

THE ACQUISITION OF RECURSIVE POSSESSIVE STRUCTURES IN HUNGARIAN

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EXPERIMENTAL HYPOTHESIS, QUESTIONS TO BE ANSWERED

- Can 8-year-olds understand recursive possessive structures?
How does their interpretation differ from the interpretation of adults?
- Do Hungarian children interpret recursive structures as asyndetic coordination (direct recursion) at first?
- Does an overt functional head help Hungarian children interpret recursive possessive structures?



THE ROLE OF THE FUNCTIONAL HEADS

- DiSciullo (2015): There is (covert) semantic connection between constituents that forms the property of a functional element.
- The functional element (head) between constituents indicates indirect recursion
- E.g.:
- *Punto 0 controllo 0 passaporti* (Italian)
- *Punto **de** controle **de** pasaporte* (Portuguese)
point (of) control (of) passport
‘The point of the checking of passports’



THE ROLE OF THE FUNCTIONAL HEADS IN PP RECURSION TÓTH-É.KISS-ROEPER 2016

Materials:

(a) embedded PP adjectivalized by *-i*

A krokodil [_{PP} [_{AdjP} [_{PP} *a zsiráf előtt*]-**i**] *oroszlán*] *előtt*] áll
the crocodile the giraffe before-**ADJ** lion before stands

'The crocodile stands before the lion before the giraffe.'

(b) embedded PP in a *levő* participle phrase

A krokodil [_{PP} [_{PartP} [_{PP} *a zsiráf előtt*] **levő**] *oroszlán*] *előtt*] áll
the crocodile the giraffe before **being** lion before stands

'The crocodile stands before the lion (being) before the giraffe'



THE ROLE OF THE FUNCTIONAL HEADS IN PP RECURSION

TÓTH-É.KISS-ROEPER 2016

○ Results:

	PP-recursion by <i>-i</i>	PP-recursion by <i>lévő</i>	Significance
1 st graders (6-7 yrs)	69%	76%	$T_{\text{paired}}(1,167) = 2,414, p < 0,05^*$
3 rd and 4 th graders (9-10 yrs)	85%	84%	n.s.

Results:

-PP recursion by *lévő* is easier than by *-i*



POSSESSIVE STRUCTURES IN HUNGARIAN

Only the possessum is marked.

a. [_{DP} [_{DP} *János*] [_{NP} *könyv-e*]]

John book-POSS

‘John’s book’

The possessor is also marked by dative -nak case.

b. [_{DP} [_{KP} *János-nak*] [_{DP} *a* [_{NP} *könyv-e*]]]

John-DAT the book-POSS

‘John’s book’



HUNGARIAN RECURSIVE POSSESSIVE STRUCTURES

1. Two unmarked possessors

?*A maci doboz-a szalag-ja piros*

the teddy bear box-POSS ribbon-POSS red

‘The teddy bear’s box’s ribbon is red.’

2. Mixed case

A maci doboz-á-nak a szalag-ja piros

the teddy bear box-POSS-DAT the ribbon-POSS red

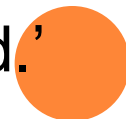
‘The ribbon of the bear’s box is red’

3. Two dative possessors

?*A maci-nak a doboz-á-nak a szalag-ja piros*

the teddy bear-DAT the box-POSS-DAT the ribbon-POSS red

‘The ribbon of the box of the bear is red.’



EXPERIMENT

Participants

N = 25 children

Mean age: 8;3

24 adults

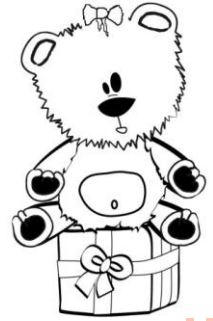
Mean age: 41 years

Methods

- Colouring pictures with the help of a computer after hearing the test sentences.
- 9 test sentences , 9 fillers (other pictures to colour)
- Pseudo-randomized order (3 versions)



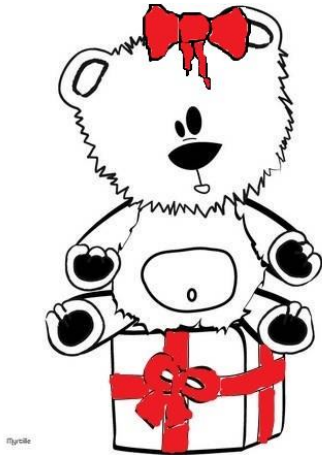
ANSWERS



Please colour the teddy bear's box's ribbon red.



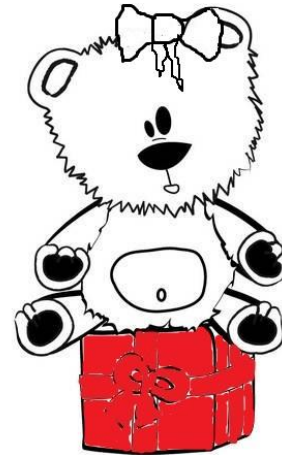
Recursive



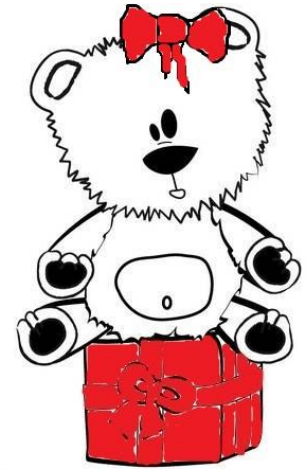
Conjunctive1



Conjunctive2



Conjunctive3



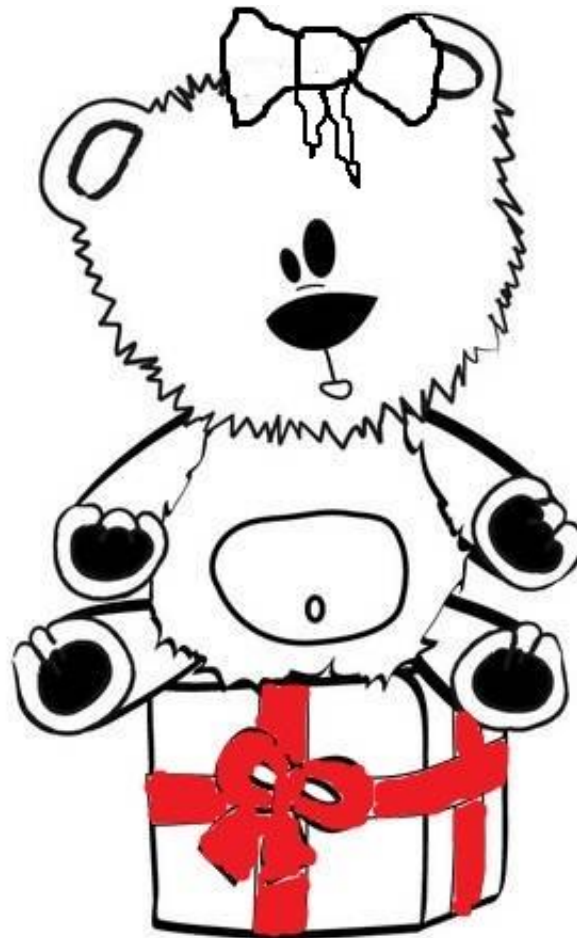
Conjunctive4



RECURSIVE INTERPRETATION

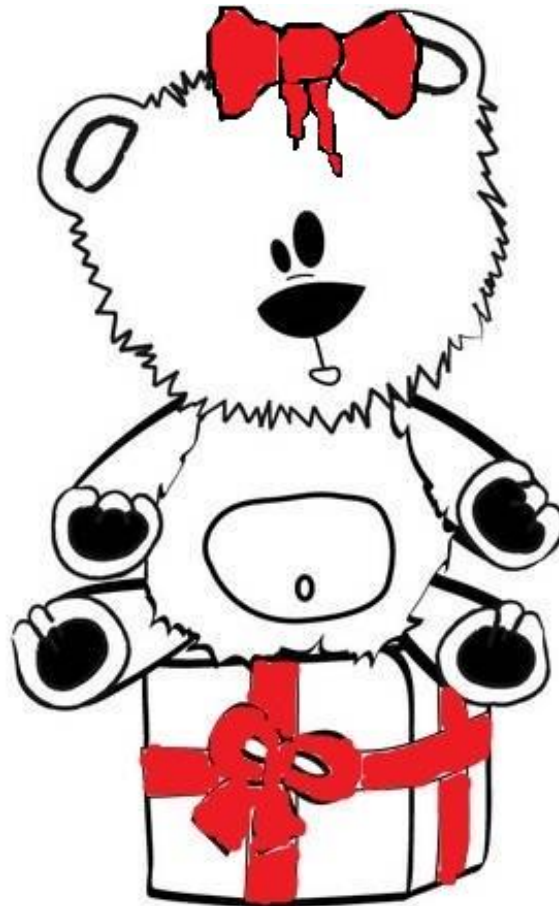
Hungarian: A maci doboza szalagja piros

English: The teddy bear's box's ribbon is red



CONJUNCTIVE 1

Hungarian: [A maci & doboza] szalagja piros
English: [The teddy bear's & box's] ribbons are red



CONJUNCTIVE 2

Hungarian: A maci [szalagja & doboza] piros

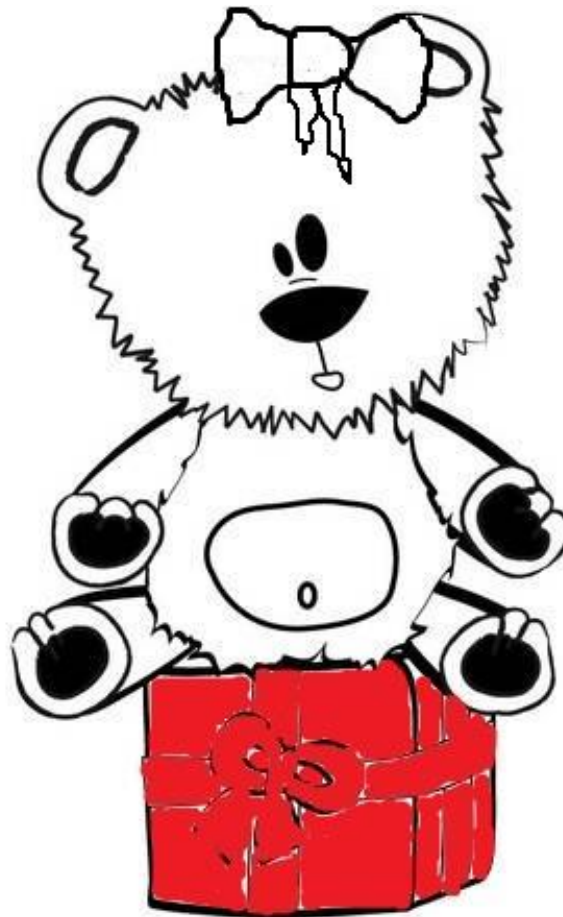
English: The teddy bear's [ribbon & box] are red



CONJUNCTIVE 3

Hungarian: [A maci doboza] & [(neki a) szalagja] piros

English: [The teddy bear's box] & [(its) ribbon] are red



CONJUNCTIVE 4

Hungarian: [A maci (szalagja)] & [(az ő) doboza] & [(az ő) szalagja] piros
English: [The teddy bear's (ribbon)] & [his box] & [(its) ribbon] are red



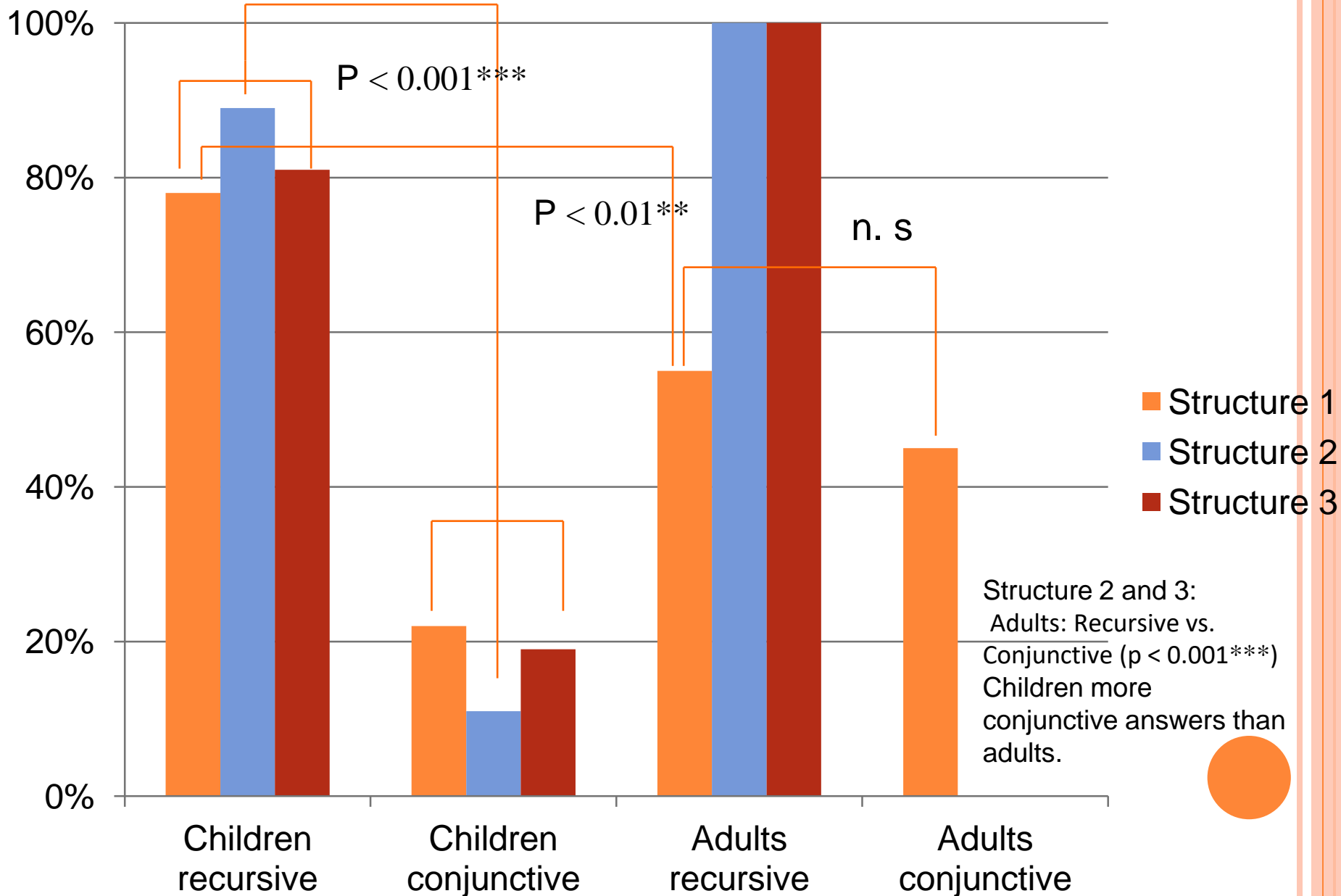
RESULTS: CHILDREN

Children	Structure 1 (covert heads)	Structure 2 (1 overt head)	Structure 3 (2 overt heads)
Recursive (The teddy bear's box's ribbon is red)	78%**/**	89%**	81%**
Conjunctive 1 ([The teddy bear's & box's] ribbons are red)	8%	11%	15%
Conjunctive 2 (The teddy bear's [ribbon & box] are red)	3%		1%
Conjunctive 3 ([The teddy bear's box] & [(its) ribbon] are red)	10%		3%
Conjunctive 4 ([The teddy bear's (ribbon)] & [his box] & [(its) ribbon] are red)	1%		
In sum	100%	100%	100%

RESULTS: ADULTS

Adults	Structure 1 (covert heads)	Structure 2 (1 overt head)	Structure 3 (2 overt heads)
Recursive (The teddy bear's box's ribbon is red)	55%***/*	100%*	100%*
Conjunctive 1 ([The teddy bear's & box's] ribbons are red)	1%		
Conjunctive 2 (The teddy bear's [ribbon & box] are red)	10%		
Conjunctive 3 ([The teddy bear's box] & [(its) ribbon] are red)	33%		
Conjunctive 4 ([The teddy bear's (ribbon)] & [his box] & [(its) ribbon] are red)	1%		
In sum	100%	100%	100%

RESULTS: RECURSIVE VS. CONJUNCTIVE



FINDINGS

- 8-year-olds gave more recursive answers than adults (Structure 1)
- The overt heads have important role in the adult's interpretation of recursive structures.
- The mixed Structure was interpreted by children only two ways (vs. Structure 1 and 3)
- 8-year-olds: conjunctive answers Structure 2,3 (overt heads) too, unlike adults.
- Difference between the interpretation of Structure 1 and 3 (→ the role of the overt functional heads in the interpretation of adults)



DISCUSSION

- Further question: **Why is unmarked possessor recursion interpreted conjunctively by more adults than children?**
- Asyndetic coordination is very rare and marked in Hungarian, it might not be part of their grammar.



PREFERRED INTERPRETATIONS OF ADULTS

The interpretation of adults is based on the overt dative head:

A maci **0** dobozá-**nak** a szalagja

= A maci-**nak** a dobozá-**nak** a szalagja

vs.

A maci **0** doboza **0** szalagja



PREFERRED INTERPRETATION OF CHILDREN

For Children: The Minimize Symmetrical Relations Principle has important role.

A maci **0** dobozá-**nak** a szalagja

Vs.

A maci **0** doboza **0** szalagja = A maci -**nak** a dobozá-**nak** a szalagja



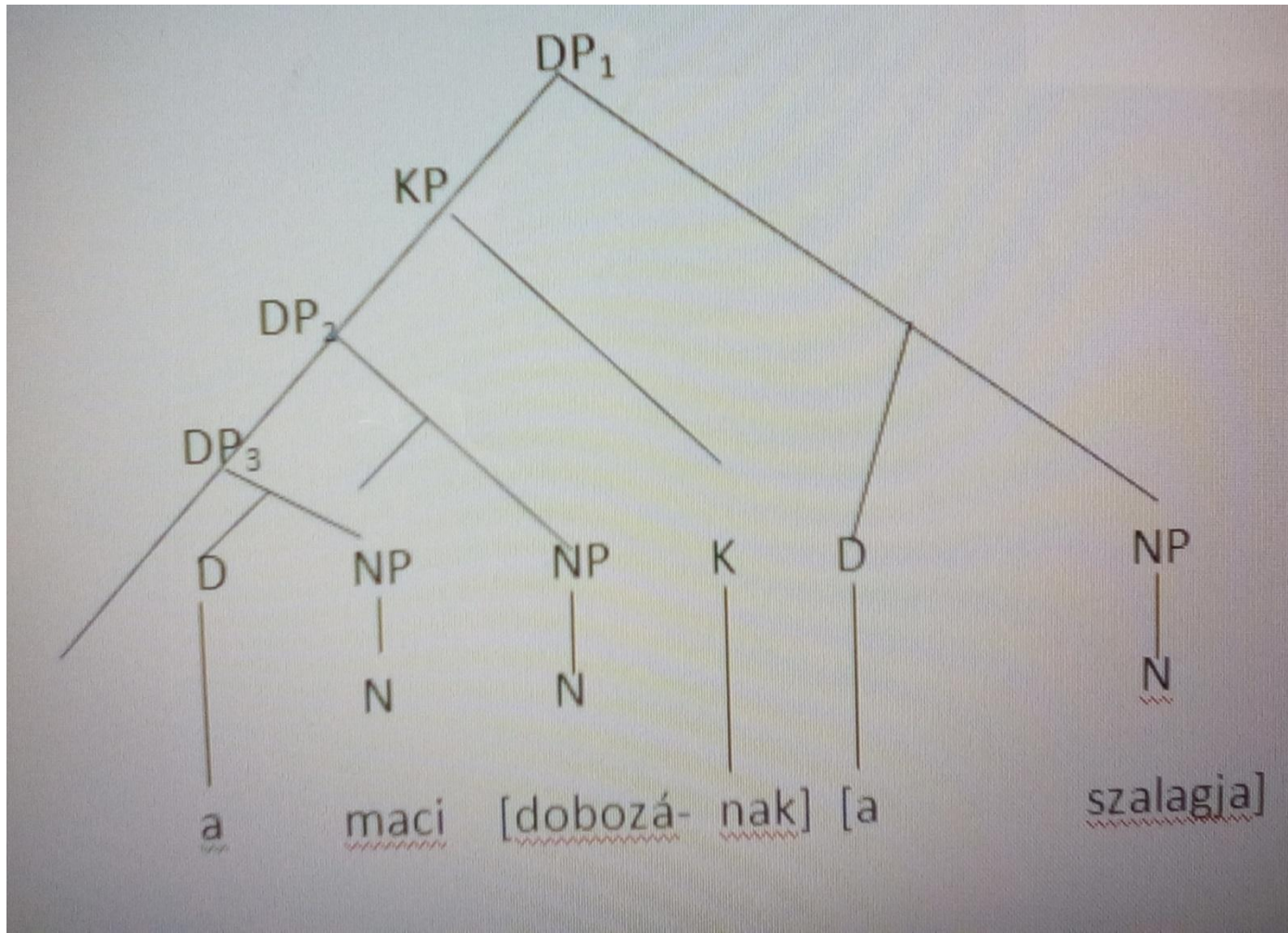
WHY IS STRUCTURE 2 THE PREFERRED ONE?

ANSWER: MINIMIZE SYMMETRICAL RELATIONS PRINCIPLE

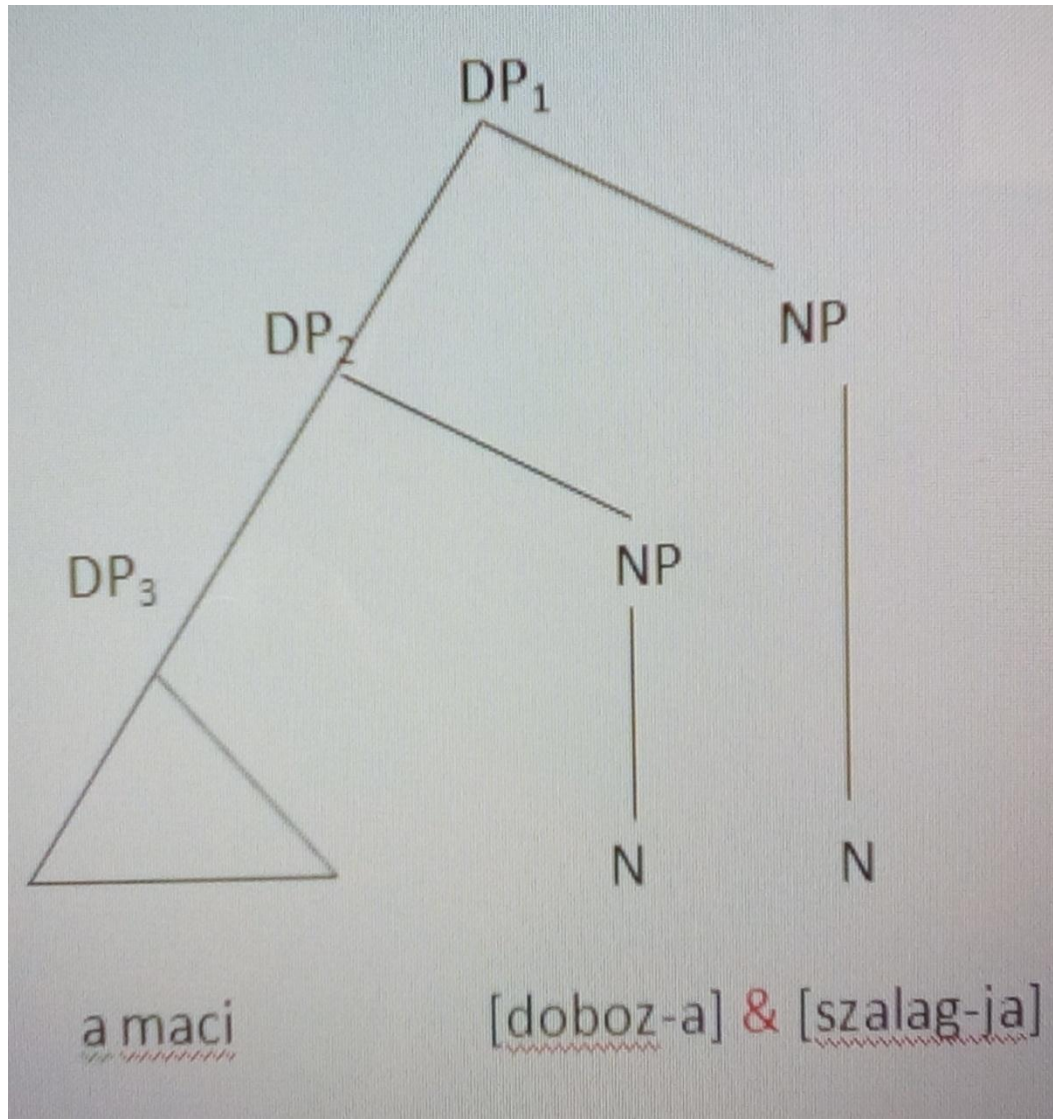
2. *A maci doboz-á-nak a szalag-ja piros*

the teddy bear box-POSS-DAT the ribbon-POSS red

'The ribbon of the teddy bear's box is red'



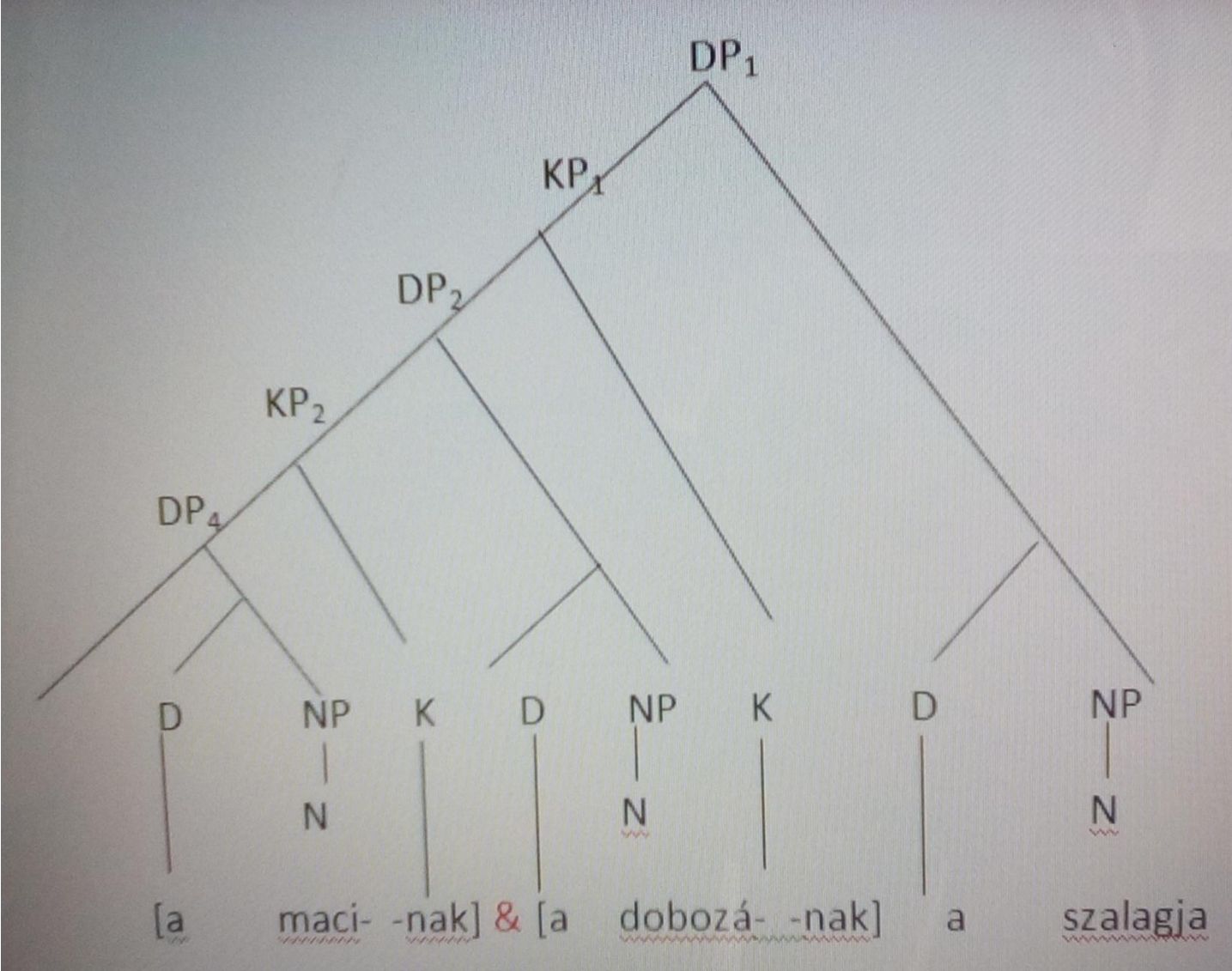
1. ?A maci doboz-a szalag-ja piros
 the teddy bear box-POSS ribbon-POSS red
 'The teddy bear's box's ribbon is red.'



3. ?A *maci-nak* *a doboz-á-nak* *a szalag-ja* *piros*

the teddy bear-DAT the box-POSS-DAT the ribbon-POSS red

'The ribbon of the box of the teddy bear is red.'



GENERAL DISCUSSION

1. The great majority of 8-year-old children can interpret recursive possessive structures.

Structure 1: Children - recursive,

Adults – recursive or conjunctive

2. 20% of 8-year-old children still interpret all three recursive possessive constructions conjunctively.

3. The overt –nAk head helped adults interpret multiple possessive structures recursively (not children)



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THANK YOU FOR YOUR ATTENTION!

