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THE EARLY STAGES IN ADULT L2 SYNTAX:
ADDITIONAL EVIDENCE FROM ROMANCE SPEAKERS
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I Introduction

Since the appearance of Clahsen & Muysken (1986, 1989), Schachter (1988) and Bley-Vroman (1989), who have argued that adult second language acquisition is not directly guided by Universal Grammar (UG), converging evidence from a number of studies has clearly indicated that this point of view is too extreme. Among the studies which provide empirical support for the view that either the principles or the parameters of UG (or both) are accessible to adults are: Bley-Vroman, Felix & Ioup (1989), duPlessis, Solin, Travis & White (1987), Eubank (1992;1994), Flynn (1987), Schwartz & Tomaselli (1990), Schwartz & Sprouse (1994), Thomas (1993) Vainikka & Young-Scholten (1994) and White, Travis & Maclachlan (1992).

However, taking the stance that adults have access to UG does not necessarily entail L2 acquisition being identical to L1 acquisition. Given that adults have already completely acquired a language, differences might be expected (see e.g. Schwartz 1992). The more appropriate question to ask is how UG and the learner's knowledge of the L1 conspire to influence L2 development. In Vainikka & Young-Scholten (1994; to appear (a)) we propose, on the basis of evidence from Turkish and Korean learners of German, that the development of functional projections is guided by UG, while the lexical projections are provided by the L1. In the present paper we provide evidence that this

analysis - which was posited based on data from speakers of head-final languages - extends to speakers of other language backgrounds (head-initial Spanish and Italian) learning German.

1 L1 Acquisition Background

In Vainikka & Young-Scholten (1994, to appear (a)) we adopted the position that functional projections are not present in the learner's syntax from the start of acquisition, but rather develop gradually. This proposal is based on a view of first language acquisition according to which children start off with bare lexical projections, while functional projections such as CP and DP develop later (cf. Clahsen 1991; Clahsen, Eisenbeiss & Vainikka 1994; Clahsen & Penke 1992; Guilfoyle & Noonan 1992; Lebeaux 1989; Ouhalla 1991; Platzack 1990; Plunkett 1992; Radford 1988, 1990; Vainikka 1993/1994). Crucially, we not only assume the Continuity Hypothesis (Pinker 1984), according to which no qualitative changes occur during L1 acquisition, but we assume the following so-called weak version of the Continuity Hypothesis: the development of functional projections is guided by X'-Theory, available from the beginning of acquisition, and its interaction with the input (cf. Clahsen, Eisenbeiss & Vainikka 1994 and Vainikka 1993/1994). We reject both the Strong Continuity Approach, under which fully developed adult-like syntactic structures are present from the start of acquisition (Boser, Lust, Santelmann and Whitman 1992, Hyams 1992, Poeppel & Wexler 1993, Weissenborn 1990) and maturationist accounts which involve

the independent maturation either of functional projections (cf. Radford 1990) or of certain principles of Universal Grammar (cf. Borer and Wexler 1987 and Felix 1984).

By adopting the Weak Continuity approach we consider the possibility that functional projections also develop gradually in second language acquisition, based on the interaction of X¹-Theory with the input. The obvious alternative to our approach for second language acquisition is that the learner commences acquisition with the functional projections of the L1; we take this to be the equivalent of the Strong Continuity approach in L1 acquisition. Despite the appeal of such an explanation, Strong Continuity nonetheless fails to account for the stages of acquisition which correspond to the development of particular functional projections that have been observed in the L2 acquisition of German by Korean and Turkish adults. The existence of such stages provides support for a Weak Continuity approach as an account of syntactic development in a second language.

Before showing how the Weak Continuity approach accounts for data from Italian and Spanish speakers learning German, let us briefly illustrate how we arrived at this analysis for Korean and Turkish speakers learning German. (For a detailed version of this analysis, see Vainikka & Young-Scholten 1994).

2 The Acquisition of German by Turkish and Korean Speakers

The standard analysis of German involves a head-final VP, a head-final AgrP and a head-initial CP (see e.g. den Besten 1983; Clahsen 1991), as shown in (1). According to this analysis, the finite verb raises to the head-initial C in matrix clauses, and to the head-final

Agr position in embedded clauses. This accounts for the difference in word order between matrix and embedded clauses in German. Korean and Turkish, on the other hand, are consistently head-final languages in which complements in lexical and functional projections consistently precede their heads.

INSERT FIGURE (1) ABOUT HERE

Vainikka & Young-Scholten (1994, to appear (a)) posit the initial stages of the second language acquisition of German, based on naturalistic cross-sectional data from 11 Turkish and 6 Korean adults. The majority of the utterances at each stage can be represented by the series of trees in (2), (3) and (4) which differ with respect to the available functional projections.

Learners at the initial stage of acquisition, referred to as the VP-Stage, have a head-final VP, with no productive functional projections, given in (2).

INSERT FIGURE (2) ABOUT HERE

We assume for reasons which will become clear below that these learners have transferred their head-final VPs from Turkish and Korean to German; the VP in all three languages is head-final. At this stage of acquisition, verbs normally remain in their base-generated position at the end of the matrix clause, since there is no position into which the verb can raise. These speakers have not yet acquired modals, auxiliaries, subject-verb agreement or tense marking, further suggesting the absence of any IP-level projections.

There is also no evidence for a CP projection in these speakers' data: no embedded clauses with complementizers, no non-formulaic Wh-questions or inverted yes/no-questions are produced.

The tree in (3) illustrates the next stage of acquisition, referred to as the FP (Finite Phrase) Stage, at which one functional projection is acquired. The head of the projection, F, provides a position for verbs to raise to, but since Tense and Agreement features have not been fully acquired, the projection appears to be an underspecified one with respect to any particular features (a similar tree has been proposed for an early stage in the L1 acquisition of German by Clahsen (1991)).

INSERT FIGURE (3) ABOUT HERE

For the second language learners at this stage, (optional) verb raising, as well as emerging modals and auxiliaries are observed. Subject-verb agreement, however, has clearly not yet been acquired. As was the case for speakers at the first stage of acquisition, no embedded clauses with complementizers, productive Wh-questions, or inverted yes/no-questions, are produced by speakers at the FP-Stage, suggesting that the CP projection is still not available.

The tree in (3) involves a head-initial projection; note, however, that all lexical and functional projections in the learners' native Korean and Turkish are head-final, and that the AgrP in German is also head-final, as illustrated in (1). While it could be proposed that this functional projection represents the head-initial German CP, there are no indications other than headedness that this functional projection is a CP. In order to

meet Vainikka and Young-Scholten's (1994) criteria for the acquisition of a CP, learners had to exhibit embedded clauses, Wh-questions or inverted yes/no-questions; none were found in the data. Moreover, since Korean and Turkish are consistently head-final languages, the emergence of a head-initial functional projection cannot be accounted for on the basis of transfer of any of the functional projections in the learners' respective native languages. The FP posited by these adult second language learners must be based on the input and on X'-Theory, and acquired in a manner comparable to children learning German as their first language, at the stage prior to their development of the AgrP and CP.

At the third stage of development for these Korean and Turkish learners, the acquisition of agreement features results in the specification of the FP as a head-initial AgrP:

INSERT FIGURE (4) ABOUT HERE

In addition to the acquisition of the subject-verb agreement paradigm, formerly optional subjects become obligatory and verb raising increases in frequency, indicating obligatoriness. An emerging head-initial CP is also observed for at least some of the speakers at this stage. Neither this head-initial CP nor the head-initial AgrP shown in (4) could have been transferred from Korean or Turkish (but cf. fn.7). However, the head-initial AgrP the learners have acquired is not yet the German head-final AgrP.

Table 1 summarizes the characteristics of the three proposed stages.

INSERT TABLE 1. ABOUT HERE

The Korean and Turkish data are best accounted for by an approach which assumes that the entire native language tree does not constitute the learner's initial state or stage in their acquisition of German; i.e. the entire tree is not transferred. Rather, only the lexical projection VP is transferred. While it could be proposed that lexical projections do not transfer either, since the headedness of the German VP matches that of the Korean and Turkish VPs, upon examination of data from speakers of other languages, namely the Italian and Spanish data we will consider here, it is apparent that lexical projections do indeed transfer; Italian and Spanish speakers commence their acquisition of German with a head-initial rather than a head-final VP.

If, rather than adopting the Weak Continuity approach, one adopts the Strong Continuity approach, then the data receive a very different interpretation. Under the latter approach, the entire tree is indeed transferred and what the learner must acquire is simply the morphological spell-out of the various functional heads. Several pieces of evidence mitigate against such an account of the data. First, acquisition of these functional elements is sequential. While there is no a priori reason to assume that learners develop functional projections in any particular order, the appearance of CP-related elements after IP-related elements in the Korean and Turkish data (and the Italian and Spanish data, as we shall shortly see) and in data from children acquiring German as their first language lends support to the view that these projections develop gradually.

Second, the appearance of the verb in a new position (i.e. no longer in the VP) coincides with the increase in number and productivity of functional elements which

appear in this position. A causal relationship between the two need not exist (i.e. in terms of a triggering effect of the acquisition of one on the acquisition of the other) for their co-occurrence to represent the acquisition of structure. A Strong Continuity/morphological spell-out approach must not only account for the sequence in which IP-related and CP-related elements are acquired, but must also explain their productive co-occurrence with new positions for the verb. Of course the Strong Continuity approach must also explain why learners arrive at functional projections which are neither transferred from their native languages nor represent the target language projections, yet mirror the initial functional projection posited by children acquiring German as their first language.

II The Acquisition of German by Italian and Spanish Speakers

The conclusions drawn on the basis of the Korean and Turkish data lead to a set of predictions regarding the development of German phrase structure for speakers of other languages. In the following examination of Italian and Spanish data, these predictions are borne out; our analysis suggests that Italian and Spanish speakers develop functional categories in German in much the same way as the Korean and Turkish speakers have been shown to do. However, some differences between the two groups can be expected, particularly with respect to the difference in headedness of the VPs in these Romance languages and in Korean and Turkish.

1 Predictions for the Acquisition of German

Unlike Korean and Turkish, Italian and Spanish are head-initial languages; while lexical and functional projections in the former are head-final (but cf. fn.3), these are head-initial in the latter. If our claims regarding the variable transfer of lexical and functional projections are correct, then we expect Italian and Spanish learners of German to exhibit transfer of the headedness of their VPs only at the initial stages of acquisition. In addition, the analysis of their development of functional projections will of necessity take a different tack. Since the CP and AgrP in Italian and Spanish are head-initial, the claim that CP or AgrP are not transferred is more difficult to support, i.e. what has been claimed to be an FP could in actuality be a transferred AgrP or CP. However, in the light of the analysis we have adopted for the Korean and Turkish data we see that the Italian and Spanish data can be accounted for without a CP. As we shall see, similarities between the two groups of learners exist to the extent that an explanation other than transfer of functional projections becomes tenable.

Since Italian and Spanish have a head-initial VP, what we predict for the initial stage in the acquisition of German is that these learners will transfer their head-initial VP. It is at this stage that the difference between the Romance group and the Korean/Turkish group should be most apparent, since this is where transfer is involved and since the two groups differ with respect to the headedness of the VP. In keeping with our observations on the characteristics of this stage, we do not expect learners to have acquired auxiliaries, modals or the agreement paradigm. In other words, these learners will have a bare, head-initial VP.

At the next stage of acquisition, the hallmark of which is the emergence of an underspecified functional projection (FP), we expect the learners to posit this as a head-initial projection, just like the Korean and Turkish speakers and the children learning German as their first language do. As previously stated, we cannot entirely rule out the possibility that the Romance speakers have transferred this projection from their native languages, although with the Korean and Turkish speakers it could not be the case that this projection was transferred since the corresponding functional projections are head-final in their native languages. However, the finding that the German children posit such an underspecified projection as head-initial and the Korean and Turkish learners do so as well, suggests that the Italian and Spanish learners also posit a head-initial FP solely on the basis of X'-Theory and the German input at this stage of development.

On the basis of the analysis of the Korean and Turkish data, we further expect there still to be no productive agreement at this stage for the Italian and Spanish speakers, yet we do predict the initial emergence of auxiliaries and modals. At neither the initial stage of acquisition nor at the following stage do we expect to find any morphological or syntactic phenomena typical of the CP-projection: Wh-questions and yes/no-questions with inversion should be absent, as should embedded clauses with overt complementizers. Finally, at this stage we predict that verb raising to F will occur, but will be optional. For the Italian and Spanish data it may prove nearly impossible to discern on the basis of word order whether a verb has been raised or not, if both the FP and the VP are head-initial. The analysis of the Korean and Turkish learners revealed that verb raising occurs prior to the point at which subject-verb agreement becomes productive. If agreement does not trigger verb raising, it is difficult to use this as a

criterion for determining whether our Italian and Spanish learners are at the FP-Stage. Thus there may be no clear means of pinpointing when these learners reach this stage.

Nonetheless, data from these learners can inform us about their arrival at the next stage. At the next stage, we predict that learners will have acquired auxiliaries and modals along with productive agreement on main verbs. Verb raising is obligatory at this stage, which involves the learners having fully specified the FP as an AgrP. The AgrP, like the FP, is expected to be head-initial for these learners. We still do not expect to see any signs of a CP except perhaps for some precursors of this projection. The predictions for the Spanish and Italian speakers learning German are summarized in Table 2.

INSERT TABLE 2. ABOUT HERE

2 Data collection

The data on which we based our findings comes from four Italian and seven Spanish adults acquiring German naturalistically, without formal instruction. Data from the Italian speakers is longitudinal data from the ZISA Project. Except for one additional ZISA informant, all the Spanish speakers represent cross-sectional data collected by us within the context of the LEXLERN Project. The biographic details of all learners are given in Table 3.

INSERT TABLE 3. ABOUT HERE

It might be argued that cross-sectional and longitudinal data are not comparable. However, there is no evidence that cross-sectional data do not represent development, and that cross-sectional data should therefore not be analyzed together with longitudinal data, assuming that the amount of data from each cross-sectional learner is sufficient for analysis. While it is the case that our cross-sectional learners are older than the longitudinal learners and had all been in Germany a considerable length of time, these variables are only likely to be important in the measurement of ultimate attainment; there is no reason to believe that they need to be taken into account when investigating intermediate stages of syntactic development. We may eventually find that once acquisition becomes fossilized (which is presumably the case for all our cross-sectional learners), the learner's interlanguage takes on different characteristics. Yet there is no evidence that these characteristics, if they indeed exist, are syntactic in nature. We may also find that conditions leading to fossilization at an early stage of acquisition (e.g. insufficient input or input which is insufficiently "dense", i.e. occurs spread out over time) result in a path of acquisition not comparable to that for learners who have received "better" input. Again, we have no evidence that this is the case.

The ZISA data were typically elicited at fortnightly intervals over a period of two years, using interviewing techniques. Each session was tape-recorded and subsequently transcribed. The ZISA data we used - from the four Italian speakers and one of the Spanish speakers - constitute either the most complete set of data for an individual speaker or involve the earliest stages of acquisition. The data from Bruno and Jose represents nearly the entire span of the stages of acquisition and are for this reason extremely useful (although for the purposes of this paper we were only interested in the

initial stages of acquisition). Bongiovanni's and Lina's data are equally valuable in that data were collected from them throughout the two-year time period. However, Bongiovanni's level of acquisition at the termination of data collection was not as advanced as that for Bruno and Jose, and Lina's was even lower. Finally, data from Salvatore, while including only a limited number of files, were examined since the data reveal the initial stages of acquisition.

The cross-sectional LEXLERN Spanish data was elicited through a variety of techniques which included some interviewing. Elicitation sessions took place either at the speaker's home, place of work, or a cultural center, with data collected during one or two sessions of 45 to 90 minutes each. The complete session for each speaker was tape recorded, all utterances throughout the session transcribed and the transcriptions checked against the tape. Our aim was to provide clear extralinguistic contexts for the accurate interpretation of the learners' utterances as well as to avoid the type of elliptical utterances which can occur when interviewing techniques are used exclusively. Several tasks were administered which were designed both to elicit a variety of sentence types for the examination of verb placement and the usage of subjects, and to elicit different grammatical persons and numbers for the examination of subject-verb agreement (see Vainikka and Young-Scholten 1994 for details of the techniques).

3 Preliminary Analysis of the Data

Several hundred utterances were collected from each cross-sectional speaker, although the number of utterances for the ZISA learners for each stage was occasionally less. As with the Korean and Turkish data, only a proportion of these were useful to us in our investigation of the linguistic behavior of the Italian and Spanish speakers. Utterances either lacking a verb or containing only a verb and nothing else as well as imitations or clear idiomatic phrases were excluded. Each sentence was then analyzed with respect to verb placement, whereby our analysis was based on word order. While we did not consider agreement marking as a criterion for whether individual verbs had been raised from the VP, we did consider the presence of agreement and other IP-related material in our determination of the learner's stage of development. We were not able to rely solely on word order at the initial stages and were generally unable to consider word order at all for the intermediate stages for reasons discussed above; because lexical and functional projections in Italian and Spanish are all head-initial, it is impossible to tell on the basis of word order alone whether an utterance contains a bare head-initial VP or an FP with a raised verb. However, because we have evidence of functional elements which co-occur with new syntactic projections from the Korean and Turkish learners, we can look for the presence of these functional elements in the Italian and Spanish data, taking word order into account when possible to do so.

Thus, based on the criteria established for the stages of syntactic acquisition for the Korean and Turkish learners, we were able to place each cross-sectional learner at a specific stage and as well as to place different files from the longitudinal learners at several stages as their acquisition progressed, as we shall see in the next section.

III The Stages of Development

We will see in the following sections that, because Italian and Spanish differ from Korean and Turkish in the headedness of their VPs, the acquisition of the head-final VP in German by the Romance speakers proceeds somewhat differently than the acquisition of the VP by the latter group, as predicted. And, as discussed above, because the functional projections in Italian and Spanish are all head-initial, our analysis of the data from these learners will be somewhat different.

1. Romance Stage Ia: transfer of the head-initial VP

In this section we examine the earliest available ZISA files from two of the Italian speakers, Bongiovanni and Salvatore and from one Spanish speaker, Jose. In addition, we examine cross-sectional data from one of the Spanish speakers in our study, Rosalinda. The longitudinal data indicates that the three ZISA speakers remain at one stage of development over several sessions. In the initial files of these three ZISA learners and in the data of the one cross-sectional learner, we find scant evidence to assume the learners have any functional projections. To begin with, there is no evidence for IP-level functional projections, as the learners clearly have not acquired auxiliaries or modals, as shown in Table 4. (This table categorizes all the utterances containing a verb and additional material produced by these speakers.)

INSERT TABLE 4. ABOUT HERE

Bongiovanni, Salvatore and Jose never produce any auxiliaries or modals. This is as predicted, if they have no IP-level functional projections (cf. footnote 5). Rosalinda appears to be slightly more advanced in that she produces three utterances with a modal: *wolle* 'want' and five utterances with an auxiliary *is(t)* 'is'. Table 4 also shows that the two Spanish speakers, Jose and Rosalinda, produce a good many copulas. In fact, these are exclusively *is(t)* 'is', except for one instance of *bin* 'am', produced by Jose; thus we do not have sufficient evidence for the acquisition of the agreement paradigm for the copula at this stage.

The four speakers in Table 4 also show no evidence of having acquired the subject-verb agreement paradigm in German, which is illustrated in (5) below. This paradigm applies to all main verbs to mark the present tense; it also applies in a modified form to modals and to mark the past tense, whereby the first person and third person singular suffix is the same: 0 for modals (and e.g. the verb *wissen* 'know') and -e for the past tense. As shown in (5) the first person singular suffix -e is in free variation with a zero allomorph, while the second person singular suffix -st often is realized as [s] in spoken German. Not shown in the paradigm is the fact that, in addition to its marking of first and third person plural, the suffix -n marks non-finiteness on main verbs, modals and auxiliaries.

INSERT FIGURE (5) ABOUT HERE

Haben 'have' and sein 'be' exhibit the suppletive forms shown in (6) which, although distinct from those given in the paradigm in (5), generally preserve the suffix forms. As in English haben in German functions both as a main verb and as an auxiliary verb, while sein functions as a copula as well as the second auxiliary verb.

INSERT FIGURE (6) ABOUT HERE

Given the potential for acquiring the suppletive forms shown in (6) as unanalyzed lexical items (especially in the case of sein) acquisition of these forms will not necessarily reveal whether learners have acquired the agreement paradigm. And since only main verbs mark the distinction between first and third person singular, agreement on main verbs must be examined to ascertain whether the full agreement paradigm has been acquired. Thus we have calculated the proportion of correct suffixes for such verbs, as shown in Table 5. This table shows that clear, correctly used agreement suffixes occur in these speakers' data less than 55% of the time.

INSERT TABLE 5. ABOUT HERE

Table 6 provides a breakdown of the suffixes used by these speakers; the figure before the slash refers to the number of correct instances of agreement suffixes, while the figure after the slash refers to instances that are either clearly wrong or unclear.

INSERT TABLE 6. ABOUT HERE

Combining wrong agreement with instances of agreement which are unclear due to an impoverished context (typically because the subject NP is omitted) in Tables 5 and 6 admittedly biases the data in our favor. However, it is very likely that in most of the unclear contexts, the speaker was referring to him/herself, since the 1SG is by far the most common subject form in interview situations such as those which were employed for the collection of the ZISA data. Thus, it is quite possible that the majority of the usages of the -n suffix are incorrect; rather than marking plural agreement they are most likely instances of root infinitives such as those frequently attested in L1 German (Clahsen & Penke 1992; recall that -n is both a plural suffix and an infinitival suffix in the target language), as well as in the L2 German of the Turkish and Korean speakers described in Vainikka & Young-Scholten (1994). Furthermore, the suffix -e may be a variant of the infinitival form for some Romance speakers; otherwise the high occurrence of this literary 1SG form shown in Table 6 would be surprising. Note that if -e is in fact an infinitival marker, none of the instances in the -e column in Table 6 would reflect correct 1SG agreement (but again, they would be instances of root infinitives). What Table 6 reveals is the striking fact that both -n and -e are unexpectedly common as suffixes, while the clear 2SG and 3SG forms (-st and -t) are extremely rare. At more advanced stages, these forms become more common even in interview situations.

The sentences in (7) exemplify instances where clearly incorrect agreement is used; the notation *-fin signifies an ungrammatical non-finite form, i.e. a root infinitive.

(7)

- (a) Wie heissen? (Jose/3)
 what call*-fin
 'What is (it) called?'
 (Wie heisst das?)
- (b) Du wo arbeit? (Salvatore/3)
 you where work
 'Where do you work?'
 (Wo arbeitest du?)

The data point to the absence of an FP, AgrP and CP; in other words, most or all of these learners' sentences consist solely of a VP. Based on this conclusion, we must now ascertain whether this VP is head-initial, as in Italian and Spanish or head-final, as in German. Our prediction is that the VP transfers and thus will be head-initial at the earliest stage of acquisition. The sentences in (9) illustrate that the VP is head-initial at least some of the time.

- (9)
- (a) Ich wohnen (en) la grenza hier. (Jose/2)
 I live*-fin [in the border (Sp.)] here
 'I live on the border here.'
 (Ich wohne hier an der Grenze.)
- (b) Ich sprechen die meine Firma. (Salvatore/3)
 I speak*-fin the my firm
 'I speak (to/at) my firm.'
 (Ich spreche mit meiner Firma.)
- (c) De esse de fis. (Rosalinda)
 she eat*-fin/1SG the fish
 'She's eating the fish.'
 (Sie/die isst den Fisch.)

Table 7 indicates that the sentences in (9), with a head-initial VP, are indeed typical of the learners at this stage. The distribution of the main verb in the VP is shown, for those

instances in which this can be clearly determined (this excludes SV utterances, Wh-questions and other sentences in which there is no material in addition to the subject and verb.) Rosalinda, Salvatore and Jose clearly have a head-initial VP; over 70% of the relevant examples involve a head-initial VP (assuming that verb raising is not yet operative). While Bongiovanni's data are less compelling, 65% nonetheless represents a marked tendency towards a head-initial VP.

INSERT TABLE 7. ABOUT HERE

Due to the predominantly head-initial character of the VP projection at this stage, we cannot distinguish verbs located in the head-initial VP from verbs potentially raised to a head-initial functional projection in a typical sentence. However, in sentences with temporal adverbs or negation it should be possible to determine whether the verb has raised or not (Emonds 1976, Pollock 1989). Furthermore, if the verb precedes the subject NP, this is clear evidence of verb raising.

An analysis of the data from the four speakers at this stage reveals that they produce practically no temporal adverbs, and thus this diagnostic cannot be used for determining verb raising. A total of two instances of postverbal subjects are attested in the relevant files, thus providing very scant evidence of verb raising.

The negation data are somewhat more revealing. However, we excluded instances of negation occurring at the sentence periphery, as these may have involved adjunction. An exhaustive list of instances of sentence-internal negation is provided in (10).

(10)

- (a) Ich spreche nicht so viel Deutsch. (Jose/3)
I speak-1SG/*fin no so much German.
'I don't speak very much German.'
(Ich spreche nicht so viel Deutsch.)
- (b) Nein en matina nix essen. (Bongiovanni/1)
no in morning (It.) not eat*-fin
'(I) don't eat in (the) morning.'
(Nein, morgens esse ich nicht(s).)
- (c) Ich nix komme in Spanien. (Bongiovanni/2)
I not come-1SG/*fin in Spain
'I don't come (go) to Spain.'
(Ich fahre nicht nach Spanien.)
- (d) Ische nein kauf. (Bongiovanni/2)
I not buy
'I don't buy (it).'
(Ich kaufe das nicht.)
- (e) Ich nix komme. (Bongiovanni/6)
I not come-1SG/*fin
'I don't come.'
(Ich komme nicht.)
- (f) Topo nixe essen. (Bongiovanni/6)
mouse (It.) not eat*-fin
'(The) mouse doesn't eat.'
(Die Maus frisst nicht.)
- (g) Verbert nis verstehen. (Salvatore/2)
Verbert not understand *-fin
'(I) don't understand Verbert.'
(Ich verstehe Verbert nicht.)
- (h) In Fabriken eh nis so viel spreche Deutsch.
in factory eh not so many speak*-fin German
'Not so many (people) in the factory speak German.'
(In der Fabrik sprechen nicht so viele Leute Deutsch.) (Salvatore/2)
- (i) Aber jez ni -- jeze nixes arbeit. (Salvatore/3)
but now not now not work
'But now, now (I) don't work.'
(Aber jetzt nicht - jetzt arbeite ich nicht.)

- (j) Ni gut, die nich so viel spreche Deutsch.
not good the not so much speak*-fin German
'(It's) not good they don't speak much German.'
(Es ist nicht gut, dass sie nicht viel Deutsch sprechen.)

(Salvatore/3)

The data in (10) show, with the exception of Jose's raised main verb in (10a), that the main verb is not raised in examples of negation in (10b-j). Although these data argue for our analysis, they also suggest that a NegP may be productive in Bongiovanni's and Salvatore's grammar, in addition to the VP projection.

If the rarity of modals, auxiliaries, suffixes marking agreement, complementizers, Wh-constructions and inverted yes/no questions can be taken to indicate the non-existence of functional projections, we can conclude that these four speakers are at a stage of acquisition at which only a bare, head-initial VP is posited, based on the headedness of their Italian and Spanish VPs. Thus learners at this stage have transferred the tree in (11) from their native Italian/Spanish and have not yet built up any further structure.

PLACE (11) ABOUT HERE

2 Romance Stage Ib: Acquisition of the Head-Final VP

If the learners are to acquire the syntax of German they must at some point switch the headedness of the VP from head-initial to head-final. Our data suggest that they do so while they are still at the pre-functional stage of syntactic development; our learners' utterances provide no more evidence for functional projections at the next stage of

development than they do at the stage described in the previous section. We will therefore refer to this second stage as Stage Ib, and to the transfer stage as Stage Ia.

In section III.2. we were forced to base our conclusions regarding the availability of functional projections on morphological evidence due to the difficulty of syntactically determining whether or not a verb has been raised from a head-initial VP. However, we can employ syntactic evidence of the sort used in Vainikka and Young-Scholten (1994) to determine whether these Romance learners have a bare, head-final VP. Thus, in order to determine whether a given utterance consisted solely of a (head-final) VP with a non-raised verb and no functional projections, we adopt the same criteria we previously applied, whereby we analyze the verb as being in the head-final VP when it is preceded by at least one of the following: a direct object, an indirect object, a locative adverb/PP, other PP arguments or adjuncts of the verb, or a predicate noun or adjective. We adopt these criteria for utterances with and without subjects.

The Korean and Turkish speakers studied by Vainikka and Young-Scholten (1994) produced sentences such as those in (12), leading to the conclusion that the early grammar of these learners consists of a bare, head-final VP, with no functional projections.

(12)

- (a) Ama ich zwei Jahre Berlin bleiben. (Memduh/Turkish)
but I two years Berlin stay*^{-fin}
'But I stayed in Berlin two years.'
(Aber ich bin zwei Jahre lang in Berlin geblieben.)
- (b) Eine Katze Fisch alle essen. (Changsu/Korean)
a cat fish all eat*^{-fin}

'A cat ate the whole fish.'
(Eine Katze hat den Fisch ganz gefressen.)

- (c) Hier Jacke ausmachen. (Changsu/Korean)
 here jacket off-take*-fin
 '(She) is taking (her) jacket off here.'
 (Hier macht sie ihre Jacke ab.)

The data from Salvatore's sixth file and Jose's fourth and fifth files reveals that these two learners next enter a stage similar to the first stage proposed for the Korean and Turkish learners. In addition, an analysis of the longitudinal data from one of the Italian speakers, Lina (from her sixth file), and from one of our cross-sectional Spanish speakers, Antonio, also places two additional learners at Stage Ib. Utterances from learners at this stage closely resemble those produced by the Korean and Turkish speakers, as shown in (13).

(13)

- (a) Ich immer nur eine Tag in de Woche gucken. (Jose/5)
 I always only one day in the week look*-fin
 'I always look one day a week only.'
 (Ich gucke immer nur eine Tag in der Woche.)
- (b) Vielleicht Schule essen. (Salvatore/6)
 maybe school eat*-fin
 'Maybe (he/she) eats at school.'
 (Vielleicht isst sie/er in der Schule.)
- (c) Ja sechszwanzig Tage arbeite. (Lina/6)
 yes six-twenty days work*-fin/1SG
 'Yes (I) work(ed) twenty-six days.'
 (Ja, ich habe sechszwanzig Tage lang gearbeitet.)
- (d) Diese hier Tuer zumache. (Antonio)
 this here door close*-fin/1SG
 'This (person) here closes the door.'
 (Diese Person macht hier die Tuer zu.)

Table 8 shows that three of these four speakers at this stage produce head-final VPs at least 70% of the time. The figures in the 'total' column represent utterances

consisting of at least a verb and the additional material required to enable a clear determination of the position of the verb, as discussed above. The table reveals that a good number (38%) of Jose's utterances contain a head-final VP. The utterances of the other three speakers exhibit considerably higher proportions of head-final VPs (over 70%).

INSERT TABLE 8. ABOUT HERE

The proposal that speakers of Romance languages acquiring German flip the headedness of a transferred head-initial VP to head-final during the course of acquisition is not completely new; previous proposals regarding the ZISA data have involved similar analyses (cf. duPlessis et. al. 1987, Schwartz & Tomaselli 1990 and Eubank 1992). However, unlike those proposals which assume transfer of the entire native language syntactic tree, our analysis involves a stage of acquisition at which learners project a bare VP, entailing transfer of lexical projections only. If the VP-headedness in the learners' native language does not match the headedness of the target language, then acquisition can be seen to proceed in two sub-stages. At the first sub-stage, the learner adopts the headedness of the native language VP. As acquisition proceeds, the headedness of the VP is flipped to conform to that of the target language. This what we observe for Italian and Spanish learners of German. If, on the other hand, the headedness of the VP is the same in both the native and target language, only one stage of development is involved; this is the case for the Korean and Turkish learners of German.

In comparing the percentages of head-initial and head-final VPs in Tables 7 and 8 for Jose and Salvatore, we see that there has been a clear shift in the headedness of the VP for these two ZISA learners, even when we take into account Jose's low proportion of head-final VPs in Table 8. At the initial stage of acquisition, the relevant utterances for Salvatore show a head-initial VP 80% of the time, while at the next stage the VP is head-initial only 24% of the time but head-final 76% of the time. Jose's earliest utterances reveal a head-initial VP 75% of the time; at the next stage this figure has dropped to 62% and head-final VPs have risen from 25% to 38%. Whether this 62% only represents utterances consisting of a bare VP or actually involves utterances in which the verb has been raised out of a head-final VP to a higher, head-initial functional projection cannot be determined without recourse to the sort of evidence we will now discuss.

The extent to which these four learners have functional projections rather than a bare VP can be addressed in the same way in which we treated the data from learners at Stage Ia: through an examination of the functional elements they produce at this stage. We see in the following two tables that there is little evidence of functional projections. Table 9 shows a near-absence of auxiliaries and modals, comparable to what Table 4 illustrates. We take the lack of auxiliaries and modals to mean that none of the speakers we have placed at Stage Ib have an IP projection.

INSERT TABLE 9. ABOUT HERE

In terms of whether learners can be said to have acquired agreement on main verbs and thus have projected an AgrP, Table 10 suggests they have not. As at Stage Ia, these

speakers are still using the infinitival suffix -(e)n as a default suffix, although all four speakers at this stage also 'experiment' with the colloquial first person singular form -0. While some of the speakers do produce three (Salvatore) or even four (Jose) of the potential agreement suffixes in German, it is clear that they are not yet doing so in a manner indicative of the acquisition of agreement. As at the previous stage, then, the lack of modals, auxiliaries and the not yet acquired agreement paradigm provide evidence for a stage without intermediate functional projections such as IP or AgrP. However, unlike at the previous stage, the VP is now head-final.

INSERT TABLE 10. ABOUT HERE

Let us finally consider verb placement with respect to temporal adverbs, negation and postverbal subjects. There are no instances of sentence-internal negation in the relevant files from Antonio, Jose, Lina and Salvatore. We find just three instances of postverbal subjects, which again is too few to argue for consistent verb raising.

The adverb data is somewhat more revealing, with instances of 'immer' (always) and 'jetzt' (now) attested. All of the adverbs precede the verb, suggesting that the verb has not been raised from the VP:

(14)

- (a) Fuer mei Junge immer vo mir schimpfe. (Antonio)
for my boy always from me scolds*-fin
'My boy always scolds me.'
(Mein Junge schimpft immer auf mich.)

- (b) Un de andere jetzt aufmachen hier in Oberkassel bei de Belsenplatz eine
Steakhouse. (Jose/5)
and the other now open*-fin here in Oberkassel
by the Belsenplatz a steakhouse
'And the other is now opening a steakhouse in Oberkassel near
Belsenplatz.'
(Und der andere macht jetzt ein Steakhouse bei Belsenplatz auf.)

- (c) Ich immer nur eine Tag in de Woche gucken (xxx) (Jose/5)
 I always only a day in the week look*^{-fin}
 'I always watch (it) only one day a week.'
 (Ich gucke nur einen Tag in der Woche (xxx).)
- (d) Andere Frau immer spazier. (Lina/6)
 other woman always walk
 '(The) other woman always walks.'
 (Die andere Frau spaziert immer.)
- (e) Jetzte regne. (Lina/6)
 now rain-*^{fin}
 '(It's) raining now.'
 (Jetzt regnet es.)
- (f) Immer schnell essen (Lina/6)
 always quickly eat-*^{fin}
 '(I) always eat quickly.'
 (Ich esse immer schnell.)
- (g) Ische immer arbeit. (Salvatore/6)
 I always work
 'I always work.'
 (Ich arbeite immer.)

Examples (14a,b and f) exhibit a verb remaining in a head-final VP, while in example (14b) the verb is in a head-initial VP. Thus, the available data on verb raising supports the view that the speakers at this stage do not have productive verb raising; however, a higher functional projection might be involved in some of these examples, in order to account for the presence of a subject NP preceding the adverb.

As with the speakers at Stage Ia, no embedded clauses are produced, nor are any productive Wh-questions with a clear CP or inverted yes/no questions, as the sentences in (15) illustrate.

(15)

- (a) Ja die kleine versteh? (Salvatore/5)
yes the small one understand
'Does the child understand?'
(Versteht die Kleine?)

- (b) Wie heissen? (Jose/5)
how is called*-fin
'What is (that) called?'
(Wie heisst das?)

We conclude that these speakers do not have an IP, AgrP or a CP in their German tree, although Jose appears to be in the process of acquiring the under-specified head-initial functional projection which we will discuss in the following section.

3 Stage II: Acquisition of a Functional Projection

In their continuing acquisition of German, the Romance learners next manifest a stage of acquisition comparable to the stage of acquisition posited for the Korean and Turkish learners following the bare VP stage. Our claim is that transfer of a head-initial functional projection from the learners' native languages is not involved when the Romance learners posit their first functional projection. However, the idea that transfer is not involved at this stage for the Italian and Spanish learners is suspect until we compare the Romance data with the Korean and Turkish data as well as take into consideration the data from children acquiring German as their first language.

It has been argued (Clahsen 1991; Clahsen and Penke 1992) that German children posit as their first functional projection an underspecified, head-initial functional

projection, FP. Such a projection provides a position for the verb to raise to (resulting in apparent V2 structures) without having to posit a CP projection for which there is no evidence yet (beyond verb raising). This early functional projection represents a stage at which the subject-verb agreement paradigm has not yet been acquired, subjects are optional, and verb raising is optional. In the course of acquisition, German children eventually fully specify the underspecified projection as an AgrP. At this point, the subject-verb agreement paradigm has been acquired, subjects are obligatory, and verb raising is basically obligatory.

In Vainikka and Young-Scholten (1994) we presented evidence that Korean and Turkish learners pass through a stage of acquisition remarkably similar to the stage described above for children. At this stage, we argued, the adult learners posit a head-initial functional projection, corresponding to the FP projection. The Korean and Turkish learners at this stage do not show evidence for the acquisition of subject-verb agreement; furthermore, both overt subjects and verb raising are optional. This lack of agreement and the optionality of subjects and verb raising suggest that - as for the children at a comparable stage - a full-fledged AgrP is not yet available. Since functional projections in Korean and Turkish are typically head-final, we proposed that the head-initial functional projection attested in these speakers' data arises from the interaction of X-Theory with the input data. This functional projection does not qualify as an AgrP for the reasons stated above (lack of agreement, optionality of subjects and of verb raising) and in addition, because this projection is head-initial while the AgrP in German is held to be head-final. The utterances in (16) from one of the Turkish speakers (Ahmet) discussed in Vainikka and Young-Scholten (1994) exemplify the optionality of subjects and of verb

raising and the speaker's lack of agreement. In the utterance in (16a), the verb, which is not marked for agreement, does not raise and there is no subject. When Ahmet does raise the verb, as in (16b), agreement is still not marked and the subject is still empty.

(16)

- (a) Jetzt Hauptschule achter Klass Oberkassel weiter machen.
now main school eighth class Oberkassel further make*^{-fin}
'(She) is now continuing eighth grade (in) Oberkassel middle school.'
(Jetzt macht sie weiter in der achten Klasse an der Hauptschule in O.)
- (b) Und dann mitnehmen vielleicht Wohnung.
and then with-take*^{-fin} maybe apartment
'And then (I) maybe take (it) along (to my) apartment.'
(Und dann nehme ich das vielleicht in die Wohnung mit.)

As we would expect from our analysis of the Korean and Turkish data, assuming it is on the right track, we also find evidence from the Romance speakers' data for a similar intermediate stage involving an underspecified, head-initial functional projection. The examples in (17) from the Spanish speaker Maria suggest that she is at such a stage. Data from the Spanish speakers Agapita and Nieves, as well as Jose in his files 6-7, also appear to represent this stage.

(17)

- (a) Mehr Deutsche lerne. (Maria)
more German learn-1SG/*^{fin}
'(I) learn more German.'
'Ich lerne mehr Deutsch.'
- (b) Un dann nachher kommen die Sonne nochmal wieder. (Maria)
and then afterwards come*^{-fin} the sun yet again
'And then afterwards the sun comes out yet again.'
(Und dann nachher kommt die Sonne nochmal wieder.)

- (c) Un anfang zu regnen. (Maria)
and begin to rain*-fin
'And (it) begins to rain.'
(Und dann faengt es an zu regnen.)

Our proposal is that first language learners as well as second language learners, regardless of their native languages, posit a head-initial projection in German as their first functional projection, before acquiring AgrP. Of the Romance speakers discussed so far for whom longitudinal data are available, only Jose progresses through Stages Ia and Ib to Stage II (and beyond, cf. Eubank 1992). In addition to Jose, the cross-sectional data collected by us from three of the Spanish speakers reveals that they are also at this stage of acquisition.

In line with how we have been examining the Romance data at Stages Ia and Ib, the following is observed for the four speakers at Stage II, including Jose: there is an increase in both the amount and the forms of auxiliaries, modals and agreement suffixes. We adopt the reasoning that the productive usage of a functional element, particularly one lacking in semantic content such as the auxiliary, indicates the acquisition of the syntactic position in which this element occurs. Given such a position (F), we would expect to find functional elements with more semantic content, such as modals, becoming productive as well.

INSERT TABLE 11. ABOUT HERE

Recall that at Stages Ia and Ib the Romance learners basically produced no auxiliaries or modals (apart from a few examples in Rosalinda's data; cf. Table 4 and

related discussion). Most clearly, Jose did not use auxiliaries or modals in his earlier files, while in files 6-7 he begins to use auxiliaries; modals are still not productive in his data at this point. Jose produces various forms of the auxiliary *haben* 'have' in these files (*hab* 1SG, *hast* 2SG and *hat* 3SG are attested as auxiliaries in files 6-7), along with some instances of forms of the auxiliary *sein* 'be'. The other three Spanish speakers in Table 10 (from whom only cross-sectional data are available) clearly fall at a stage at least as advanced as Jose, with productive auxiliary and modal usage. However, their lack of an agreement paradigm (to be discussed below) indicates that these three speakers are still at Stage II, where a full-fledged AgrP is not available.

As discussed above, we wish to propose that the Romance speakers at this stage have access to a functional projection corresponding to IP. To the extent that this projection is not associated with specific features (such as [Tense]), it is an underspecified functional projection, similar to what has been proposed both for an early stage in L1 acquisition of German and for Korean and Turkish speakers acquiring German as a second language. The word order facts indicate that this projection is a head-initial one, since auxiliaries and modals at this stage occur sentence-initially (typically in the first or second position), as shown in (18).

INSERT FIGURE (18) ABOUT HERE

Furthermore, verb raising occurs to the left in these speakers' data, all of whom produce clear examples of main verbs raised to the left, as exemplified in (19):

(19)

- (a) Die Leuten gucken sie mir so traurig. (Agapita)
the people look-1PL they me so sad
'The people look at me so sad.'
(Die Leute gucken mich so traurig an.)
- (b) Un hier komm eine Junge mit eine Puppen in de Hand. (Nieves)
and here come*-fin a boy with a doll in the hand
'And here comes a boy with a doll in his hand.'
(Und hier kommt ein Junge mit einer Puppe in der Hand.)
- (c) Ich geh immer in Winter. (Maria)
I go-1SG always in winter
'I always go in winter.'
(Ich geh' immer im Winter.)
- (d) Gut mach ich ihm eine Cappuccino mit alles voll. (Jose/7)
good make-1SG I him a cappuccino with everything full
'I make him a cappuccino with everything full.'
(Ich mache ihm einen Cappuccino mit alles, voll.)

The speakers at this stage still have not acquired the agreement paradigm, as suggested by the data in Table 12. Agapita, Nieves and Maria produce correct agreement suffixes only 31-50% of the time, which is comparable to the figures attested at stages Ia and Ib (cf. Tables 5 and 10). A developmental pattern can be observed in Jose's data; at the earlier stages, Jose's agreement was correct 35-40% of the time, but at this stage he uses a correct suffix 61% of the time. However, he cannot yet be said to have mastered the agreement paradigm, suggesting that he is still at Stage II, prior to the acquisition of the AgrP projection.

INSERT TABLE 12. ABOUT HERE

Let us now briefly turn to the question of empty subjects in our data. As Jose is the only speaker for whom we have longitudinal data covering all of the three stages

discussed so far, we have calculated the proportion of empty subjects in Jose's data across the three stages. These proportions are provided in Table 13.

INSERT TABLE 13. ABOUT HERE

At the two stages involving just a bare VP, subjects are clearly optional; they occur in about half the sentences. We assume that if nothing special is stipulated about the distribution of empty subjects at the VP stage, nothing forces them to be overtly realized, and we would expect them to be optional (subject to discourse considerations). At our FP-stage, Jose uses more overt subjects than in the previous files; this is similar to what we found with the Turkish and Korean speakers at the FP-stage. For the Turkish and Korean learners of German, we argued that the Null Subject Parameter was set at the point at which the agreement paradigm is acquired, i.e. when the AgrP projection is acquired (cf. Clahsen 1991 for a similar analysis of L1 German). Jose's data is consistent with such an analysis in that at the FP-stage the Null Subject Parameter has not yet been set at the appropriate German value, since subjects are still not completely obligatory.

Since both Spanish and Italian are null subject languages which do not require a subject to be overtly realized, we cannot tell whether this characteristic may have been transferred from Jose's L1, Spanish, to his L2, German. Assuming that the Null Subject Parameter is associated with a functional projection (such as an AgrP), we would predict that such information is not transferred from L1 to L2. The same ambiguity holds with the data on empty subjects in the L2 German of Turkish and Korean speakers (Korean and Turkish also being null subject languages). Thus, the empty subject data

does not provide independent evidence for our approach. On the other hand, to the extent that L2 empty subjects behave similarly to those found in L1 development, such data are clearly consistent with our approach, where the Null Subject Parameter would be set both in L1 and L2 acquisition at the point that the appropriate functional projection is acquired.

As far as evidence for a CP projection is concerned, speakers at the FP-Stage still produce no embedded clauses with an overt complementizer. Some of the Wh-questions and related constructions attested at this stage may involve an emerging CP-projection, such as (20b-c). Examples such as (20a), however, can readily be analyzed without a full CP projection, as the subject Wh-phrase may have remained in the subject position. The mere presence of Wh-questions is not sufficient evidence for the CP projection (cf. footnote 15).

(20)

- (a) Wo kenn? (Agapita)
where meet
'Where (did you) meet (him)?
(Wo hast du ihn kennengelernt?)
- (b) Aber wann komm einmal (Jose/7)
but when come a time
'But when (subject) comes once...'
(Aber wann X einmal kommt...)
- (c) Und wenn sie alleine kommen... (Nieves)
and if she alone come*-fin
'And if she comes alone...
(Und wenn sie alleine kommt...)

We have argued that there is a stage involving a head-initial functional projection (FP) which Romance speakers learning German go through, similar to the corresponding

stage proposed for the Korean and Turkish speakers of German (and similar to what children learning German appear to go through). At this stage, the agreement paradigm has not yet been acquired, suggesting that an AgrP projection is not available. On the other hand, the presence of auxiliaries, modals and verb raising necessitates a further verbal position in addition to the bare VP.

IV SUMMARY

The diagram in (21) summarizes the stages of development we have discussed above. At Stage Ia, a head-initial VP is transferred from Italian/Spanish. Functional projections are neither transferred from the learners' native languages nor posited anew at this stage. At Stage Ib, the German head-final VP is acquired, although functional projections remain absent. At stage II, learners posit a underspecified head-initial functional projection, FP. Although the source of the head-initial FP might appear to be the learners' native Italian or Spanish, our non-transfer based account of the Korean and Turkish data leads us to the conclusion that transfer is also not involved for the Spanish and Italian learners. Our analysis of the Korean and Turkish data shows that the first functional projection these learners posit is head-initial, despite the existence of head-final functional projections in their native languages.

INSERT FIGURE (21) ABOUT HERE

What we propose is that, like the Korean and Turkish speakers in Vainikka & Young-Scholten (1994), Italian and Spanish speakers acquiring German as a second language initially transfer their lexical projections from their native languages and then commence building up syntactic structure in German in much the same way children learning German as their first language do. Despite the fact that the AgrP in adult German is head-final, L1 children posit a head-initial FP as their first (verbal) functional projection, presumably due to the prominence of V2 structures in the input data.

Given that these second language learners provide clear evidence of direct post-puberty access to UG (i.e. to X¹-Theory), we would predict the eventual outcome to be native competence in German. However, the data indicate that only some of the learners progressed through all three stages. While Jose progressed beyond Stage II to eventually acquire a CP (cf. Eubank 1992), Lina and Bongiovanni's later files reveal they never progressed beyond Stage Ib. Moreover, the fact that all of the cross-sectional speakers in our study had been residing in Germany for a number of years when the data was collected suggests that they had fossilized at the respective stages at which we placed them. Clearly there are factors which differentiate adult language learners from their younger counterparts, such as the possible difference in the status of parametric triggers proposed in Vainikka & Young-Scholten (to appear (b)). Identifying these factors is something we will pursue in future contributions to the investigation of post-puberty second language learning, which is certain to continue well into the next millenium.

NOTES

. We are indebted to Harald Clahsen, Lynn Eubank, Richard Ingham, Teresa Parodi and two anonymous reviewers for comments on earlier drafts of this paper. We also thank all those involved with the LEXLERN Project in D • sseldorf for their help with the data and for useful discussion. This research was partially supported by the LEXLERN Project in D • sseldorf, Germany, DFG grant #C1 97/1-1, SFB 282. The first author's research was also partially supported by NSF Grant #SBR-8920230.

. Clearly there must be a distinction between first and second language acquisition; the second language learner does "possess" the functional projections of their first language, at least at some level. What we argue is that these projections are not relevant to the learner's initial state upon commencing acquisition of a second language; rather, it is the potential for the development of functional projections, in the form of X'-Theory, which constitutes the learner's initial state.

. But, cf. Schwartz and Sprouse (1994) who claim that the CP in Turkish has the option of being either head-initial or head-final.

. Some of the Turkish data and all of the Korean data were collected in conjunction with the LEXLERN Project at the University of D • sseldorf. The remainder of the Turkish data come from Christiane von Stutterheim's corpus.

. Although modals in adult German appear to be base-generated in the VP, a language learner cannot possess this language-specific knowledge at the beginning of the acquisition process. There is reason to believe that modals are associated with IP in Universal Grammar, given Steele (1981), who argues based on data from Luiseno, Lummi (a Salish language), Colloquial Egyptian Arabic, Japanese and other languages that the category Aux (i.e. INFL) must universally include elements marking tense and/or

modality -- both of which exhibit sentence scope -- while other INFL-related features are optional. Thus it is not surprising that both L1 and L2 learners of German seem to make the initial assumption that these elements are base-generated outside of the VP. In the L1 acquisition of German and other languages modals and auxiliaries occur only in a finite form, whereas main verbs occur either in a finite form or as root infinitives (cf. e.g. Wexler 1994; Clahsen, Penke and Parodi (to appear)).

- . Some purely formulaic Wh-questions are, however, observed at this stage.

- . Given the possibility that that Turkish also has the option of a head-initial CP (see footnote 3) our FP might be construed as corresponding to such a head-initial (transferred) CP. Apart from the problem of assuming that these speakers have a CP (given the absence of CP-material), this analysis fails to explain the data from the Korean speakers, whose native language CP is presumably always head-final.

- . This pattern is similar to what has been observed for the L1 acquisition by Clahsen (1991) and Clahsen & Penke (1992), who argue that the mastery of the subject-verb agreement paradigm correlates with consistent non-pro-drop and consistent verb raising. Once the target language agreement features have been acquired, verb raising is expected to be obligatory due to checking of agreement features (Chomsky 1992). A similar process of Nominative Case checking might be responsible for the obligatory overt subjects at this point; cf. also recent work on empty subjects in L1 acquisition, where empty subjects in child English are explained on the basis of the absence of an AgrP projection (Roeper and Rohrbacher 1994). We take the apparently optional status of both processes at the pre-AgrP stage to follow from the underspecification of the features in F.

. In Vainikka and Young-Scholten (1994) we refer to this projection as FP, following Clahsen 1991. What is crucial is that this projection is one which is higher than the VP, but lower than the AgrP; under the Split-INFL Hypothesis of Pollock (1989) this projection might turn out to be the TP projection.

. Although in principle the position of adverbs and negation could be used as a diagnostic for verb raising (Emonds 1976, Pollock 1989), the rarity of temporal adverbs and negation in the actual production data that we have analyzed prevents us from using such a diagnostic for verb raising.

. See Clahsen and Muysken (1986;1989) or Clahsen, Meisel and Pienemann (1983) for detailed information regarding the ZISA Project.

. Data from neither the ZISA Project nor the LEXLERN Project involves German dialects whose inflections demonstrate marked deviations from standard German (e.g. southern German dialects). The ZISA data was collected in the Wuppertal and Düsseldorf areas and the LEXLERN data was collected in Düsseldorf.

. In Vainikka and Young-Scholten (1994) we showed that cross-sectional data can be used to make developmental claims by illustrating how our data arranged themselves very successfully into an implicational hierarchy. We found implications which held between the four syntactic phenomena we investigated.

. Also of relevance is that we found no correlation between age, length of residence (both of which varied a great deal) and stage of syntactic development for the purely cross-sectional learners in our 1994 study of the Korean and Turkish learners.

. While this might be taken as an indication that Rosalinda is at a more advanced stage, involving an IP-type functional projection, given the restricted distribution of auxiliaries

and modals in her data we are led to the conclusion that these functional categories are not productive in her grammar.

. We have not found such a frequent use of *ist* with any of the Italian speakers at this stage, which suggests that the frequency with which *is(t)* appears in the Spanish speakers' German might be a result of the morphological similarity of the third person singular Spanish copula *es* to its German counterpart *is(t)*. The third person singular copula *e* in Italian does not appear to facilitate such early acquisition of *ist*.

. Vainikka 1993/4 argues that the mere presence of Wh-questions in acquisition data is not sufficient to assume that a CP projection is available to the speaker; rather, a CP projection should be assumed when the internal structure of particular Wh-questions warrants a CP. Note that even in adult English there are Wh-questions which do not behave syntactically as CPs, such as "how about" questions (e.g. "How about going to the store?"); cf. Vainikka 1993/4 for details.

. Use of the demonstrative pronoun *die* is in some instances preferred over *sie* in colloquial speech (both are third person singular.)

. Utterances containing modals and auxiliaries such as those produced by Rosalinda may be instances an incipient functional projection (i.e. FP) if modals and auxiliaries are base-generated in INFL.

. Bongiovanni's files 3-5 were not available for the verb raising analysis. Jose and Rosalinda each produce one instance of 'immer' and the verb is raised in both cases:

- i) Aber de zwei Jahre ich nehme immer for Schule.
 but the two years I take-1SG always for school

'But I always took two years for school.'

(Aber ich nehme immer zwei Jahre fuer Schule.)

(Rosalinda)

ii) Kommen nicht so immer aber. (Jose/3)

come-1PL not so always but

'(They) don't always come like that.'

(Aber sie kommen nicht immer so.)

As suggested by her production of some modals and auxiliaries (cf. Table 4), Rosalinda is somewhat more advanced than the other speakers we have placed at the earliest stage; example (i) indicates that she must be at a stage where some verb raising is possible, although in general her sentences look like bare VPs. Jose's L2 acquisition proceeded very rapidly, and he shows what appears to be evidence of a functional head as early as file 3.

. The following examples of postverbal subjects were attested:

i) Hier wohnen ich. (Jose/1)

here live*-fin I

'I live here.'

(Hier wohne ich.)

ii) Sechs Uhr arbeite ische eh. (Salvatore 2)

six o'clock work-1SG I eh

'I work (at) six o'clock, eh.'

(Um sechs Uhr arbeite ich, eh.)

. There are too few instances of relevant examples in Lina's files 1-5 to determine whether these should be analyzed as involving Stage Ia or Ib. However, the lack of modals and auxiliaries in these files supports our analysis of Lina's early data as belonging to one of the pre-functional stages; this also holds for file 6, where the head-final VP is evident.

. The figures in the middle column under 'V-initial VP' must be analyzed to represent residual head-initial VPs rather than raised verbs, since there is little evidence, except perhaps in the case of Jose, that they have more than a bare VP projection, as we shall see below. Jose's head-initial structures may already involve verb raising; indeed Jose's data in general suggests that he may be in the process of entering the next stage, which involves a head-initial functional projection.

. Note that some analyses of the ZISA data disallow adult second language learners access to the syntactic principles which would result in their ability to switch headedness (i.e. Clahsen and Muysken 1986;1989).

. Zobl (1980a;1980b) suggests that the learner's L1 may result in a somewhat altered route of acquisition.

. The following is an exhaustive list of postverbal subjects in the files for Stage 1b:

i) Fuer mir verstehn ich. (Antonio)

for me understand*-fin I

'For me I understand.'

(Fuer mich verstehe ich.)

ii) Weil zwei Jahre in Deutschland wohnen ich. (Jose/5)

because two years in Germany live*-fin I

'Because I've lived in Germany (for) two years.'

(Weil ich seit zwei Jahren in Deutschland wohne.)

iii) Kommen ich von de Altstadt. (Jose/5)

come*-fin I from the Oldtown

'I come from the Oldtown.'

(Ich komme von der Altstadt.)

. It should be noted that Clahsen (1991) and Clahsen & Penke (1992) operate under the assumption that L1 acquisition commences with such an FP projection, rather than a bare VP projection.

. Whether the AgrP is head-final as soon as it is posited by children is an as yet unresolved matter. It is, however, clear that as soon as children posit a CP (i.e. as soon as they produce embedded clauses, either with or without complementizers) the AgrP is head-final. See Rothweiler (1993) for relevant data and discussion.

. The analysis in Vainikka and Young-Scholten (1994) indicates that when AgrP is initially posited, it is not head-final for second language learners as it appears to be for first language learners.

. Sentences of the type "NP is XP" were excluded from this calculation, due to the possibility that such examples are formulaic. Many of these were of the form "Das is(t) XP". Furthermore, the following formulaic expressions were excluded: "(Ich) weiss nicht", "(Das) weiss ich nicht", and "Was heisst X?"

. As pointed out to us by Teresa Parodi, examples such as (20b-c) suggest that CP-material can be attested without AgrP-elements (cf. Parodi 1990), which is surprising, given our approach of the tree developing from the bottom up. However, see Vainikka (1993/4) where an analysis of some CP-related elements occurring lower in the tree is proposed for the L1 acquisition of English [ANNE I'M JUST WONDERING, HOW CAN THEY REALLY BE CP-RELATED IF THEY DON'T OCCUR IN CP.]

. Although we argue against the position adopted by Clahsen and Muysken (1986; 1989) in terms of learners' access to Universal Grammar, our approaches converge in the sense that the (SV0) canonical word order strategy Clahsen and Muysken claim learners follow regardless of language background (i.e. Italian, Spanish, Portuguese, Turkish) is essentially our head-initial FP. However, while Clahsen and Muysken claim all learners adopt the same strategy throughout their acquisition of German, we claim that the initial stage of acquisition differs based on the headedness of the learner's native language VP.

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