Romance Languages and Linguistic Theory

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Hebrew and Arabic children going Romance

On the acquisition of word order in Semitic and Romance*

João Costa¹ & Naama Friedmann²
¹Universidade Nova de Lisboa/²Tel-Aviv University

In Hebrew, European-Portuguese, Spanish, and Palestinian-Arabic both SV and VS orders are possible. In the early stages of sentence construction, however, children acquiring these languages do not use the whole array of word orders in their language. Their word order preference differs in the different languages: in the first stage, Hebrew and European-Portuguese children use both SV and VS orders with unaccusative verbs, but only SV with unergative and transitive verbs. In Spanish and Palestinian-Arabic, on the other hand, children prefer VS order with unaccusative, unergative, and transitive verbs. We propose an account according to which children at this stage cannot move the subject outside of VP yet, and the cross-linguistic difference stems from the identification of Spell-Out Domains (Fox & Pesetsky 2004a). Spanish and Palestinian-Arabic allow the verb to appear before the subject, whereas Hebrew and European-Portuguese do not allow the verb to move to I until the Spell-Out domain widens beyond VP, which takes place after subject movement to Spec,IP is acquired.

1. Introduction

In recent literature on the acquisition of word order, attention has been paid to the development of word orders related to different movement types. However, most results focus on determining whether specific movement operations have been acquired at a given stage of development, and there are very few comparative

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*We are grateful to the research students with whom we collaborated in these experiments. Nivin Shahin and Ula Huri from Tel-Aviv University in the experiments in Palestinian Arabic, Ivana Nachman-Katz from Tel-Aviv University in the experiments in Spanish, Maria do Mar Adragão from Universidade Nova de Lisboa in European Portuguese, and Lilach Shvimer, Noa Kerbel, and Julia Reznick from Tel-Aviv University in the Hebrew experiments. This research was supported by the Lieselotte Adler Laboratory for Research on Child Development, and the writing of the manuscript was supported by the COST A33 European initiative.
results, based on similar methodologies, to assess whether there are any important crosslinguistic differences in the acquisition of word order. In this paper, we present the summary of several experiments eliciting SV and VS orders in four different languages: Hebrew, European-Portuguese, Spanish, and Palestinian-Arabic. Our aim is twofold: first, we show that children do not arbitrarily produce any word order. The emergence of a specific word order depends on the stage of acquisition of specific movement types, together with characteristics of the language being acquired and on specific verb classes. Second, we show that the four languages cluster in two groups: European Portuguese and Hebrew behave alike, and Spanish and Palestinian Arabic also behave alike. We offer an account of the witnessed variation within and between languages which ties the acquisition of various movements and the setting of Spell-Out domains for linearization, following proposals by Fox and Pesetsky (2004a, 2004b), taking into account independent properties of each language set.

2. Word order in the four languages under consideration

Hebrew, European-Portuguese, Spanish, and Palestinian-Arabic are very similar in what regards the available word orders for subject and verb in adult grammar. In fact, as shown in (1)–(4), the four languages display SV/VS variation both with unergatives and with unaccusative verbs.

(1) Hebrew:
   a. Unaccusative verbs
      Ha-ale nafal. / Nafal ha-ale.
      the-leaf fell fell the-leaf
      “The leaf fell”
   b. Unergative verbs
      Etmol ha-yeled rakad. / Etmol rakad ha-yeled.
      yesterday the-boy danced yesterday danced the-boy
      “Yesterday the boy danced.”

(2) European Portuguese:
   a. Unaccusative verbs
      Um rapaz chegou. / Chegou um rapaz.
      a boy arrived arrived a boy
      “A boy arrived.”
   b. Unergative verbs
      O rapaz dançou. / Dançou o rapaz.
      the boy danced danced the boy
      “The boy danced.”
(3) *Spanish:*

a. **Unaccusative verbs**

Un chico llegó. /Llegó un chico.

a boy arrived arrived a boy

“A boy arrived.”

b. **Unergative verbs**

Un chico habló. /Habló un chico.

a boy spoke spoke a boy

“A boy spoke.”

(4) *Palestinian Arabic:*

a. **Unaccusative verbs**

Al-balon infajar. /Infaja al-balon.

the-balloon popped popped the-balloon

“The balloon popped.”

b. **Unergative verbs**

Al-walad biki. /Biki al-walad.

the-boy cried cried the-boy

“The boy cried.”

For the four languages we assume that in the adult grammar preverbal subjects are base-generated within the VP and then moved to Spec,IP in the SV orders. The VS order in European Portuguese, Spanish, and Palestinian Arabic has been analyzed by several authors as a case of in-situ subject: with unergatives, we assume that the subject is in Spec,VP and the verb has moved to I. With unaccusatives, the verb moves to I, and the argument is either in Spec,VP or in its base-generated complement position (cf. Ouhalla 1994; Shlonsky 1997; Costa 1998; Mohammad 2000, among many others). As for Hebrew, we follow that analysis according to which VS orders with unergatives and transitives are a consequence of I-to-C movement (cf. Shlonsky 1997).

The similarity and differences between the four languages in terms of word order patterns raises the following questions for language acquisition:

1. Do children produce all word orders for all verb classes?
2. Are there crosslinguistic differences in the acquisition of subject-verb order?

In what follows, we try to answer these two questions.

3. **The acquisition of subject-verb order: Results**

In order to assess the children’s ability to produce sentences with unaccusative and unergative verbs, we used three methods: two structured tasks, sentence repetition...
and story retelling, as well as the analysis of spontaneous speech. For details regarding the structure of the tests, we refer the reader to Friedmann and Costa (2007).

In the analysis of spontaneous speech data, only utterances containing both subject and verb were considered. In the repetition tasks, the sentences were read by a native speaker of the relevant language, and the children were asked to repeat the sentences as accurately as they could. For each sentence they repeated (regardless of their success) they were awarded with a building block which they used to build a building-block tower ‘way up to the sky’. Whenever the child requested, the experimenter repeated the sentence, as many times as the child needed. In the story retelling tasks, the children were looking at an illustrated story, which was read to them enthusiastically by the experimenter, with matching facial expressions and gestures, in order to keep the child as attentive and focused as possible. After reading some of the sentences, the child was requested to tell the story s/he has just been told. The Figures present the percentage of correct responses in each condition. Let us consider the overall results for each of the languages separately. For space reasons, we only present the general results; for a more detailed presentation of the analyses and results obtained for each task, see Friedmann and Costa (2007).

3.1 Palestinian Arabic

For Palestinian Arabic, two repetition tests were used. One included repetition of SV and VS sentences with unaccusative and unergative verbs by 20 children aged 1;10–3;0. The second test included repetition of SVO and VSO sentences with transitive verbs by 27 children aged 2;0–3;6. The results of both experiments were very consistent, as seen in Figure 1. Both revealed a strong preference at the early stage of word order acquisition for VS word order: Before the age of 2;5, children correctly repeated VS and VSO sentences at a rate above 50%, but were very poor at repeating SV sentences. They correctly repeated only 20% of the SV sentences with both unaccusative and unergatives, and were 27% correct on SVO sentences. No significant difference was found between the repetition of unaccusative and the unergative verbs.

Figure 1. Repetition of SV and VS order in Palestinian Arabic. Left: repetition of unergative and unaccusative verbs, right: repetition of transitive verbs
3.2 Spanish

The data in Spanish are taken from the analysis of spontaneous speech in Iberian Spanish, and from two structured tests in Argentinean Spanish, repetition and story retelling. For the spontaneous speech, we analyzed 29 samples of a Spanish child, containing 11,715 utterances between the ages 1;7–2;7 (from CHILDES, Aguirre database, MacWhinney, 2000), which we classified for verb class and word order. The story retelling test included 20 Argentinean-Spanish speaking children aged 2;0–4;0, and tested the production of SV and VS sentences with unaccusative verbs. The repetition task included 17 Argentinean-Spanish speaking children aged 2;8–4;0, and tested SV and VS sentences with unaccusative and unergative verbs.

Very similarly to the observations from Palestinian Arabic, the Spanish results reveal a preference for VS for both unaccusative and unergative verbs. As seen in Figure 2, the analysis of spontaneous speech yielded a clear preference for VS order: the child produced 35% of his sentences that included an unergative verb in SV order, compared to 65% in VS order, and 38% of the sentences with unaccusatives in SV order, compared with 62% in VS order. The story retelling task showed that the younger children (aged between 2 and 3) could not produce any sentence in SV order in unaccusative contexts, but still produced 17% VS orders. The children kept showing a clear difference between SV and VS until they were 4 years old. In a very similar manner, the scores on the repetition test showed the same preference (albeit with better overall performance) for production of VS in the younger group (from 2;8 to 3;6). Like in Palestinian Arabic, no significant differences were found between unaccusative and unergative verbs in either SV or VS orders.

![Figure 2. SV and VS order in Spanish. From left to right: unergatives and unaccusatives in spontaneous speech; story retelling with unaccusative verbs; repetition of unergative and unaccusative verbs](image-url)

3.3 European Portuguese

For European Portuguese, we used a repetition task and spontaneous speech data. The repetition task consisted of sentences with unaccusative or unergative verbs
in SV and VS order, as well as Wh-questions involving I-to-C movement, and sentences with unambiguous V-to-I movement, that is, with the order SVAdvO. The participants were 21 children aged 2;1 to 3;0.

The picture that emerged from European Portuguese was crucially different from what we reported above for Palestinian Arabic and Spanish. In European Portuguese, the results reveal a strong preference for SV order in unergative contexts (93% correct repetition of SV vs. only 42% for VS, see Figure 3). On the contrary, in the unaccusative context, there was no significant difference between SV and VS, and the repetition of VS sentences was significantly better with unaccusative than with unergative verbs. Children had difficulties in the repetition of I-to-C (12% correct) and V-to-I (17% correct).

The analysis of spontaneous speech of a Portuguese child, when he was between 2;7 and 3;7 (reported in Adragão 2001 and Adragão & Costa 2004), yielded similar results. Whereas in unaccusative contexts both SV and VS orders were used, there was an overwhelming preference for SV in unergative and transitive contexts. In contexts in which information structure required VS, VS was appropriately used with unaccusative verbs (since children can use the VS order with this verb class, there is no reason for them to use a pragmatic infelicitous word order). Crucially, with unergative verbs VS order was hardly used, even in these VS obligatory contexts.

![Figure 3. SV and VS order in European Portuguese. Left: repetition of unergative and unaccusative verbs in SV and VS orders; Right: spontaneous speech data - sentences produced when the context required VS sentences with unaccusative or unergative verbs](image-url)

### 3.4 Hebrew

For Hebrew, we used data from repetition, story retelling, and spontaneous speech analysis. For repetition, in Experiment 1, reported in Friedmann and Lavi (2006), we tested 60 children aged 2;2–3;10, who were asked to repeat SV and VS sentences with unaccusative, unergative, and transitive verbs. In Experiment 2, a similar task was run on 18 children aged 2;2–3;10 for the repetition of unaccusative and transitive verbs in the orders SV(O) and VS(O) (Experiments 2, 3, 5, and
the first spontaneous speech analysis are presented in detail in Friedmann 2007). In Experiment 3, 20 children aged 2;0–4;0 repeated sentences with transitive and unaccusative verbs with a sentence-initial temporal adverb, which may serve as a trigger for subject verb inversion in Hebrew. The fourth repetition experiment included 40 sentences in SV and VS order – half declarative, half object and adjunct Wh-questions, with 22 children aged 3;7 to 4;10. In the story retelling task (Experiment 5), 17 children aged 1;9–2;0 retold a story containing unaccusative verbs in SV and VS orders, and unergatives in SV order. In addition to the structured tests, we also used spontaneous speech in three different types of analyses. We first analyzed the spontaneous speech of 21 children aged 1;6–2;11 for the number of occurrences of unaccusative and unergative verbs in SV and VS orders (these transcripts were taken from Berman & Dromi 1984; Berman 1985; MacWhinney 2000). We then analyzed 56 samples including a total of 6400 utterances of children between the ages 1;6 and 6;1 (MacWhinney 2000; Davidson 2002; Bibi 2003) looking for each individual whether or not there were occurrences of sentences including SV and VS orders with various verb types. Finally, a longitudinal analysis of the spontaneous speech of one child between ages 1;7–2;11 including 2269 utterances was analyzed for the occurrence of sentences including SV and VS orders with various verb types in each monthly sample.

All experiments revealed that SV order is strongly preferred for unergative and transitive verbs (with the rates of SV production ranging from 73% to 100%, and the rates of VS production ranging from 5% to 34% in the younger groups), whereas for unaccusative verbs both word orders are used (there was no significant difference between the rates of production for SV and VS, and both word orders were successfully produced by the youngest children). When the children were as young as 1;9, they could already produce both SV and VS with unaccusatives in repetition, story retelling, and spontaneous speech. When they were as old as 4;10, they still could not repeat or produce in story retelling VS sentences with unergative and transitive verbs (see also Zuckerman 2001). Similarly, the samples of 56 children indicated that only 10 of the 56 children ever produced VS sentences with unergatives or transitives, and the spontaneous speech of the longitudinal sample indicated that out of 2269 utterances, only a single utterance included V-to-C, and this occurred at age 2;6. The highlights of these results are presented in Figure 4.

This pattern is similar to our findings for European Portuguese, with one exception – in both Hebrew and European Portuguese, the production of VS in transitive and unergative contexts is delayed, but in Hebrew it appears in production even later than in European Portuguese: VS was found only after the production of Wh movement (See Friedmann & Lavi 2006 for the acquisition of V-C later than Wh-movement). Taken together with the need for a specifier in CP to trigger VS in Hebrew, but not in European Portuguese, these differences in time table
might relate to the fact that VS in Hebrew involves I-to-C movement, whereas in European Portuguese the verb can move to I in VS sentences.

![Graphs showing word order preferences for different verb types in Hebrew and European Portuguese](image)

**Figure 4.** Hebrew data. From left to right, then bottom: Repetition of SV and VS with unergative and transitive verbs (Experiment 1); Repetition of unaccusative and transitive verbs in SV and VS order (Experiment 2); repetition of declarative and interrogative sentences in VS and SV orders (Experiment 4); Spontaneous speech of 21 children

### 3.5 Summary

According to the results presented above for the four languages, two very clear and very different patterns emerge at the early stage of acquisition: Hebrew and European Portuguese pattern together, showing preference for SV order in sentences with unergative and transitive verbs, and allowing both SV and VS orders with unaccusative verbs. Spanish and Palestinian Arabic also pattern together, but form a different pattern: both prefer VS for all verb types in the early stage (see Table 1).

**Table 1.** Summary of the results from the four languages – production of SV and VS orders in the early stage of word order acquisition

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<th>Unergative/ transitive SV(O)</th>
<th>Unergative/ transitive VS(O)</th>
<th>Unaccusative SV</th>
<th>Unaccusative VS</th>
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<td>Hebrew</td>
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<td>✓</td>
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<tr>
<td>European Portuguese</td>
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<td>✓</td>
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<tr>
<td>Spanish</td>
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<td>✓</td>
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<tr>
<td>Palestinian Arabic</td>
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<td>✓</td>
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4. Discussion

Summarizing the word order patterns in the four languages, children acquiring Spanish and Palestinian Arabic prefer to use VS over SV both with transitive and unergative and with unaccusative verbs, whereas children acquiring Hebrew and European Portuguese use both SV and VS with unaccusative verbs, but only SV with unergative verbs. How can these patterns be accounted for?

Firstly, the results from Hebrew and European Portuguese indicate that very early on children distinguish between unaccusative and unergative verbs, in line with many previous studies (cf. Friedmann 2007 and Guasti 2002, among others).

Based on the results just presented, the following questions must be answered:

1. Why is there no distinction for verb classes in Spanish and Palestinian Arabic and VS is preferred in all contexts?
2. Why is SV ruled out in Spanish and Palestinian Arabic?
3. Why is VS dispreferred in European Portuguese and Hebrew only with unergatives and transitives?
4. What underlies the similarities and differences between the four languages?

We make the following assumptions: at the relevant ages, V-to-I has been acquired. This is supported, for instance, by verb placement relative to adverbs and negation by the age of 2 in English and French (Pierce 1989, 1992; Déprez & Pierce 1993, 1994) and Friedemann (1993/1994, 2000), and by the mastery of VP-ellipsis in verbal answers in European Portuguese (Santos 2006). We further assume that, at this stage, subject movement outside the VP is still difficult, and children avoid it whenever possible. This assumption is supported by the observation that children leave subjects in the VP-internal base-generated position in several languages (Déprez & Pierce 1993 and Friedemann 1993/1994, 2000). These two assumptions of early acquisition of V-to-I and late acquisition of subject movement apply to all children acquiring language, and are independently motivated in the literature. We depart, however, from some literature in assuming that the fact that V-to-I has been acquired does not necessarily mean that the verb is moved in all contexts. In fact, it is well known that in languages with V-movement, the verb may remain in situ under certain circumstances. For instance, there are clear connections with inflectional morphology determining V-movement, and it is known that root infinitives, in the relevant languages, are not moved to I (see Guasti 2002 for a summary).

As for unaccusative verbs, we assume that VP-internal movement applies, displacing the argument from object to subject position. This VP-internal movement operation is independently argued for in Friedmann (2007) and Silva (2004) for
Hebrew and European Portuguese, respectively. As suggested by many authors for several languages, the argument of unaccusatives may remain in situ in adult grammar, which makes this movement internal to VP optional. We will assume its existence and optionality to hold both in adult and in child grammar.

Bearing these assumptions in mind, let us look at how each of the word order patterns identified can be explained. We contend that the main difference between the two language groups has to do with verb movement to I. We propose that in Hebrew and European Portuguese, the verb does not move to I, whereas in Spanish and Palestinian Arabic, it does. Obviously, this difference calls for motivation. Before justifying this difference, let us consider how the word order patterns follow from this proposal and the set of assumptions spelled out above.

Let us start with the SV/VS alternation in unaccusative contexts in Hebrew and European Portuguese. If the verb is not moved from within VP, then because the subject stays within the VP, either in object or in subject position, the two word orders follow.

A similar analysis accounts for Palestinian Arabic and Spanish, but, since there is V-to-I movement and the subject cannot leave the VP, independently of the position of the argument within the VP, the moved verb will always precede it. Therefore the two positions for the subject will not yield different word orders, and only VS arises. With respect to unergative verbs, in Hebrew and European Portuguese, all constituents stay within VP, whereas Spanish and Palestinian Arabic display VS order, because the verb moves to I, and the subject stays in situ.

The question why V-to-I applies only in Spanish and Palestinian Arabic, but not in Hebrew and European Portuguese, considering the assumption made above that V-to-I is already available for all these languages. In order to account for why the verb does not move to I in Hebrew and European Portuguese at this stage, we follow the proposal by Fox & Pesetsky (2004a), according to which the word order at the clause level must follow the linearization established at the first Spell-Out domain.

Consider a case in which the VP is created, and the constituents are linearized with the order SVO. In this context, subject movement out of VP will not destroy the linear order established within VP, because the subject still precedes the verb. However, if the object is moved out of the VP, the precedence relation is destroyed, since at the VP domain the object follows the V, but at the higher domain it precedes the V. For this reason, Fox & Pesetsky (2004a) propose that movement operates through the edge, enabling preservation of the linear order. If the object moves through the edge of VP, the order O>S is established within the VP phase, and it is preserved at the higher phase. This approach derives successive cyclicity from linearization. Importantly, this type of analysis predicts that VSO orders are not good, since moving an element that is not at the edge will disrupt the linear order created at the VP. Fox & Pesetsky (2004b) explain a similar problem, VS orders in
Scandinavian V2 languages, by suggesting that the domain for Spell-Out can vary across languages. According to them, linearization in Scandinavian V2 is established only at the CP domain.

We will explore the idea that Spell-Out domains can differ not only between different adult languages, but also between child and adult grammars, and between stages of acquisition. We suggest that Hebrew and European Portuguese children first assume that the Spell-Out domain is VP, since there is no reason to assume a higher domain, whereas Spanish and Palestinian Arabic children have evidence to assume that linearization is determined at least at the IP level. The crucial difference between the two sets of languages is the availability of clitic doubling only in the latter two languages, as shown in (5) and (6):

(5) **Spanish:**
   a. *Lo vi a Juan ayer.*
      Him saw-1-sg to Juan yesterday
      *Palestinian Arabic (adapted from Aoun 1996):*
   b. *shuft-o la-Ayman.*
      saw-1-sg-him to-Ayman

(6) **European Portuguese:**
   a. *Vi (*-o) ao João ontem.*
      Saw-1-sg him to João yesterday
      *Hebrew:*
   b. *ra’itti (*-v) et Yoni etmol.*
      saw-1-sg him ACC Yoni yesterday

According to proposals in the literature on clitic doubling (e.g. Torrego 1998), in clitic doubling languages, clitics and their doubles are generated as a single constituent, but the clitic must undergo movement to the IP domain, since it is licensed there. Contrarily, in languages without clitic doubling, DPs are the arguments bearing Case and theta-role and there is no part of the internal argument waiting for licensing at the IP-level. For this reason, in languages without clitic doubling, argument licensing is solved at the VP domain, whereas in clitic doubling languages, only at the IP-level, where clitics are licensed, theta-role assignment is completed. Accordingly, in Spanish and Palestinian Arabic, only IP counts as a phase, since it is the first level at which the predicate saturates its thematic

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1. Not all varieties of Spanish are equally permissive with clitic doubling. What is crucial for our point is that in all varieties of Spanish clitic doubling is allowed and present in the child’s input. Evidence for early sensitivity to clitic doubling even in Iberian Spanish – the variety with least clitic doubling – is given in Torrens and Wexler (1999).
array. Therefore, children acquiring clitic-doubling languages have evidence to assume IP as the first domain for linearization, whereas children acquiring non clitic-doubling languages start out with the VP as the spell-out domain, since this is the domain at which thematic roles are fully assigned. Naturally, for this proposal to hold, it is necessary that children can interpret clitics and are sensitive to the existence of clitic doubling in the relevant languages. In fact, longitudinal data from Torrens and Wexler (1996) reveals that Spanish children master clitic doubling at the age of 1;7.

Based on these considerations, we can now explain why at the first stage of acquisition VS with V in I and subject in situ is impossible for Hebrew and European Portuguese children (recall that VS will be possible with unaccusatives in these languages, since it does not involve movement out of VP), but available for Spanish and Palestinian Arabic children.

Children who take VP as their Spell-Out domain cannot move the verb to I, because this does not preserve the linearization established within VP, the Spell-Out domain. The only way for them to preserve linearization domain and move the verb to I would be to move the subject to Spec,IP, but at this stage they cannot do that, so they leave both the verb and the subject within VP.

According to Fox & Pesetsky (2004a, 2004b), another possibility for achieving V-movement without movement of any of the arguments is VP deletion, since linearization, a PF matter, will be irrelevant for unpronounced material. Thus, an option that is open for the children, if they move the verb to I, is to delete the VP, because linearization applies only to phonologically overt material. This predicts that children who take VP as their Spell-Out domain can either leave both the subject and the verb within VP, or do VP ellipsis. We have already seen that in the majority of cases they leave the V in VP. In fact, there are also cases in which we can see they use the other option and delete the VP. According to Santos (2006), Portuguese-speaking children use VP ellipsis in answers to yes/no questions. Because VP ellipsis in Portuguese necessarily involves V-to-I, the fact that children use VP Ellipsis forms the strongest evidence for the early acquisition of

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2. An example of VP-ellipsis in verbal answers in European Portuguese:

(i) A: Tu vais comprar o livro?  
You go-2ND buy-INF the book  
“Are you going to buy the book?”

B: Vou.  
Go-1ST  
“Yes.”
V-to-I movement. Adopting the linearization hypothesis, we can explain why in some languages children do not move the verb in all constructions, although they can perform this operation, as shown in other structures. This also allows us to predict the correlation between the use of VP ellipsis and V-to-I.

In contrast, children who speak Spanish and Palestinian Arabic already assume a wider Spell-Out domain, and therefore moving the verb to I and leaving the subject within VP does not create a linearization problem for them, because the level at which precedence relations are established is the IP. As a result, they move the verb to I because they already acquired V-to-I and nothing in their syntax prevents it. Because subject movement to Spec,IP has not been acquired yet, they produce the order VS for both unaccusative and unergative/transitive verbs.

This analysis describes the first stage of sentence construction. It must be explained now what causes the change enabling all children to use all possible word orders in their languages. We need to explain how Spanish and Palestinian Arabic children start using SV orders with unaccusative and unergative/transitive verbs, and how Hebrew and European Portuguese children start using VS orders with unergative and transitive verbs.

The key for all the changes in the second stage is that children acquire movement of the subject to Spec,IP. The acquisition of subject movement immediately guarantees that Spanish and Palestinian Arabic children start producing SV orders for all types of verbs. As for Hebrew and European Portuguese children, acquiring subject movement makes it possible to move the verb to I in all constructions. This allows generating SV orders with both the subject the verb in the IP domain, which competes with the alternative representation for SV, in which both are left in situ. Knowing that V-to-I is obligatory in the languages with a positive setting for this parameter, the acquisition of subject movement provides the necessary condition for children to posit obligatory V-to-I and abandon the in-situ representation for SV orders. The fact that both languages have the rich inflection generally assumed to drive obligatory V-to-I makes it legitimate to assume that the target languages include a positive setting for this parameter. Because V now moves obligatorily – even when the subject does not, creating VS orders in European Portuguese – the Spell-Out domain must be widened at least to IP, in a way similar to what is proposed by Fox and Pesetsky (2004b) for Scandinavian obligatory V2.

A crucial difference between Hebrew and European Portuguese is that transitive and unergative VS in Hebrew involves I-to-C and the subject in Spec,IP, and a filled specifier in CP, whereas in European Portuguese, VS is possible with the verb in I and the subject in situ (and no trigger in spec,CP). This difference makes the prediction that VS orders with unergatives/transitives in European Portuguese are acquired by the time subject movement is acquired, but in Hebrew they will wait
until I-to-C is acquired (at this stage VS is possible with unaccusatives, because it does not require the movement of the verbs to C). This is consistent with the proposal made above, according to which acquisition of specific movement types triggers the widening of the Spell-Out domain. Specifically, acquisition of subject movement triggers the widening of the Spell-Out domain from VP to IP for European Portuguese, and acquisition of Wh movement and I-to-C triggers the widening of the Spell-Out domain from VP to CP in Hebrew. In fact, when data from language acquisition in Hebrew and European Portuguese is examined, it is possible to observe that I-to-C is acquired later than VS in European Portuguese (Soares 2003), and that in Hebrew, VS orders only appear after there is independent evidence for Wh-movement to Spec,CP (Friedmann & Lavi 2006).

The stages of acquisition can thus be summarized as follows (HEP: Hebrew and European Portuguese; SPA: Spanish and Palestinian Arabic):

<table>
<thead>
<tr>
<th>Stage of acquisition</th>
<th>Children’s performance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 1:</strong></td>
<td></td>
</tr>
<tr>
<td>V-to-I available</td>
<td></td>
</tr>
<tr>
<td>Object-to-subject movement within VP available</td>
<td>SV and VS unaccusative</td>
</tr>
<tr>
<td>Subject movement out of the VP unavailable</td>
<td>SV unergative</td>
</tr>
<tr>
<td>HEP: VP as Spell-Out domain →</td>
<td>SV and VS unaccusative</td>
</tr>
<tr>
<td>V does not move to I</td>
<td></td>
</tr>
<tr>
<td>SPA: IP as Spell-Out domain →</td>
<td>VS</td>
</tr>
<tr>
<td>V moves to I</td>
<td></td>
</tr>
<tr>
<td><strong>Stage 2:</strong></td>
<td></td>
</tr>
<tr>
<td>Subject movement to spec-IP acquired →</td>
<td>SV and VS unaccusative</td>
</tr>
<tr>
<td>HEP: V moves to I →</td>
<td></td>
</tr>
<tr>
<td>Obligatory V-to-I established →</td>
<td>Portuguese: SV and VS unergative</td>
</tr>
<tr>
<td>VS sentences in Portuguese →</td>
<td>Hebrew: SV unergative</td>
</tr>
<tr>
<td>Spell-Out domain widened to IP in Portuguese</td>
<td></td>
</tr>
<tr>
<td>Obligatory subject movement in Hebrew →</td>
<td></td>
</tr>
<tr>
<td>no widening</td>
<td></td>
</tr>
<tr>
<td>SPA:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>SV and VS unaccusative and unergative</td>
</tr>
<tr>
<td><strong>Stage 3:</strong></td>
<td></td>
</tr>
<tr>
<td>Verb movement to C acquired →</td>
<td>Hebrew transitive and unergative and Portuguese Wh-questions: V in C acquired</td>
</tr>
<tr>
<td>HEP: Spell-Out domain widened to CP</td>
<td></td>
</tr>
</tbody>
</table>
5. Conclusion

We hope to have shown in this paper that there are robust crosslinguistic differences in the acquisition of word order of related languages. Methodologically, our results show that a comparison of the acquisition paths of languages sharing specific constructions using the same methods may prove fruitful. In particular, we argued that the existence (or absence) of clitic doubling in the target languages is the key factor to explain why the four languages under consideration cluster in two distinct groups. Finally, we showed how the acquisition of specific movement types, in this case the acquisition of subject movement, V-to-I, and I-to-C, may trigger differences in the acquisition of prerequisites for linearization.

References


Fox, Daniel & David Pesetsky. 2004a. *Cyclic Linearization and the Typology of Movement*. Ms., MIT.


