

Prof. Rex Li's Writings

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Title: Reading Notes on Alison Gopnik (2010): *The Philosophical Babies* - Chapter 3 Escaping Plato's Cave

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Summary/ Abstract: These are reading notes on Gopnik's *The Philosophical Babies*: Chapter 3 Escaping Plato's Cave

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Reading Notes on Alison Gopnik (2010): *The Philosophical Babies*

Chapter 3 Escaping Plato's Cave

Gopnik started with Plato's cave and explained how children learn about truth by thinking, language, causality, imitation. She summarize as:

- Statistical thinking
- Experiment and act
- Watch and imitate

P. 76 Children build causal maps, step-by-step.
Causal learning mechanisms by imagination (counterfactual thinking)

p. 77 – 78 From Hume to Bayes
Causal graphical models (Bayes Net)

p. 80 R: Gopnik is scary about statistics, yet she overcomes and proposes unconsciousness.

Often, though, people can do things intuitively that they can't do consciously. When we drive, we are unconsciously making very complicated computations about the speed of the car, the effects of the steering wheel, and the nature of the road. When we understand sentences we are unconsciously making very complicated computations about sounds and syntax. It turns out that even the youngest children can use statistics and experiments to learn about the world, in much the way that the sophisticated scientists and NASA computers can.

(p. 80 – 81)

p. 81 – 82	Jenny Saffran (1996)	Learning speech patterns (8-month-old)	Children able to figure out words / parse by frequency. <div style="border: 1px solid black; padding: 2px; margin: 5px 0;">They do, as the babies can unconsciously use the pattern of probabilities to figure out which syllables are likely to occur together.</div> Also detect musical tones.
p. 83	Fei Xu	Red / white ball experiment (9-month-old)	Children are "surprised" when red balls are repeatedly drawn from a predominantly white ball box R: the baby ingrained probabilistic mind.
p. 84 – 86	Gopnik	Blicket machine Experiment 1 – 3	See another ideas

p. 87 – 88	?	Body and objects (3-month-old)	<p>Babies prefer to look at the mobile that they can influence themselves, and they smile and coo at it more too. This suggests that it isn't just that they like the effect—they really are trying to make the effect happen and to see the consequences. They are happy because the experiment succeeds.</p> <p>R: Babies enjoy moving limbs, to have effect and influence the consequences. But be cautious about drawing conclusion.</p>
p. 88 – 90	Gopnik and Laura Schulz	Gear-toy experiment (4-month-old)	<p>An experiment to discover causes (a direct cause or a “nearby contingency”).</p> <p>Then Schulz simply left the children with the box. They played with the box much more in the first version than in the more obvious second one, pressing and manipulating the levers until they figured out just how the box worked.</p> <p>R: One tends to stick to a problem if it is not resolved.</p>
p. 90	Christine Legare	3-block blinket	<p>Children discuss with explanation and probability.</p> <p>“Why did that happen?” and then she let them play with the box. Children gave a bunch of interesting explanations: “You put it in the wrong place!” or “The battery’s dead!” or “It just looks like a blinket, it isn’t one really.” The children who saw the puzzling event played with the box much longer than the children who saw the regular box.</p>
p. 93	Amanda Woodward	Human hand vs stick (7-month-old)	<p>R: Babies predict hand-one-object, moving to new location, rather than staying in an old location.</p> <p>Seven-month-olds seem to predict that she’ll reach for the teddy bear—they look longer when she goes to the ball instead. Even more strikingly, they don’t make this prediction if a stick, rather than</p>
p. 94	Andy Meltzoff	Tear-up dumbbell experiment (9-month-old)	<p>1) R: Baby don’t just imitate. They learn from mistakes and they want success.</p> <p>2) Imitation</p> <p>When they get the toy the babies immediately pull apart the toy themselves. As all parents wryly recognize, children don’t just learn by imitating your successes. They learn by avoiding your mistakes, and understanding your limitations, too.</p>
p. 94	Gyorgy Gergeley	Head-touch experiment	R: children want to use hands

p. 97 – 105 read!

To make notes later.