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

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Why care about each and every?
Both can be used to label the same situations in the world
+ But both differ semantically in subtle ways
+ Learners are sensitive to these differences early
= 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**

\[
\begin{align*}
\text{each} & \quad \text{student is sleepy} \\
\text{every} & \quad \text{student is sleepy}
\end{align*}
\]

**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 \{**each** \\

\{**every**\} student?

Determine whether \{**each** \\

\{**every**\} student has a copy of Aspects

“no, only one of them does”

“student\textsubscript{1} does; student\textsubscript{2} doesn’t; student\textsubscript{3} 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** language has over 20 color words
- **Every** language has over 20 color words

Suzie just discovered 4 new languages and interestingly,

- **Each** language has over 20 color words
- **Every** language has over 20 color words

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**Gravity acts on every object**

**Every** species of spider has eight legs

**Sounds like contingent fact!**
Propensity for triggering group-representations (e.g., Knowlton et al. BUCLD 2018)

Is \{ each \over every \} 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

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

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

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.

Good for talking about individuals vs. groups

Distributinal 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*

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<th>✔️</th>
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Semantic difference to be learned

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*?

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**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

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<th><em>All</em></th>
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<tbody>
<tr>
<td>Counts</td>
<td>538 (0.0315%)</td>
<td>728 (0.0427%)</td>
<td>20,558 (1.2048%)</td>
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Prorated, assuming 0.9 – 2.5 million utterances/year (Hart & Risley 1995; 2003)

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<td>284 – 788</td>
<td>384 – 1,067</td>
<td>10,843 – 30,119</td>
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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 (about situations)

⇛ Prediction: individuals for *each*; times for *every*
Is there a relative clause modifying the QP?

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*
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

What’s the tense of the QP’s clause?

![Tense Distribution Graph](image-url)
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

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
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
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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