

PSY 254

Precept 6 - Language

AI/Preceptor: Alexander Ku

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he/him



Today's agenda

How do infants learn? (Saffran et al., Babies & AI)

Thoughts on the midterm

How do infants learn language?



We hear:

“Jack, what are you going to make for breakfast?”

Jack hears:

“Jackwhatareyougoingtomakeforbreakfast?”

Why can't this be:

“Ja ckwhat areyoug oing tom akef orbreakfa st?”

How do infants learn language?



We hear:

“Jack, **whatareyou** **go-ing** **tomake** for breakfast?”

Jack hears:

“Jackwhatareyougoingtomakeforbreakfast?”

Why can't this be:

“Ja ckwhat areyoug oing tom akef orbreakfa st?”

How do infants learn language? (Saffran et al.)

Hypothesis: Infants use statistical information to identify words within longer strings of speech.

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Trial #1	Syllable Combination	Correct Response
1	bulado	Y
2	ladobi	N
3	tibata	N
4	dobigo	N
5	bigoku	Y
6	datiba	Y
7	dupabu	N
8	tadupa	Y

Let's learn a new language!



You will be tested on word pairs from this language...

There are 8 test items...

For each test item, write down “1” if you think the first word came from the language.

Write down “2” if you think the second word came from the language

How do infants learn language?

(Q1) Tupiro vs. Godaro

(Q2) Bidobu vs. Padoti

(Q3) Tulati vs. Bidaku

(Q4) Golabu vs. Pakipu

(Q5) Padoti vs. Tulati

(Q6) Pakipu vs. Tupiro

(Q7) Golabu vs. Bidobu

(Q8) Godaro vs. Bidaku



How do infants learn language?

(Q1) Tupiro vs. Godaro 1

(Q2) Bidobu vs. Padoti 2

(Q3) Tulati vs. Bidaku 2

(Q4) Golabu vs. Pakipu 1

(Q5) Padoti vs. Tulati 1

(Q6) Pakipu vs. Tupiro 2

(Q7) Golabu vs. Bidobu 1

(Q8) Godaro vs. Bidaku 2

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Hypothesis: Infants use statistical information to identify words within longer strings of speech.

What does ***statistical information*** mean?



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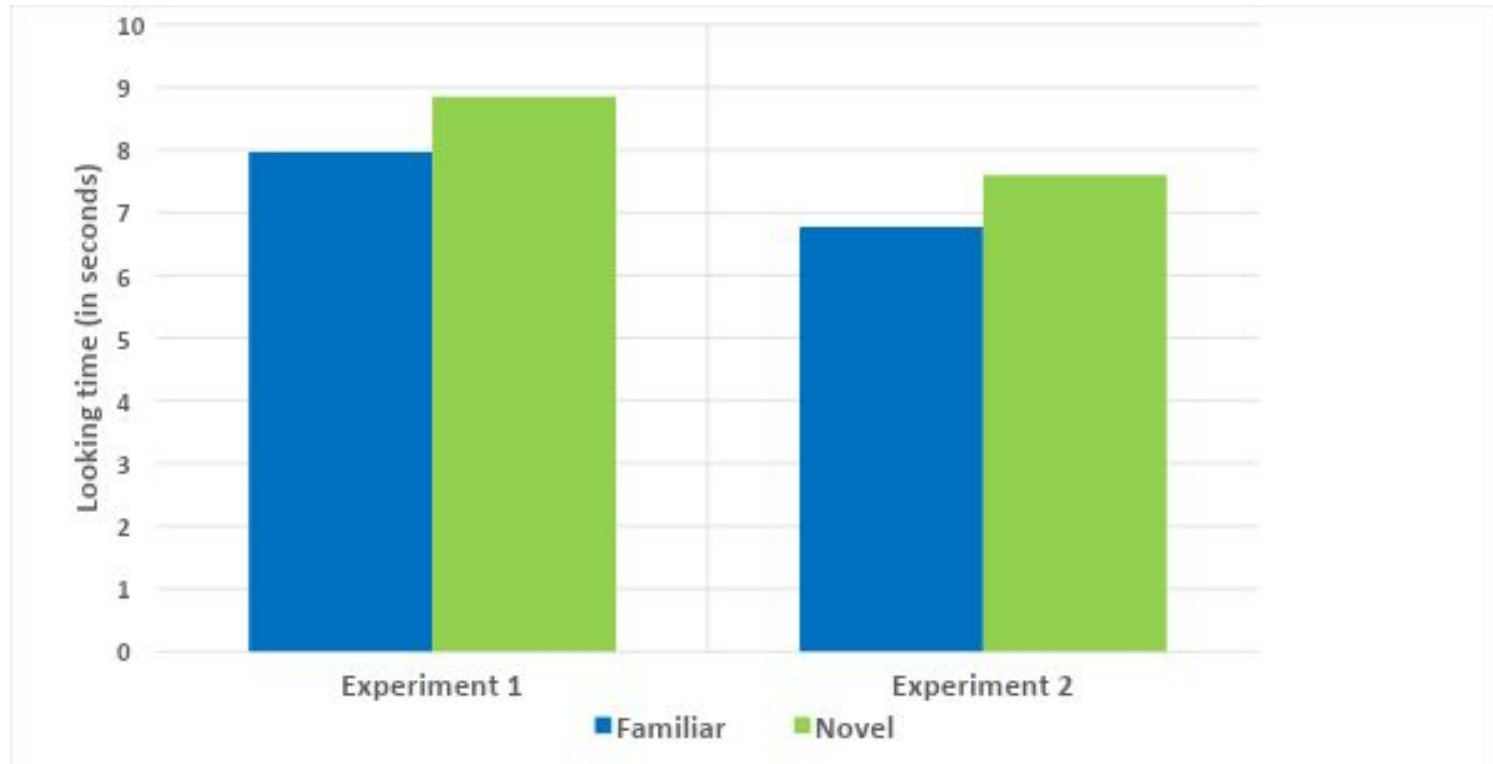
What does *statistical information* mean?

Pretty baby

Pret+ty vs. *ty+ba*



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Infants (& adults) possess powerful **experience-dependent mechanisms** to support word segmentation & likely other aspects of language.

It has been seen in infants & adults in a whole range of tasks, including:

- Visual patterns
- Auditory patterns
- Tactile patterns



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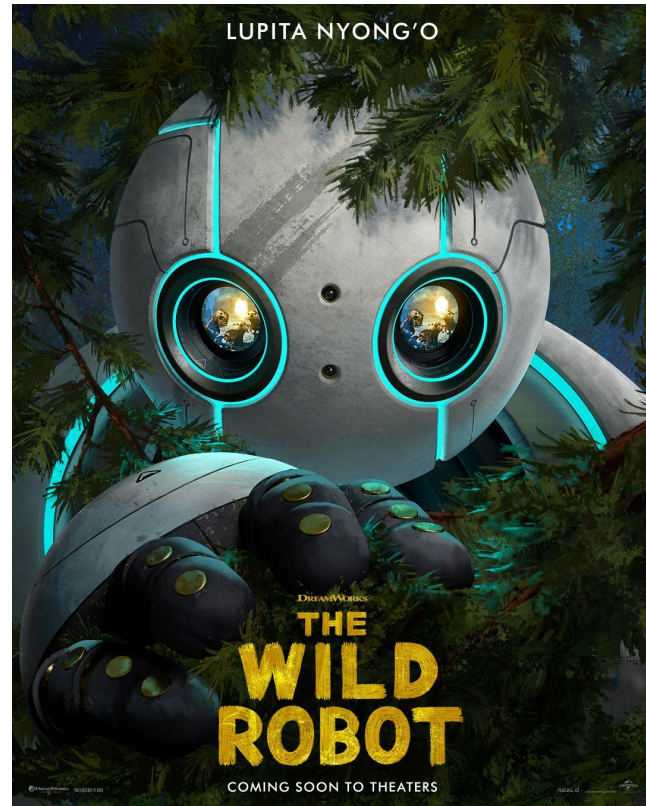
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*Statistical learning is a “**domain general**” learning mechanism!*

Babies & AI

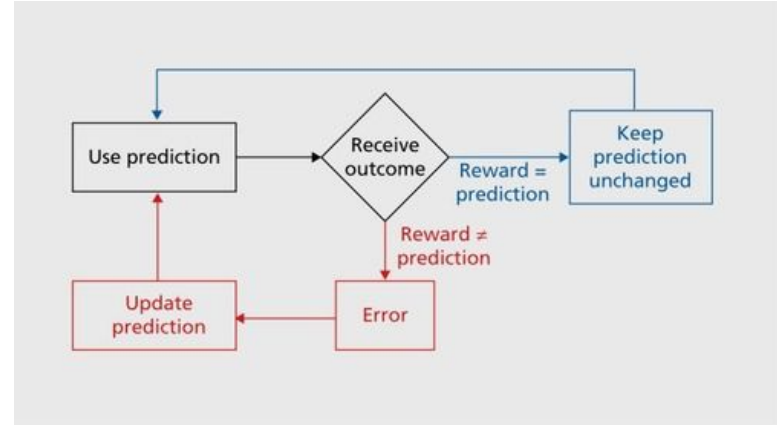
- (1) What is a “prediction error”?
- (2) What parallels did researchers find between child and robot motor development?
- (3) How might the predictive brain hypothesis have possible implications for clinical research?
- (4) How does this article relate to the Saffran article?



Babies & AI



Babies (just like scientists) have hypotheses!



Prediction errors: **mismatches** that occur when there are differences between **what is expected** and **what actually happens**

Today's agenda

How do infants learn? (Saffran et al., Babies & AI)

Thoughts on the midterm

Midterm

How did it go?

Midterm

How did it go?

- The average was 69.7%, we **added 8 points for EVERYONE!**
- You can check your exams for 5-10 mins after class, but please RETURN them after.
- **If you have concerns, come to MY office hours this week & next ONLY!**
 - My OH will be on Thursday (2-3pm)

Midterm

If you ace everything else, you can not only pass the class but get a good grade!

Journal article (30%) – turn in a *detailed* outline, come to office hours, use the Writing Center

Precept (30%) – keep doing the readings, remember you can use Slack/office hours/emailing me as participation (10% participation + 5% attendance)

+ app/toy/book evaluation and media/art project (15%)

Final (20%)

Next time

MCQ due tomorrow

Schwab reading

Journal article outline: Due Oct 30 at 5pm

App/toy/book evaluation: Due Nov 13 at 5pm

- Individual or in groups
- If you work in a group (2-3 people), make sure all of your names are on the top of the page
- Group members must be in your precept!

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