

Recap

- Repetition
- Spacing
- Recency
- Movie clips with different music
- Car commercials
- Context

Context-based explanations for...

- Practice makes perfect
- Efficacy of massed vs. spaced practice
- Recency and forgetting
- Study/test context effects

Context and repetition

- When we repeat something, we experience it in multiple contexts
- Each context is an opportunity for us to recall it
- The more opportunities, the better our chances of recall

Context and spacing

- Context changes gradually
- The more time we wait, the more context changes
- The more different two memories' contexts, the more distinct opportunities for recall

Recency and forgetting

- Context changes gradually over time
- Our mental context “now” tends to be more similar to our mental context in the recent (vs. distant) past

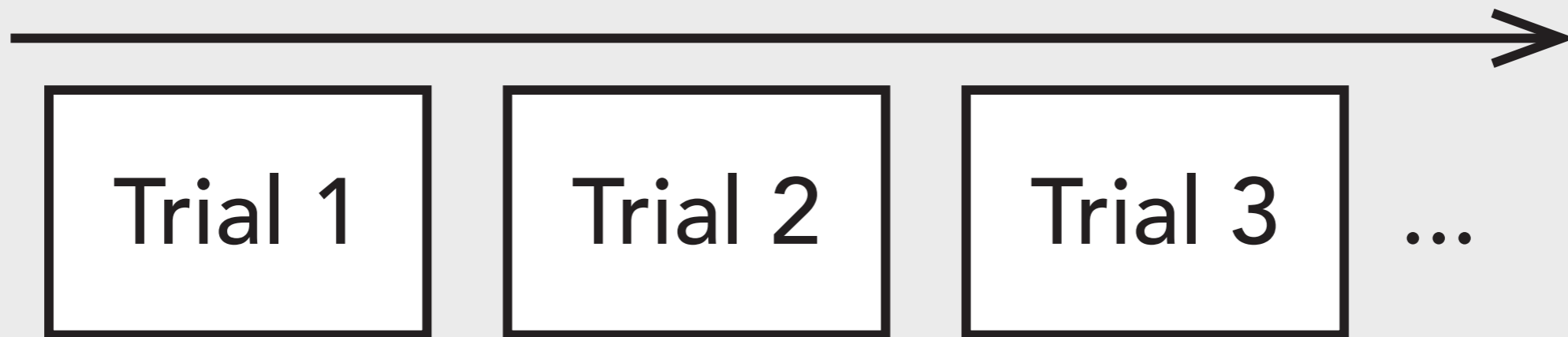
Study/test context

- Studying something in a particular contexts builds associations between what is studied and the context it's studied in
- Re-visiting that context later re-activates thoughts about that context any anything associated with it


Real-world implications

- How might you overcome study/test context effects?
- How might you intentionally influence your mood?
- How might you intentionally forget something?

The (usual) way things are done





The background is a faded, artistic still life. On the left, a melting pocket watch is visible, with its hands and numbers distorted. In the center, a hand holds a fish. On the right, there are some crumpled papers or fabric. The overall color palette is muted, with a mix of browns, greys, and soft colors.

Recognition memory & strength theory

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Chapter 2

- Focus: **item recognition**. (But these ideas also apply to real-world recognition.)
- Two components to studying recognition memory:
 - New types of **analyses** to quantify people's memories
 - Our first **memory models**: little machines that take in lists as input and produce memory behaviors as output. (How might we evaluate them?)

Examples of stimuli (items)

CAT





Item recognition

- There are many ways to test people's memory
 - Forced choice
 - Yes/No

Which did you see?



Did you see this?



Different responses

		What you SAY	
		"yes" (it is old)	"no" (it is new)
What it IS	Target (old)	HIT	MISS
	Lure (new)	FALSE ALARM	CORRECT REJECTION



Let's build a model:

Strength theory

- Each memory (of an item) has a single number associated with it (one memory = one number)
- The number represents the degree to which that item evokes a sense of **familiarity**

Let's build a model:

Strength theory

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Spanish words learned

3858 Words

Word	Part of speech	Last practiced ▾	Strength
contenta	Adjective	11 hours ago	
enojada	Adjective	11 hours ago	
beber	Verb	11 hours ago	
la	Determiner	11 hours ago	
quién	Pronoun	11 hours ago	
francés	Noun	11 hours ago	
siempre	Adverb	11 hours ago	
y	Conjunction	11 hours ago	
tu	Pronoun	11 hours ago	
el	Determiner	11 hours ago	

Spaced repetition

Duolingo's algorithms figure out when you should practice words to get them into your long-term memory.

- Still strong
- Pretty good
- Time to practice
- Overdue

Let's build a model:

Strength theory

- Something to consider: we (memory theorists) made up the idea of memory strength...is it useful?
- We cannot observe strength (it's a theoretical concept)
- We can't measure the strength of an item
- But let's play a logic game: **if strength theory is true, what are the consequences?**
- Where do we start?

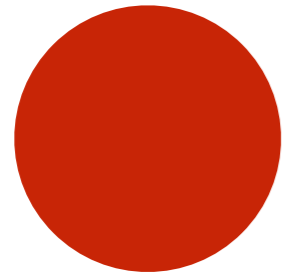
Let's build a model:

Strength theory

- The participant studied a list of words
- The word list comes from some larger word pool
- Each word is *already* familiar to the participant (to some extent), which means each one already has a corresponding memory (and a corresponding strength value)

Let's build a model:

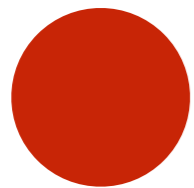
Strength theory



CAT – strong! (STRENGTH = 15)



ALABASTER – weak! (STRENGTH = 4)



VACUUM – middle (STRENGTH = 10)