

# DEFINITE COMPARATIVE DESCRIPTIONS

the more superlative-like comparative construction

Elizabeth Coppock, Boston University



<https://tinyurl.com/yxjsnnos>

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# Outline

## Introduction

Thickening the plot

Toward a denouement

Accounting for relative readings

Summary and outlook





(1) The elephant on the left is the larger of the two.





(2) The lion in the middle the larger of the three.





(3) The giraffe in the middle the larger of the five.

## Basic observation

In English, singular definite comparatives are happiest when two individuals are being compared and no more.

## Sentence-internal vs. sentence-external

- (4) a. I know that one of the rooms is bigger than mine.  
Which one is bigger?  
(**sentence-external reading\***)
- b. There are two bedrooms in the apartment.  
Which one is bigger?  
(**sentence-internal reading**)

\*Terminology stolen ruthlessly from the literature on *same* and *different*, e.g. Brasoveanu 2011 and references cited therein, most notably Carlson 1987.

# Hypothesis 1: Existential Hypothesis

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More precisely:

$$(5) \quad -er \rightsquigarrow \lambda G \lambda P \lambda x . P(x) \wedge \exists y [P(y) \wedge G(x) > G(y)]$$

# Hypothesis 1: Existential Hypothesis

Explains the basic observation as follows:

- ▶ The definite article requires uniqueness.
- ▶ With the three lions, there are two lions that are bigger than at least one other lion.
- ▶ Hence, uniqueness of the comparative description fails.

## Hypothesis 2: The Dual Cardinality Hypothesis

### **Dual Cardinality Hypothesis:**

On sentence-internal readings, comparatives are used in a superlative-like sense, selecting a comparison class argument with a dual cardinality restriction.

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More precisely:\*

$$(6) \quad -er \rightsquigarrow \lambda G \lambda P \lambda C \lambda x . \partial(|C| = 2 \wedge C \subseteq P) \\ \wedge \forall y [[C(y) \wedge x \neq y] \rightarrow G(x) > G(y)]$$

Or equivalently:

$$(7) \quad -er \rightsquigarrow \lambda G \lambda P \lambda C \lambda x . \partial(C \subseteq P) \\ \wedge G(x) > G(\iota y [C(y) \wedge x \neq y])$$

$\partial$  is Beaver & Krahmer's (2001) 'partial' operator.

## Hypothesis 2: Dual cardinality hypothesis

Explains the basic observation as follows:

- ▶ The comparative requires that there be only two objects satisfying  $P$ .
- ▶ This condition is violated when there are three.

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On the one hand...

But on the other hand...

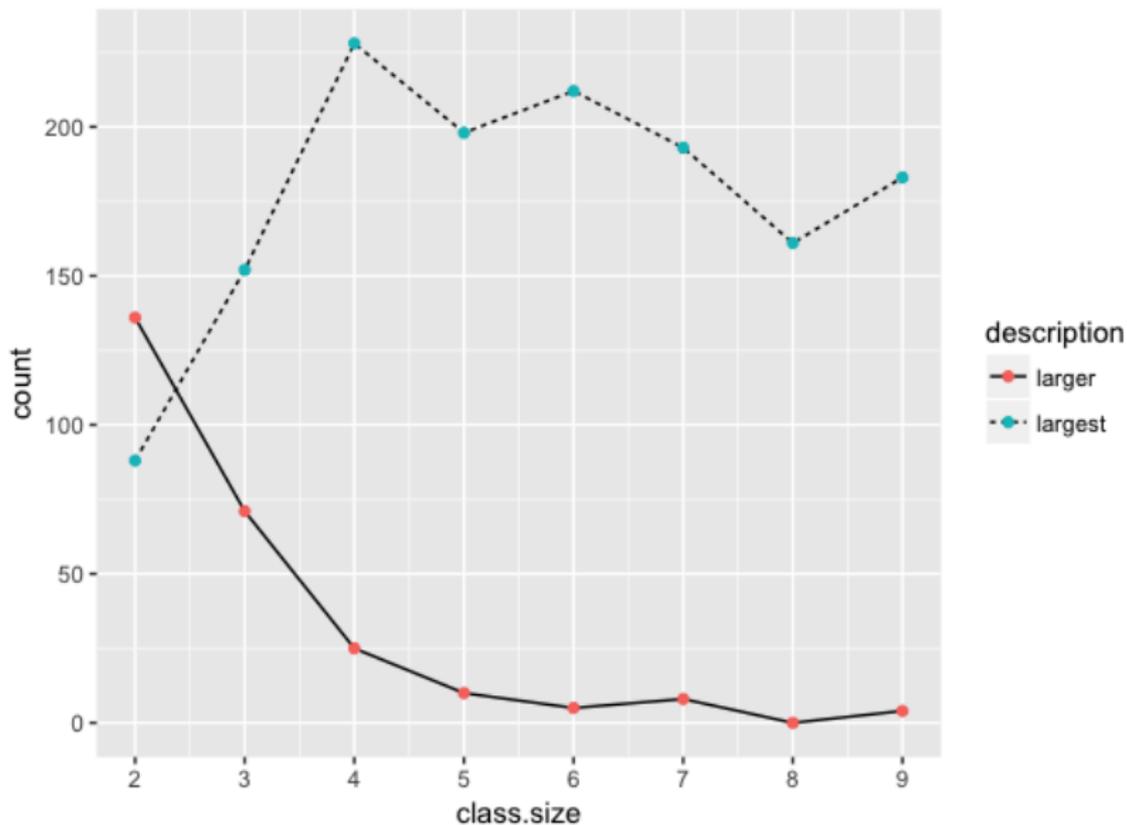
Toward a denouement

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71 Google hits for *the larger of the three*.

71 Google hits for *the larger of the three*.



## Good news for the Existential Hypothesis!

- ▶ The EH does not always predict that *larger of the three* is bad.
- ▶ If there are two equally small and one bigger, only one element is bigger than some other.
- ▶ So the uniqueness requirement of *the* should be satisfied.



... the larger of the three ...



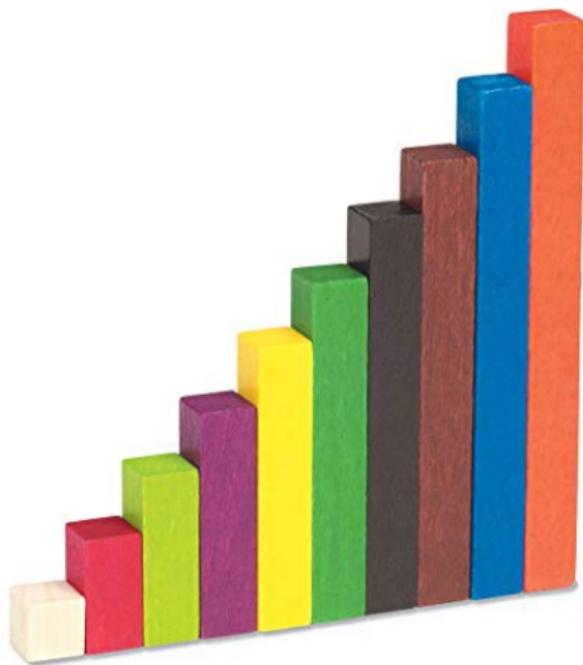
... the larger of the three ...

## Prediction of the Existential Hypothesis

- ▶ Even if there are 6 elephants, all but the largest is a *larger elephant*.



Is the second smallest a *larger elephant*?



Is the red rod a *longer* rod?

Is the following argument valid?

Is the following argument valid?

(8) I am not the shortest semanticist in the world.

Is the following argument valid?

- (8) I am not the shortest semanticist in the world.  
Therefore, I am a taller semanticist.

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# Status

Neither hypothesis can explain all the data.

- ▶ The Dual Cardinality Hypothesis can't explain the significant internet presence of *the larger of the three*
- ▶ The Existential Hypothesis calls too many things a *larger elephant*

## Intuition and strategy

Intuition: *Larger  $N$*  can hold of an  $N$  that is among the *larger  $N$ s*, as determined by some contextually salient binary partition of the  $N$ s according to size.

## Intuition and strategy

Intuition: *Larger N* can hold of an *N* that is among the *larger Ns*, as determined by some contextually salient binary partition of the *Ns* according to size.

Strategy: Consider plurals under the Dual Cardinality hypothesis, and then return to *the larger of the three*.

## Plural attributive comparatives

(9) Here, take the smaller spoons.

Recall dual cardinality hypothesis:

$$(10) \quad \neg er \rightsquigarrow \lambda G \lambda P \lambda C \lambda x . \partial(|C| = 2 \wedge C \subseteq P) \\ \wedge \forall y [[C(y) \wedge x \neq y] \rightarrow G(x) > G(y)]$$

Recall dual cardinality hypothesis:

$$(10) \quad -er \rightsquigarrow \lambda G \lambda P \lambda C \lambda x . \partial(|C| = 2 \wedge C \subseteq P) \\ \wedge \forall y [[C(y) \wedge x \neq y] \rightarrow G(x) > G(y)]$$

- ▶ Suppose that the elements of  $C$  may be pluralities.
- ▶ If  $P$  is, say \*spoon, then every member of  $C$  will be a plurality of spoons.

# Measuring pluralities

To what degree does  $G$  hold of a plurality of objects?

- ▶ maximum?
- ▶ minimum?
- ▶ average?
- ▶ the unique degree shared by all?

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## Granularity

34.2'', 34.3'', 34.5'' ..... 34'', 35'', 36'' ..... 2', 3', 4'

# Assumptions

- ▶ The context fixes a **granularity** for each dimension, which expands equivalence classes of (plural) individuals along the dimension the coarser it is.
- ▶ Degrees at the wrong granularity do not 'exist' for the purposes of quantification.
- ▶ For a plurality  $X$ ,  $G(X)$  is defined if and only if for all  $x$  and  $x'$  that are atomic sub-individuals of  $X$ ,  $G(x) = G(x')$ .
- ▶ In that case,  $G(X) = \iota d . G(x) = d$  for all  $x \sqsubseteq X$ .

## Consequence for comparatives

(11) The elephants are bigger than the lions.

⇒ elephants are all the same size at the contextually-given level of granularity.

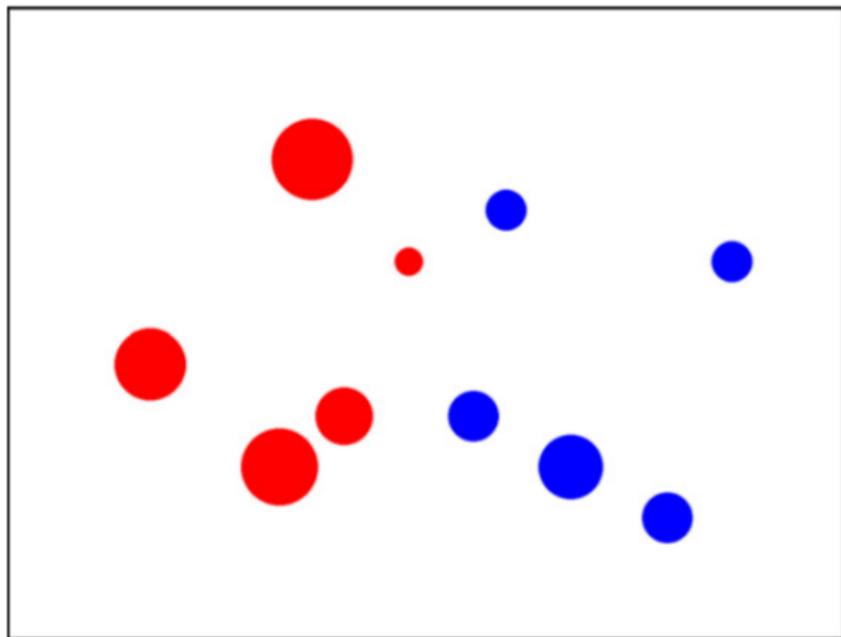
## Plural comparison

- (12) The frigates were faster than the carriers.  
(Scha & Stallard, 1988)

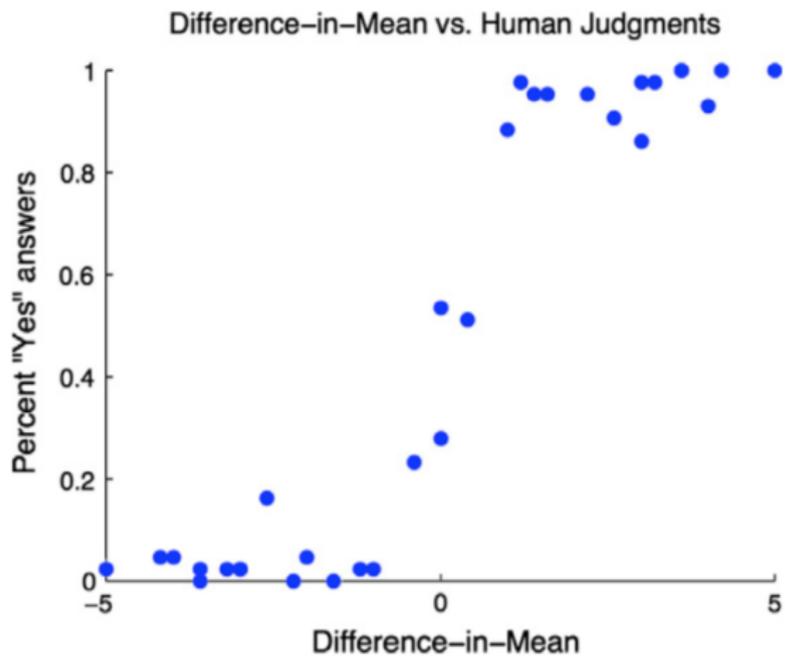
Truth conditions given by Matushansky & Ruys (2006):

- ▶ biggest frigate bigger than biggest carrier
- ▶ second-biggest frigate bigger than second-biggest carrier
- ▶ *etc.*

Scontras (2008); Scontras et al. (2012)



# Scontras et al. (2012)



## Plural superlatives

(13) Mount Everest and K2 are the (two) highest summits.

Analysis:  $\text{high}(e \oplus k2)$  exceeds  $\text{high}(x)$  for all other  $x$ .

Cf. Stateva 2005; Matushansky & Ruys 2006; Scontras 2008; Fitzgibbons et al. 2009; Yee 2011

## Revised Dual Cardinality Hypothesis

$$(14) \quad \text{-er} \rightsquigarrow \lambda G \lambda P \lambda C \lambda x . \partial(|C| = 2 \wedge C \subseteq *P) \\ \wedge \forall y [[C(y) \wedge x \neq y] \rightarrow G(x) > G(y)]$$

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So 'x is a G-er P'  $\approx$  'x is among the G-er Ps'

## Cf. 'absolute' comparatives

(15) He's an older gentleman.

E.g. Swedish Academy Grammar's 'absolut komparativ' (Teleman et al., 1999); cf. 'absolut superlativ', which is marked by quasi-definites, e.g. *med det största intresse* 'with the greatest interest' (Coppock & Engdahl, 2016)

## Predictions

- ▶ When there is a contextually-salient granularity determining degrees  $d$  and  $d'$  and a partition  $\langle X, Y \rangle$  of the salient  $N$ s such that  $G(X) = d$  and  $G(Y) = d'$ , then the presupposition of the comparative is met.
- ▶ This is always met in case of two  $N$ s.
- ▶ With more than  $N$ s, it is facilitated by homogeneity among the cells of the partition.
- ▶ As the number of  $N$ s increases, it becomes less and less likely that any given element will end up in the partition associated with the larger degree.

## An indirect argument

- ▶ On the Dual Cardinality hypothesis, comparatives (on this reading) are quite similar in meaning to superlatives.
- ▶ Prediction: Definite comparative descriptions should behave like superlatives.
- ▶ Much support for this.

## Of phrases

- (16) a. This one the biggest of the three.  
b. This one is the bigger of the two.  
c. ?This one is the big one of the three.
- (17) This one is bigger than the other \*(of the two).

## No overt standard

- (18) a. \*the bigger (one) than the other  
b. \*the biggest (one) than the other

but this may be a general feature of comparatives with strong determiners:

- (19) \*every bigger (one) than that one

See Xiang 2005 and references cited therein.

## No measure phrase

- (20) \*The chess set is (the) \$5 most expensive.  
(Stateva, 2003)
- (21) \*This chess set is the \$5 more expensive of the two.

## High and low readings

Bhatt (2002): (22-a) and (22-b) are ambiguous. So is (22-c).

- (22)
- a. the first book that John said Tolstoy had written
  - b. the longest book that John said Tolstoy had written
  - c. the longer book that John said Tolstoy had written

High reading: of the books John said Tolstoy wrote, the longer

Low reading: the book John said was longer among Tolstoy's

## Non-modal infinitival relatives

Superlatives are among a restricted class of adjectives that license non-modal infinitival relatives (Kjellmer, 1975; Geisler, 1995; Bhatt, 1999, 2006; Sleeman, 2010).

- (23) Only two/three people visited him before he died.
- a. The youngest person to visit him before he died later won a Nobel.
  - b. \*The young person to visit him later one a Nobel.
  - c. The younger person to visit him later won a Nobel.

Sleeman (2010): 'identificational focus' (É. Kiss, 1998)

## Sentence-initial *de*-phrases in French (Barbaud, 1976)

- (24) Des deux bouquins, il a acheté le moins cher.  
of.the two books he has bought the less costly  
'Of the two books, he has bought the less/least costly.'
- (25) De ces deux robes, Marie préfère la turquoise.  
of these two dresses Marie prefers the turquoise  
'Of these two dresses, Marie prefers the turquoise one.'
- (26) \*De ces trois filles, Luc sort avec Michèle.  
of these three girls, Luc goes.out with Michèle  
'Of these three girls, Luc goes out with Michele'

## Relative readings



(27) Point to the tallest shelf.

## Relative readings



(27) Point to the book on the tallest shelf.

## Relative readings

- (28) I've read the book on the highest shelf.
- a. Absolute: ...on a shelf that is higher than any other shelf.
  - b. Relative: ...on a shelf that is higher than any other shelf **that a book is on.**
- (29) I've read the book on the higher shelf.
- a. Absolute: ...on the shelf that is higher than the other shelf.
  - b. Relative: ...on the shelf that is higher than the other shelf **that a book is on.**

## Relative readings blocked by possessives

- (30) a. Who has read the longest play by Shakespeare?  
b. Who has read Shakespeare's longest play?  
    ≡ Who has read Hamlet?
- (31) a. Who has read the longer play by Shakespeare?  
b. Who has read Shakespeare's longer play?  
    ↪ Shakespeare wrote two plays?

## Also blocked by non-modal infinitival relative clauses

- (32) a. John gave Mary the most expensive telescope  
b. ... to be built in the 9th century.
- (33) a. John gave Mary the more expensive telescope  
b. ... to be built in the 9th century.

(Bhatt, 1999, 2006)

## Relative readings obviate definiteness effects

- (34)
- a. \*Bernie has the campaign chairman.
  - b. Bernie has the most enthusiastic campaign chairman.
  - c. Bernie has the more enthusiastic campaign chairman.

(Szabolcsi, 1986; Coppock & Beaver, 2014, i.a.)

# Conclusion

Dual Cardinality Hypothesis  $\succ$  Existential Hypothesis

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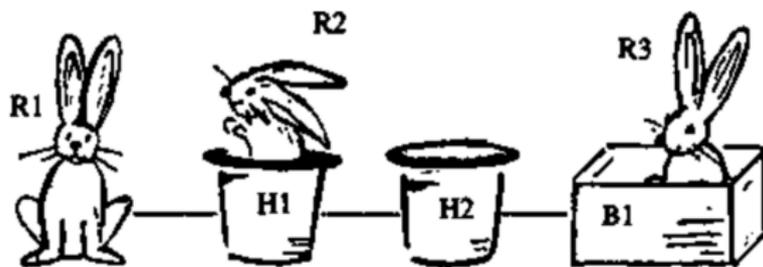
**Accounting for relative readings**

Summary and outlook

## Why are definiteness effects obviated in relative readings?

- ▶ Szabolcsi (1986) / Heim (1999): *The* is deleted at LF.
- ▶ Coppock & Beaver (2014): These are **indeterminate definites** as in *not the only princess* (Coppock & Beaver, 2015): uniqueness presupposed, but not existence
- ▶ Bumford (2017): These are cases of **split scope** for the definite article, just like with **Haddock descriptions**.

## Haddock descriptions



(35) Point to the rabbit in the hat.

## Approaches to Haddock descriptions

- ▶ Haddock (1987): Constraint satisfaction problem:  
Find  $\langle x, y \rangle : \text{hat}(x), \text{rabbit}(y), \text{in}(x, y)$
- ▶ van Eijck (1993):  
Dynamic semantics, Haddock's requirements.
- ▶ Champollion & Sauerland (2010):  
Inverse linking + local accommodation
- ▶ Bumford (2017):  
split scope for *the*, with existence low and uniqueness high

## Split scope

Bumford (2017) analyzes both Haddock descriptions and relative readings for superlatives in terms of split scope.

Proposal: Treat comparatives in English analogously, adding a dual cardinality restriction.

# Bumford (2017): *the book*

the book

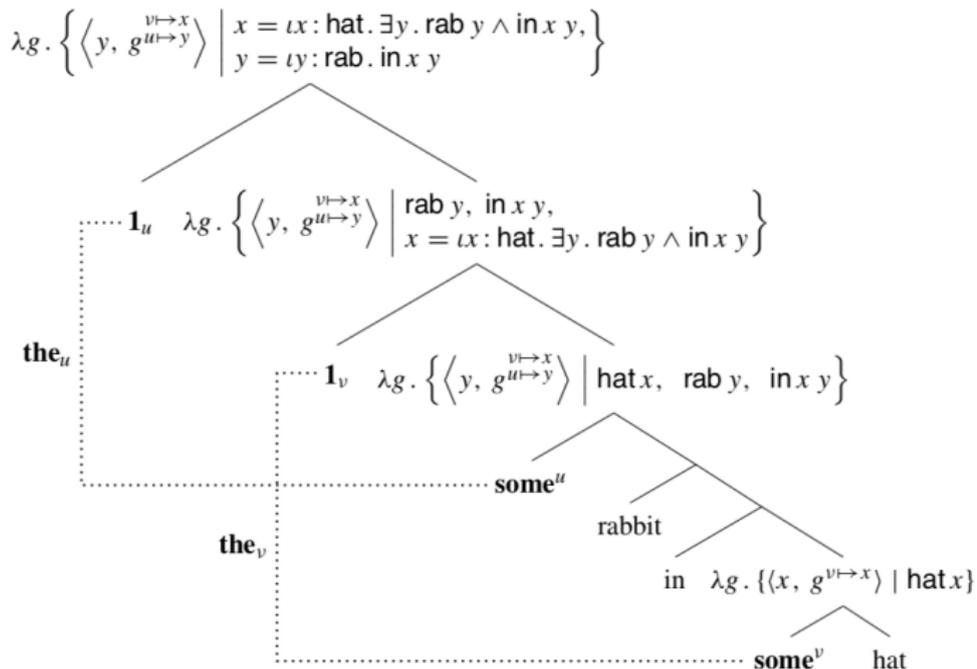
$$\lambda g. \begin{cases} G & \text{if } |G_v| = 1, \text{ where } G = \{\langle x, g^{v \mapsto x} \rangle \mid \text{book } x\} \\ & G_v = \{g' \nu \mid \exists \beta. \langle \beta, g' \rangle \in G\} \\ \emptyset & \text{otherwise} \end{cases}$$

$$\mathbf{1}_\nu \quad \lambda g. \{\langle x, g^{v \mapsto x} \rangle \mid \text{book } x\}$$

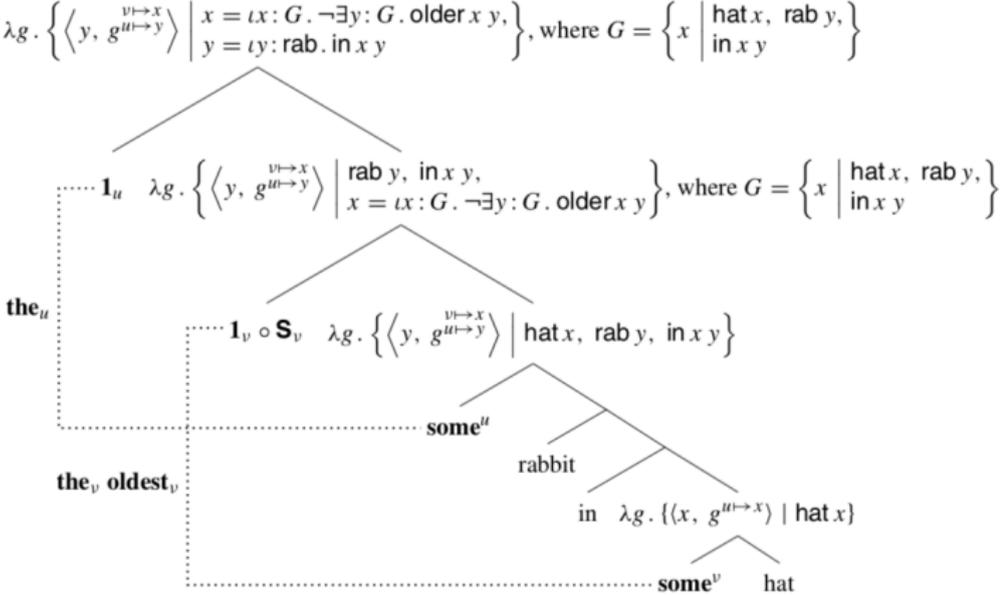
**some**<sup>ν</sup>    book

Not entirely different from the treatment in Coppock & Beaver 2015.

# Bumford (2017): *the rabbit in the hat*



# Bumford (2017): *the rabbit in the oldest hat*





## Cf. superlative fronting

Puerto Rican Spanish (Rohena-Madrado, 2007)

- (36) el más que mea  
the more that pees  
'a big shot'

Irish (field notes, Jim McCloskey, p.c.)

- (37) an fear is túisce [ a tháinig ]  
the man C.PRES early.CMPR C came  
'the man who arrived earliest'

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I have argued/proposed:

- ▶ Comparatives have a superlative-like sense with a dual cardinality constraint on the comparison class.
- ▶ Relative readings can be explained via split scope under a Bumford-style analysis, where comparatives are analogous to superlatives but for this restriction.

## Summary and outlook

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- ▶ Comparatives have a superlative-like sense with a dual cardinality constraint on the comparison class.
- ▶ Relative readings can be explained via split scope under a Bumford-style analysis, where comparatives are analogous to superlatives but for this restriction.

Open issues:

- ▶ Relation between dual-cardinality sense and other sense(s) of the comparative
- ▶ Relation between English definite comparatives and superlatives in French, Spanish, Italian, Romanian, Maltese, Greek, Irish...

Thank you!



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