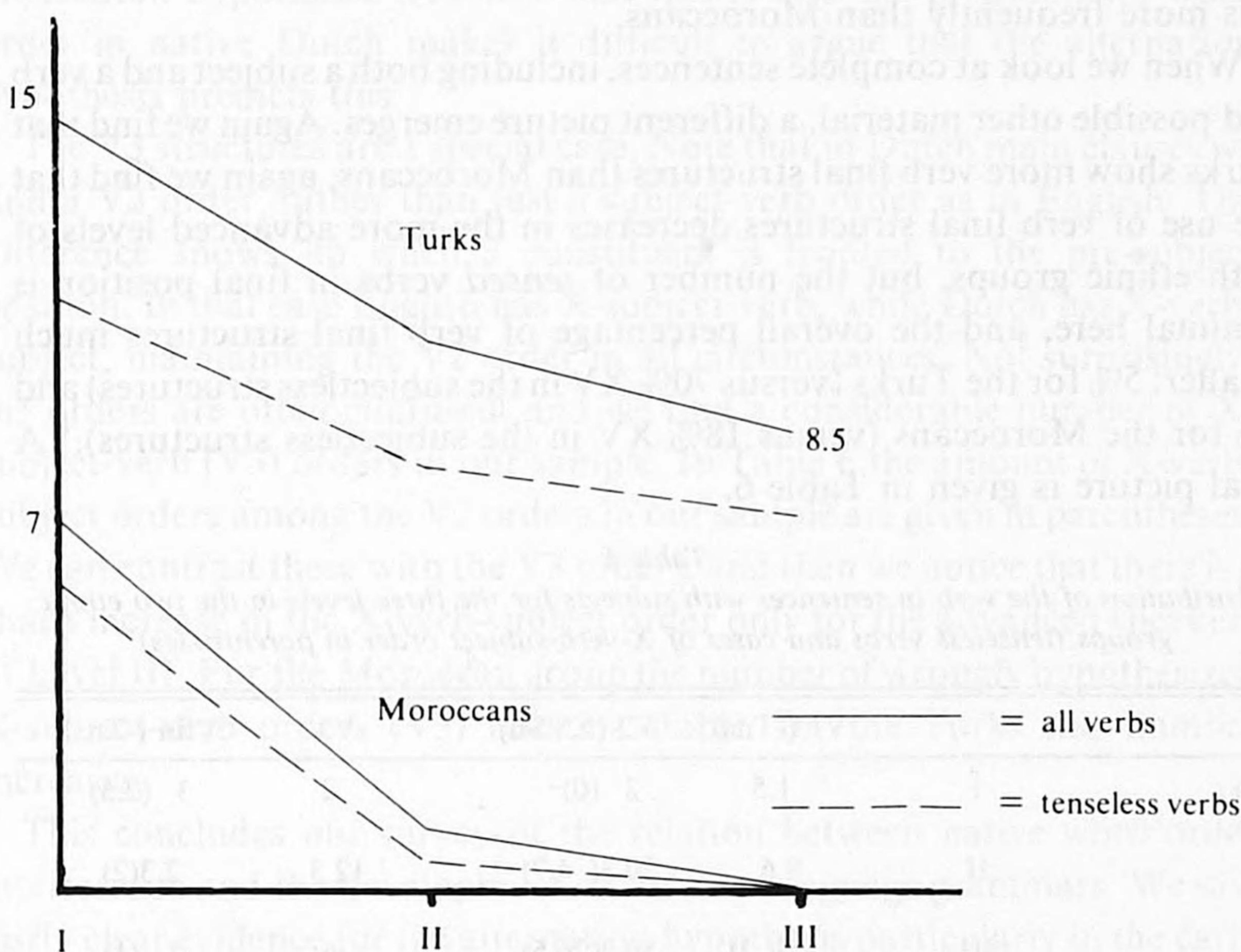| | Turks | | Moroccans | |
	VX	XV	VX	XV
Level I	2.7(.7)	15 (11.7)	21.7(8)	7(6)
Level II	7 (1.3)	11 (8.7)	10 (2)	1(.5)
Level III	6 (0)	8.5(7.5)	6 (.7)	0(0)

Figure 2. The development of XV order in subjectless sentences for three levels of the two ethnic groups.

In Table 5 and in Figure 2, it is also indicated which of the verbs in final position were tenseless: For the Turks this is 80% of the total XV verbs, for the Moroccans 83%. Of all the subjectless structures, exactly half have a tenseless verb. These results become readily understandable if one looks at the structure of Dutch multiverb main clauses, formed with a modal and infinitival complements:

(15) a.   ik *wil* naar huis *gaan*
         I want to home go
         "I want to go home"
     b.   jij *moet* vanmiddag *werken*
         you must this afternoon work
         "you must work this afternoon"

In Dutch we never find a tenseless verb in nonfinal position, and the fact that we find so many subjectless clauses with tenseless final verbs in our sample can be explained by assuming that their structure corresponds to a Dutch verb phrase: a tenseless verb and its complements. The alternation hypothesis predicts, successfully in this case, that Turkish speakers will do this more frequently than Moroccans.

When we look at complete sentences, including both a subject and a verb and possible other material, a different picture emerges. Again we find that Turks show more verb final structures than Moroccans, again we find that the use of verb final structures decreases in the more advanced levels of both ethnic groups, but the number of *tensed* verbs in final position is minimal here, and the overall percentage of verb final structures much smaller: 5% for the Turks (versus 70% XV in the subjectless structures) and 1% for the Moroccans (versus 18% XV in the subjectless structures).[6] A total picture is given in Table 6.

Table 6
Distribution of the verb in sentences with subjects for the three levels in the two ethnic groups (tenseless verbs and cases of X-verb-subject order in parentheses)

		V1 (-Tns)	V2 (XVSu)	V3	Vfin (-Tns)
Turks	I	1.5	2 (0)	2	3 (2.5)
	II	9.6	20.3(4.7)	12.3	2.3(2)
	III	8.3(.3)	50.3(26.5)	6	1 (1)
Moroccans	I	4.3	22 (2.3)	5	1.7(1.3)
	II	14.5	34 (7)	3.5	0
	III	6.3	57 (17.7)	4	0

[6] Here we included in the category of tensed verbs: (a) the (correct) use of the stem (e.g., *loop*, "walk") with first person subjects; (b) the (correct) use of the stem *en* (lopen, "walk," pl.) with plural subjects. The plural is identical to the infinitive or tenseless form, however, and we might argue that the (a) case is not inflected, but really a "bare" verb. Discounting (a) and (b), not a single tensed verb appeared in final position in our sample.

The verb-initial pattern remains relatively stable for the low level and advanced Moroccan groups, and surprisingly enough increases for intermediate speakers of Moroccan and for intermediate and advanced speakers of Turkish. We will return in the next section to an explanation for this. The verb-second pattern shows a considerable advance for both groups. This is to be expected since it is the predominant pattern in Dutch main clauses. The advanced speakers are going toward, although not quite approaching yet, the target norm. Note that the Moroccans of the lowest level start with considerably more V2 structures than Turks at that level. The tendency of the Moroccans to place the verb in sentence initial or second position when they start learning Dutch is compatible with the alternation hypothesis. The fact that this is also the predominant word order in native Dutch makes it difficult to argue that the alternation hypothesis predicts this.

The V3 structures are a special case. Note that in Dutch main clauses we find a V2 order, rather than just a subject-verb order as in English. The difference shows up when a constituent is fronted to the pre-subject position. In that case English has X-subject-verb, while Dutch has X-verb-subject, maintaining the V2 order in all circumstances. Not surprisingly, the orders are often confused, and we find a considerable number of X-subject-verb (V3) orders in our sample. In Table 6 the amount of X-verb-subject orders among the V2 orders in our sample are given in parentheses. We can contrast these with the V3 orders, and then we notice that there is a sharp increase in the X-verb-subject order only for the advanced speakers of Level III. For the Moroccan group the number of wrongly hypothesized X-subject-verb orders (V3) remains stable, for the Turks this number increases.

This concludes our survey of the relation between native word order interference and the development of the interlanguage grammars. We saw fairly clear evidence for the alternation hypothesis particularly in the early stages of the acquisition process. In the later stages, the word orders of the Turkish and Moroccan second language learners converged more and more towards the Dutch norm.

We also saw that a considerable number of learners had generalized to a subject-verb (rather than V2) order as an intermediate stage. Interestingly, the Moroccans showed the X-verb-subject order in the final stage, III, less often than the Turks. This could be interpreted as implying that the initial advantage that the Moroccans had in knowing a language natively with frequent subject-verb order turned into a disadvantage in the final stage: They had more trouble with the true V2 order.

Our findings on the role of interference in word order acquisition show that it is an indirect sort of influence. Independently of the learners' native language, the tendency to place the verb in final position decreases as the level of acquisition becomes higher. The fact that Turks go through this process in a later stage than Moroccans suggests an indirect influence of the native language. The middle level of the Turks still has more Vfin structures than the lowest level of the Moroccans.

VI. OTHER PERSPECTIVES

The German evidence

The major studies of the acquisition of a second language by foreign workers so far have been carried out in Germany, particularly in the so-called "Heidelberg" (e.g., Klein and Dittmar 1979) and "Wuppertal" (e.g., Meisel 1980) projects. Since German presents the same patterns of alternation described for Dutch in Section I, the findings as regards word order in the German studies are directly relevant to this paper.

In the Heidelberg study the development of German word order in the speech of Spanish and Italian workers was studied in considerable detail, but an analysis of the results obtained is made difficult by the fact that the analytical procedure used was rather different from the one used in our study. Some disadvantages of the Heidelberg procedure are discussed in Muysken (1981). In fact, the final position of the verb is not explicitly studied. Rather, we find a classification into first, second, third, fourth, and other positions. If we take third and fourth position together to correspond roughly to our V3 and Vfin position, the German data for Spanish and Italian foreign workers show the same general tendency as the data for the Moroccans: a moderate tendency to use Vfin in the initial stages, and a large number of V3 structures in the intermediate stages. Thus, the Heidelberg data, as far as can be determined, do not disconfirm the results of our study, since Spanish and Italian have a V1 / V2 alternation similar to that of Moroccan Arabic (although the grammatical conditions are not the same for both groups of languages).

Roughly the same results are obtained within the Forschungsgruppe "Zweitspracherwerb Italienischer und Spanischer Arbeiter" (ZISA) in Wuppertal. Meisel (1980) states: "I merely want to point to the fact that we have observed practically no verb final constructions" (p. 23); and "as

compared to these i.e. first language observations, however, the data from natural L2 acquisition differ in that final position of finite verbs does not occur. In view of a great number of parallels between L1 and L2 syntactic development, this is surprising and *points to possible L1 influence*" (p. 25; emphasis added). Although it is not altogether clear whether in this project only *finite* verbs were viewed as "verb final," it seems that for the Spanish and Italian foreign workers examined in this project, similar results were acquired as for our Moroccan informants.

Input

So far we have been assuming that the linguistic input the foreign workers had, on the basis of which they could construct their interlanguage grammars, corresponded to the order found in the Dutch grammar books and the written language. It appears, however, that the actual input received deviates from this on a number of points. First of all, we find V1 structures in all varieties of spoken Dutch (Jansen 1977) resulting from the deletion of an initial vaguely deictic element, as in (16)b, derived from or related to (16)a:

(16) a. *dat* had ik moeten doen
      that had I must do
    b. had ik moeten doen

Here the deleted element is reconstructable from the context. It is certainly not the case that all cases of V1 in our sample could be constructed as resulting from such deletion, but still we find a V1 model here.

A different set of word order modifications is found in Dutch "foreigner talk," which in its extreme forms is often used with foreign workers in the Netherlands. There are two tendencies present in foreigner talk in Dutch: First, there is a tendency to use a strict Vfin order, with tenseless verbs. This Vfin tendency is reflected also in popular literature, in stereotypes about foreigner talk elicited by introspection, etc. Second, we find, particularly among people who are used to dealing with foreigners, a tendency to subject-verb order in all contexts, even subordinate clauses (where standard Dutch has Vfin, of course) (Werkgroep Taal Buitenlandse Werknemers 1980, Snow, Muysken, and van Eeden, forthcoming). This tendency is not, as the first one, responsive to a cultural stereotype, but rather to a communicative need: The most frequent and unmarked order is overgeneralized.

What we do not know is to what extent these forms of input, deviant from grammar book Dutch, influence the acquisition of word order by foreign workers. In any case, it is clear that the speech of Dutch native speakers can contain a wide variety of models.

Style

There is a considerable amount of word order variation even for individual speakers: Moroccans alternating between V1 and V2 structures, and Turks between Vfin and V2 structures. Quite possibly, this variation is in part stylistic, especially for the more advanced speakers, who might be using interlanguage rules corresponding neither to their native language nor to Dutch in this respect. In some narratives[7] it seems there is an alternation where the V1 order reflects an action, and the V2 order a state or a general consideration. It is not easy to do a precise stylistic analysis of the second language recorded materials, though, and therefore we will let the matter rest at this point.

Bickerton and Givón

In their paper analyzing the nonnative English pidgin of Japanese and Filipino pidgin speakers in Hawaii (1976), Bickerton and Givón establish a hierarchy of constituents in the shift from SOV to SVO (Vfin to V2) in the acquisition process of the Japanese, and they tentatively claim that this hierarchy derives from universal principles. We will briefly survey the same variables as used by Bickerton and Givón for our sample, and then compare the results as much as is possible given the differences in data gathering and analysis procedures.

The frequency of Vfin structures for the different stages, grammatical categories, and ethnic groups in our sample are given in Table 7: When we explicitly contrast these results with the hierarchy found in the case of Japanese speakers of Hawaiian pidgin, as in Table 8, a number of specific differences appear.

The major difference perhaps has to do with pronouns. While in Moroccan Dutch, as in Japanese pidgin English, we find no instances of object pronoun-verb order, an average of 63% of the cases in Turkish Dutch had this order, going from 100% for Level III to 33.3% for Level I.

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[7]cf. Muysken (1980), where one such narrative is analyzed in detail.

Table 7
Percentage of XV structures (including both subjectless and complete sentences) by grammatical category and level of proficiency

| | Turks | | | Moroccans | | |
	III	II	I	III	II	I
Predicate	0	8.7	0	0	0	4.3
VP-locative	0	27.3	100	0	0	37.5
Object pronoun	33.3	56.3	100	0	0	0
S-locative	0	57.2	100	0	0	6.2
Manner adverb	22.2	63.7	100	0	0	35.7
Object NP	0	64.3	100	0	3.1	48.1
Adverb of duration/frequency	0	66.7	83.4	0	16.6	33.3
Adverb of time	0	75	100	0	0	66.6

Table 8
Rank ordering of the different grammatical categories with which VX ordering occurs—from very frequent VX to very frequent XV

Moroccans	Bickerton & Givón Japanese	Turks
Object pronouns	Object pronouns	Predicates
Predicates	(Modal sentences)	VP locatives
Sentence locatives	Adverbs of manner	Adverbs of duration/freq.
Adverbs of manner	VP locatives	Sentence locatives
VP locatives	Object NP	Object NP
Adverbs of duration/frequency	Adverbs of duration/frequency	Adverbs of time
Object NP	Sentence locatives	Adverbs of manner
Adverbs of time	Predicates	Object pronouns
	Adverbs of time	

This is remarkable, since in Bickerton and Givón's reasoning, the Turkish and the Japanese cases should be the parallel ones: Speakers of a Vfin language learn a surface V2 order. In fact, Turkish Dutch is, contrary to Bickerton and Givón's predictions, parallel with processes of historical Vfin to V2 change: The pronoun is the last element to "move to the other side of the verb" in processes of historical change and in Turkish Dutch.

Other differences are not quite as striking. The most remarkable thing is really that the Hawaiian case corresponds in hardly any way at all with the Dutch cases with respect to the *hierarchy* of elements involved, but corresponds in many ways with the overall word order *patterns* found. In both the Moroccan Dutch and the Filipino Hawaiian cases there is a regular decrease in V1 structures as speakers approach the norm, and, similarly, both Japanese speakers of Hawaiian pidgin and Turkish speakers of Dutch use fewer and fewer Vfin structures as they gain proficiency in the second language. Specific evidence for the alternation hypothesis cannot be derived from comparing the two sets of findings, since the samples cannot be compared in any precise way on the basis of the data published by Bickerton and Givón (1976).

VII. CONCLUDING REMARKS

In this article we hope to have established two things:
a. Under several interpretations the alternation hypothesis is a viable one. Turkish speakers avoided Dutch prepositions, reduced compound prepositions to postpositions, and tended to Vfin order especially in subjectless utterances. Moroccan speakers had not much difficulty with prepositions as such, but often selected the wrong one. They showed a considerable number of V1 and V2 orders, with only a few instances of Vfin.
b. The syntactic interference found in the acquisition of Dutch word order was not a persistent feature, but mostly limited to the first stages of the acquisition process. We find that a number of factors influence the course of the acquisition of word order: the acquisition of verb inflection, processes of rule overgeneralization, deviant input, possibly stylistic factors, and a number of grammatical factors, as yet not understood.

Thus, we cannot claim that confirmation of the alternation hypothesis leads to a rejection of the variety of universalist hypotheses that have been

proposed. Instead, it suggests an enrichment, and points the way that has to be taken in the study of the complicated interaction of different factors that enter into the study of word order.

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