

Mindreading & Joint Action

3. Tracking, Measuring and Representing Beliefs



butterfills@ceu.hu

What could someone represent
that would enable her to track,
at least within limits,
others' perceptions, knowledge states and beliefs
including false beliefs?

What could someone represent
that would enable her to track,
at least within limits,
the toxicity of potential food items?

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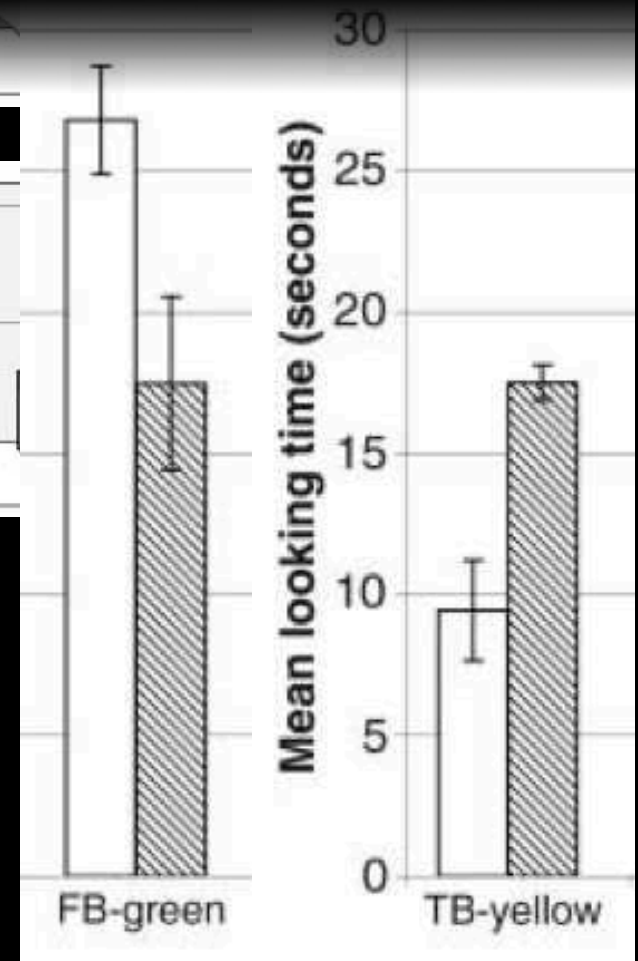
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Onishi & Baillargeon (2005)

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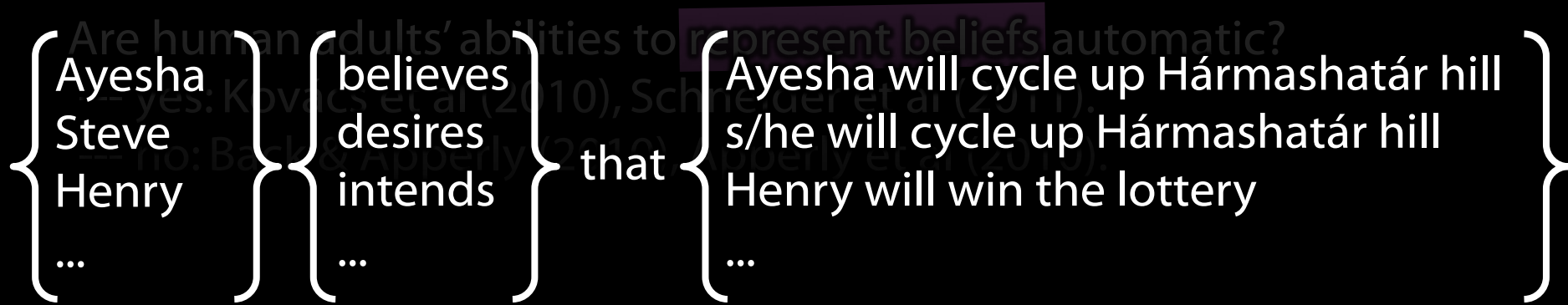
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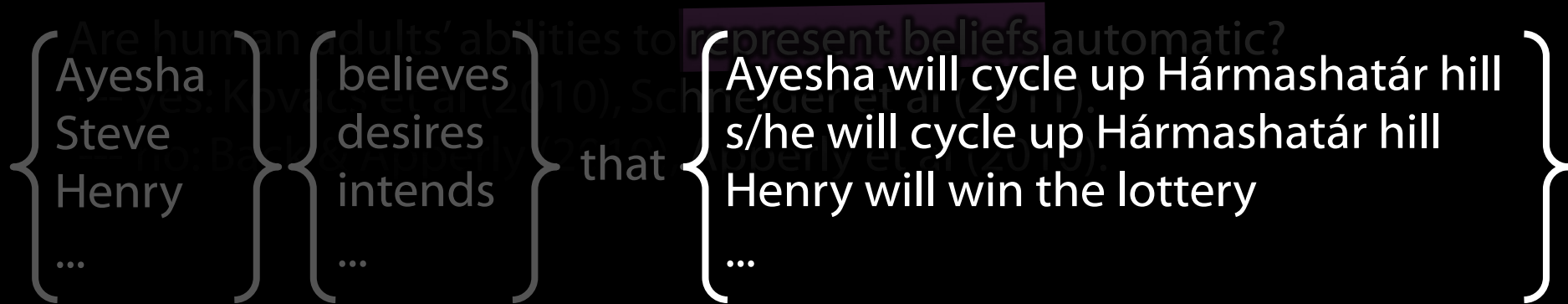
Attitude

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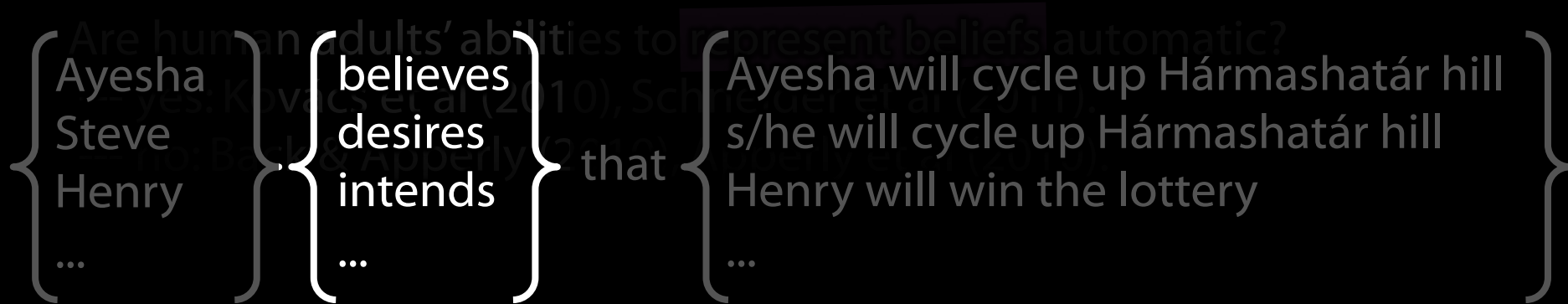
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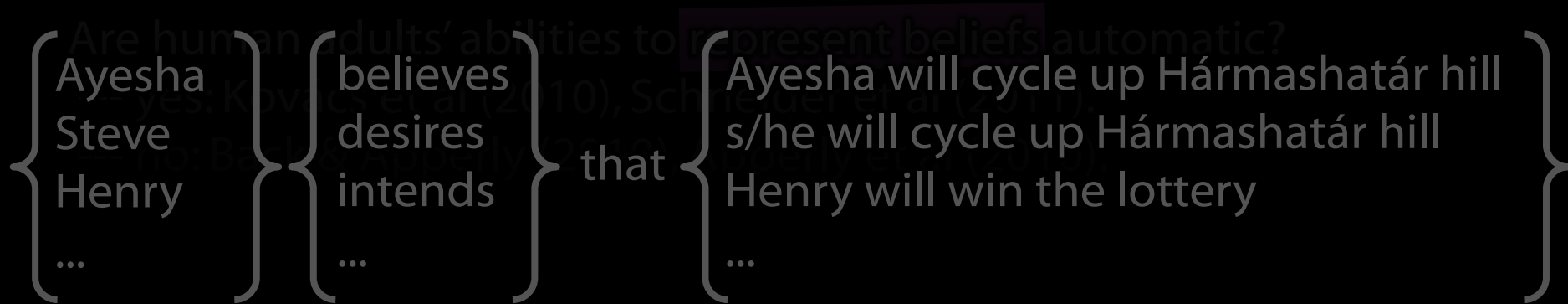
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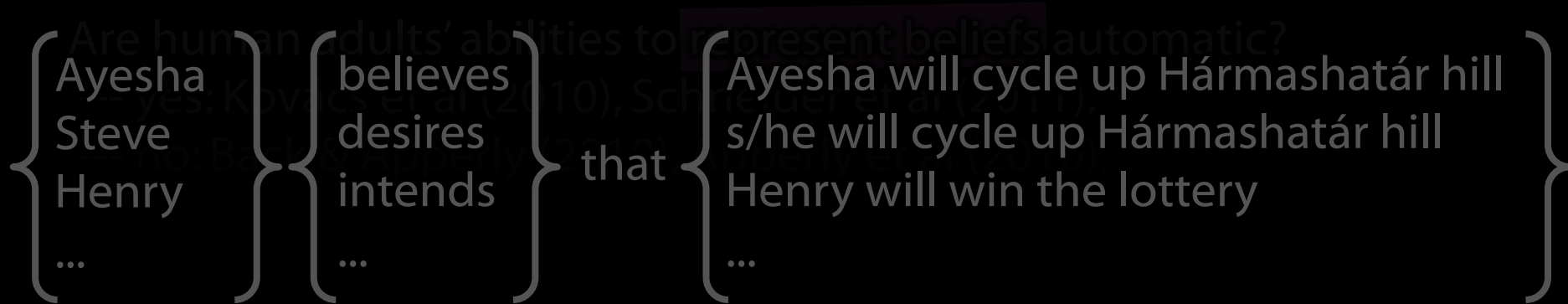
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1. There are subjects who can pass A-tasks but cannot pass B-tasks.

2. These subjects' success on A-tasks is explained by the fact that they **can** represent (false) beliefs *using a simple model*

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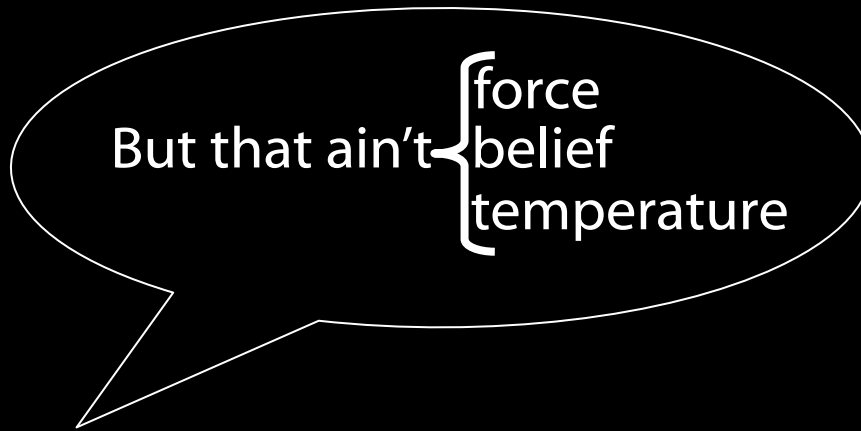


But that ain't belief

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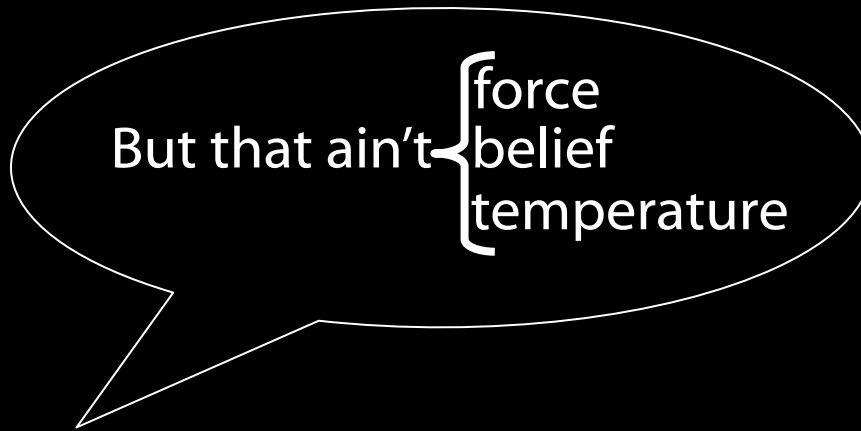
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Are human adults' abilities to retrack beliefs automatic?

--- yes: Kovács et al (2010), Schneider et al (2011).

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What could someone represent
that would enable her to track,
at least within limits,
others' perceptions, knowledge states and beliefs
including false beliefs?

Your *field* = a set of
objects related to you by
proximity, orientation,
lighting and other factors



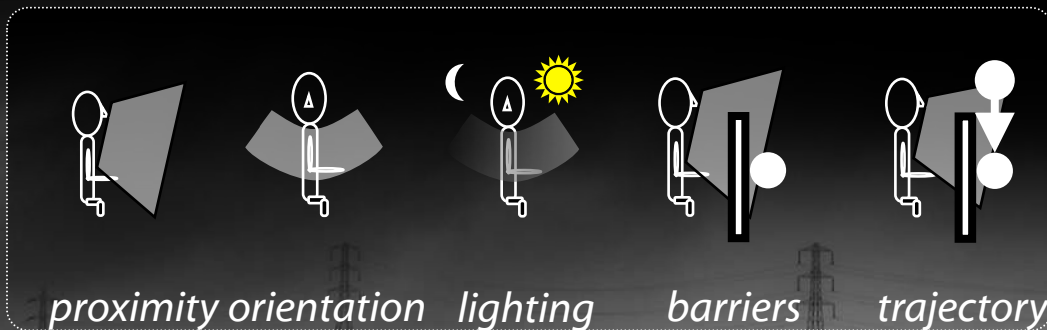
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proximity orientation lighting barriers trajectory

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You *encounter* an object = it is in your field



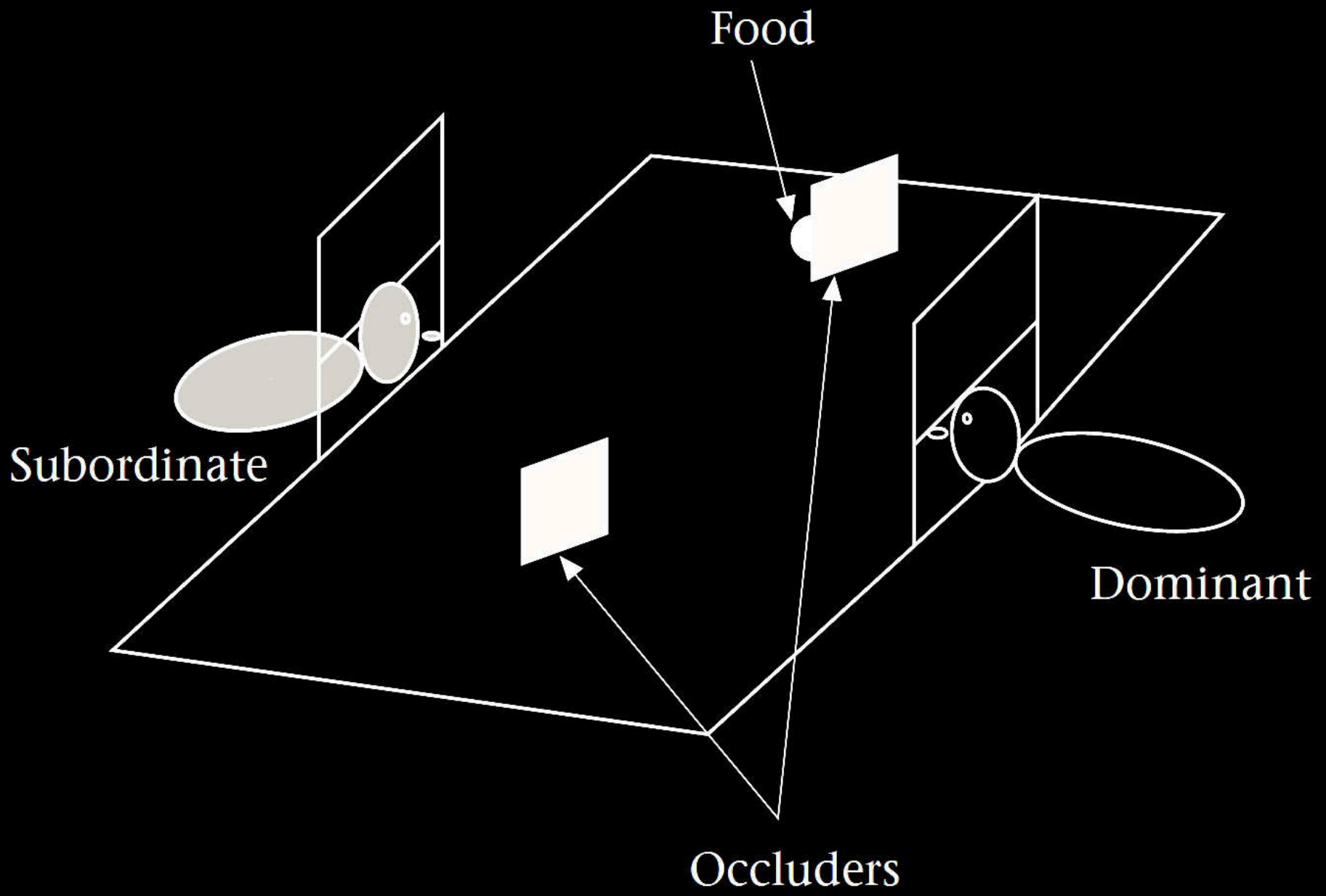
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Principle 1: one can't goal-directedly act on an object unless one has encountered it.



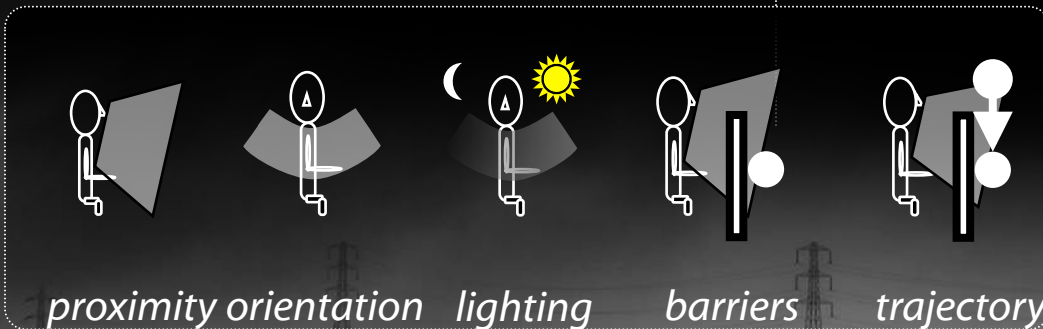
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You *encounter* an object = it is in your field

You *register* an object at a location = you most recently encountered the object at that location

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proximity orientation lighting barriers trajectory

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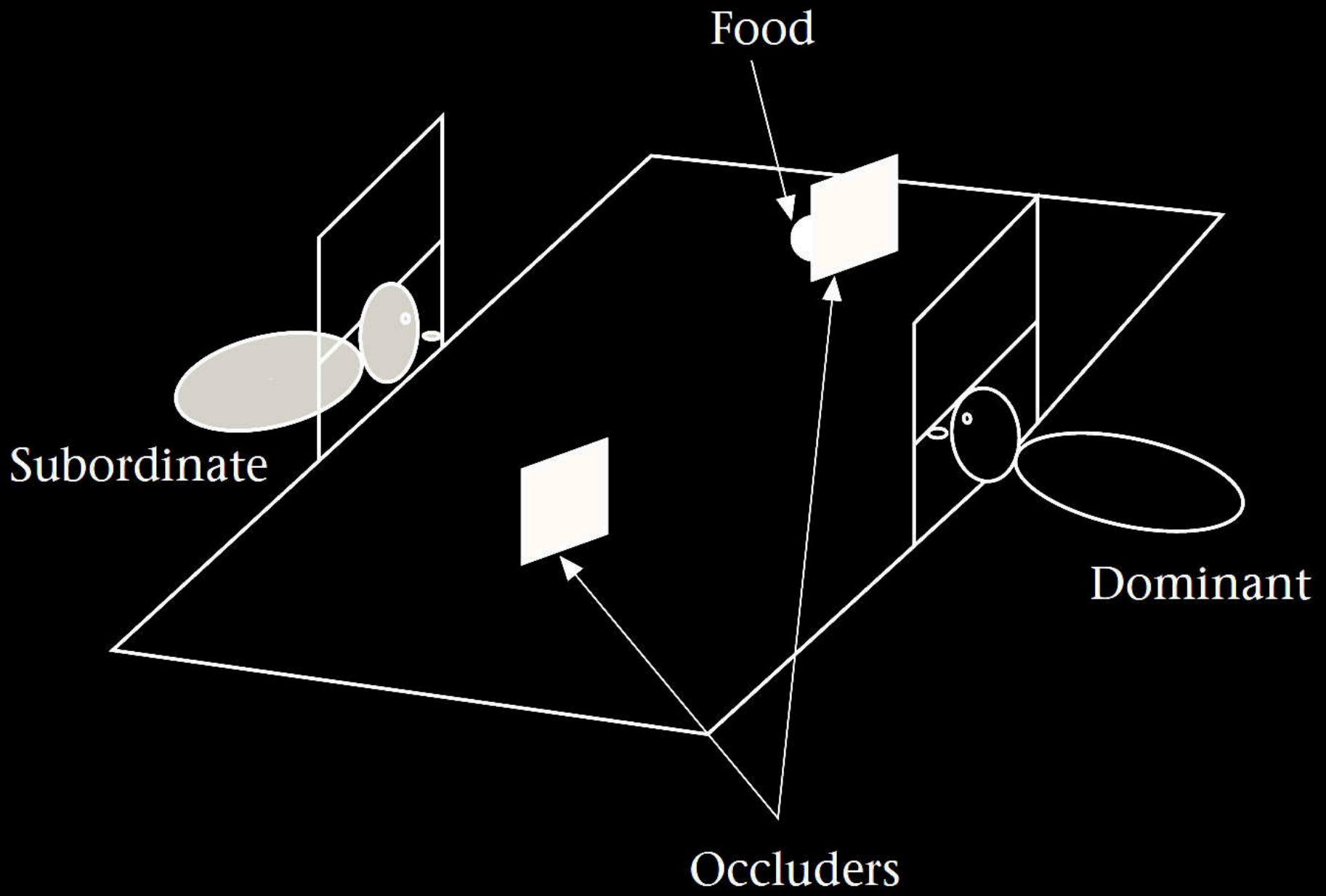
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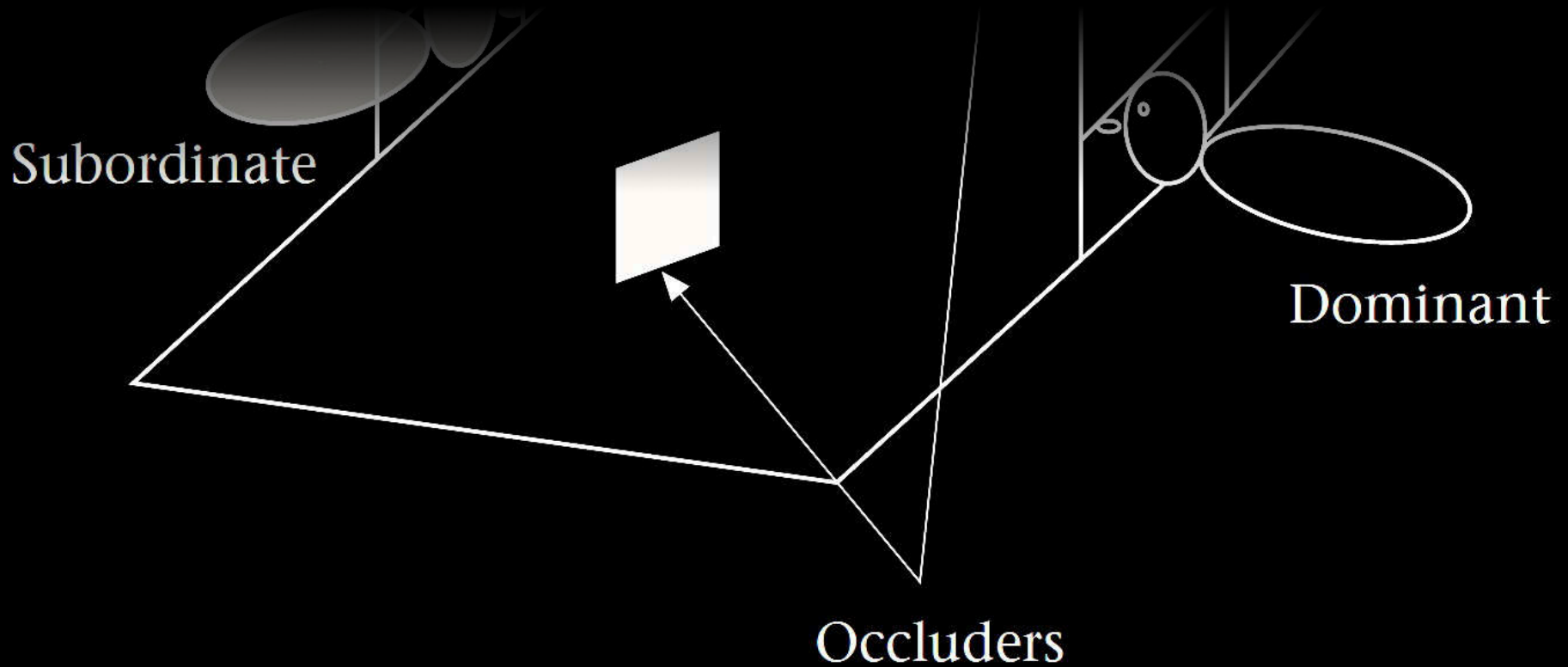
Principle 2: correct registration is a condition of *successful* action.



proximity orientation lighting barriers trajectory



“chimpanzees understand ... intentions ... perception and knowledge ... Moreover, they understand how these psychological states work together to produce intentional action”
(Call & Tomasello 2008:191)



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source: Liszkowski et al (2008)







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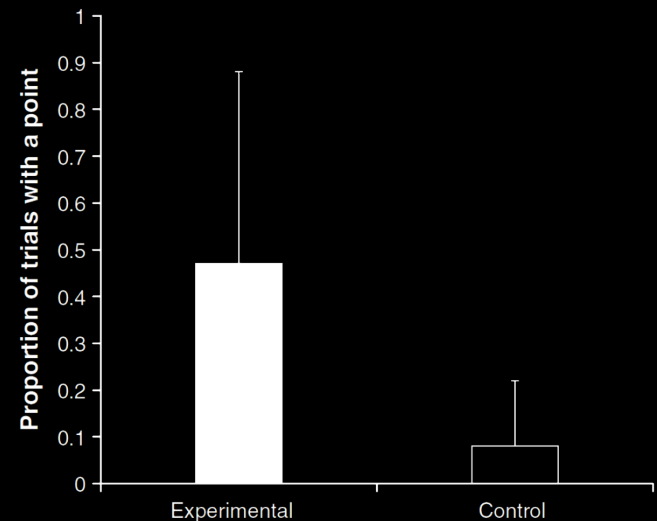
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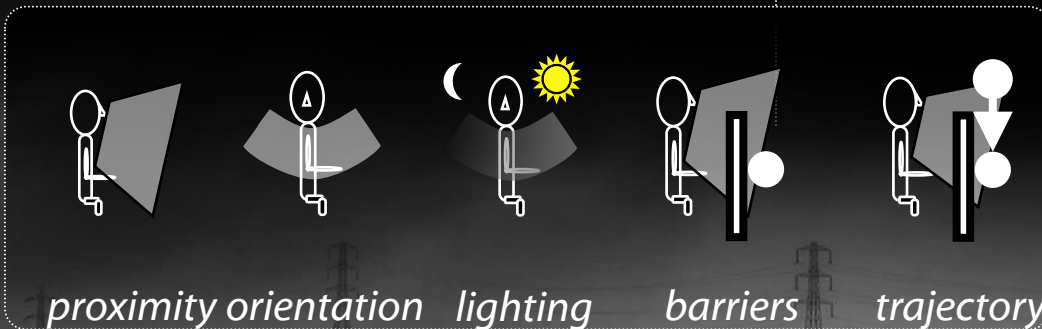
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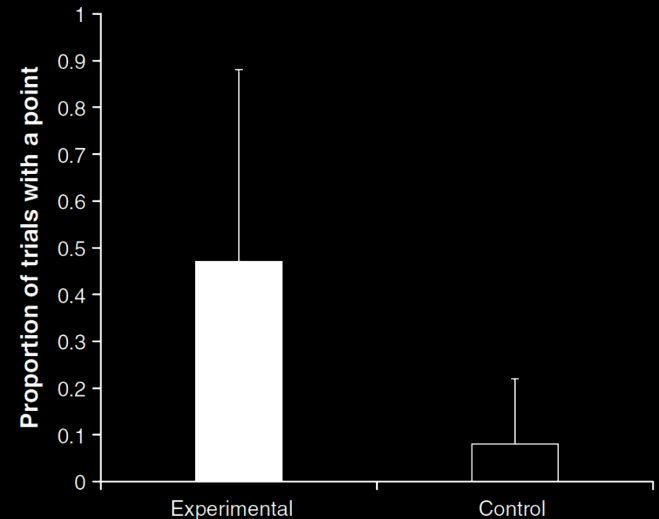
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“Helping by informing inextricably involves ... an understanding of others’ goals and ... of others’ ignorance.”

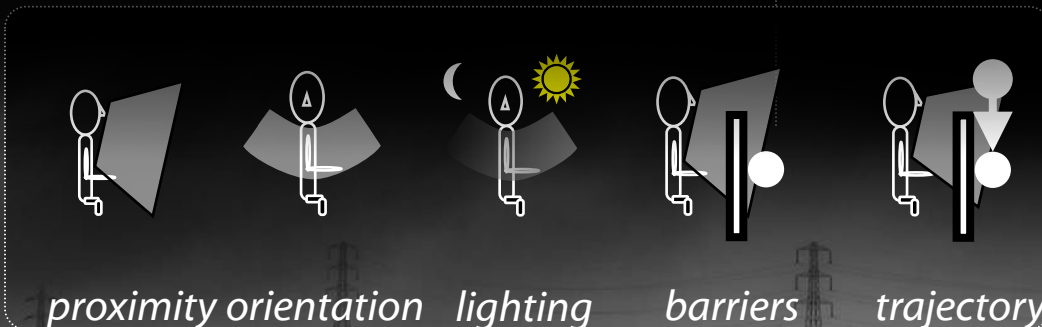
(Liszkowski, Carpenter & Tomasello 2008: 738-9)

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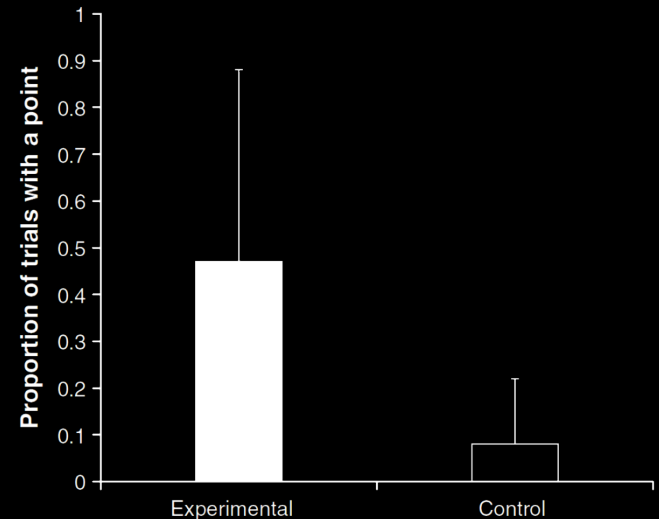
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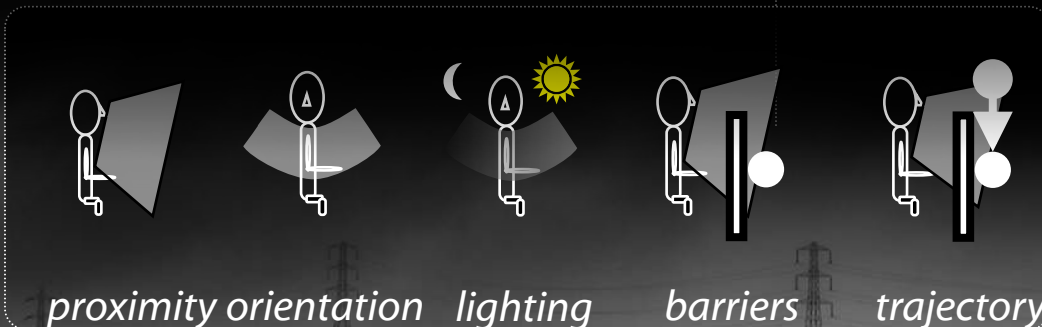
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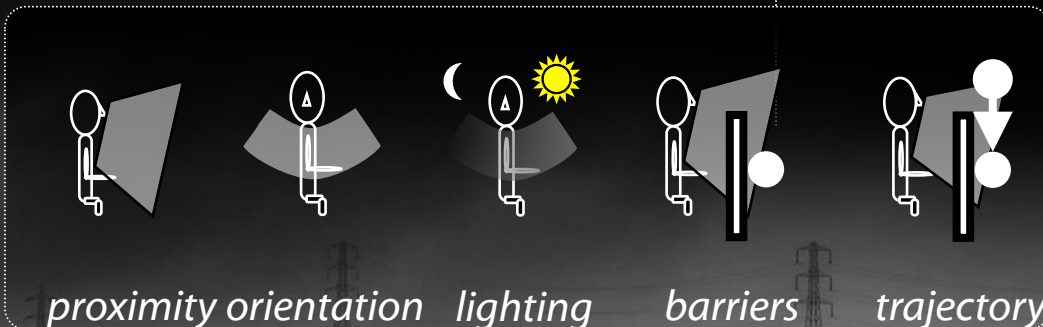
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Principle 3



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Principle 1: one can't goal-directedly act on an object unless one has encountered it.

Principle 2: correct registration is a condition of *successful* action.

Principle 3: when an agent performs a goal-directed action and the goal specifies an object, the agent will act as if the object were actually in the location she registers it at.



proximity orientation lighting barriers trajectory

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signature limits

admin

Tim Bayne (University of Oxford)
"Belief and its bedfellows"

Tuesday, 9 October, 2012, 5.30 PM
Zrinyi 14, Room 412

admin

signature limits

1. Charly is Samantha

2. Mitch believes that Charly is in Baltimore

3. Mitch believes that Samantha is in Baltimore

(1) & (2) $\not\rightarrow$ (3)

A man and a woman are falling from a ledge of a building. The man is on the right, wearing a dark jacket and pants, with his arms outstretched. The woman is on the left, wearing a red coat and a dark hat, with her hair blowing in the wind. They are both looking down. The background shows a clear blue sky and the side of a building with a window reflecting the sky.

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3. Mitch believes that Samantha is in Baltimore

(1) & (2) $\not\Rightarrow$ (3)

4. Mitch registers <Charly, Baltimore>

5. Mitch registers <Samantha, Baltimore>

(1) & (4) \Rightarrow (5)

False belief
about location

False belief
about identity

Subjects represent
registration

pass

fail

Subjects represent
beliefs

pass

pass



source: Low & Watts (2012)



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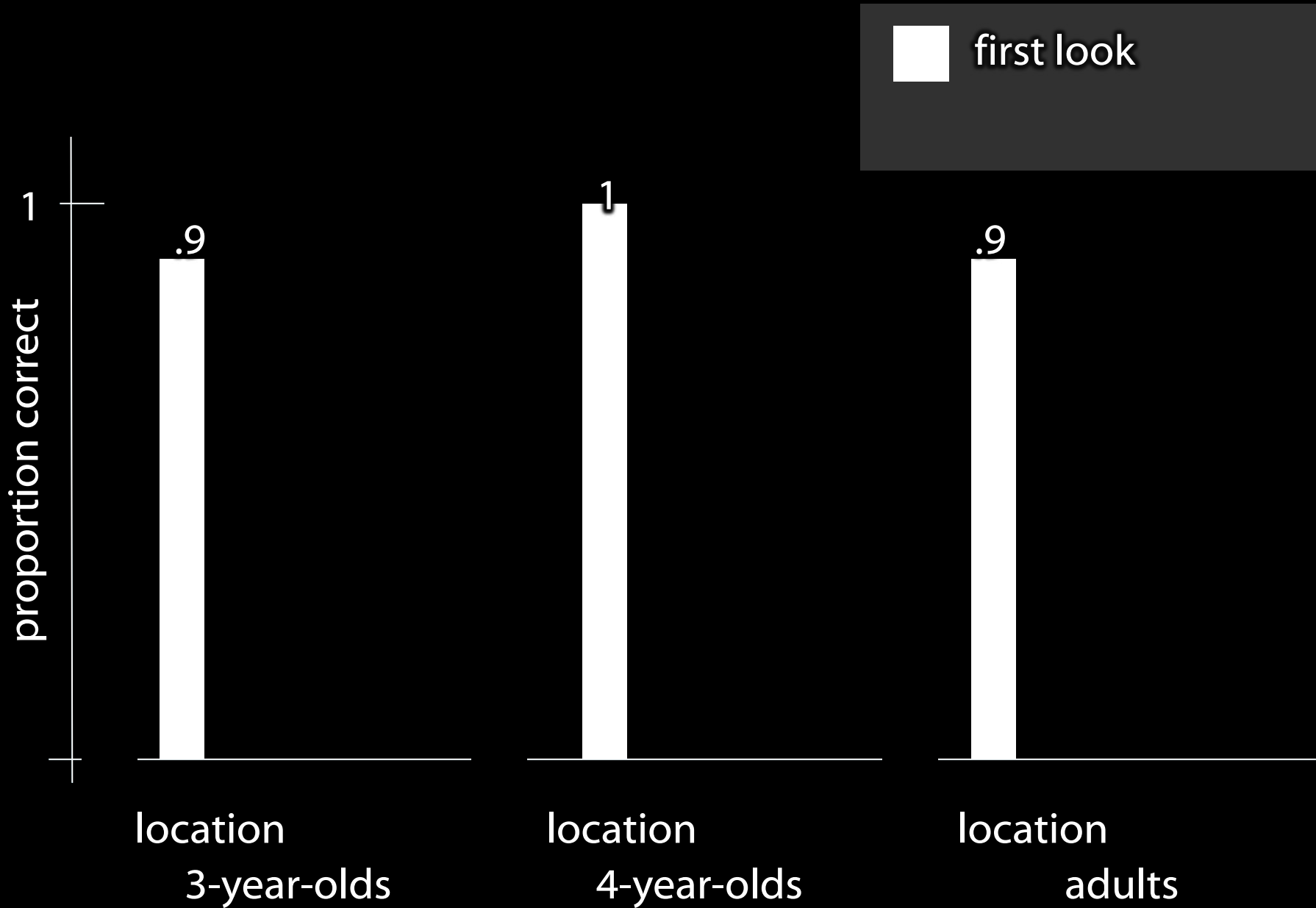
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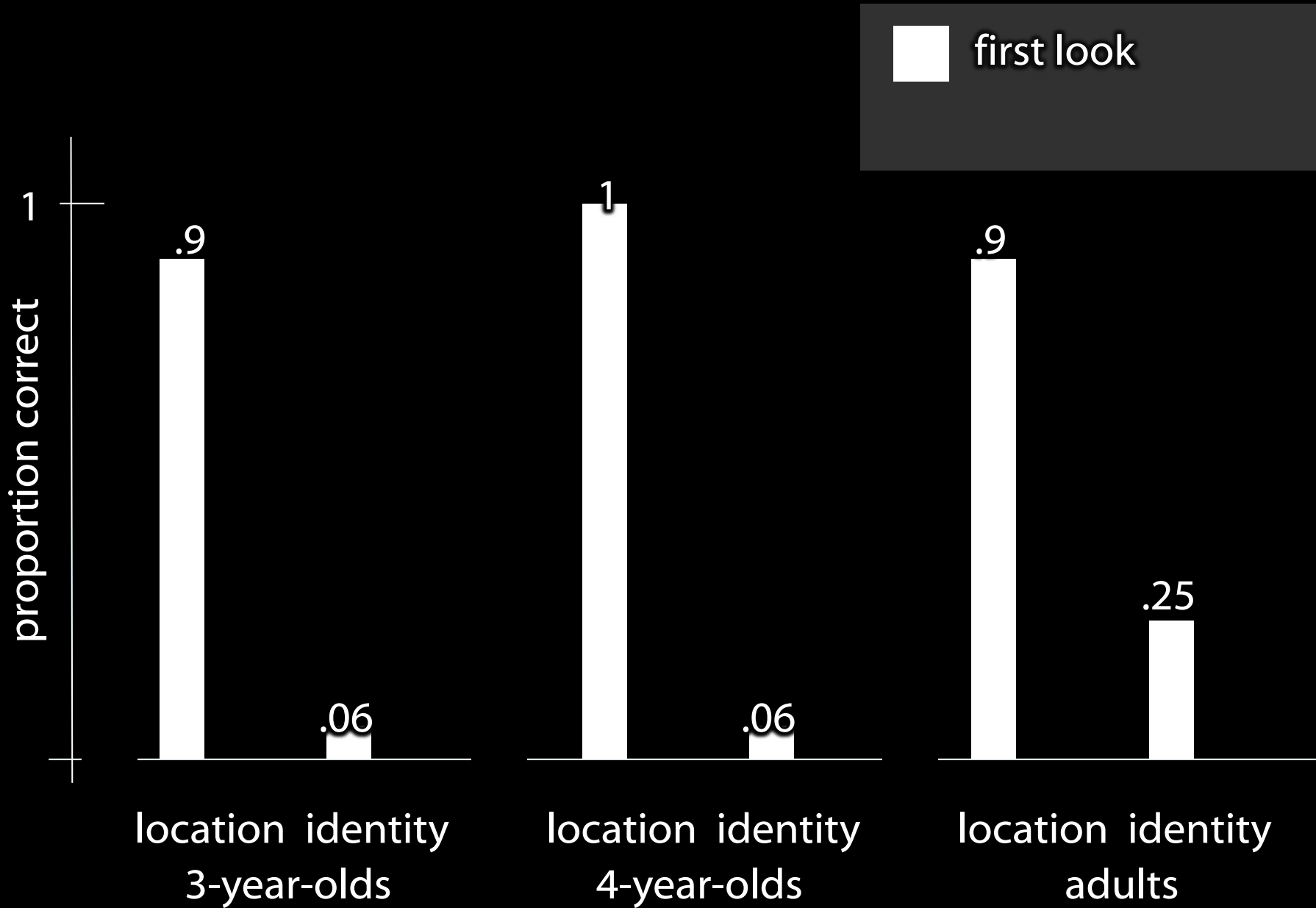
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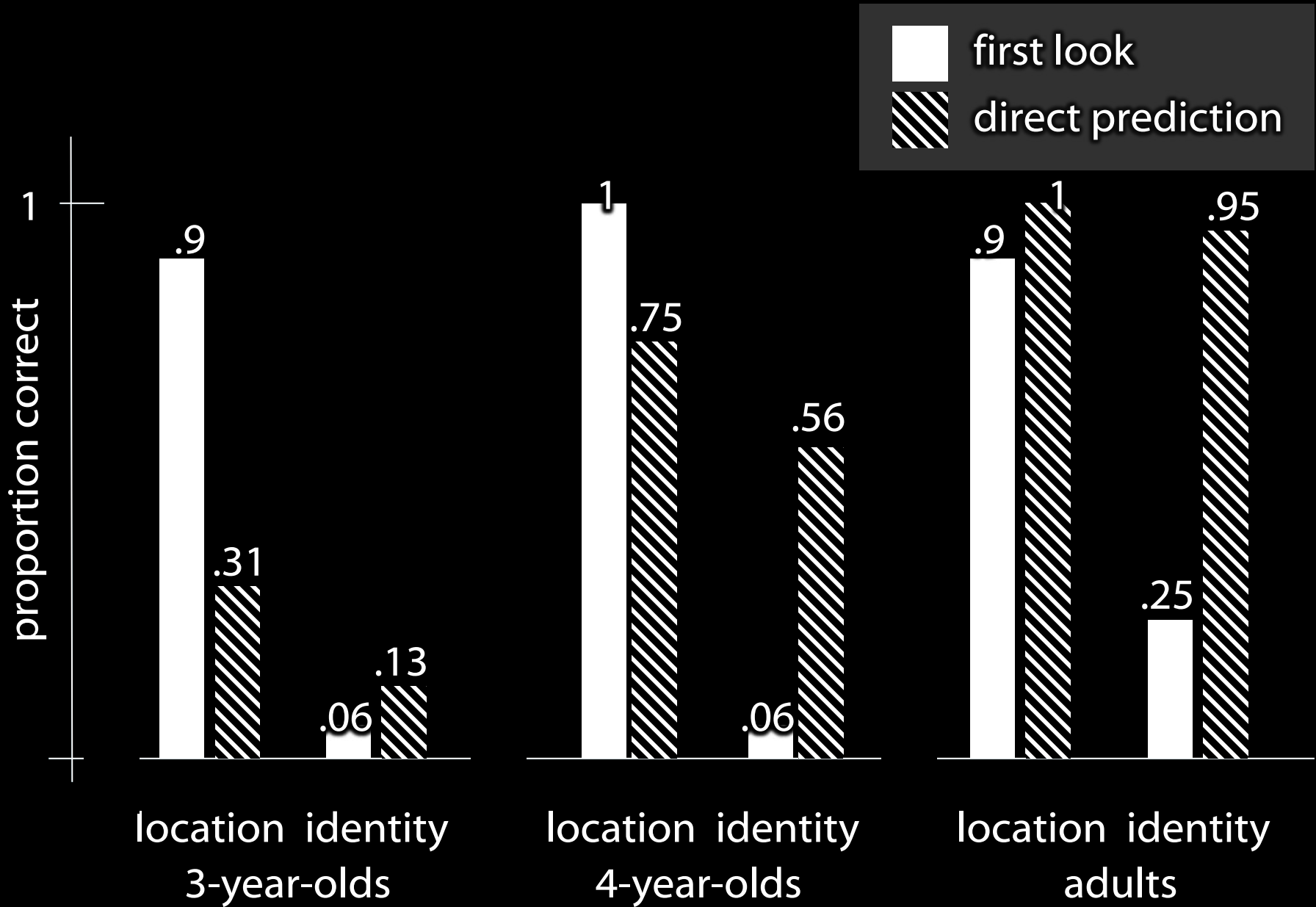
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2. These subjects' success on A-tasks is explained by the fact that they **can** represent (false) beliefs *using a simple model in a modular process*
3. These subjects' failure on B-tasks is explained by the fact that they **cannot** represent (false) beliefs *using a sophisticated model in a non-modular process*

