

The Early Acquisition of Determiners in Yucatec Mayan and Spanish*

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This study compares the early acquisition of determiners in two unrelated languages: Spanish and Yucatec Mayan. By conducting Elicited Imitation Tasks we found out that determiners are part of the mental grammar of the Spanish speaking children earlier (2;00) than in the Yucatec children (3;00). We attribute it to the different nature of the languages and a special characteristic of the Yucatec input.

1 INTRODUCTION

Some researchers have documented that determiners appear very early in the acquisition of English; according to Lieven et al. (2003) determiners are the first grammatical words which were used productively by Annie, the girl of the study. These researchers documented all of the new and old syntactic structures used by the child. At the age of 2;01,11 Annie still used a conservative language in which a small amount of words were novel (said in exactly the same way) and did not show any evidence of grammatical rules being applied, except for the case of determiners and the possessive morpheme that seemed to be used in a more abstract way (Lieven *et al* 2003:349) From a very different perspective, Kedar et al.(2004) found that children learning English are sensitive to determiners as the functional head of NP at the age of 24 months (Kedar *et al.* 2004).

Determiners also seemed to appear early in children learning Spanish, another Indo-European language. In the study about the acquisition of demonstratives conducted by Espinosa (2002) it was found that determiners are already being used by the child at the age of 2;04. Also in Muñetón Ayala (2005) it is documented that children learning Spanish are using determiners in spontaneous speech, although with minimal frequency.

However, in the analysis of spontaneous speech of two Yucatec Mayan children, clear presence of determiners were not found until the age of 2;07. This is important if we consider that the Mayan language has already put into debate the Noun bias argument, which means that the acquisition of languages can differ typologically. In Mayan languages, children learn verbs before nouns (See for instance Brown 1998).

In this paper we discuss the different nature of determiners in Yucatec Maya and Spanish and how they differ in their process of early acquisition.

2 DETERMINERS IN ADULT SPEECH

2.1 Yucatec Mayan

In Yucatec, definite articles and demonstratives are formed by the same grammatical expression. It consists of two particles formed by what has been called by Hanks (1990) a base *le* and a glottal enclitic *-a'*, *proximal*; *-o'*, *distal or neutral*¹; *-e'*, *topicalizer*; *-ti'*,

*This paper was written thanks to the CONACYT scholarship (167746) held by the author. I also want to thank my supervisor Dr. Pfeiler and all of the CamLing attendees' comments.

¹ Bohnemeyer (submitted) proposes that this enclitic has also characteristics of a neutral term.

anaphoric. The base contains the grammatical meaning of definiteness and the enclitics hold the deictic meaning.

- (1) **Le** pek'-o'
 DET dog-ENCL.DIST/NEU
 'The dog' / 'that dog'

The definite article can be expressed without either the base or the enclitic; it is possible to convey the meaning in the context of enunciation. The same stands as for to distinguish when are they being used as articles or demonstratives, one important clue in this respect are gestures; these are uttered spontaneously with demonstratives to point the referent. The base and the enclitics mark the Noun Phrase; they are found both Sentence Initial and Sentence Final (Monforte 1999).

It is interesting to point out that deictic words in Yucatec form not only the discontinuous shapes of the determiners but also the continuous shapes of the pronouns.

- (2) (a) Continuous: Le (l) -o'
 DET EP ENCL.DIST
 'That one'

- (b) Discontinuous: Le paal -o'
 DET child.ENCL.DIST
 'That boy' / 'the boy'

This characteristic of continuity and discontinuity belongs not only to demonstratives and the definite article, but to all of the Yucatec deictics. There are 14 bases and 6 enclitics, they do not all combine with each other, but they show certain combination rules. The following example shows the continuity and discontinuity of the locative adverbs:

- (3) (a) Continuity: Te'el -a'
 LOC ENCL.PROX
 'Here'

- (b) Discontinuity: Te che' -a'
 LOC wood-ENCL.PROX
 'The piece of wood over there'

In everyday speech sometimes the lateral of the definite article and the demonstrative base is elided.

- (4) Ja'ats' men e kax -ito -o'
 Hit-PASS PREP.DET hen-DIM.DET F
 "It was hit by the hen"

As we can see from (4) the lateral is elided and sticks to the word that precedes it, like a suffix.

2.2 Determiners in Spanish

In contrast to Yucatec, the Spanish language has two different expressions for articles and demonstratives. However, articles (*el, la, lo*) and the far distant demonstrative (*aquel,*

aquella, aquello) of Spanish come from the Latin demonstrative *ille, illa, illud*². This statement seems to also be true for English language, according to Lyons (1977). The English article ‘the’ comes from the demonstrative ‘that’. This is noteworthy if we recall that in Yucatec articles and demonstratives are actually the same expression.

2.1.1 Definite Article

In Spanish, as any other Romance language, gender and number produce the paradigm of the definite article. It inflects in gender and number, not only singular and plural, but also neuter.

	Singular	Plural	Neuter
Masculine	El	Los	
Feminine	La	Las	
Neuter			Lo

Table 1

Paradigm of Spanish article inflection

The article must also agree with the noun it modifies; sometimes the agreement is phonologically accurate, but not always, for instance, feminine nouns regularly have an –a ending, but it is possible to find feminine nouns with an –o ending:

- (5) Phonological accuracy: **La** ris-**a**
ART.FEM.SG laugh-FEM.SG
- (6) Non phonological accuracy: **La** man-**o**
ART.FEM.SG hand-FEM.SG

The meaning of the definite article in Spanish has been traditionally defined in terms of the shared and known information it conveys and its reference to uniqueness. The former alludes to the introductory topics in discourse; once they are identified by speaker and addressee they are referred by the definite article. The latter is used to specify an entity for its particular characteristics, as in the utterance: “The human being is able to speak”. This uniqueness of the human being as the only one who shows this characteristic is expressed by the article.

2.1.2 Demonstratives

Demonstratives also inflect in gender and number and must agree with the noun.

	Singular	Plural	Neuter
Masculine	Est-e	Est-os	
Feminine	Est-a	Est-as	
Neuter			Esto

Table 2

Inflection of the proximal demonstrative in Spanish

In general, Spanish masculine takes an –o ending, however, the demonstrative masculine is expressed with suffix –e and neuter takes the –o suffix. While neuter definite articles can be used as determiners, the demonstrative neuter is never used as a determiner.

² The third person singular pronoun of Spanish also comes from this Latin demonstrative.

2.3 Child Language

Demonstratives appear very early in the process of ontogeny in many languages. Clark (1978:97) suggests that this is because, as every deictic word, demonstratives are a clear link between words, pointing and the world. She proposes four stages in which demonstratives are acquired: (i) children start pointing, (ii) they point and utter additionally demonstratives alone, as pronouns, (iii) they point and utter the demonstrative as determiner with its noun, (iv) children can eventually get rid of pointing.

2.1.1 Child Language: Spanish

There are two studies of spontaneous speech of children learning Spanish which can account for the fact that demonstrative determiners are used early by the children, and as Clark (see above) argued, pronouns precede them. In the analysis of the transversal data of children learning Castilian Spanish made by Muñetón Ayala (2005:326), it is shown that demonstrative determiners are already being produced at the age of 24 months: 4% in Muñetón Ayala in contrast to deictic adverbs and pronouns. In the case study of a child learning Mexican Spanish,³ Espinosa (2002) documents 15% of determiners in contrast to 85% of pronouns from the age of 1;02 to 3;00 years old. The first determiners are found in Flor at 2;03 showing no agreement:

- (7) *Eto capulino
 This.PROX.N Mexican Black Cherry.M
 Goal: Este capulín
 ‘This Mexican Black Cherry’

Children acquiring Spanish need to master the whole paradigm of determiners plus agreement. According to Perez Pereira (1991), errors like (7) are found because children learning Spanish pay attention to phonological cues when assigning gender to determiners. Definite articles are also found early in child Spanish, although error-free article-noun agreement is mastered around the age of three years, and due to the complexity of these morphemes, adult-like competence probably around the age of six (Clark 1985).

2.1.2 Child Language: Yucatec

There is still little evidence on how the acquisition of Yucatec takes place, and no study has yet specialized in determiners;⁴ however Pfeiler documents that the “acquisition of morphology (in Yucatec) is first characterized by deictic and topicalizer suffixes” (2002:80) and that the speech of Armando, one child in her study, from 1;01 to 1;07 shows “an adequate use of the nominal but only partial use of the verbal morphology” (Pfeiler 2006:338). Due to the difficulties to define forms and function of one word utterances in child’s languages, Flores Vera (1998) analyzed the data of the same child and he argues that deictic words are the third lexical category employed.

In my own study of Armando from 1;02 till 1;07, I also found that deictics are very frequent and combine with nouns and other deictic words. I show as follows some representative examples:

- (8) e pek’ (1;03)
 ? dog

³ The study was made with C. Rojas *corpus* (ETAL) in the UNAM.

⁴ The only article on the acquisition of indefinite articles by Pfeiler is still in process.

- (9) pa'al-o' (1;06)
pamper-ENCL.DIST
- (10) le te - o' (1;07)
DET LOC ENCL.DIST
'The one over there.'

(10) was the most complex utterance with a determiner found in the speech of Armando; the rest were utterances like (8), so we cannot be sure which type of deictic he was using. We also analysed the speech of his cousin Sandi, and found no adult-like determiner until the age of 2;07. Since we found the presence of discontinuity very early we wondered why the determiner along with a noun seemed not to appear at all. One possible answer was the input, so we compared the frequency of use of the deictics of Armando against the input. Except for the modal *bey* and the demonstrative *le*, we could explain the frequency of use of Armando in terms of the frequency of the input. The presentative base *je'el* is the one with the highest frequency in both; we think that the child's use of this deictic is very high not only because it is the most frequent but also because it is very useful to link by point words and the physical word. This deictic has a very similar function to the French *voilà*. It introduces a topic and gathers the attention of the addressee.

3 AIM OF THE RESEARCH

Since all that we know about the age of acquisition of determiners in both languages comes from the analysis of spontaneous speech, we cannot be sure when they start being part of the mental grammars. So far we can tell that a Yucatec child uses the enclitics early in acquisition, particularly characterised by the use of topicalizers. Apparently Spanish speakers use both determiners very early but they do not seem to be very frequent in the speech. In this study we pretend to answer the following questions: (i) When do determiners begin to be part of the mental grammars of both Spanish and Yucatec children? (ii) Do children acquiring different languages follow the same routes? (iii) Why? We take into account that in spontaneous speech when spoken sentence final Yucatec determiners are difficult to perceive, they get attached to the preceding word and drop the lateral. For this reason we focus on sentence-final determiners.

4 METHOD

I conducted elicited imitation tasks with 13 monolingual Yucatec children and 20 monolingual Spanish-speaking children from the ages 2;00 to 5;00. To encourage the smaller children to "play" with us, we started with a 7;00 year old child whose responses were used as the comparative pattern. The experiments were conducted in Quintana Roo, Mexico in two Mayan communities: Campamento Hidalgo and Punta Lagunas, and the Spanish-speaking children were recruited in two different schools in Cancún, Quintana Roo, Mexico. Children were told that they had to repeat a story, exactly as said to them. In the Spanish sentences demonstratives and definite articles were uttered. Sentences like (11) were used in the Yucatec Mayan batteries:

- (11) Wi'ij e kaax-o'
Hungry DET hen-ENCL.DIST/NEU
'The hen is hungry'

The Spanish sample is given in (12):

- (12) Cierra los ojos **la** gallina
 Close-VB 3SG DET eyes DET.SG. hen
 ‘The hen closes its eyes’

Both stories were about different animals wanting to sleep, eat and play. A bilingual adult speaker of Yucatec from the same area that I trained in applied the test to the Yucatec children. There were 3 batteries of 6 utterances each.

5 RESULTS

As for the Yucatec sample we had difficulties to talk to these children because they are not used to strangers. They were very shy to talk to us so either their speech had very low volume or they took a hand or the clothes into the mouth which made it harder to understand them, for this reason we decided that 12 out of 14 determiners repeated by the Yucatec children show mastery of determiners, since 7;00 year old girl uttered this number of determiners. Only up to three-year-old Yucatec children reach this number.

Age	Number of determiners repeated	Percentage (%) of determiners per child
2;00	0 out of 14	0
2;00	0 out of 14	0
2;08	6 out of 14	42
2 years old	6 out of 42	14
3;00	12 out of 14	85
3;04	4 out of 4	100
3;07	11 out of 14	78
3;08	13 out of 14	92
3 years old	40 out of 46	85
4;00	12 out of 14	85
4;00	8 out of 8	100
4;08	12 out of 14	85
4 years old	32 out of 36	90
5;00	11 out of 11	100
5;00	14 out of 14	100
5 years old	25 out of 25	100
7;00	12 out of 14	85

Table 3

Yucatec speaking children

The results appeared to be inaccurate due to the fact that not all the children repeated all of the sentences, in the cases where other adults were present they started laughing and that made it impossible for us to make the children to keep on talking. However, according to the percentages, determiners seemed to be part of the mental grammar of Yucatec children up to the age of 3;00, if we ignore the results of the children that did not complete the tasks, we obtained 85% of determiners uttered per age, except for the 5-year-old children. Two-year-old children made mistakes like the following:

- (13) (a) Adult: Wi'ij e kaaxo'
 ‘The hen is hungry’
 (b) Child: *Wi'ka kaaxo'

'Hungry he hen.ENCL.DIST/NEU'

As for the Spanish-speaking children we found a very different view, they were basically all able to utter the determiners.

Age	Number of determiners repeated	Percentage of determiners repeated
4 children Mean age 2;06	14 out of 14	100
1 child age 3;04	12 out of 14	85
4 children Mean age 3;06	14 out of 14	100
5 children Mean age 4;06	14 out of 14	100
5 children Mean age 5;06	14 out of 14	100

Table 4

Spanish-speaking children

Two-year-old and sometimes also three-year-old children repeated the demonstratives without /s/ 'ete' or the definite article without /l/ but it was considered irrelevant.

6 CONCLUSIONS

These results lead us to the conclusion that determiners within the noun phrases are mastered earlier in Spanish than in Yucatec. It is possible that children take different routes in the acquisition of their languages. The route suggested by Clark (1978) in which children's use of determiners is preceded by pronouns might be the one taken by the Spanish speakers. Children acquiring Spanish deal later with the complexity of determiner agreement. On the other hand, Spanish-speaking children also take the noun-bias, and definite article is heavily related to nouns in Spanish, as they are obligatory in many contexts.

In Yucatec we found that determiners are very frequent in adult speech, but they remain ambiguous, which might make it difficult for children to perceive them. Furthermore they can be used with nouns and verbs, adjectives, etc. It is also clear that while determiners in Spanish are a lexical category, in Yucatec they are morphemes, and then pronouns might not be the link to determiners in Yucatec. We observed that the highest frequency of deictics in Yucatec is given by the presentative *je'el-* which might be the deictic which helps Yucatec children to link words and the physical world, while demonstratives might be the route for Spanish speaking children.

Another possible route taken by Yucatec children are the enclitics. Pye (1992) already observed that children learning Quiche Maya pay attention to what is at the end, and they start using suffixes due to their perceptual saliency (also see Pye, Pfeiler, de Leon, Brown, & Mateo 2007). The two-year-old children in my experiment who failed to utter determiners always omitted the base *le* but were always able to repeat the glottal enclitic. Aksu and Slobin (1985) have already argued that children learning morphologically complex language, the case of Yucatec, first start producing complex words rather than multiword utterances, like Spanish-speaking children. It is likely that Yucatec children failed to repeat the multiword utterances of my experiment because they master first nominal and verb morphology.

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