Building experiments: Introduction

Aba Szollosi

Purpose of experiments

- Best case: Test our proposed explanations for our observations

- Also frequent: Pilot studies – working out minor details of an experiment

An example: Stroop task

Match trial:

Blue

An example: Stroop task

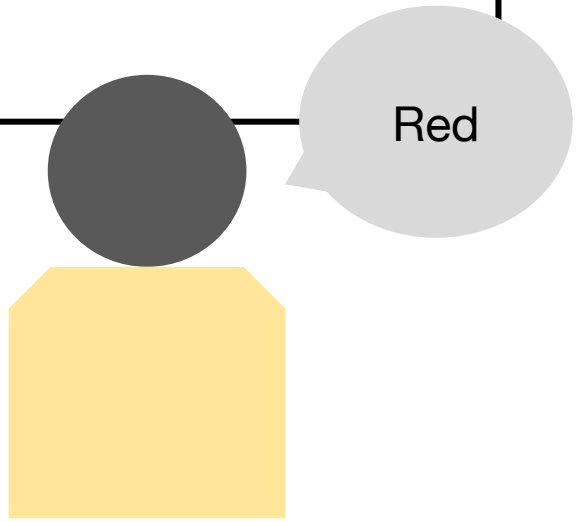
Mismatch trial:

Blue

An example: Stroop task

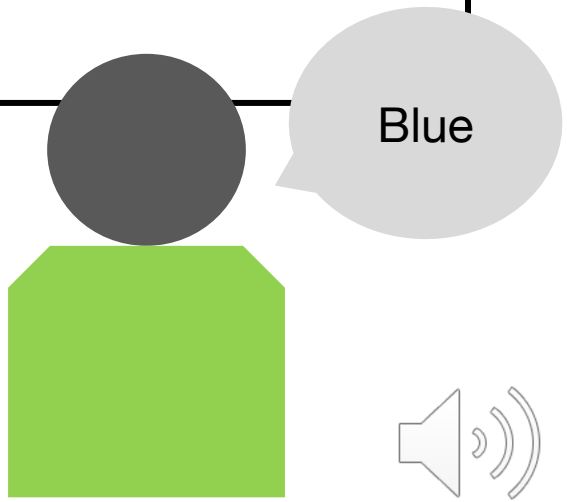
Mismatch trial:

Blue

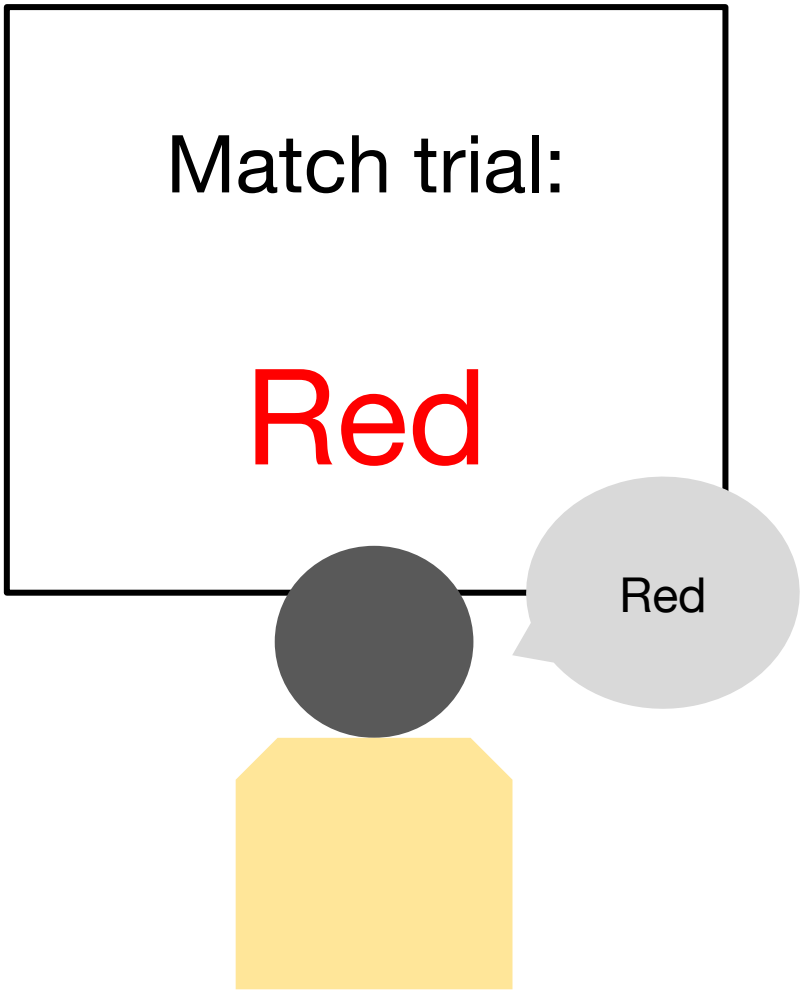


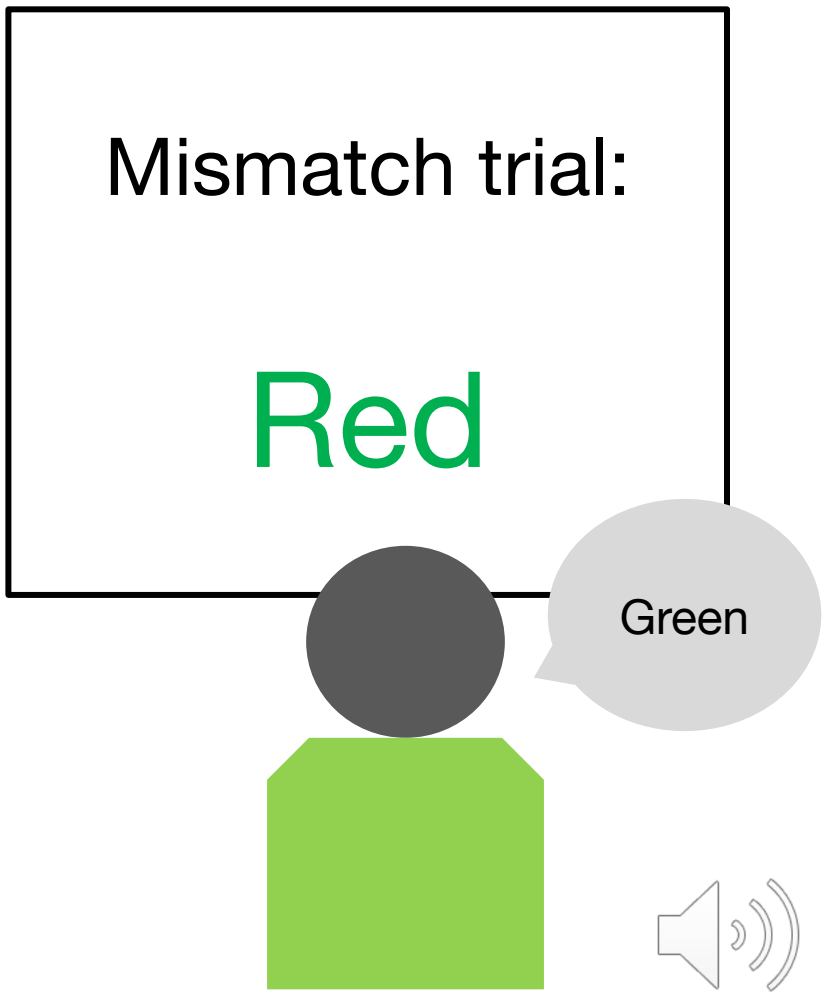
Match trial:

Blue



An example: Stroop task





An example: Stroop task

- When making decisions, people need to balance speed and accuracy.
- The Stroop task studies this trade-off through habitual and controlled responding.
- Reading the words we see is a well-established habit, while naming the colour in which a word is printed is unusual.
- Habitual responses are often quicker but less accurate, whereas controlled responses are often slower but more accurate.

An example: Stroop task

Response-time and errors

Mismatch > Match

Blue > Blue

Red > Red

An example: Stroop task

- What have we learned and how?
  - Test the explanation that reading relies more on habitual, but naming a colour on controlled processing
  - Experiment *could have shown* that the explanation was wrong
  - This does not mean that the explanation is correct, but shows that some aspects of the explanation correspond better to the truth than alternatives

Summary

- What’s the purpose of experiments
  - Test our explanations
- Stroop task