Taxonomy of memory types

Autobiographical memory

• Memory for our life experience
• A small proportion of people seem to have a qualitatively superior form
• Questions:
  – What type of memory is superior?
  – Are their memories accurate?
  – Are the details complete?
  – What retrieval cues do they use?

Caudate nucleus

• Involved in skill learning and OCD
  – Both involve repetitive behavior
  – Mental and physical
• 7-8 standard deviations larger in SAM subjects

Outline for LTM classes

• Comprehension and memory
• Different types of long-term memory
• Autobiographical memory
• False memory

Window

<table>
<thead>
<tr>
<th>Window</th>
<th>Smell</th>
<th>Sweet</th>
</tr>
</thead>
<tbody>
<tr>
<td>List 1</td>
<td>Nose</td>
<td>Sour</td>
</tr>
<tr>
<td>Door</td>
<td>Breathe</td>
<td>Candy</td>
</tr>
<tr>
<td>Glass</td>
<td>Sniff</td>
<td>Sugar</td>
</tr>
<tr>
<td>Pane</td>
<td>Aroma</td>
<td>Bitter</td>
</tr>
<tr>
<td>Shade</td>
<td>Hear</td>
<td>Good</td>
</tr>
<tr>
<td>Ledge</td>
<td>See</td>
<td>Taste</td>
</tr>
<tr>
<td>Sill</td>
<td>Sniff</td>
<td>Nice</td>
</tr>
<tr>
<td>House</td>
<td>Nostril</td>
<td>Tooth</td>
</tr>
<tr>
<td>Open</td>
<td>Whiff</td>
<td>Nice</td>
</tr>
<tr>
<td>Curtain</td>
<td>Scent</td>
<td>Honey</td>
</tr>
<tr>
<td>Frame</td>
<td>Reek</td>
<td>Seda</td>
</tr>
<tr>
<td>View</td>
<td>Stench</td>
<td>Chocolate</td>
</tr>
<tr>
<td>Breeze</td>
<td>Fragrance</td>
<td>Heart</td>
</tr>
<tr>
<td>Sach</td>
<td>Perfume</td>
<td>Cake</td>
</tr>
<tr>
<td>Screen</td>
<td>Salts</td>
<td>Tart</td>
</tr>
<tr>
<td>Shutter</td>
<td>Rose</td>
<td>Pie</td>
</tr>
</tbody>
</table>

DRM procedure

(Deese, 1959; Roediger & McDermott, 1995)

Replacement for Figure 8.16:

![Diagram of DRM procedure](image-url)
DRM procedure

- The theme helps us recall target words
  - More hits with a theme than without
- But the theme word intrudes
  - High rate of false alarms for the theme word
  - Semantic memory intruding on episodic memory

Recognition vs. recall

- Often we can recognize something that we can’t recall
  - Recognition can be more sensitive than recall
- But recognition accuracy depends on the distractors
  - The more similar they are to the target, the more errors people make
  - Especially when the target is absent

Eyewitness memory

- Involves a recognition task
  - Picking someone from a photo array, or lineup
- The target may or may not be present
  - The police don’t know, neither does the witness

The case of Jennifer Thompson

- Questions:
  - How well did Thompson’s confidence in her memory predict its accuracy?
  - What factors probably contributed to Thompson’s error?
The case of Jennifer Thompson

- What factors probably contributed to Thompson’s error?
  - Similarity of Cotton and Poole
  - The target being absent
  - The detective reinforcing Thompson’s choice
  - Misplaced familiarity (aka source confusion)

Misplaced familiarity

- In the lineup, Cotton probably looked familiar to Thompson
  - But the source of the familiarity was the photo array, not the crime scene
  - This source information was not accurately represented in Thompson’s memory
- What type of memory is source memory?
  - Episodic

Related: Reality monitoring

- Knowing whether something actually happened or not
  - We form intentions but may not be able to act on them right away
    - Did I do it, or just mean to do it?
  - We engage in automatic behavior
    - Did I lock the door on the way out?

Effect of reinforcement

- % who gave 6 or 7 out of 7 for certainty, having a good view, able to make out features of the face, etc.

Another example

- Conviction based largely on evidence from 1 eyewitness
  - Out of 8
  - 2 to 3 sec encoding time, at night, 30 to 40 feet away
- Identification procedure:
  - 1st ID in photo array
  - 2nd ID next day, live lineup
  - Graham was the only repeat
- Executed June 22, 2000 (in Texas)