

# Referential Cohesion in Hungarian: A Developmental Study

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**ABSTRACT.** Discursive functions are shared across all languages, but each language uses different linguistic means to appropriately establish referential cohesion. Children's mastery of this cohesion in narrative texts develops gradually and is influenced by development in syntax. Consequently, speakers can employ different strategies, and among the various structural configurations of arguments, some are preferred in discourse. Our study examines how Hungarian children and adults establish referential cohesion in narrative texts, by using different strategies, and whether they have a preferred argument structure.

## 1 Introduction

Producing a narrative text is a complex task for which referential cohesion is essential. Speakers are required to introduce referents, as well as to maintain, switch and reintroduce them. Even though these discursive functions are identical in all languages, each language uses different linguistic means to appropriately establish referential cohesion. Much work has been devoted to studying how children develop the ability to successfully establish referential cohesion in narrative texts (Kail and Hickmann 1992; Hickmann et al. 1995; Jisa 2000). Much of this work has shown that children's mastery of referential cohesion develops very gradually and is intricately influenced by development in syntax.

Depending on their mastery of the variety of linguistic skills used for referential purposes, speakers can employ different strategies as a thematic subject strategy, a nominal strategy or an anaphoric strategy. In the majority of cases, younger children choose the first one, which enables them to simplify and control the discourse, by using pronominal forms to refer to the main characters irrespective of the function. Older children adopt the second one, i. e. they have a preference for full nominals even for maintaining characters. Adults generally favour the last type of strategy: using pronominals for maintaining reference but nominals for switching that (Wigglesworth 1997).

Within these strategies, we can find various structural configurations of arguments, amongst which, according to Du Bois (1987), some are preferred in discourse, and can be potentially universal. He proposed that the occurrence of two lexical arguments in the same sentence is rare in connected discourse, and speakers prefer zero or one lexical item per clause (One Lexical Argument

Constraint). If lexical mentions appear, we can find them most frequently in subject or object positions; the number of lexical arguments in agent role is avoided (Non-lexical A Constraint).

This study addresses the issue of the range of linguistic forms employed to maintain and to reintroduce the principal characters as subjects. We test the hypothesis that Hungarian children organize their narratives in a picture by picture fashion whereas adults organize their narrations around episodes. The children and adults of our corpus make use of different strategies, although their preferred argument structure already follows the patterns predicted by Du Bois from the age of 5. We explain our results by taking into account both linguistic and pragmatic development.

## **2 Characteristics of Hungarian language**

Hungarian is an agglutinative language of the Finno-Ugrian language family, defined as having AVO (agent-verb-object) canonical word order which is very flexible and perhaps best described as being pragmatically determined (topic-focus-comment information flow).

Hungarian is pro-drop, and transitive verb forms can include an object marker (there are two conjugations depending on the definiteness of the object). Every argument is case-marked for grammatical relation (17 cases). There is no gender in Hungarian.

## **3 Methodology**

The narratives were collected from four different age groups: 5, 7/8, and 11/12 years of age, and adults. There were 15 subjects in each group. Adult subjects were all university students; the child subjects were kindergarden and primary school pupils. All the subjects were monolingual Hungarian speakers from middle class backgrounds. The narrative task used to elicit the narratives is a series of pictures with no text (*Frog, Where are you?* Mayer, 1969), which has served as the basis for a number of cross-linguistic developmental studies (Berman and Slobin 1994). The series of pictures recounts the adventures of two principal characters (a boy and a dog) in search of their runaway frog. Over the course of the story the boy and the dog encounter a host of secondary characters (a mole, an owl, a swarm of bees and a deer).

Experimental protocol proposed in Berman & Slobin (1994) was used. Each narrative was transcribed on CLAN, and divided into clauses which are identified by the presence of a finite or non finite main verb. A coding system was employed to account for the linguistic form and syntactic function of every animate character which is illustrated in Table 1.

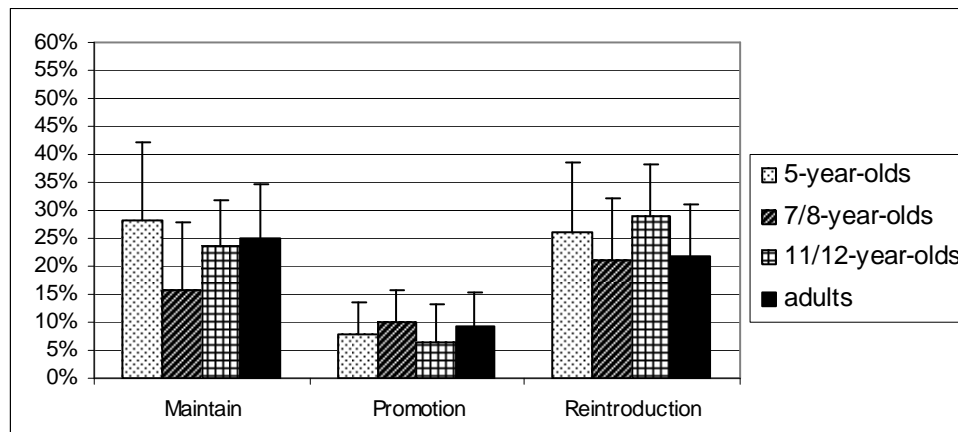
Discursive functions	Definitions	Coding
Introduction	<p>The first mention of a character.</p> <p>utána meg a kisfiú megijedt egy madártól.</p> <p>utána meg <b>egy szarvas</b> a hátára felvette. (7;08.g)</p> <p>and afterwards the little boy is frightened by a bird.</p> <p>and afterwards <b>a deer</b> took him on his back.</p>	IN – noun
Maintain	<p>Character maintained in subject/agent status in the following clause.</p> <p>és ja a kisfiú rátette az egyik lábát egy kőre.</p> <p>és felmászott a kőre. (5;08.d)</p> <p>and ah yes the little boy has put one foot on the rock.</p> <p>and [<b>he</b>] has climbed onto the rock.</p>	M – null subject
Promotion	<p>Character mentioned in object/oblique role, and used than as subject/agent in the following clause.</p> <p>találkozott egy üregi állattal.</p> <p><b>ami</b> elég bűdös volt. (19;07.j)</p> <p>[he] met [hu =with] an underground animal.</p> <p><b>that</b> smelt quite bad.</p>	P – relative
Reintroduction	<p>Character reintroduced as subject/agent in the following clause.</p> <p>abból kijött egy bagoly.</p> <p><b>a kisfiú</b> leesett. (11;07.l)</p> <p>an owl came out of it.</p> <p><b>the little boy</b> fell down.</p>	R – noun

Table 1: Coding system for linguistic forms and discursive functions

We will focus here on four episodes in which the main characters meet secondary characters. Consequently, they give rise to the choice between several discursive functions.

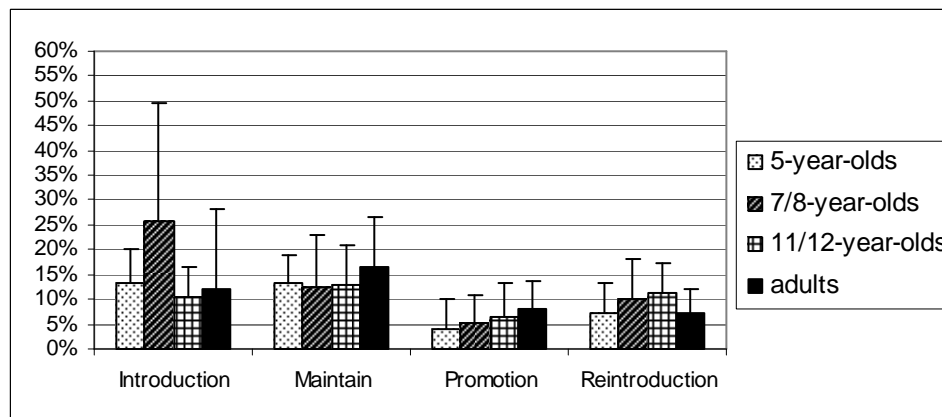
## 4 Results

Graphs 1 and 2 show that primary characters are preferred in subject/agent position in all age groups. Except for the 7/8-year-olds, each age group alternates the functions of maintain and reintroduction for the protagonists.



Graph 1: Mean percentage of the functions of the primary characters in the 4 episodes

Graph 2 shows that the 7/8-year-olds maintain primary characters less often than the other groups ( $F_{(3,56)}=6,09, p>.001$ ) because they prefer to introduce secondary characters in subject/agent position ( $F_{(3,56)}=9,87, p<.0001$ ).

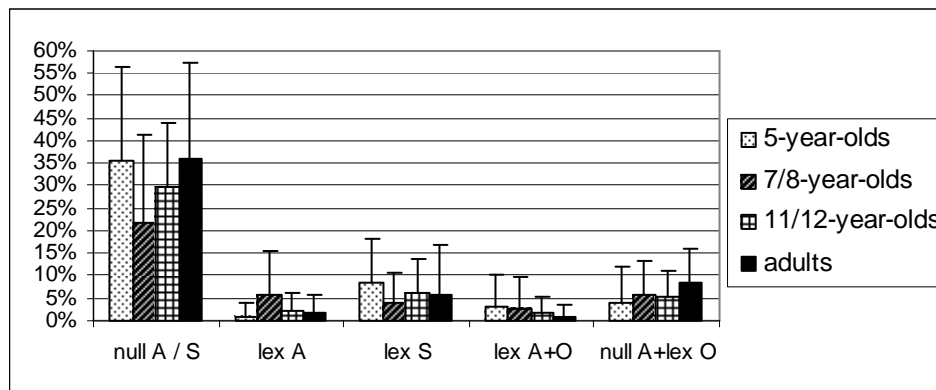


Graph 2: Mean percentage of the functions of the secondary characters in the 4 episodes

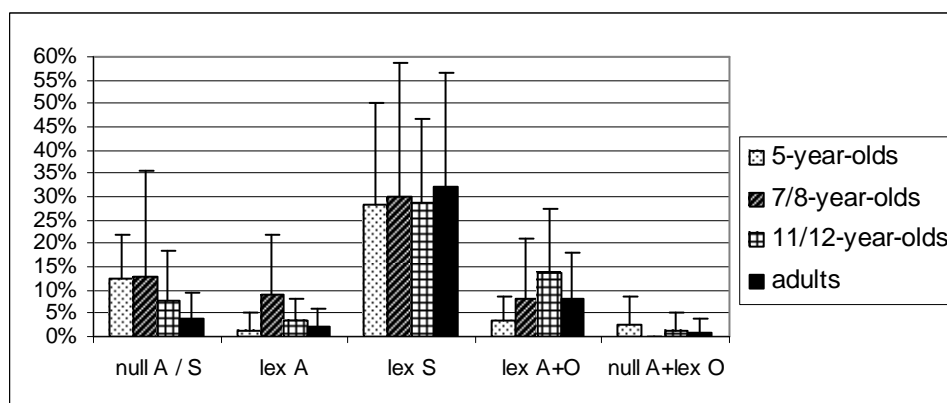
Concerning linguistic constructions illustrated in Graphs 3 and 4, speakers employ most often null subject/agent for the primary characters maintained in subject/agent role, and lexical subject mentions for their reintroduction, and this from the age of 5.

The 2 youngest groups make use of more null subject/agent constructions for the reintroduction than the adults ( $F_{(3,56)}=0,36, p>.01$ ). However, less null subject/agents are observed in maintain contexts in the 7/8-year-olds than in the other age groups ( $F_{(3,56)}=4,85, p>.02$ ). Children of this age have a tendency to employ more lexical agents both for maintain and reintroduction than the other

groups. In addition, lexical agents and objects are used mostly for reintroduction in the oldest children's group.



Graph 3: Mean percentage of the forms used to maintain primary characters in the 4 episodes



Graph 4: Mean percentage of the forms used to reintroduce primary characters in the 4 episodes

## 5 Discussion

The data analysis suggests that the different age groups constitute structures with 0 or 1 lexical subject/agent in the case of the maintain and reintroduction functions, but they do not distribute that in the same way. These results confirm Wigglesworth's theory (1997) concerning strategies: the frequency and the distribution of constructions with and without lexical arguments show that although the 5-year-olds use as many null subject/agents as the 2 oldest groups, they do not do this for the same reasons, i.e. in order to maintain references. For reintroduction they favour lexical subject/agents but also often use forms with zero lexical mention. This demonstrates that the youngest Hungarian children establish referential cohesion through thematic subject strategy; however, the nominal strategy already appears in a preliminary form.

(1)

- |  |                                    |
|--|------------------------------------|
| a. itt meg a kutyát elkergetik a legyek. | and here the flies chase the dog.  |
| b. itt meg a kisfiú elesik.              | and here the little boy falls.     |
| c. és itt pedig föl akar mászni.         | and here [he] wants to climb.      |
| d. és megijed egy bagolytól.             | and here [he] is afraid of an owl. |
| e. itt meg van a bagoly. (5;08.f)        | and here there is an owl.          |

The development of the ability of narrative organization is suggested by the fact that the 7/8-year-olds generally employ lexical items even in maintain contexts, but they have not yet detached themselves completely from the thematic subject strategy.

(2)

- |   |   |
|---|---|
| a. és a kutya még tovább is kereste a darázfészekben. | and the dog continues to look for [her] in the beehive. |
| b. a kutya még meg is rázta a fát.                    | the dog even shook the tree.                            |
| c. de ott sem találta.                                | but [he] didn't find [her] there either.                |
| d. a gyerek a fában is kereste.                       | the child looked for [her] in the tree too.             |
| e. de ő sem találta sehol.                            | but he didn't find [her] anywhere either.               |
| f. utána jöttek a darazsak.                           | afterwards the bees came.                               |
| g. és a kutyát követték.                              | and [they] chased the dog.                              |
| h. és a gyerek elesett.                               | and the child fell.                                     |
| i. és kijött egy bagoly a lyukból. (8;01.e)           | and an owl came out of the hole.                        |

Concerning the 11/12-year-olds and adults, they master the alternate use of null subject/agent to maintain and lexical mentions to reintroduce primary characters (anaphoric strategy).

(3)

- |  |  |
|--|--|
| a. és a kutya pedig leszedte valahogyan a méhkast a fáról. | and the dog, as for him, took the beehive off the tree in a fashion. |
| b. felugrált.  | [he] jumped.   |
| c. és így leverte.   | and thus [he] made [it] fall.  |
| d. mire a méhek nagyon megharagudnak rá.                   | because of this the bees got mad at him.                             |
| e. és elkezdik üldözni.                                    | and [they] started to chase [him].                                   |
| f. közben pedig a kisfiú egy fa odújába is bekukkant.      | meanwhile, the little boy also glanced into a hole in the tree.      |
| g. ahol pedig egy baglyot zavar meg.                       | where [he] disturbed in fact an owl.                                 |

- h. és a bagoly is kicsit mérges lesz a kisfiúra.                      and the owl will also get made at  
the little boy.
- i. úgyhogy a kutyát a méhek kergetik.                      so the dog is chased by the bees.
- j. a kisfiút pedig a bagoly. (21;10.h)                      and the little boy by the owl.

The proposition of Du Bois (1987) concerning “Preferred Argument Structure” is also supported by the texts produced by the Hungarian speakers: all the age groups prefer clauses containing 0/1 lexical item, and avoid lexical agents, except in reintroductions. It is interesting to note that the 7/8-year-olds use more lexical agents for reintroduction than the other groups. This is likely due to the prevalence of the nominal strategy.

## 6 Conclusion

In the present paper, we have studied the development of the ability of Hungarian children to establish referential cohesion in order to maintain and reintroduce primary characters as subject/agents in narrative texts.

The data analysis suggests that the inventory of the linguistic structures found in texts produced by children and adults shows similarities. However, the linguistic forms which fulfill the discursive functions are different. Thus, Wigglesworth's “strategies” (1997) emerge in the Hungarian stories too (Table 2).

Age	Strategy
5-year-olds	(+)thematic subject strategy, (-)nominal strategy
7/8-year-olds	(+)nominal strategy, (-)thematic subject strategy
11/12-year-olds	anaphoric strategy
Adults	anaphoric strategy

Table 2 : Strategies used in the age groups

The construction of linguistic structures occurred in the maintain and reintroduction contexts is generally identical in each group, confirming the proposition of Du Bois (1987): the 0 or 1 lexical forms appear in a much higher frequency in the corpus, and the overwhelming majority of the lexical items are subjects and not agents.

The examples given in the discussion depict the narrative organization of Hungarian children and adults: the first construct their discourses picture by picture whereas the latter structure their stories in episodes.

The results obtained here support the findings of the earlier works that children acquire gradually the ability to satisfy the conventional rules of discursive

functions. However, Hungarian children package the encoding information in the same syntactic means than the adults from the age of 5. It is mainly the association of linguistic forms to discursive functions which seems difficult for them to control.

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