

Genericity signals the difference between *each* and *every* in child-directed speech

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BUCLD 45

Why care about *each* and *every*?

Both can be used to label the same situations in the world

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But both differ semantically in subtle ways

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Learners are sensitive to these differences early

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Acquisition Q: what evidence do learners use to infer their meanings?

The difference between *each* and *every*

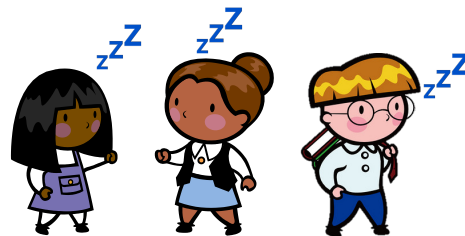
How could learners notice this difference?

How do parents use *each* and *every*?

each/every are similar

Both are universal quantifiers

$\left\{ \begin{array}{l} \text{each} \\ \text{every} \end{array} \right\}$ student is sleepy



Both are bad with collective predicates (Vendler 1962; Dowty 1987; Gil 1995; Beghelli & Stowell 1997; Tunstall 1998; Winter 2002; Champollion 2017; ao.)

**each* student {gathered/surrounded the teacher/is similar}

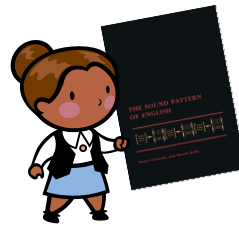
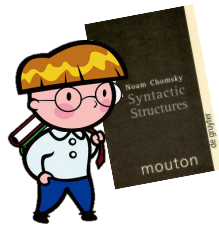
?*every* student {gathered/surrounded the teacher/is similar}

all students {gathered/surrounded the teacher/are similar}

each/every are similar, but differ in important ways

Ability to offer pair-list responses (Williams 1986; Beghelli 1997; Szabolcsi 2010; 2015)

Which book did you give to $\left\{ \begin{array}{c} \text{each} \\ \text{every} \end{array} \right\}$ student?



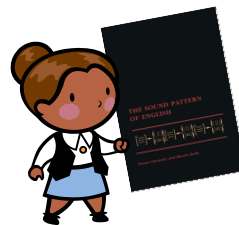
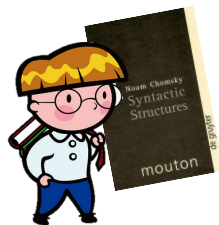
P-L: ✓

P-L: ✗

each/every are similar, but differ in important ways

Ability to offer pair-list responses (Williams 1986; Beghelli 1997; Szabolcsi 2010; 2015)

Determine whether $\left\{ \begin{array}{c} \text{each} \\ \text{every} \end{array} \right\}$ student has a copy of Aspects



“no, only one of them does”

“student₁ does; student₂ doesn't; student₃ doesn't”

each/every are similar, but differ in important ways

Ability to offer pair-list responses (Williams 1986; Beghelli 1997; Szabolcsi 2010; 2015)

Compatibility with “generic” generalizations (Beghelli & Stowell 1997)

→ projects beyond the local domain

After a lifetime of investigation, Suzie came to a universal generalization:

{#**Each**
Every} language has over 20 color words

Suzie just discovered 4 new languages and interestingly,

{**Each**
#**Every**} language has over 20 color words

Claim about
local domain

each/every are similar, but differ in important ways

Ability to offer pair-list responses (Williams 1986; Beghelli 1997; Szabolcsi 2010; 2015)

Compatibility with “generic” generalizations (Beghelli & Stowell 1997)

→ projects beyond the local domain

→ law-like / non-accidental

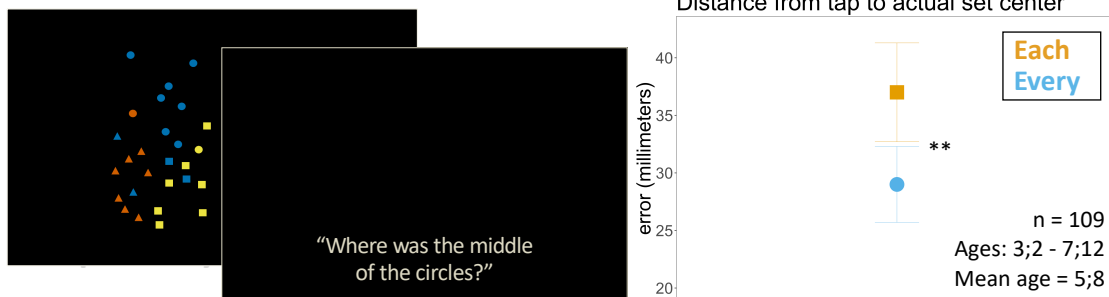
Gravity acts on **every** object

Every species of spider has eight legs

#Gravity acts on **each** object

#**Each** species of spider has eight legs

Sounds like contingent fact!



Propensity for triggering group-representations (e.g., Knowlton et al. BUCLD 2018)

Is $\left\{ \begin{matrix} \text{each} \\ \text{every} \end{matrix} \right\}$ circle blue?

- ➔ Adults & (3+ year old) children show better memory for group properties (#, center of mass) following *every*
- ➔ Different ways of representing domain (*individuals* / *group*)

The difference between *each* and *every*

Pair-list responses	✓	✗	} Semantic difference to be learned
"Generic" interpretations	✗	✓	
Group-representation	✗	✓	

How could learners notice this difference?

How do parents use *each* and *every*?

What data might be available?

Pair-list responses

✓*each* ✗*every*

Generic interpretations

✗*each* ✓*every*

Group-representation

✗*each* ✓*every*

What data might be available?

Pair-list responses

✓*each* ✗*every*

Generic interpretations

✗*each* ✓*every*

Group-representation

✗*each* ✓*every*

In CHILDES NA English

(over 1.7 million utterances):

WH-question & *each*: 11

With possible PL-responses: 1

Dad: What do you think each animal is about to do?

Child (3;04): Clean up that mess

What data might be available?

Pair-list responses

✓ *each* ✗ *every*

Generic interpretations

✗ *each* ✓ *every*

Group-representation

✗ *each* ✓ *every*

In CHILDES NA English

(over 1.7 million utterances):

WH-question & *every*: 19

With possible PL-responses: 1

Mom: What did you play every day while you were there?

Child (4;11): ...the water game

What data might be available?

Pair-list responses

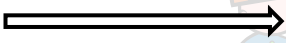
✓ *each* ✗ *every*

Generic interpretations

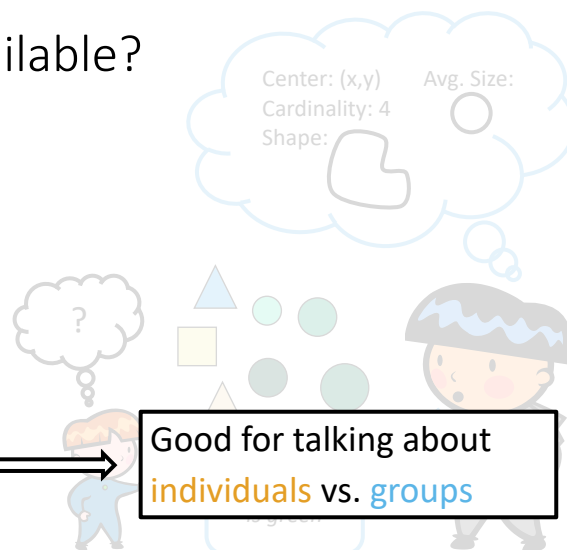
✗ *each* ✓ *every*

Group-representation

✗ *each* ✓ *every*



Good for talking about
individuals vs. *groups*



What data might be available?

Pair-list responses

In CHILDES NA English:

We made a sandwich for **each** teddy bear.
 Pour some milk into **each** one of these cups.
Every time you get a pair of shoes on your
 feet you say they don't fit you!
Every painting you do is that color.

✗ **each** ✓ **every**

Good for expressing
 accidental facts about a
 local domain vs. non-
 accidental generalizations

Good for talking about
 individuals vs. groups

Distributional footprints of these differences

Predicted low-level differences

Quantifying over

individuals or times

Being in past or present tense

Being an argument or
 topic-setting expression

each vs. **every**

Good for expressing
 accidental facts about a
 local domain vs. non-
 accidental generalizations

Good for talking about
 individuals vs. groups

The difference between *each* and *every*

Pair-list responses	✓	✗	} Semantic difference to be learned
"Generic" interpretations	✗	✓	
Group-representation	✗	✓	

How could learners notice this difference?

individuals	vs.	times
past tense	vs.	present tense
argument	vs.	topic-setting expression

How do parents use *each* and *every*?

each and *every* in child-directed speech

Sample: All corpora in the North American English portion of CHILDES
(that had typically-developing children under 8 years old)

➡ 1,706,381 child-directed utterances

<i>Each</i>	<i>Every</i>	<i>All</i>
538 (0.0315%)	728 (0.0427%)	20,558 (1.2048%)

Prorated, assuming 0.9 – 2.5 million utterances/year (Hart & Risley 1995; 2003)

<i>Each</i>	<i>Every</i>	<i>All</i>
284 – 788	384 – 1,067	10,843 – 30,119

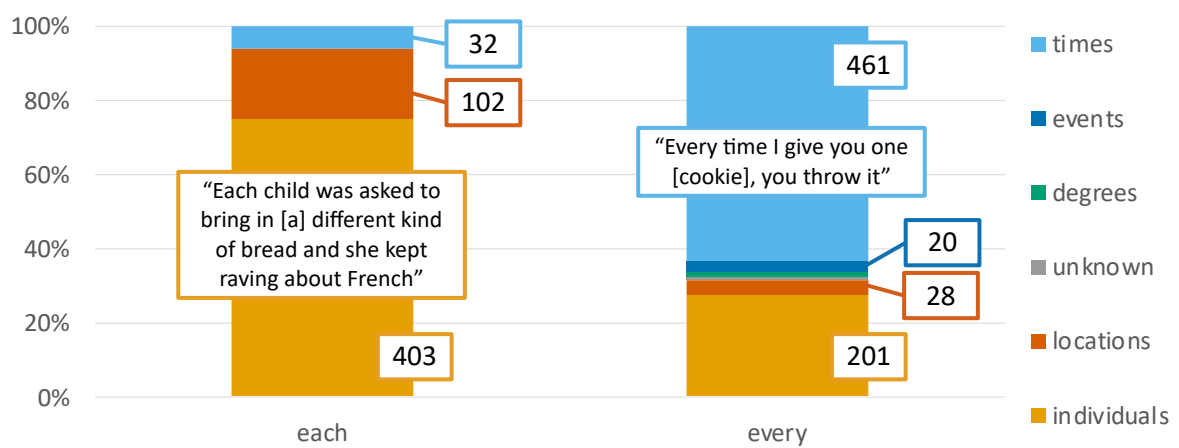
What's being quantified over?

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations (about situations)

➡ Prediction: *individuals* for *each*; *times* for *every*

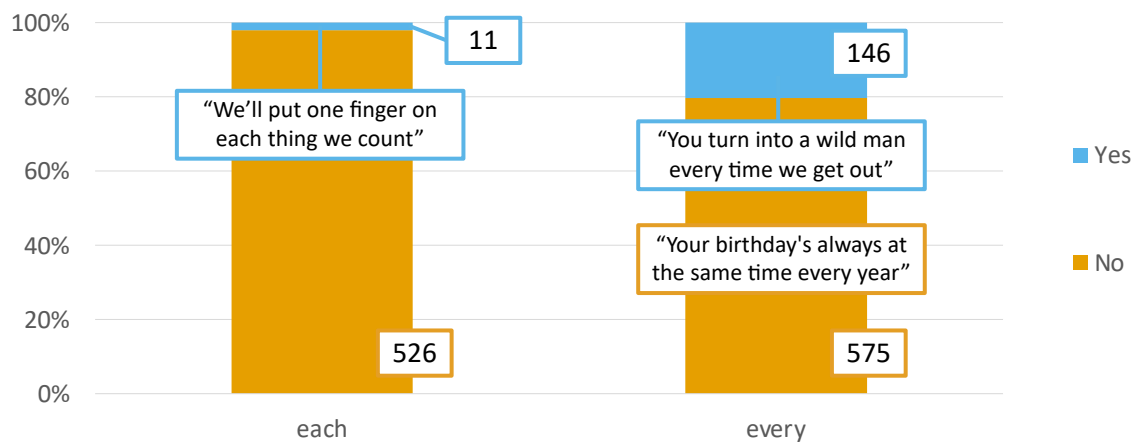
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What's being quantified over?



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Is there a relative clause modifying the QP?



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What's being quantified over?

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations

➡ Quantify over *individuals* vs. *times*

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What's the tense of the QP's clause?

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations

➡ Quantify over *individuals* vs. *times*

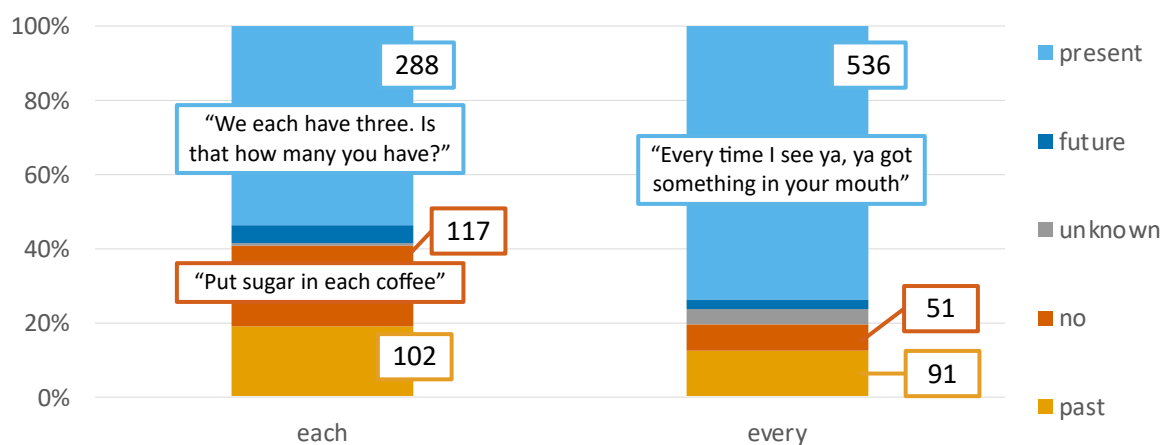
➡ Prediction: *present* tense preference for *every*

Every dog barked ⇔ no “generic” interpretation

Every dog barks ⇔ easy to get “generic” reading

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What's the tense of the QP's clause?



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What's the tense of the QP's clause?

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations

- ➡ Quantify over *individuals* vs. *times*
- ➡ Being an *imperative* or in *past* tense vs. in *present* tense

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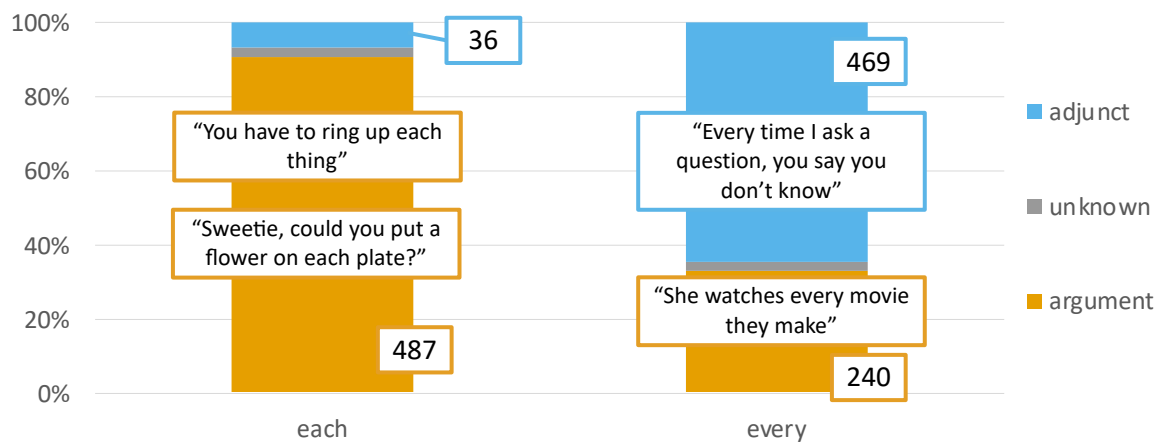
Is the QP an argument or an adjunct?

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations

- ➡ Quantify over *individuals* vs. *times*
- ➡ Being an *imperative* or in *past* tense vs. in *present* tense
- ➡ Prediction: *each* QP appears as an *argument*
every QP appears as topic-setting *adjunct*

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Is the QP and argument or an adjunct?



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Is the QP and argument or an adjunct?

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations

- ➡ Quantify over *individuals* vs. *times*
- ➡ Being an *imperative* or in *past* tense vs. in *present* tense
- ➡ Use a QP as an *argument* vs. *topic-setting expression*

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Genericity signals the difference (in principle)

Parents use *each* to talk about individuals in a local domain and *every* to express non-accidental generalizations

- ➡ Quantify over *individuals* vs. *times*
- ➡ Being an *imperative* or in *past* tense vs. in *present* tense
- ➡ Use a QP as an *argument* vs. *topic-setting expression*

To what degree do these generalizations hold up x-linguistically?

Do learners use these cues in practice?

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