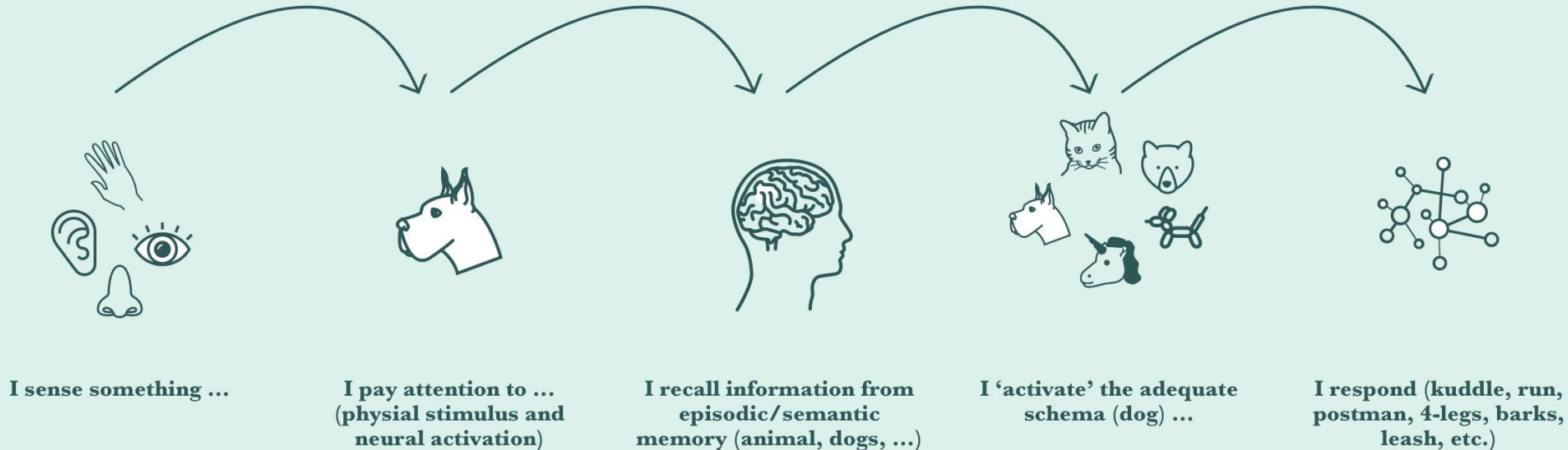


# Schema Theory

**Fig. 1: Schema Theory**





Many people assume that memory works kind of like a video camera. Your mind "stores" what you experience, and you remember the past by "replaying" a mental picture of that event. Forgetting is simply the mind's inability to retrieve an old "file" from the past. However, research into memory suggests that this common sense view is not really how our minds work.

# Video Activity

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1. Watch the video, your task is to remember the paragraph they read with as much detail as possible. After the researchers finish reading the paragraph, pause the video and write down as much as you can remember.



# Video Activity

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2. Once you have heard the "seven magic words", try watching the video a second time. Try writing down as many details from the paragraph as you can again, and compare it to your first attempt. By how much did your memory improve?



# In your mind, picture a dog. Describe it on your paper.



Miniature Pinscher



Miniature Schnauzer



Norfolk Terrier



Norwich Terrier



Affenpinscher



Australian Silky Terrier



Australian Terrier



Bichon Avaneze



Bichon Frise



Bolognese



Border Terrier



Boston Terrier



Poodle  
(Toy / Miniature)



Pug



Schipperkee



Scottish Terrier



Brussels Griffon



Cairn Terrier



Cavalier King Charles Spaniel



Chihuahua



Chinese Crested Dog  
(Hairless)



Chinese Crested Dog  
(Powderpuff)



Chinese Temple Dog



Coton de tular



Small Continental Spaniel



Small English Terrier



Small Spitz



Smooth Fox Terrier



Czech Terrier  
(Cesky Terrier / Bohemian Terrier)



Dachshund



Dandie Dinmont Terrier



English Toy Spaniel



German Hunting Terrier



Griffon Brabancon



Hairless Dog



Italian Greyhound

[dogforddogpark.com](http://dogforddogpark.com)



Welsh Terrier



West Highland Terrier



Jack Russel Terrier



Japanese Spaniel (Chin)



Japanese Spitz



Lakeland Terrier



Lhasa Apso



Little Lion Dog



Maltese



Manchester Terrier



# What is a “schema”?

A schema is a "*mental model*" or "*mental framework*", containing everything you know about a particular object, person, situation or event. Schemas are derived from our prior experience and knowledge - for instance, you know what a dog typically looks and behaves like because of all your past experiences with dogs.



# Schemas help us to organize memories & help in recall

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If you were asked about a child's birthday party you attended, you would likely use your schema of children's birthdays to help you remember the most important details. You might refresh your memory by asking yourself, "Was there a birthday cake? What flavor was it? What presents were given? When did we sing happy birthday? What games or activities did we play?". Your schemas help you to recall memories by retrieving the key details of past events.



# Schemas help guide behavior



Imagine you are going to watch a movie in a newly opened cinema. Would you be able to figure out how to buy tickets, popcorn and see the right movie, even though you have never been to this particular cinema before? Well, of course. This is because you have a schema for going out to the movies that tells you what to expect in a cinema, and what procedures to follow. You know there will probably be an information screen with the movie showtimes, a ticket counter to purchase tickets, a concession stand to buy popcorn, and a large room with seats where you will watch the movie.



# Schemas help you predict what will happen next

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If you were attending a children's birthday party and the lights suddenly went out right after finishing dinner, would you think it was an emergency? Or would you understand that this was a cue to sing "Happy Birthday" as the cake is brought out? Schemas help us make sense of what's happening in the world around us, and thus help us to predict what will happen next.



# Types of schemas:



- **Scripts-** provide information about the sequence of events that occur in particular contexts (e.g. going to a restaurant, visiting the dentist, attending class).
- **Self-schemas-** organise information we have about ourselves (information stored in our memory about our strengths and weaknesses and how we feel about them).
- **Social schemas** (e.g. stereotypes) – represent information about groups of people (e.g. Americans, Egyptians, women, accountants, etc.).

# Bransford & Johnson



**Aim:** Investigate how schemas help us to store new information in our memory

## **Procedure**

Participants are randomly divided into three groups. All participants are read a paragraph describing a number of steps in a certain procedure.

- Group 1 are told that the paragraph is about doing laundry *before* they hear the paragraph
- Group 2 are told that the paragraph is about doing laundry *after* they hear the paragraph, before they are asked to recall it
- Group 3 are not told what the paragraph is about

All participants are then tested on how much of the paragraph they can recall

# Bransford & Johnson (con't.)



**Findings:** The group that were told the topic of the paragraph *before* they listened to it (Group 1) had significantly better memory than the other two groups.

## Conclusion

- Schemas help participants encode new information by making it possible to organize and interpret the information.
- Memory isn't about simply "storing a copy" of what you hear, but involves actively interpreting what you hear based on prior knowledge of the world.

# Bransford & Johnson



## Evaluation

- This study is easy to replicate, and has high reliability. It is easy to get the same results as the original study.
- This study utilizes an experimental design, demonstrating a causal relationship between schema activation (the IV) and ability to recall (DV)
- This study involves an artificial task - it would be quite unusual to be read a paragraph without knowing having any idea what the paragraph is about. Therefore, this study may not have much relevance for everyday situations involving memory

# Bartlett



**Aim:** Investigate how cultural schemas can influence memory

## **Procedure**

- British participants read a Native American folk story called "War of the Ghosts" twice, then asked to reproduce it from memory soon after, as well as on a later date. (On another variation of the study, participants told the story to someone else, who then had to remember the story and write it down)
- The content and style of the story was unfamiliar to the British readers, as it was not written according to the storytelling conventions of English literature



# Bartlett



## Findings

- Participants shortened length of story and the story became more conventional. Unusual details (such as the unfamiliar names, or the revelation that the warriors were actually ghosts) were left out or distorted
- No matter how much the recollection of the story differed from the original, it remained a coherent, complete story. This suggests that participants tried to remember the story as a whole, rather than trying to memorize specific details individually
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## Conclusion

- Participants found it difficult to remember the "War of the Ghosts" because the story does not fit any of our cultural schemas. It is neither a typical horror story or war story, and hence it is difficult to relate to our existing knowledge of the world
- Cultural schemas can lead to memory distortions, as we try to "fit" the new information to our existing schemas

# Bartlett

## Evaluation


- Supports the hypothesis that schemas can lead to distorted or false memories
- As this study took place a long time ago (1932), the conventions of modern Psychological research had yet to be developed. For instance, participants were not given standardized instructions, suggesting that the procedure was not carefully controlled
- There is debate over the **validity** of this study. Some may argue that trying to memorize a story is a task, which has questionable relevance for real life. On the other hand, we are often exposed to information second hand, through the telling of family and friends, which is not unlike trying to remember a story.

# Evaluating Schema Theory



Schema theory is very useful in understanding how memory works. As the research by Bradsford & Johnson indicates, our memory improves dramatically when we can make connections between new information and *what we already know*. In other words, information that is consistent with our existing schemas will be easier to store in memory. Understanding how memory works can be very helpful in the field of Education, for instance, or whenever trying to learn something new. Conversely, schema theory can also explain why, in certain situations, people may hold incomplete or false memories. When information does not fit our schemas, it may be ignored or distorted, and this can explain many real life situations (such as faulty eyewitness testimony) in which memory turns out to be far from reliable.

# Evaluating Schema Theory



On the other hand, schema theory suffers from a number of limitations. Perhaps the most significant is the difficulty in defining exactly what a schema is. A schema is an example of a hypothesized construct, and if there is no clear consensus over what a schema is, then the concept of a schema may be too vague to be useful.