Language Acquisition and Development

Language Acquisition and Development: Proceedings of GALA 2009

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CAMBRIDGE SCHOLARS
PUBLISHING

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INTRODUCTION

The conference *Generative Approaches to Language Acquisition* is the bi-annual meeting of researchers who study language development from a generative point of view. Its importance for the development of research in the area, and as a forum for exchange of results and ideas is consensual.

The edition of 2009 was organized by Centro de Linguística da Universidade Nova de Lisboa, and was held in Lisbon from September 9 till 11. The high selectivity of the conference can be seen by the fact that only about 30% of the submitted abstracts could be accepted for presentation.

The conference included a general session, a workshop on *Crosspopulation study of atypical language acquisition* (organized by Laurie Tuller and Philippe Prévost, Université de Tours), a workshop on *Sound structures and lexical representations* (organized by Maria João Freitas and Paula Fikkert), and a poster session.

The present volume contains 43 papers presented at GALA 2009. A quick look at the table of contents illustrates the diversity and richness of the conference and of this volume: the acquisition of languages from different families is studied; comparisons between acquisition of L1, L2 and atypical language development are made; all areas of language development are explored (phonology, morphology, syntax, semantics, lexicon, pragmatics and interactions between components).

The proceedings of GALA are a very important and unavoidable reference in the literature on Language Acquisition, due to the quality of the work published therein. We are sure that this volume will be no exception to this.

We are grateful to all contributors to the volume, and to the following institutions for the support given to the organization of GALA and to the preparation of this book: Centro de Linguística da Universidade Nova de Lisboa (CLUNL), Faculdade de Ciências Sociais e Humanas da Universidade Nova de Lisboa (FCSH-UNL), Fundação para a Ciência e Tecnologia, and Fundação Calouste Gulbenkian.

Lisbon, June 2010

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Instructive Bilingualism: Prepositions in the Hebrew of Bilingual Children with SLI[1]

Sharon Armon-Lotem, Galina Gordishevsky and Joel Walters

1. Introduction

The large waves of migration in recent years have led to a growth in the number of children being raised in multilingual societies, and have underscored the importance of studying language disorders in bilingual children. Functionally, these children are bilinguals operating within two sociolinguistic systems, including both simultaneous bilinguals and sequential bilinguals.

Children with Specific Language Impairment (SLI) are often defined as those with normal performance IQ who show a significant language delay, scoring at least one standard deviation below chronological age on standardized language tests, with no diagnosed hearing disabilities, emotional or behavior problems, neurological deficits, or articulation/ phonological deficit. Children with SLI are estimated at 5-10% of the population (Bercow Review, 2008). Given evidence for a hereditary factor in the etiology of this impairment (e.g. Bishop 2006), this proportion is expected to be the same among monolinguals and bilinguals. Misdiagnosis leads however to over-representation and under-representation of bilingual children with SLI in programs for children with SLI (De Jong 2009).

A major reason for the misdiagnosis of bilingual children with TLD as having SLI is the frequently reported similarity between the language

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produced by bilingual children at the onset of bilingualism and the language of monolingual children with SLI. Crago & Paradis (2003) addressed the question of whether bilingualism and SLI are "**two of a kind**" by studying the use of verb morphology in bilingual children with TLD and monolingual children with SLI. They show that similarities are mostly evident in the earlier phases of emergent bilingualism, and that differences are manifested in the nature of the errors. In a set of related studies they further addressed the question of whether bilingual children with SLI show a "**double delay**" (Paradis 2007; Paradis et al. 2003; Paradis et al. 2005/6). Comparing monolingual children with SLI and bilingual children with SLI, they find no support for this claim, showing that SLI may not be an impediment to learning two languages, at least in the domain of grammatical morphology.

Addressing these two questions with evidence from the use of prepositions by English-Hebrew and Russian-Hebrew bilingual children, the present paper further explores the possibility that **bilingualism may be instructive** for sequential bilingual children with SLI (Roeper 2009), who can rely on their L1 knowledge while acquiring L2.

2. Why prepositions?

Prepositions are a heterogeneous category. Some prepositions are semantically colored and contribute to the meaning of the sentence (locatives, temporal …), as in (1), while others are semantically weak and serve mainly a grammatical function of case assignment, as in (2). Yet, more often than not, the same preposition has both functions depending on its relation to the verb. Thus for example, '*to*' in (3) is semantically colored being directional and is not selected by the verb, which makes it a free preposition, while '*to*' in (4) is semantically weak and is selected by the verb, making it an obligatory preposition

1. I sit near the cat
2. I laughed at the girl
3. I'm going to school
4. Give it to Mary

Moreover, while the above division might be sufficient for describing the heterogeneity of prepositions in Romance and Semitic languages, English like other Germanic languages, makes a further distinction among different types of obligatory prepositions. More specifically, English, termed a verb satellite language by Talmy (2000) has a distinction between functional prepositions (as in 2 and 4) and particles (as in 5),

which contribute to the meaning of the verb while satisfying grammatical case assignment requirements.

   5. a. I turned on the light
      b. I turned the light on

These particles are highly salient in their ability to appear right after the verb or following the object.

Littlefield (2006) points out that particles are the first to be acquired by monolingual native speakers of English in an almost error-free manner. Littlefield further shows that this is not related to the frequency of the input, since the most frequently used prepositions, both in child language and adult input data are the free prepositions (which she labels semi-lexical).

Due to their heterogeneity and the crosslinguistic variation, prepositions offer an interesting window into bilingual acquisition. As free forms, prepositions should be more easily influenced by language contact than bound morphemes (Thomason & Kaufman 1988). As a closed class group which is highly grammatical, they are less likely to be borrowed (Thomason 2001). Thus, for example, Romaine (1995) shows that in language contact situations, Spanish L1 speakers living and learning in the US may experience transfer from their English with a grammatical category like prepositions. Finally, in a study of prepositions in English-Hebrew bilingual spontaneous speech of children in "language preschools", Armon-Lotem, Danon and Walters (2008) found that locative PPs, headed by free prepositions, were used most frequently, while other PPs (e.g. temporals, comitatives) were rather infrequent, with almost no obligatory prepositions. Moreover, there were relatively few errors in the use of prepositions, and all were due to code interference. Sorting out free from obligatory prepositions may help clarify some of this controversy.

The heterogeneity of prepositions is further manifested in their use by children with SLI. Rice & Wexler (1996) present the error-free use of the prepositions *in* and *on* in spontaneous samples as evidence for a category that is not affected by SLI. Roeper, Ramos, Seymour & Abdul-Karim (2001) report, however, that some children with SLI show omission of prepositions which are governed by the verb. The difference in these findings can be attributed to the difference between free prepositions, which are semantically colored, making them more resilient to SLI, and obligatory prepositions, which are highly grammatical but are semantically weak, making them more prone to omission. Against this background, the following predictions emerge:

- All bilingual children are expected to show code interference (CI) in contrasting environments.

- Bilingual children with SLI are expected to show better performance with Free prepositions (locatives and temporals, e.g., at school), since they contribute to the meaning of the sentence.
- Bilingual children with SLI are expected to show weaker performance with Obligatory prepositions (e.g., laugh at), since they are selected by the verb and primarily serve a grammatical function, i.e. the theta-role of the verb is assigned to the following NP.
- Errors from bilingual children with SLI children will be primarily omissions.

These predictions were tested by Armon-Lotem et al. (2008) and Armon-Lotem (2009), who found that bilingual children with SLI make significantly more preposition errors than bilinguals with TLD, regardless of error type. These studies further reported that omission errors which cannot be traced to code interference are unique to bilingual children with SLI and can be considered an indicator of SLI in bilingual populations. In addition, substitution errors which cannot be traced to code interference are more prevalent among bilingual children with SLI, but can serve only as a secondary indicator for SLI in bilingual populations. These observations raise again the question whether bilingualism and SLI are "two of a kind?" (Crago & Paradis 2003) and whether bilingual children with SLI show a "double delay?" ((Paradis 2007; Paradis et al. 2003; Paradis et al. 2005/6), which the studies below address.

3. Study 1 – "Two of a Kind"

In order to test whether bilingualism and SLI are "two of a kind", the first study compared the use of prepositions in a sentence imitation task by Russian-Hebrew bilingual children with TLD, English-Hebrew bilingual children with TLD and Hebrew monolingual children with SLI. The subjects were:

- 25 Russian-Hebrew bilingual children with typical language development (TLD) (13 girls, 12 boys), ages 5-7, with more than 1 year of exposure to L2 Hebrew. All scored within norms for Hebrew, had no history of language impairment in Russian, and had a standardized score higher than -1.00 (based on 80 Russian-Hebrew bilinguals) on a battery of Non-word repetition, complex syntax sentence imitation, and MLU in narratives in Russian.
- 11 English-Hebrew bilingual children with typical language development (TLD) (8 girls, 3 boys), ages 5-7, with more than two years of exposure to L2. All scored within norms for both languages (Shimon 2008).

- 8 monolingual children with SLI, ages 5-7 (3 girls, 5 boys). All children conformed to exclusionary criteria for Specific Language Impairment (SLI). All scored more than 1.5 SD below norm on the Goralnik (1995) Test of Hebrew (Shimon 2008).

All participants were tested with a sentence imitation task (Armon-Lotem, Danon & Walters 2008). Subjects were asked to repeat 24 sentences, in each language, 10 containing free prepositions: 5 locatives, 5 temporals, and 14 containing obligatory prepositions. Data were collected in separate one-language only sessions by native speakers. Data analysis was conducted for each child separately, looking first at the total number and percentage of errors within each language and across the two languages. Quantitative analysis was followed by qualitative analysis of error types, as follows:

- Substitution with code interference: The baby laughed **on** the clown.
- Substitution with no code interference: The baby laughed **to** the clown.
- Omission with code interference: The elephant pulled ***(down)** the zebra's pants.
- Omission with no code interference: The baby laughed *(**at**) the clown
- Code switching: The baby laughed **al** ha-clown

Code interference is assumed when one language interferes with the use of the other language yielding an error, while code switching refers to sentences in which the child uses a lexical item from the other language.

3.1 Findings

An analysis of the proportion of errors in Hebrew, by preposition type, showed significantly more errors for monolingual children with SLI [14%] than for English-Hebrew [4%] and Russian-Hebrew [3%] bilinguals with TLD, regardless of preposition type (Figure 1). A repeated measures ANOVA for Group and Preposition Type revealed a significant main effect for Group, $F(2,46)=14.68$, $p<0.0001$), with significant differences between the MoSLI group and the TLD groups, but no difference between the two TLD groups. No significant difference was found between the two preposition categories for any of the groups.

Figure 1 - Proportion of preposition errors as percent of total responses for two preposition types and three groups

50%
40%
30%
20%
10%
0%

TLD - EH   TLD-RH   MoSLI

O-prep   F-prep
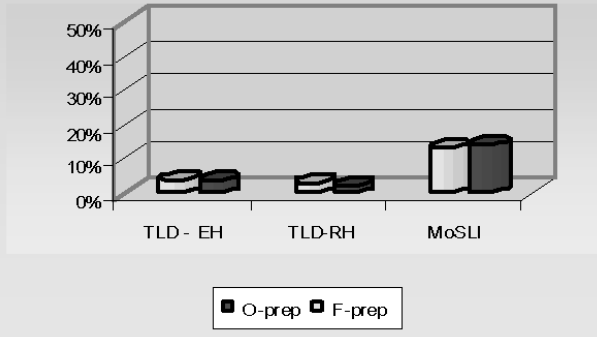
A further analysis by error type (Figure 2) revealed differences not only in terms of the quantity of the errors, but also in the quality of the errors.

Figure 2 - Frequency of errors by type of error

16
14
12
10
8
6
4
2
0

CI om   non-CI om   CI-sub   non-CI sub

TLD-EH [N=11]   TLD-RH [N=25]   MoSLI [N=8]
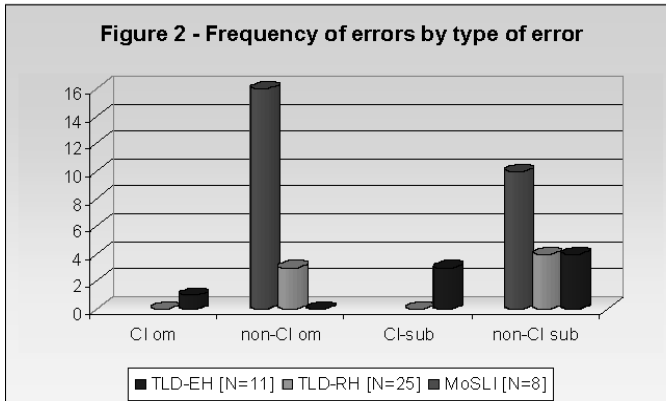
As can be seen in Figure 2, all omissions and many substitutions by English-Hebrew bilinguals with TLD can be traced to code interference, whereas virtually no code interference was found for Russian-Hebrew bilinguals. Focusing only on errors which do not involve code interference, a one-way ANOVA revealed that monolingual children with

SLI had significantly more substitution errors than both TLD bilingual groups, $F_{(2,43)}=9.62$, $p<0.001$. A Tukey posthoc test showed a significant difference ($p<0.01$) between the MoSLI group and the two TLD groups, but not between the two TLD groups. The major difference between the children with TLD and those with SLI which deems them not to be "two of a kind" can be attributed to the omission errors. A one-way ANOVA for omission errors revealed that monolingual children with SLI had significantly more omission errors than both groups of bilingual children with TLD, $F_{(2,43)}=16.16$, $p<.0001$. A Tukey posthoc test showed a significant difference ($p<0.01$) between the MoSLI group and the two TLD groups, but not between the two TLD groups. More precisely, bilinguals with TLD had hardly any omission errors which were not due to code interference (CI), while 6 of the 8 monolinguals omitted a preposition at least once. This finding clearly distinguishes the two populations lending further support to the claim that they are not two of a kind.

4. Study 2 - double delay

In order to test whether bilingual children with SLI show a "double delay" the second study compared the use of prepositions in a sentence imitation task by English-Hebrew bilinguals with TLD, English-Hebrew bilinguals with SLI and Hebrew monolinguals with SLI. Participants were:
- 16 children with SLI, ages 5-7. All impaired children matched the exclusionary criteria for SLI; including:
    o 8 bilingual children (7 girls, 1 boy) – all scored lower than one standard deviation below norm on the CELF-II Preschool (2004) for English and more than 1.5 SDs below norm on the Goralnik (1995) for Hebrew.
    o 8 monolingual children (3 girls, 5 boys) from the same preschools - all scored lower than 1.5 SDs below norm on the Goralnik for Hebrew (same children as in Study 1).
- 11 bilingual children with typical language development (TLD) (8 girls, 3 boys), ages 5-7. All scored within norms for both languages (same children as in Study 1).

All children were tested with the same sentence imitation task (Armon-Lotem, Danon & Walters 2008) following the same procedures for coding and analysis.

4.1 Findings

Analysis of the frequency of errors by error type and by preposition type showed significantly more errors for monolingual children with SLI than for the other two groups (Figure 3).

Figure 3 - Frequency of errors by error type and preposition type
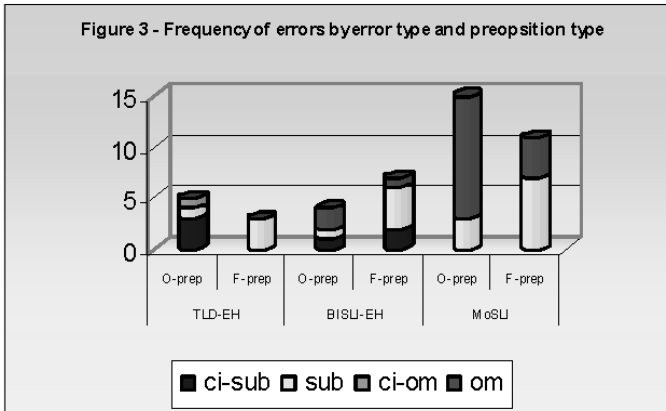
As in Study 1, Figure 3 shows that bilingual children make two types of substitution errors, both those which can be attributed to code interference and those which are not due to code interference. Both SLI groups had omission errors which cannot be explained by code interference, while such errors were not found among the children with TLD. The unique finding of this study is that bilingual children with SLI have significantly fewer errors of this type compared to MoSLI, $F(1,31)=7.91$, $p<0.02$, as obtained from a two-factor ANOVA for repeated measures, with preposition type as the repeated factor. This later finding supports the claim that BISLI does not necessarily lead to a double delay, since the quantity and quality of the errors for children in this group does not reach the level of MoSLI children and their substitutions exceed their omissions for F-prep type sentences.

4.2 Discussion

Omission errors which are not due to code interference distinguish bilingual children with TLD from children with SLI, since only our children with SLI were found to exhibit such omission errors. However, children with BISLI in Study 2 did not perform worse than children with

MoSLI. On the contrary, they performed better, lending support to the claim that BISLI does not lead to a double delay. Moreover, the substitution errors which are manifested in the production of bilingual children with TLD are indicative of the presence of grammatical knowledge, reflecting the realization that these L2 children need to fill the slot of the obligatory preposition. These errors also reveal knowledge of L1, as indicated by the code interference (CI) errors. Such substitution or commission errors are claimed here to place children with BISLI in a better position regarding language acquisition potential than omission errors, since commission errors are indicative of both grammatical knowledge and knowledge of the other language. Thus, bilingual children with SLI rely both on grammatical knowledge, as reflected in substitution errors and on on their knowledge of L1, as reflected in code interference errors, perhaps giving them an advantage in overcoming language impairment that monolingual children with SLI might not have.

5. Study 3 - Instructive Bilingualism

Roeper (2009) argues that bilingualism can be 'instructive', due to the organization of the dual linguistic system. He raises the possibility that particle verbs in English might promote awareness of phrasal verbs in both languages of a bilingual child, and can facilitate the use of obligatory prepositions in a language which has no particles. If errors which cannot be traced to code interference in children with SLI (both omissions and substitutions) emerge from a difficulty in encoding syntactic relations in the absence of semantic motivation, which is often the case for phrasal verbs, then English-Hebrew bilingual children should show this same awareness and an advantage or children whose native language does not have phrasal verbs. They would a better chance at realizing that obligatory prepositions are indeed obligatory than children who have no slot in their language where obligatory prepositions are semantically motivated (e.g., monolingual Hebrew speaking children with SLI, or Russian-Hebrew bilinguals with SLI).

Study 3 tests this prediction, comparing the use of prepositions in a sentence imitation task in three groups of SLI children: English-Hebrew bilinguals with SLI, Russian-Hebrew bilingual children with SLI, and Hebrew monolinguals with SLI. The English-Hebrew children with SLI and MoSLI children from Study 2 were complemented by a third group of Russian-Hebrew children with BISLI. This group included 3 case studies of Russian-Hebrew bilingual children (all boys) who scored lower than 1.5 SDs below norm on the Goralnik for Hebrew, and whose parents reported

delay in L1 Russian. All were attending special 'Language Preschools' at the time of testing. They were tested with the same sentence imitation task using the same procedure, coding and analysis.

5.1 Findings

An analysis of the quantity of errors by error type and by preposition type showed that not all bilingual children with SLI benefit equally from their bilingualism (Figure 4).

Figure 4 - Frequency of errors by error type and preposition type
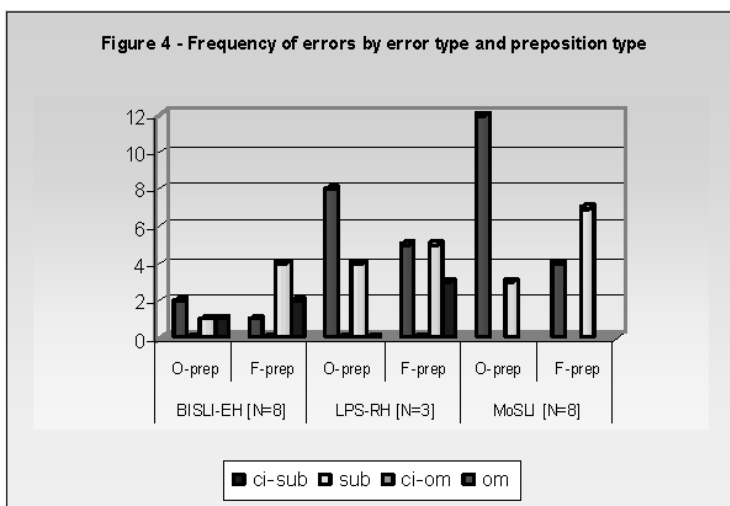
Figure 4 shows that unlike the English-Hebrew bilingual children with SLI, Russian-Hebrew bilingual children with SLI, whose L1 Russian has no particles, do not show the benefits of bilingualism. Such findings suggest that learning one language could help children with SLI bootstrap the learning of a second one, but crucially, bootstrapping depends on the nature of the two languages.

6. Conclusion

The study of prepositions can support the claims that L2 knowledge and impaired knowledge are probably not "two of a kind", and bilingualism does not seem to lead to a "dual delay" in bilingual children with SLI and might even have a facilitative effect and an instructive value

for children with SLI. While children with MoSLI omit prepositions, L2 children substitute other prepositions, as reported by Paradis and Crago (2000) for the use of auxiliaries. Furthermore, L2 children substitute even in the absence of code interference in order to fill a gap between what they want to say and their knowledge of L2 (as found for the use of BE in Paradis, 2008). This tendency seems to have a facilitative effect for children with BISLI. The facilitative effect, however, crucially depends on the language combination. Further research into other structures and other languages is necessary in order to support the claim for instructive bilingualism.

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THE INITIAL PROSODIC TEMPLATE IN BRAZILIAN AND EUROPEAN PORTUGUESE: A METHODOLOGICAL MATTER?[1]

MARIA DE FÁTIMA BAIA AND SUSANA CORREIA

0. Introduction

In this paper we investigate the initial prosodic template in the acquisition of Portuguese (both European and Brazilian Portuguese), by analyzing the influence of the method used in the analyses of children's early productions. As one will observe in the course of this paper, an investigation on the influence of the method underlying analyses on word shape acquisition may provide useful cues for theoretical proposals, especially in a language like Portuguese, in which the shape of early words is still under debate.

The Trochaic Bias Hypothesis (Allen & Hawkins, 1979) had a great repercussion throughout the subsequent years, especially in Germanic languages like English, Dutch and German. This work briefly reviewed the child data from some languages (English, German, Spanish, among others) and suggests that children's early words tend to have a trochaic rhythm. In a subsequent study, Allen & Hawkins (1980) undertook a production study where children aged 3;7 -6;7 were presented with non-sense words similar in segmental content, but contrasting in the stress position (e.g. [ta.'ki] and ['ta.ki]). Children perceived the difference between SW and WS words but had difficulty in producing WS (either using inappropriate stress or deleting the initial syllable). These results confirmed the results previously found, suggesting that children's early productions were biased towards a trochaic template. The authors furthermore hold that this trochaic bias was not characteristic of English, but a universal phenomenon. Since their work suggested the possibility of

a universal bias, other studies have been carried out in other languages, however pointing to different results.

Following the view that there is an initial grammar, some authors dealing with Germanic languages state that the trochee is the initial prosodic template (Demuth, 1996; Fikkert, 1994; Gerken, 1994). The same is claimed by studies that deal with languages from other families (see Adam & Bat-El, 2007 on the acquisition of Hebrew and Prieto, 2006 on the acquisition of Catalan, for example). In general, studies on Germanic languages tend to corroborate Allen and Hawkins' hypothesis, mainly due to the fact that the early pattern emerging in these languages conforms to a trochaic word and others that do not deny the predominance of trochees but point out the presence of iambs in early speech as well (Kehoe & Stoel-Gammon, 1997; Vihman *et al.*, 1998). Studies on Romance languages, however, show different results. For instance Hochberg (1988) asserts that there is no initial prosodic bias in early Spanish but a neutral start instead, i.e. stress does not fall on any specific syllable; whereas a trochaic bias is found in Catalan (Prieto, 2006), an initial WS tendency in European Portuguese (EP) (Correia et al., 2006) and in French (Demuth & Johnson, 2003; Vihman et al., 1998). Interestingly, Adam & Bat-El (2007) show results that go along with the universality of trochee, though iambs are more frequent in adult Hebrew. Demuth (1996) demonstrates that trochees are the predominant foot in early speech of Sesotho, but monosyllables are found in the first stage.

Data from Portuguese-speaking children bring complications for the assumption of a universal trochaic bias, as the results point to an iambic bias instead (Baia, 2008; Bonilha, 2004; Correia, 2008; Santos, 2006, 2007). Despite the prolific discussions and studies about the initial prosodic template in Portuguese that have taken place recently (see Baia, 2008; Bonilha, 2004; Rapp, 1994; Santos, 2006, 2007), some questions still remain on the shape early words in Portuguese. Most of these studies are observational and they all suggest that there is an initial iambic tendency. On the contrary, the only experimental study undertaken (on BP - Rapp, 1994) claims for a trochaic bias.

1. Brazilian Portuguese: previous studies

Brazilian Portuguese (BP) presents an interesting prosodic behavior. According to Cintra (1997), the language has more trochees (63%) than iambs (18%) and the same is supported by Albano (2001). However, the data from child language have suggested an unclear tendency or a tendency that is not consistent with frequency data in the adult speech. In

the arena of Brazilian literature, spontaneous studies point out for an iambic bias in Brazilian early speech data (see Baia, 2006, 2008; Santos, 2006, 2007), whereas others - experimental - argue that there is a trochaic bias instead (Rapp, 1994; Baia, 2008[2]). Until recently, acoustic analyses were not carried out in order to elucidate the question on the early prosodic template in BP.

Analyzing the spontaneous speech of a Brazilian child, Bonilha (2004) showed that there is a larger number of iambs until 1;5. After that age, the child was able to produce the adult prosodic pattern of BP (trochaic words). Baia (2008) states that the presence of an iambic bias is marked in reduplicated and in words created by the children. Based on spontaneous speech from 2 Brazilian children, Santos (2006, 2007) claims that there is an iambic bias in BP acquisition because monosyllables are produced as WS and WSW words are truncated to WS and not SW.

The results differ significantly between naturalistic studies (iambic bias) and experimental studies (trochaic bias). According to Baia (2008) the discrepancy between the two types of studies may arise from the fact that spontaneous studies consider children's reduplicated words, which are frequently produced and have an overwhelming iambic shape, while the experimental studies deal with controlled speech and usually elicit words from the adult lexicon (where no iambic reduplications are found). Adult and child speech in BP is, therefore, particularly different, from a word shape point of view, the former being mostly trochaic and the latter being typically iambic.

The hypothesis according to which an early iambic tendency could derive from child-directed speech (CDS) was investigated by Santos (2007). The author compared the number of iambs produced by the adults surrounding the two children under observation (both aged 1;0 to 3;0) with the number of iambs produced by the same children. The author's results demonstrated that children produced more iambs than the adults and, hence, CDS might not be driving the early iambic tendency found in BP child data.

2. European Portuguese: previous studies

As far as early prosodic templates are concerned, EP was only partly studied. However, from the studies conducted thus far, EP-speaking

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[2] Recall that all experimental studies on BP acquisition deal with only one grammar class (nouns), differently from naturalistic studies, which deal with nouns and verbs at the same time.

children seem to show an early tendency for a prosodic template that is similar to the one observed in BP.

The study from Vigário, Freitas & Frota (2006) suggested that the truncation patterns in EP child speech were neutral. Both iambic and trochaic disyllables are equally frequent, as illustrated below:

(1) maçãs   'apples'   /mɐˈsẽʃ/   [mɨˈʃaʃ]
          Marta, 1;5
(2) pato   'duck'   /ˈpatu/   [ˈpatɨ]
          Marta, 1;2
(3) quadro   'painting'   /ˈkwadɾu/   [ˈkalu]
          Marta, 1;7

Additionally, the authors found that WSW trisyllables might be truncated to S, SW or WS, thus suggesting a neutral tendency for trochaic or iambic templates:

(4) sapato   'shoe'   /sɐˈpatu/   [ˈpa]
          João, 1;7
(5) morangos   'strawberries'   /muˈɾẽguʃ/   [mɐˈguʃ]
          Inês, 1;4
(6) boneca   'doll'   /buˈnɛkɐ/   [mɐˈɲɛ]
          Inês, 1;5
(7) mamoca   'little beast'   /mɐˈmɔkɐ/   [mɐˈmɔ]
          Inês, 1;5

In an acoustic study on intonational development, Frota & Vigário (2008) mention that, initially, stress shift favoring iambs is frequent and that it might be due to the child's attempt to produce prominences from higher prosodic levels, such as the phonological phrase and the intonational phrase. Later, the child produces prosodic words and stress falls on the right syllable. At that stage, trochees are produced as trochees and iambs are produced as iambs.

Based on the spontaneous speech productions of 5 EP-speaking children, Correia (2008, 2009) suggested that, indeed, productions with filler sounds at the left and reduplications that are iambic are highly frequent in EP. However, the truncation patterns do not necessarily favor iambic or trochaic words (7-10), and monosyllables are very frequent at the beginning (11-14):

(8) cartas   'cards'   /ˈkarteʃ/   [ˈka]
      Inês, 1;6
(9) colher   'spoon'   /kuˈʎɛɾ/   [ˈkɛ]
      Inês, 1;6
(10) pé   'foot'   /ˈpɛ/   [ˈpɛ]
      Inês, 1;1
(11) mãe   'mother'   /ˈmẽj̃/   [ˈma]
      Inês, 1;1

The author claims for a neutral start approach to word shape acquisition in EP and, in line with Scarpa (1999, 2001) for BP and Frota & Vigário (2008) for EP, the author suggests early iambs in EP are not iambic feet but, instead, the result of children's attempts to produce the accent from higher levels.

3. Goals, research questions and hypotheses:

Even though Portuguese (EP and BP) has a trochaic rhythm, the above-mentioned studies suggest the early prosodic template in Portuguese is not as straightforward as it is in other languages, namely Germanic languages such as Dutch or English. Since EP and BP have similar distribution of SW and WS words in the target language, we hypothesize that the results of the comparison between BP and EP child data will be similar. Additionally, based on previous studies (Baia, 2006, 2008; Santos, 2006, 2007), we hypothesize that spontaneous speech will display an iambic tendency, contrary to experimental studies, which will display a trochaic bias (Rapp, 1994). The observation of similar results in the two varieties, which display important phonetic differences but have the same phonological and rhythmic properties, will raise important questions as to the key role of prosody and phonological rhythm during acquisition. Furthermore, the confirmation of different findings in experimental and naturalistic studies will contribute to highlight the methodological options used by the studies, in particular the consequences of given methodological options to the theoretical field of phonological acquisition. Finally, our findings might shed light on the dubious nature of prosodic acquisition in Portuguese, namely with respect to word shape and word stress acquisition.

4. Method

In this study, we investigated the initial prosodic template in two varieties of Portuguese – BP and EP - using both naturalistic and experimental data. A complementary set of data was taken into account for this study: data on EP consist in spontaneous speech from 5 monolingual children aged 0;11-2;6 (16.647 words: 12.556 nouns/ 4.091 verbs); data on BP consist in spontaneous speech from one BP-speaking child aged 1;5-3;0 (1177 words: 761 nouns/416 verbs). An experimental data set from 42 Brazilian children aged 1;5-3;0 was considered as well (1565 words – nouns). In the experimental study, a naming task was conducted for the following prosodic templates: SW, WS, SWW, WSW and WWS.

Three variables were stipulated based on BP data[3]:

Source	F0	P-Value
Age Group (AG)	,660	,523
Prosodic Template (PT)	196,057	,000
AG*PT	15,996	,000

Table 2: ANOVA – interaction between Age Group and Prosodic Template (BP)[4]

5. Results

In order to discuss the early prosodic template in Portuguese acquisition, we will focus our analysis on the production of target disyllables.

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[3] AG*PT meaning the interaction between the Age Group and the Prosodic Template.

[4] Three intervals are considered in the analysis. They were stipulated based on the BP data after running ANOVA test, which considered the age group (AG), the prosodic template (PT) and their interaction:

  Age groups (AG*PT < 0,05):
  AG1: 0;11 – 1;5 years (EP)
  AG2: 1;5 – 2;0 years (BP & EP)
  AG3: 2;1 – 2;6 years (BP & EP)
  AG4: 2;7 – 3;0 years (BP)