WHAT THE NEW SCIENCE OF CHILD DEVELOPMENT TELLS US ABOUT THE RELATIONSHIP BETWEEN PARENTS AND CHILDREN

THE GARDENER AND THE CARPENTER

ALISON GOPNIK
The Evolution of Childhood
Longer Childhood, Bigger Brain, Smarter Animal

A

B

2 3
7 8
10 12
13 15
16 17

A picture of a bird drinking water next to a chicken.
Glucose use of the human brain by age.
Intelligent Imitation

• Buchsbaum, Gopnik, Griffiths and Shafto, Cognition, 2011
Example

A = Squish Toy

B = Squeeze Bulb

C = Pull Ring

How do you make it play music?
Example

How do you make it play music?
## Evidence Patterns

<table>
<thead>
<tr>
<th>&quot;ABC&quot; Condition</th>
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<tbody>
<tr>
<td><strong>ABC</strong>+</td>
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<tr>
<td><strong>DEC</strong></td>
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<td><strong>ABC</strong>+</td>
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<td><strong>EDC</strong></td>
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<tr>
<td><strong>ABC</strong>+</td>
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- Individual actions shown an equal number of times in all conditions
- Different causal relationships
Learning Through Play
Novel Toy

• Four interesting properties

Bonawitz et al., 2011
Parents care so children can explore.
Berkeley Past and Future
Collaborators and Support

- Tom Griffiths
- Chris Lucas
- Sophie Bridgers
- Elizabeth Seiver
- Noah Goodman
- Daphna Buchsbaum
- Shaun O’ Grady

- NSF
- The James S. McDonnell Foundation Causal Learning Collaborative