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Free Relative Clauses and Questions

English Free Relative Clauses (FRCs) and Embedded Wh are on the surface similar, but distinguished by the availability of What-NP sequences

(1) FRC
Molly wore what (***hat**) Ben made

(2) Wh Question
Molly asked what (**hat**) Ben made

They are also distinguished semantically as denoting definite descriptions

(entities; FRCs) vs. propositions (questions; Embedded Wh)

(3) wear what Ben made → Wear the x such that Ben made x

(4) ask what Ben made → ask for what x Ben made x = T

Ambiguities

Verbs which may take either intensional (clausal) or extensional (nominal) complements may be ambiguous between FRCs and Wh; this is disambiguated by Wh-NP sequences

(5) Ben saw what Molly brought

→ Ben saw the x such that Molly brought x

→ Ben saw for which x Molly brought x = T

(6) Ben saw what **fruit** Molly brought

↯ Ben saw the fruit x such that Molly brought x

→ Ben saw for which fruit x Molly brought x = T

Two crucial facts:

- Wh-NP Must signal an *intensional* reading
- Intensional reading of 'see' asserts knowledge of complement
 - Ben saw what fruit Molly brought = F if Ben has no knowledge of which fruit Molly brought

Children's knowledge of FRCs and Wh

- FRCs are the earliest relative clauses children produce (Flynn and Lust 1980)
 - Children understand both FRCs and definite DPs as exhaustive around age 6-7 (Caponigro et al. 2012)
 - Conversely, children understand Wh questions as exhaustive around age 3-4 (Roeper and de Villiers 2011)
 - Children up to age 5-6 will answer medial Wh questions embedded within questions (de Villiers et al 2008, 2012)
- (7) Where did Bobby say what he made? → What did Bobby make?

The Present Study

Two questions (and their answers)

i Do children understand the semantic distinction between FRCs and Embedded Wh? (**Yes**)

ii Do children understand the interpretive constraint on Wh-NP? (**No**)

Experiment 1

Experiment 1 sought to see if Wh words in FRCs could trigger medial question answering

(8) Was what Molly saw scary? → What did Molly see?

To test this, children were told a series of stories and then asked a question about story of either the form in (7) or the form in (8). Participants were 12 children from Western Massachusetts (Mean age 5;6).

Findings of Experiment 1

Children very rarely treat Wh words in FRCs as target question words.

	FRC	Medial Wh
Non-matrix answer rate	1.25%	50%
Total non-matrix answers	1/80	20/40

Answering Question i

This combined with findings about exhaustivity in FRCs vs. Questions suggests that children semantically distinguish the two.

Experiment 2

Experiment 2 compared adults' and children's ability to use Wh-NP sequences to disambiguate FRCs and embedded Wh. Participants gave Truth Value Judgments for sentences with 'see what (S)' vs. 'see what NP(S)' based on two types of stories: stories where intensional readings are false, and stories where intensional readings are true.

Goat is going to Cow's birthday party. He's bringing Cow a gift in a green box. When he gets to the party, he puts the gift on the table next to the other wrapped presents. Later Cow comes and sees the table full of presents. She gets very excited about all of them. She opens them all. Cow got a hat, a book, and a cake. She likes all the gifts she got.

a Cow saw what Goat brought (**True**)

b Cow saw what gift Goat brought (**False**) ←

Goat is going to Cow's birthday party. He's bringing Cow a gift in a green box. When he gets to the party, he gives her the gift. She thanks him for it and puts the gift on a table with the other presents. Later she opens all the presents. Goat got her a nice hat! Cow thanked Goat for the gift. She likes all the gifts she got.

c Cow saw what Goat brought (**True**)

d Cow saw what gift Goat brought (**True**)

There were 16 natively English speaking adult participants and 16 monolingual English-learning children (Mean age 6;4).

Findings of Experiment 2

	Adult results		Child results	
	Inten. False	Inten. True	Inten. False	Inten. True
Wh	68.75% (3.8)	93.75% (2.0)	62.5% (6.2)	81.25% (5.0)
Wh-NP	25% (3.5)	87.5% (2.7)	68.75% (5.9)	81.25% (5.0)

- Adults were significantly more likely to find Wh-NP sentences False in Extensional False conditions than Wh sentences ($t = -4.44, p < 0.001$)
- Children did not show a difference between the two ($t = -0.8, p = 0.43$)
- Children did not show significant difference between Wh-NP with Extensional True vs. Extensional False ($t = -0.8, p = 0.43$)
- Adults and Children differed significantly in the Wh-NP+Extensional False condition ($t = 2.67, p < 0.05$)

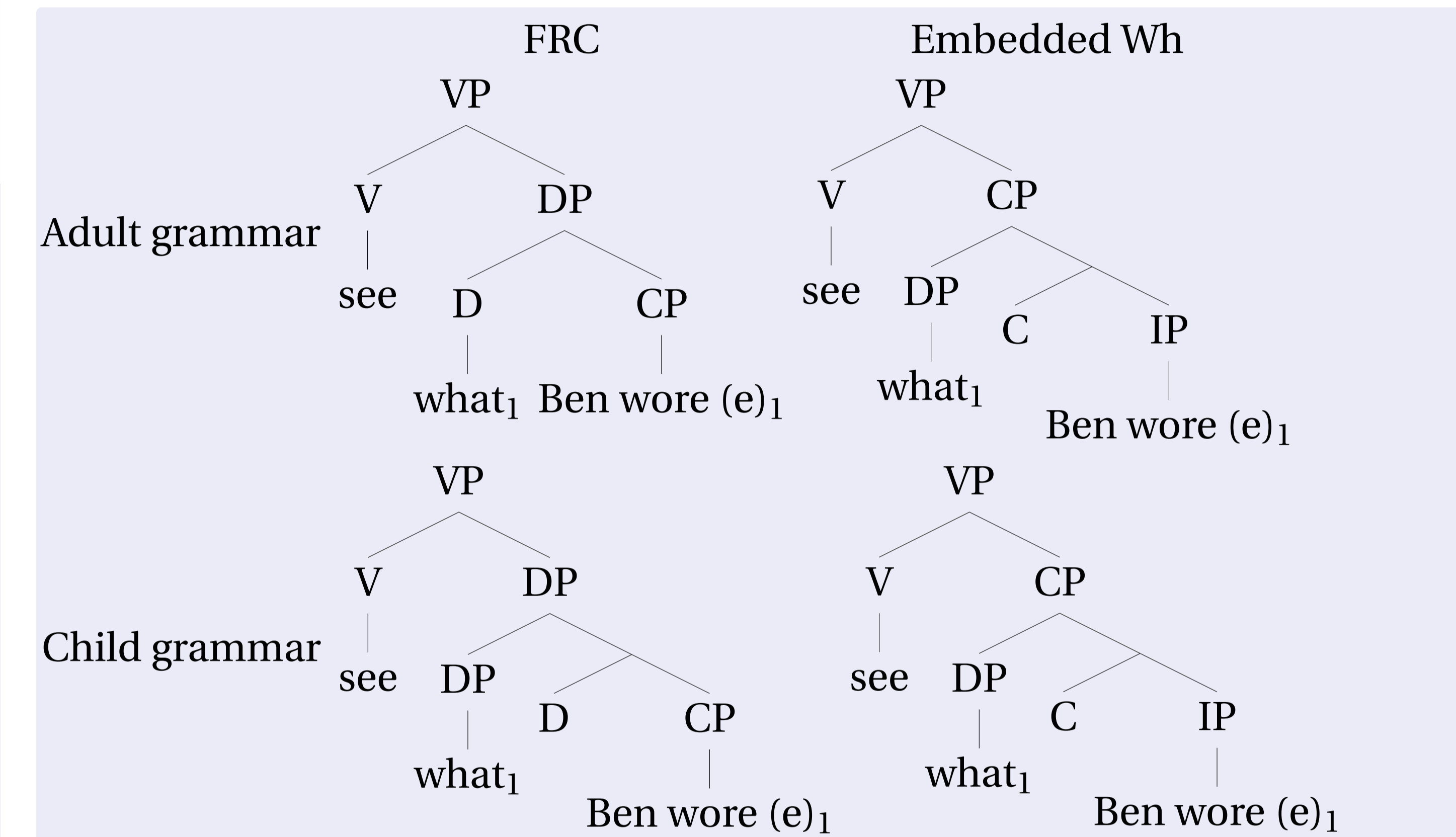
Answering Question ii

This seems to demonstrate that children at this age have not acquired the constraint against Wh-NP sequences in FRCs.

Why should this be?

Donati (2006) suggests that FRCs involve Wh-Head movement rather than Wh-Phrase movement

- If Children assume initially that Wh movement as an operation applies as generally as possible they will resist this more idiosyncratic operation
- Thus, that children seem to know the *semantics* of FRCs but not this reflex of their *syntax* supports a model of acquisition where syntactic rules are applied first as broadly as possible before more construction-specific rules are acquired.
- A model where construction-specific rules are learned earlier would suggest that this syntactic constraint should accompany acquisition of the construction initially.



Future Work

- When is the constraint against Wh-NP in FRCs acquired? What triggers this rule?
 - It seems necessary that it would rely on inference from non-occurrence of Wh-NP in extensional contexts
- How do children perform on Wh-ever Relative Clauses, which allow NPs?
 - The constraints on interpretation of expressions like 'What books John has' could be a clue to children acquiring constraints on FRCs.
- What are the cross-linguistic consequences of this pattern?
 - In other languages where the morphology and syntax of RCs and Wh are closely connected, what knowledge do children use or fail to use to distinguish the two?

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