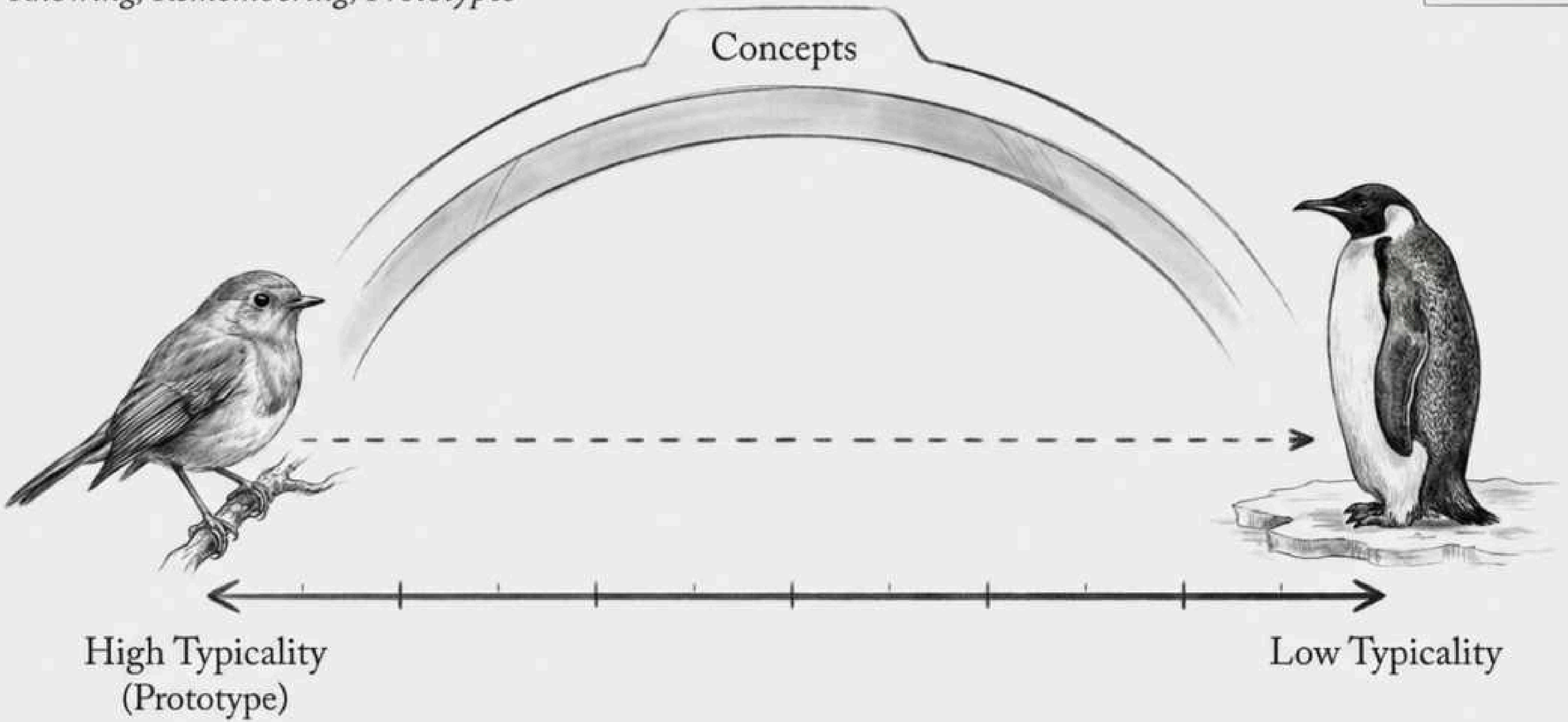
Cognition & Concepts

Knowing, Remembering, Prototypes

4.1



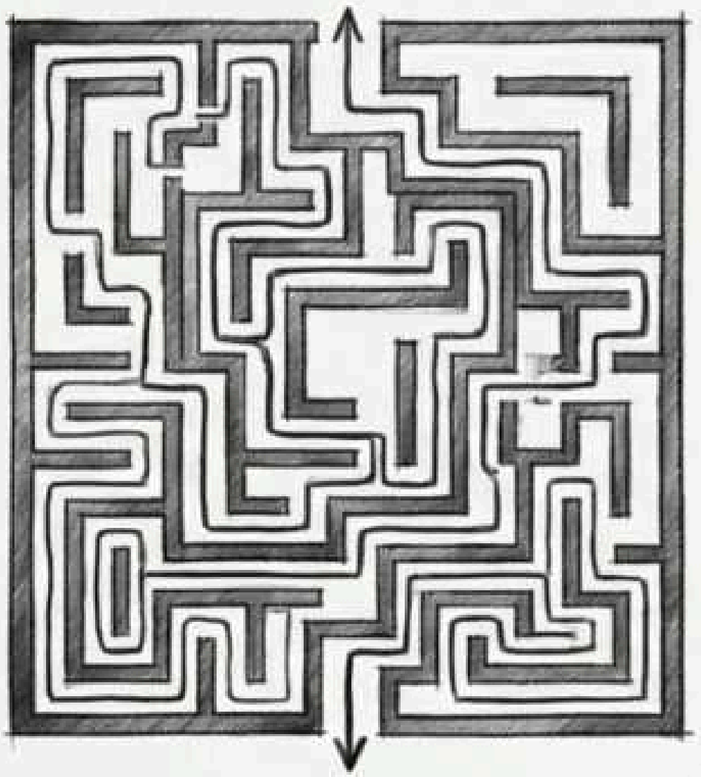
Gemini Notebook

4.2

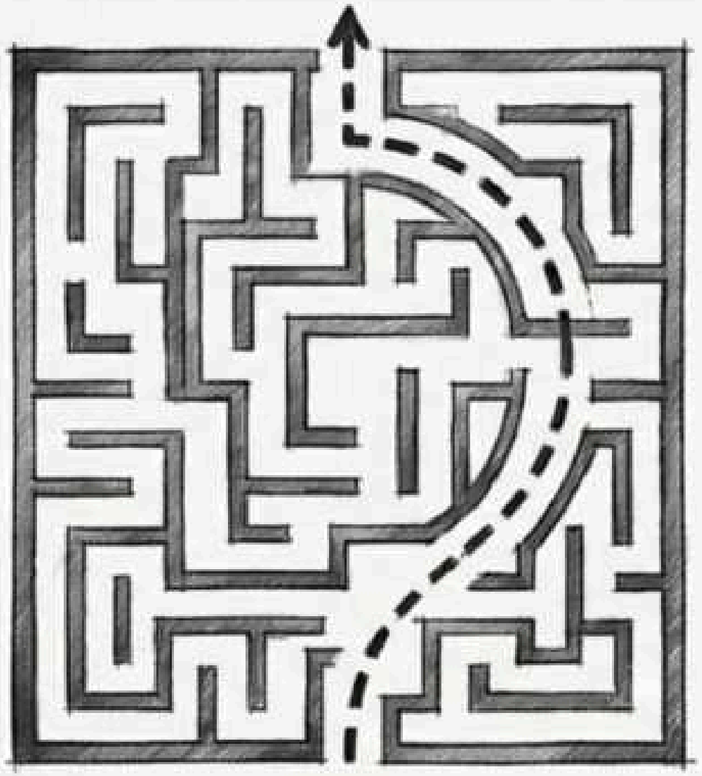
Problem Solving Methods

Algorithms, Heuristics, Insight

Algorithm



Heuristic



Insight

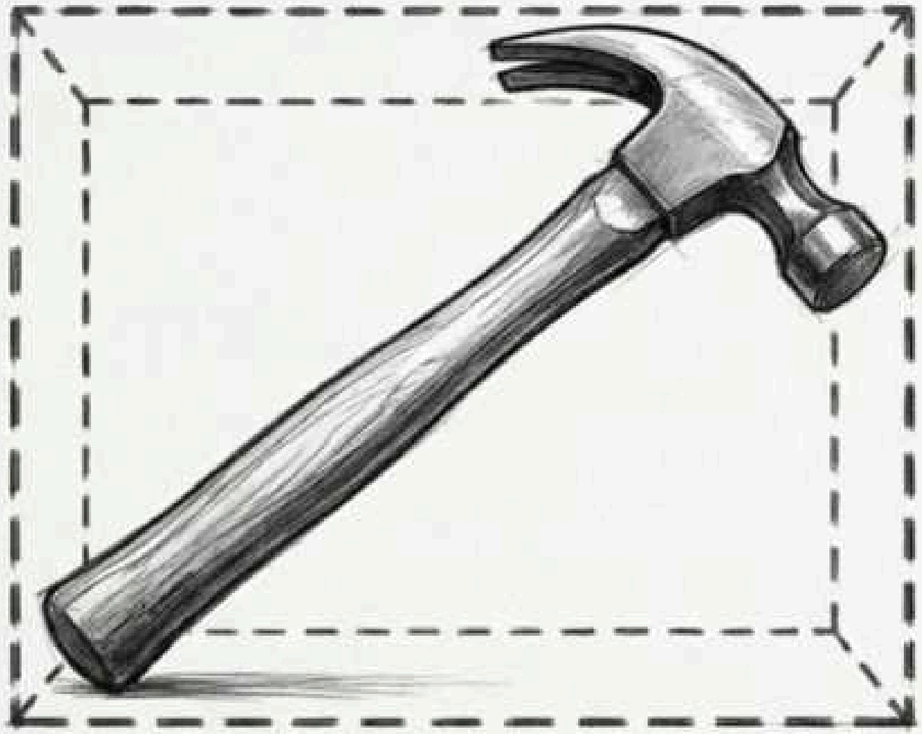


Gemini Notebook

4.3

Thinking Blind Spots

Functional Fixedness, Availability Heuristic



Functional Fixedness



Gemini Notebook

4.4

Judgement Traps

Representativeness, Framing

Representativeness



Judging by stereotype

Framing

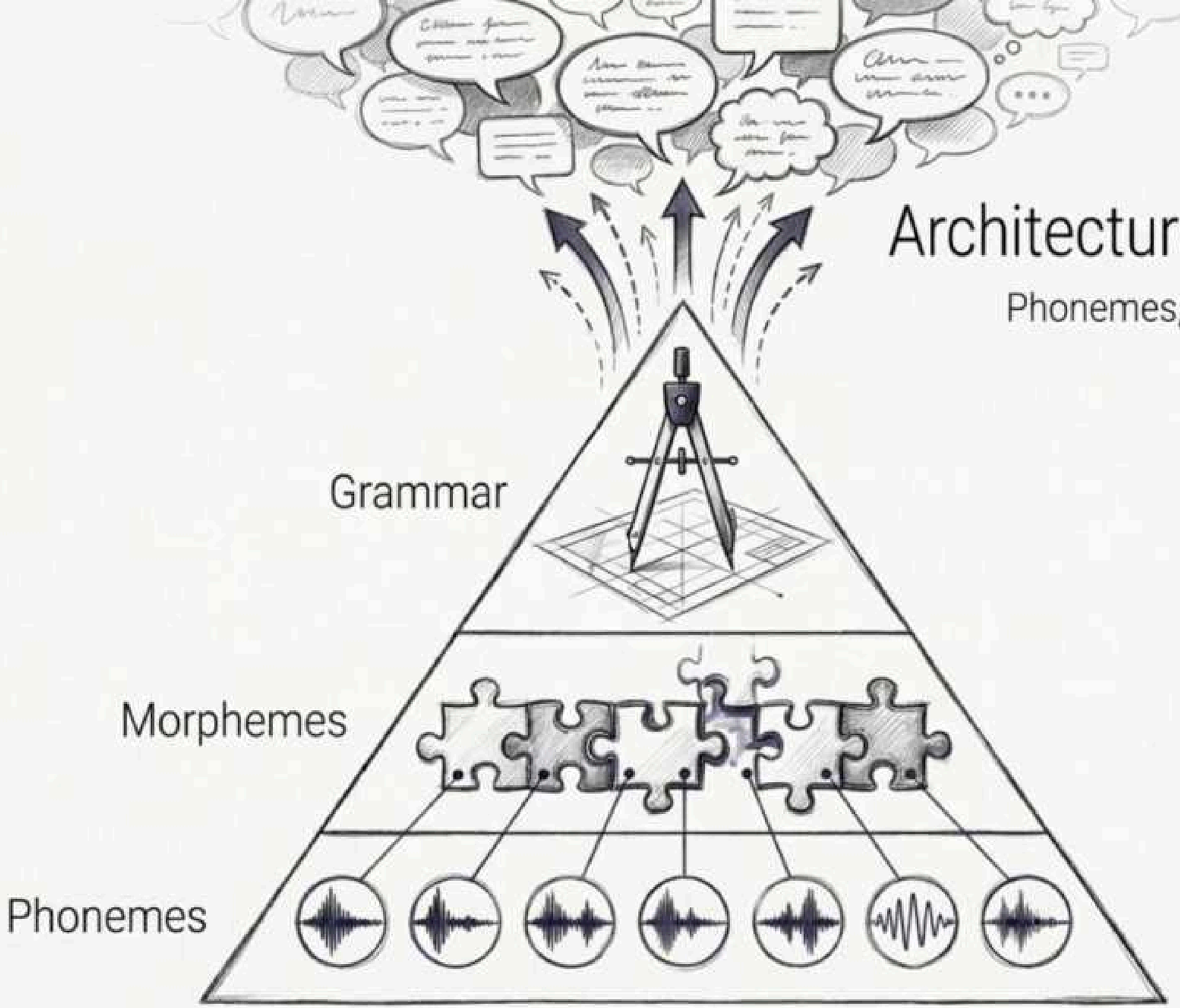


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4.5

Architecture of Language

Phonemes, Morphemes, Grammar

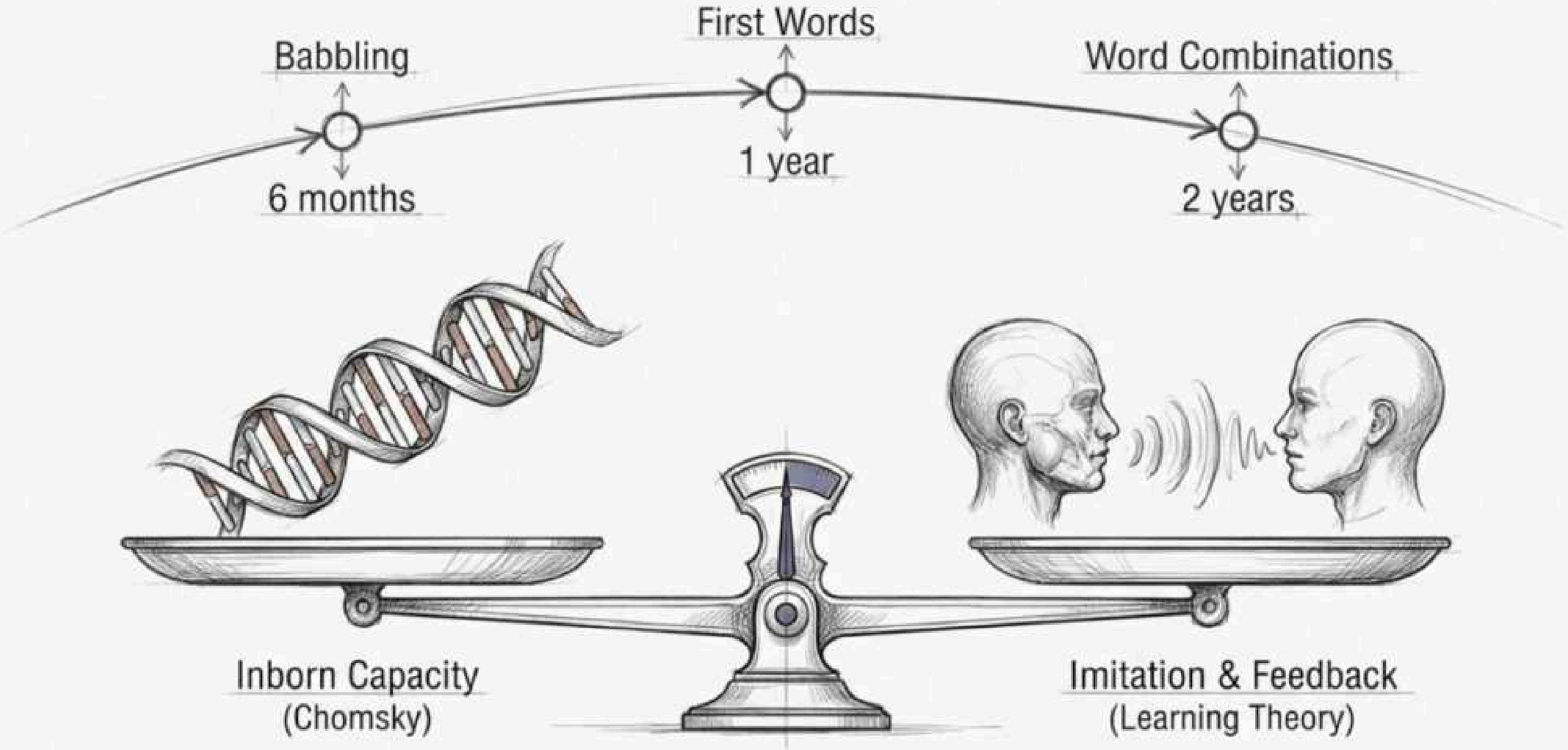


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Language Acquisition

Timeline, Nature vs. Nurture

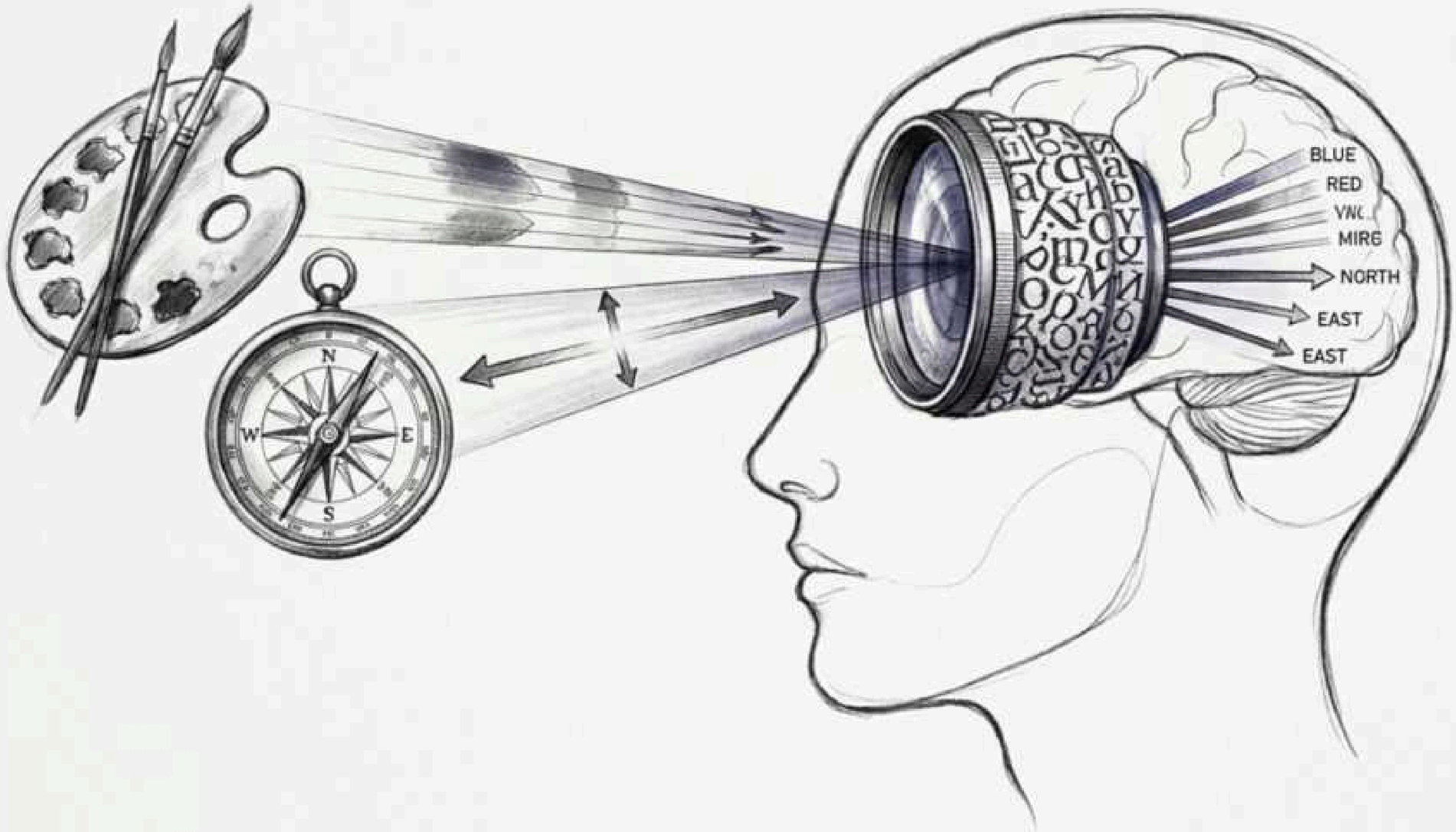
4.6



Gemini Notebook

Linguistic Relativity

Language Influencing Thought, Notice, Remember

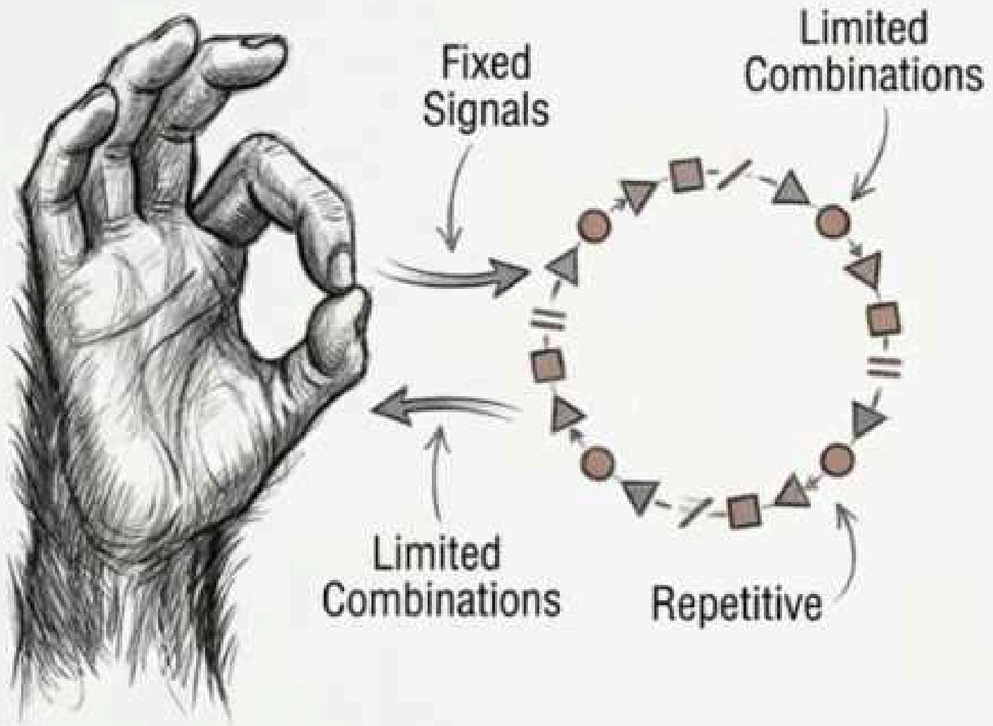


Gemini Notebook

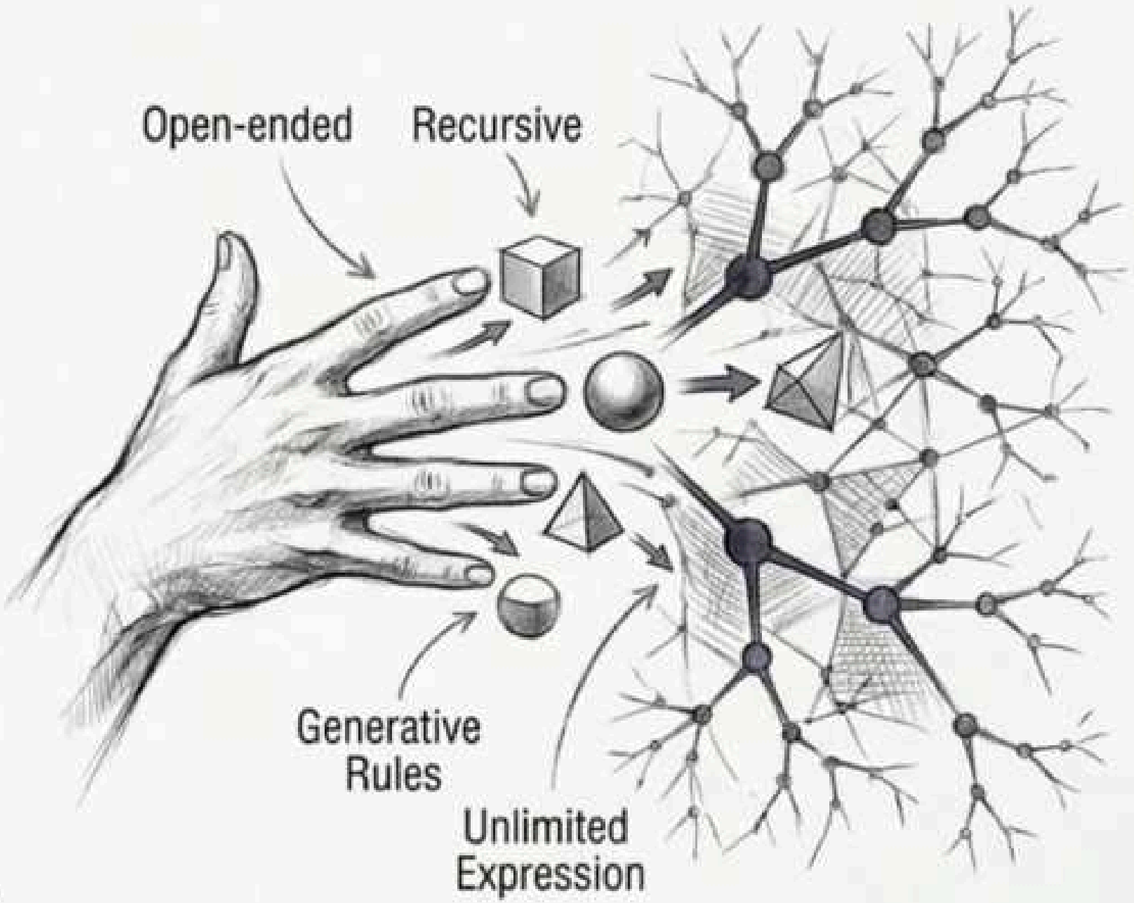
Animal vs. Human Communication

Vocabulary, Grammar, Infinite Meanings

Finite Loop (Limited Grammar)



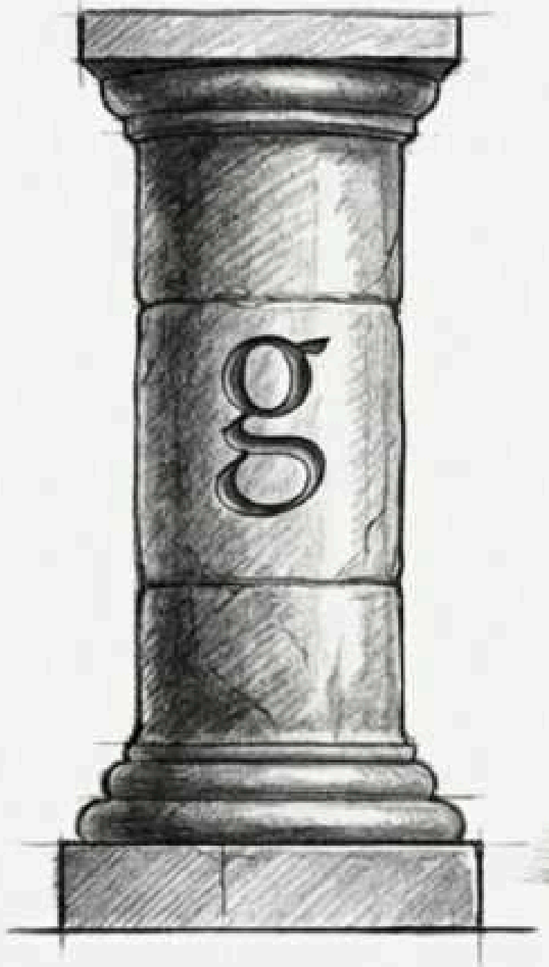
Infinite Generative Meanings



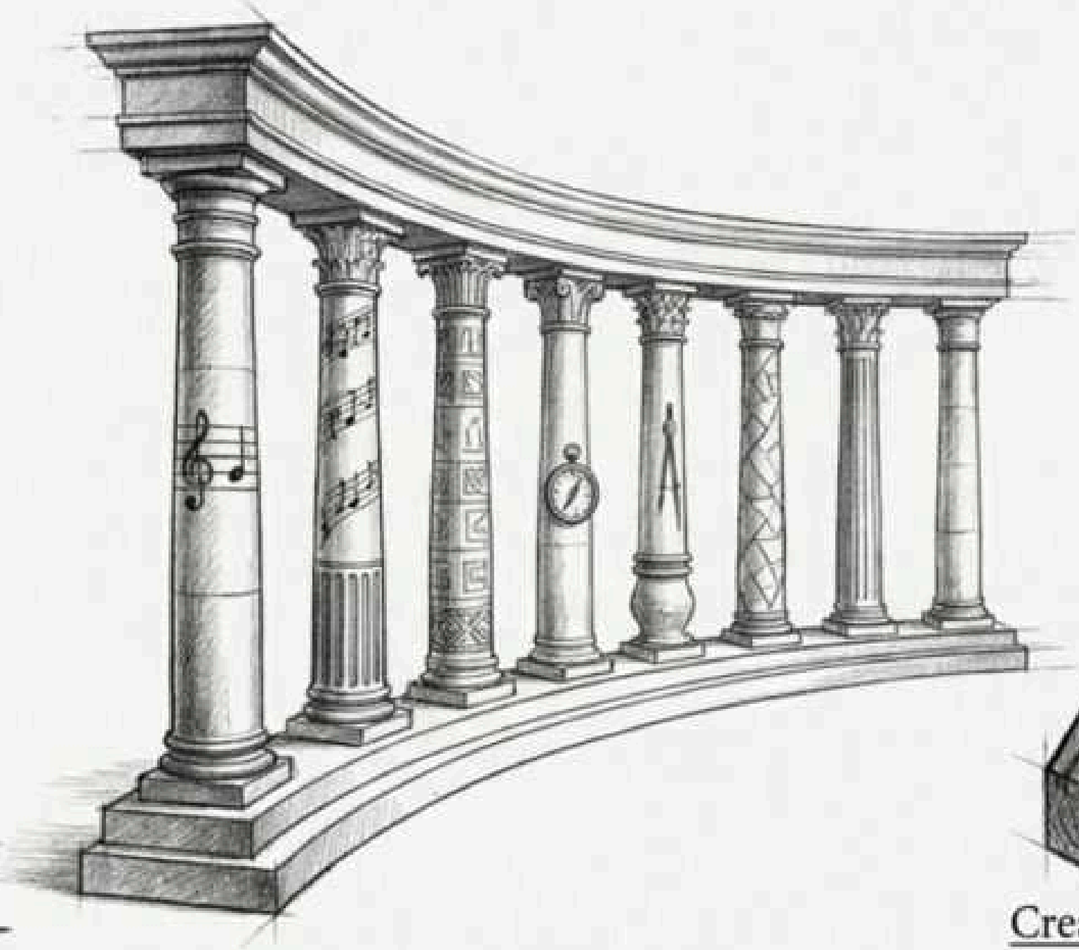
Gemini Notebook

Theories of Intelligence

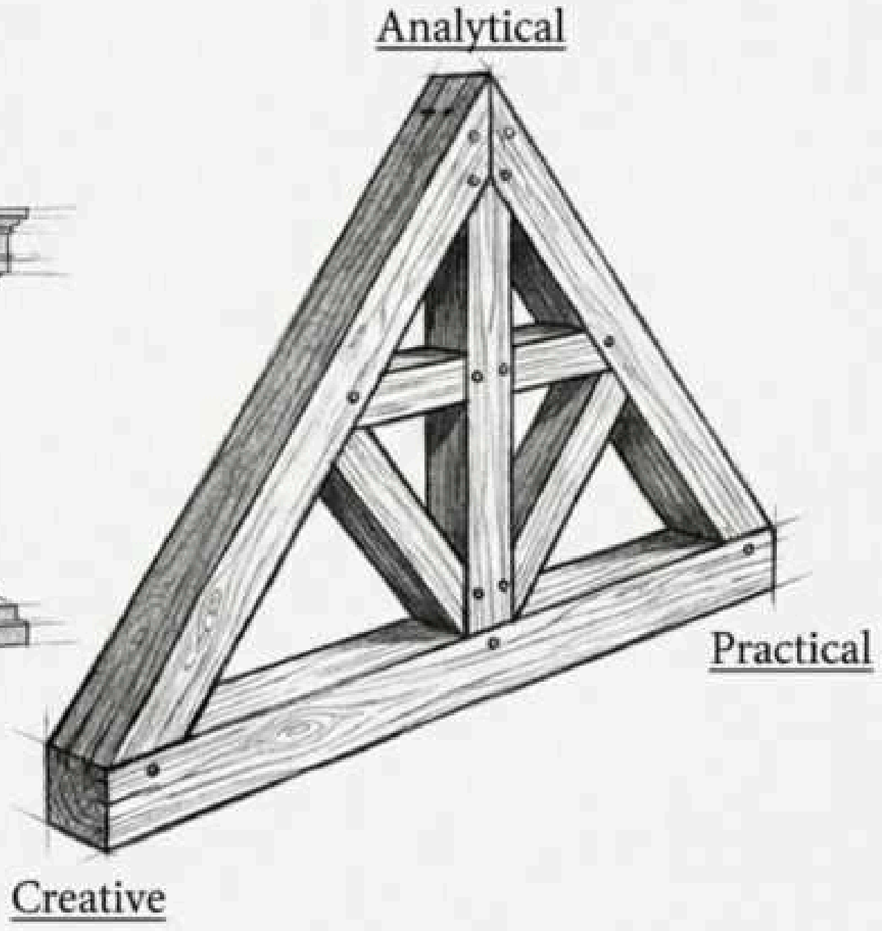
General (g), Multiple, Triarchic



Spearman: General Intelligence



Gardner: Multiple Intelligences



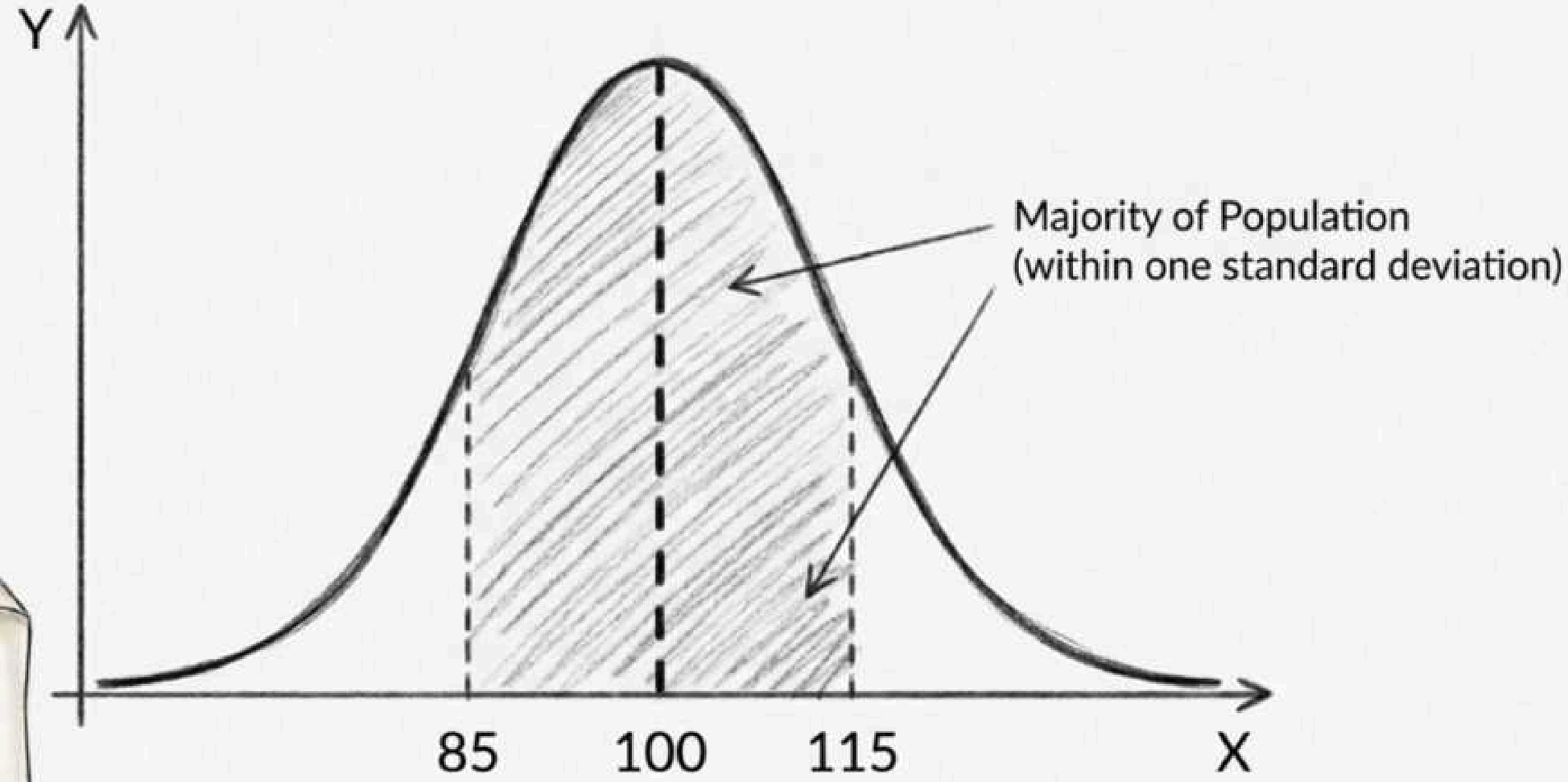
Sternberg: Triarchic

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Intelligence Testing

Binet, Standardization, Bell Curve

4.10

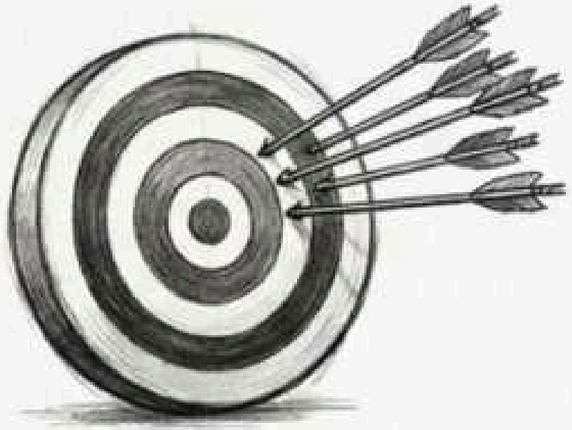


Origins:
Alfred Binet, early 1900s French schools.

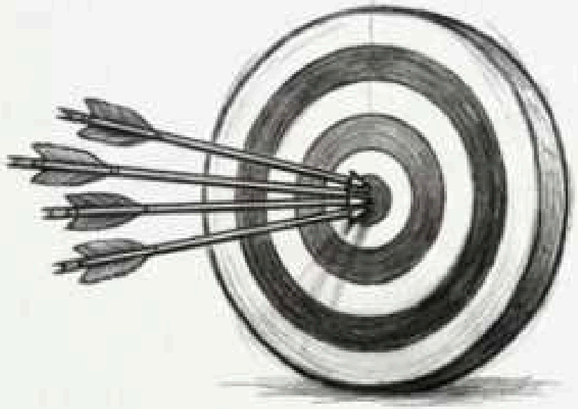
Gemini Notebook

Test Quality & Evolution

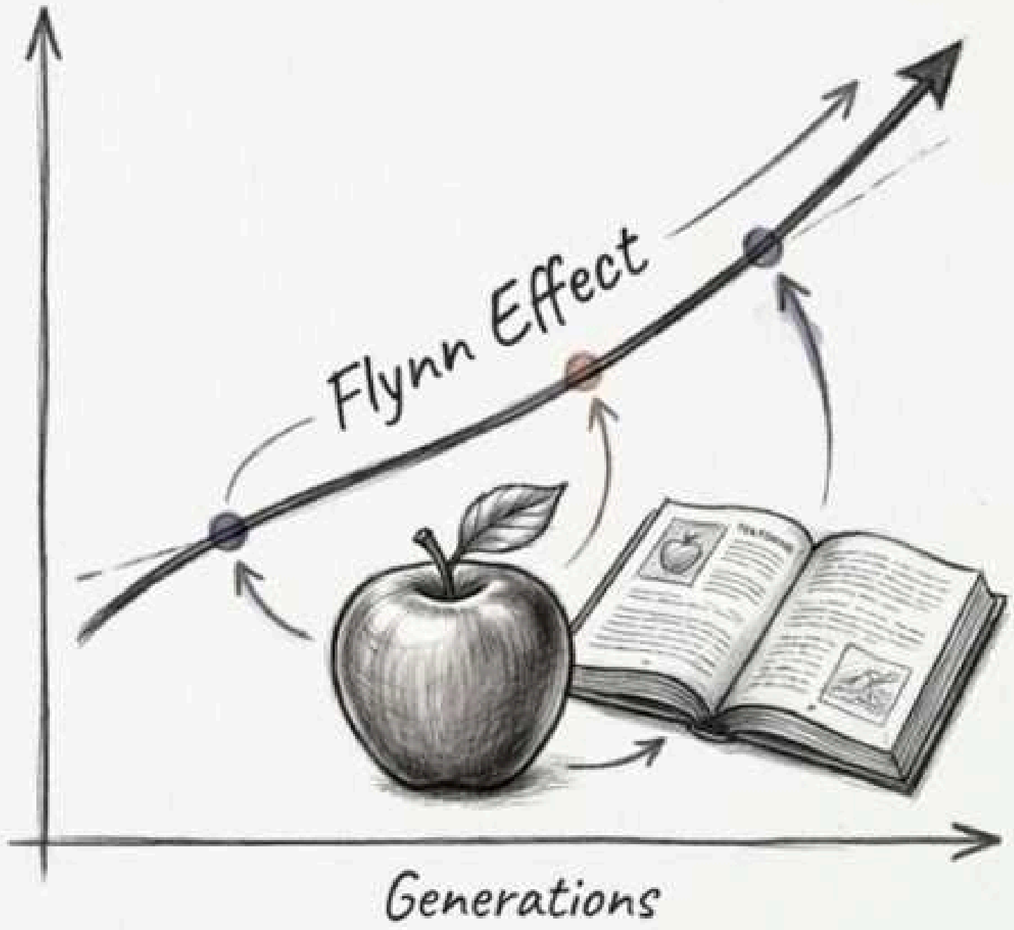
Reliability, Validity, Flynn Effect



Reliable but Invalid



Reliable and Valid

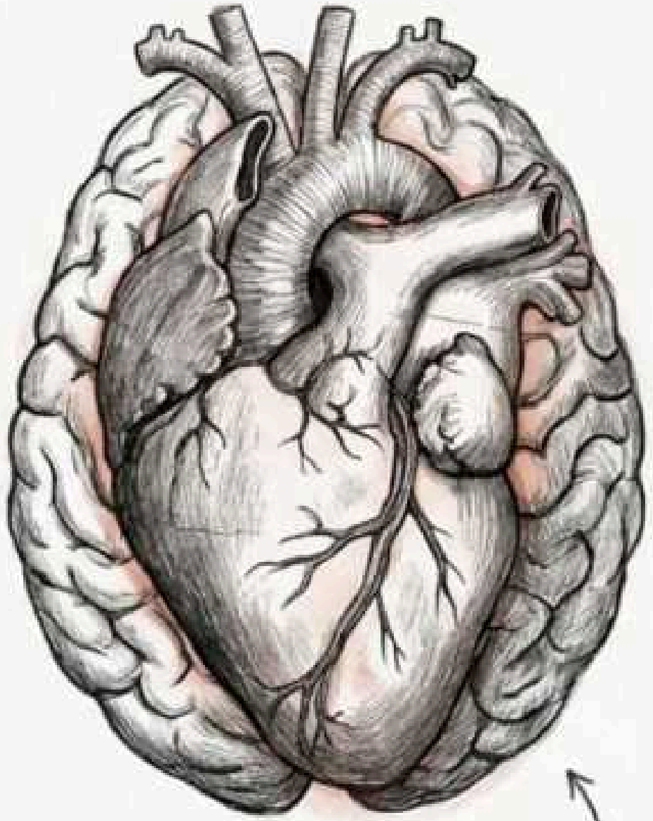


Gemini Notebook

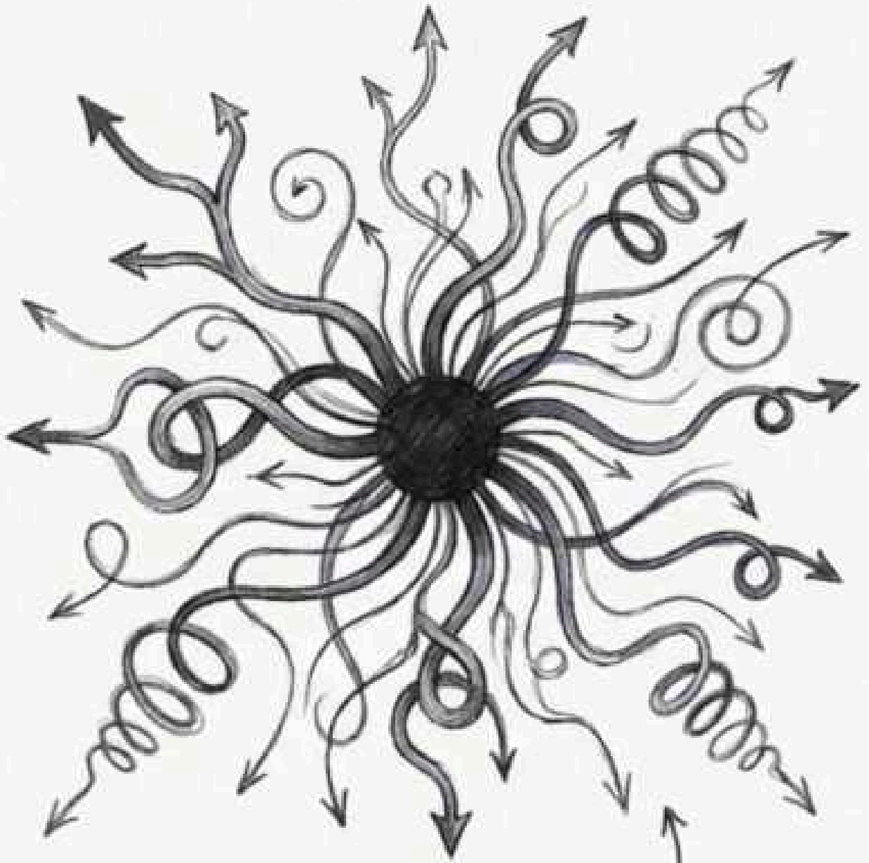
Expanding Intelligence

Emotional Intelligence, Divergent Thinking

4.12



Emotional Intelligence
(Understanding & Managing)

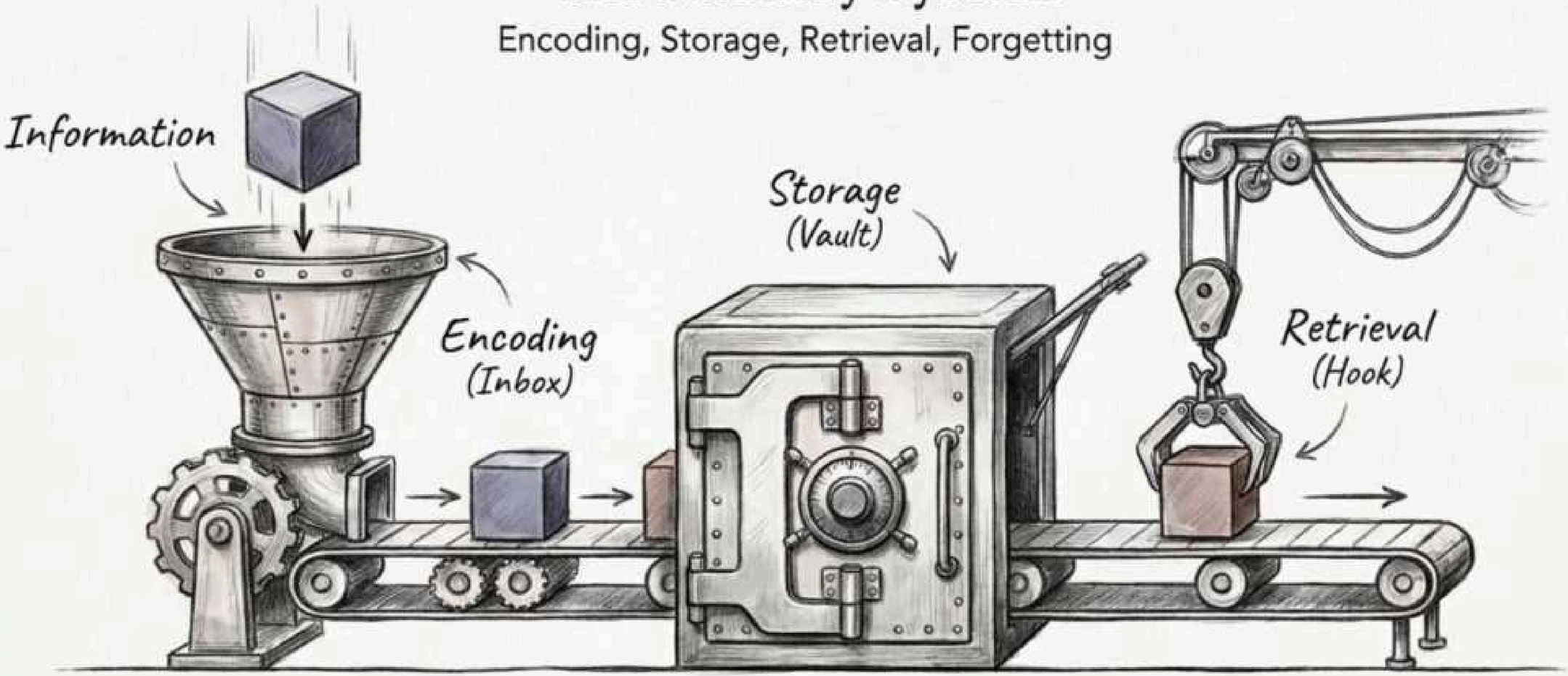


Divergent Thinking
(Creativity)

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The Memory System

Encoding, Storage, Retrieval, Forgetting



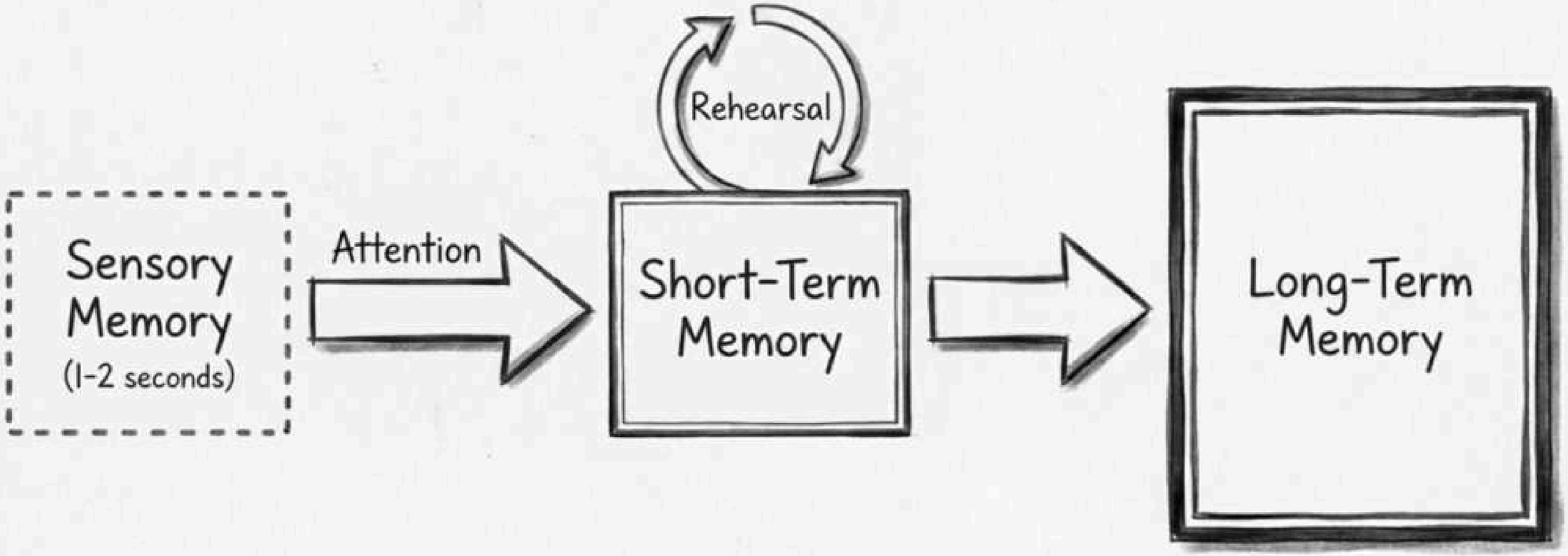
Forgetting can happen at any stage

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4.14

Atkinson-Shiffrin Model

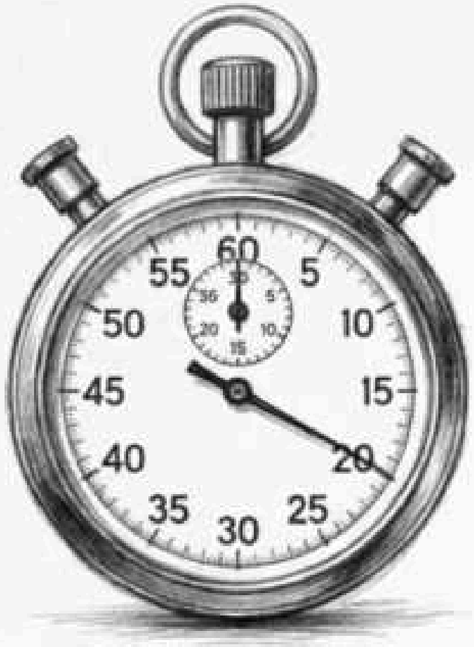
Sensory, Short-term, Long-term



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Short-Term Limits

7 ± 2 Items, 20 Seconds, Chunking



7 ± 2

0 7 7 0 0 9 0 0 4 6

[0 7 7 0 0] [9 0 0] [4 6]

Chunking

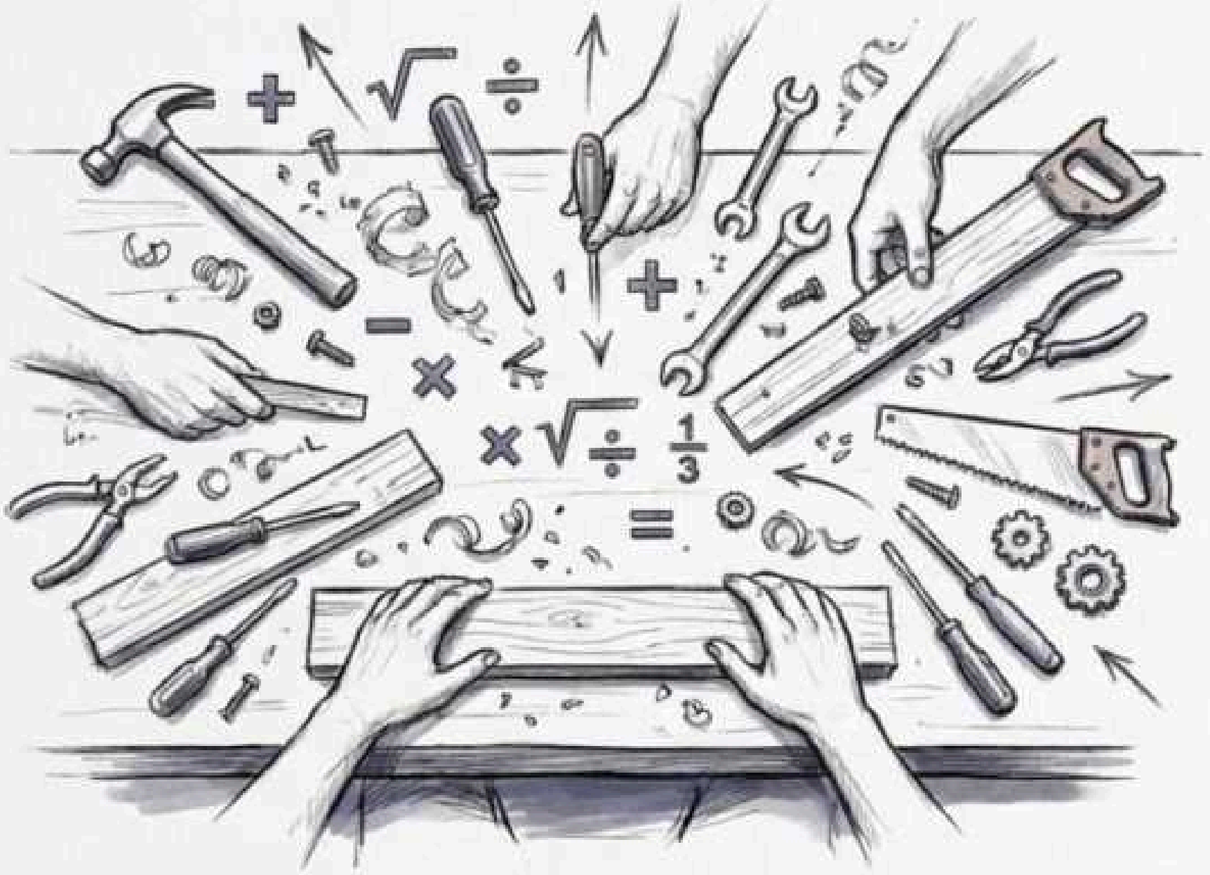
(Grouping into meaningful units)

Gemini Notebook

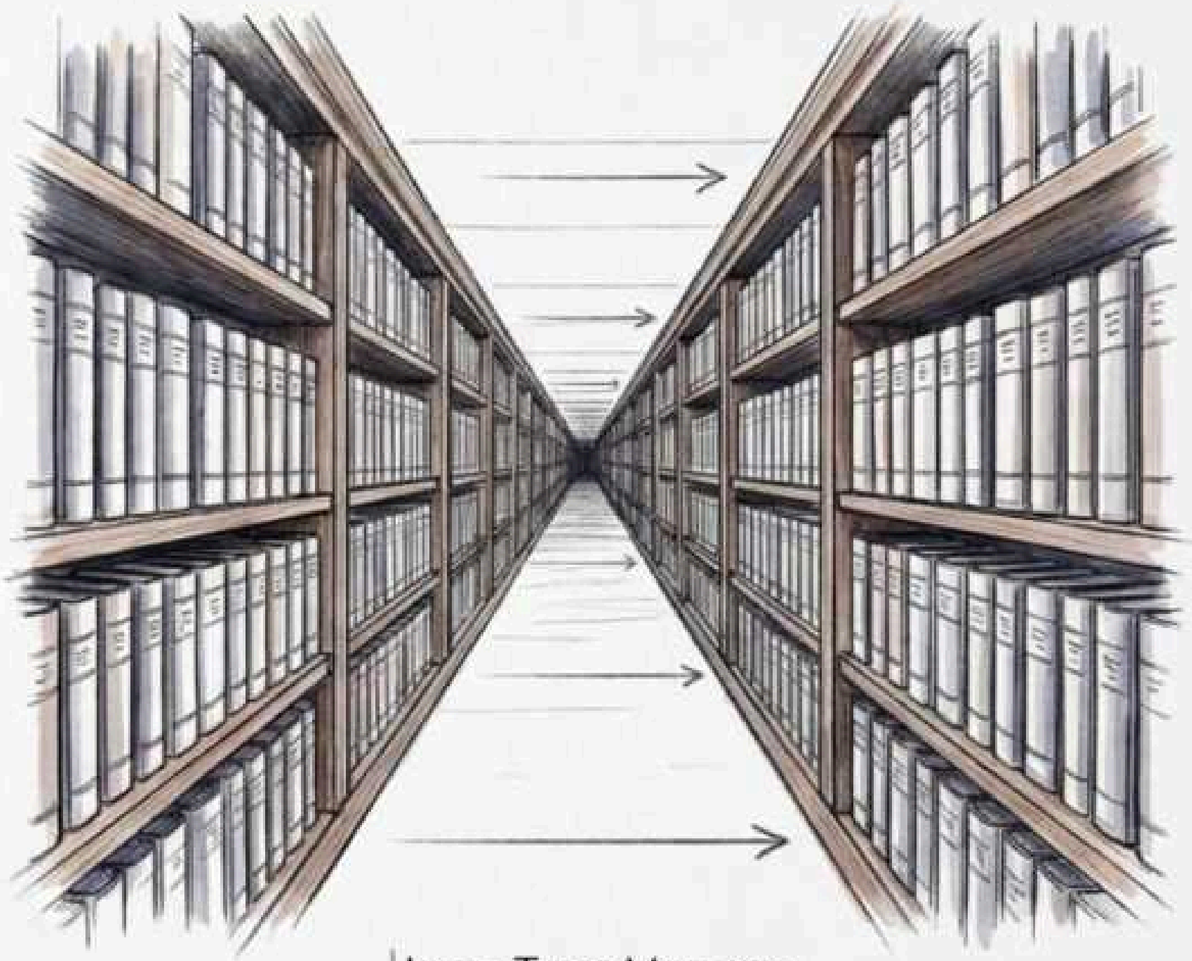
4.16

Working vs. Long-Term Memory

Active Workspace, Limitless Archive



Working Memory
(Active Workspace)



Long-Term Memory
(Limitless Archive)

Gemini Notebook

Types of Long-Term Memory

Explicit (Conscious), Implicit (Behavioral)

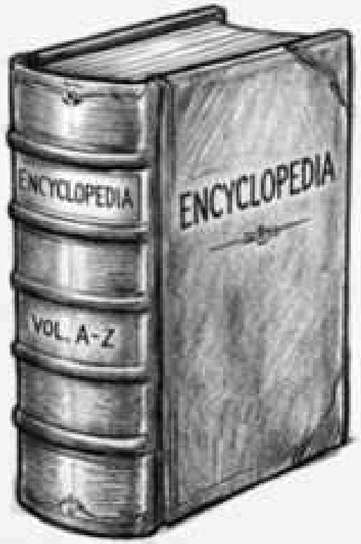
4.17

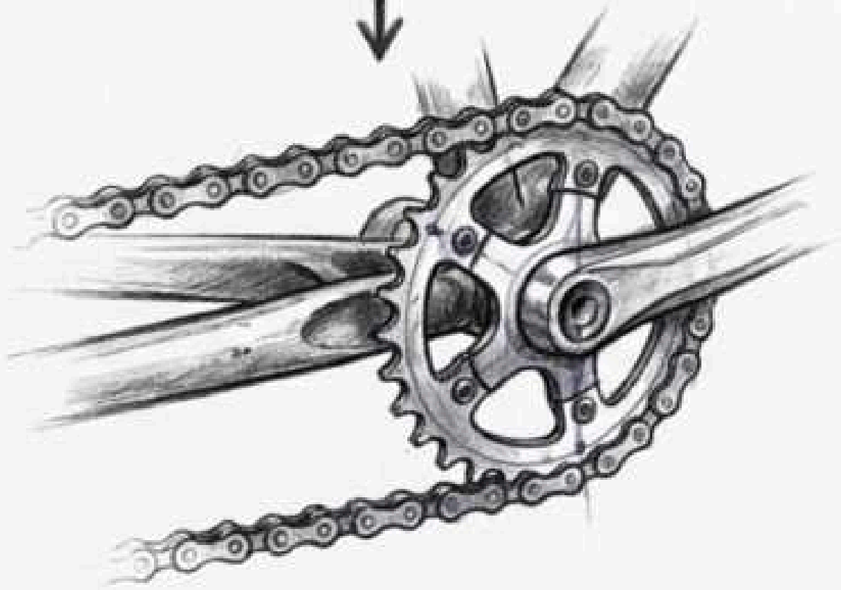
Long-Term Memory

Explicit (Conscious Recall)

Implicit (Behavior without conscious recall)







Episodic / Personal

Semantic / Facts

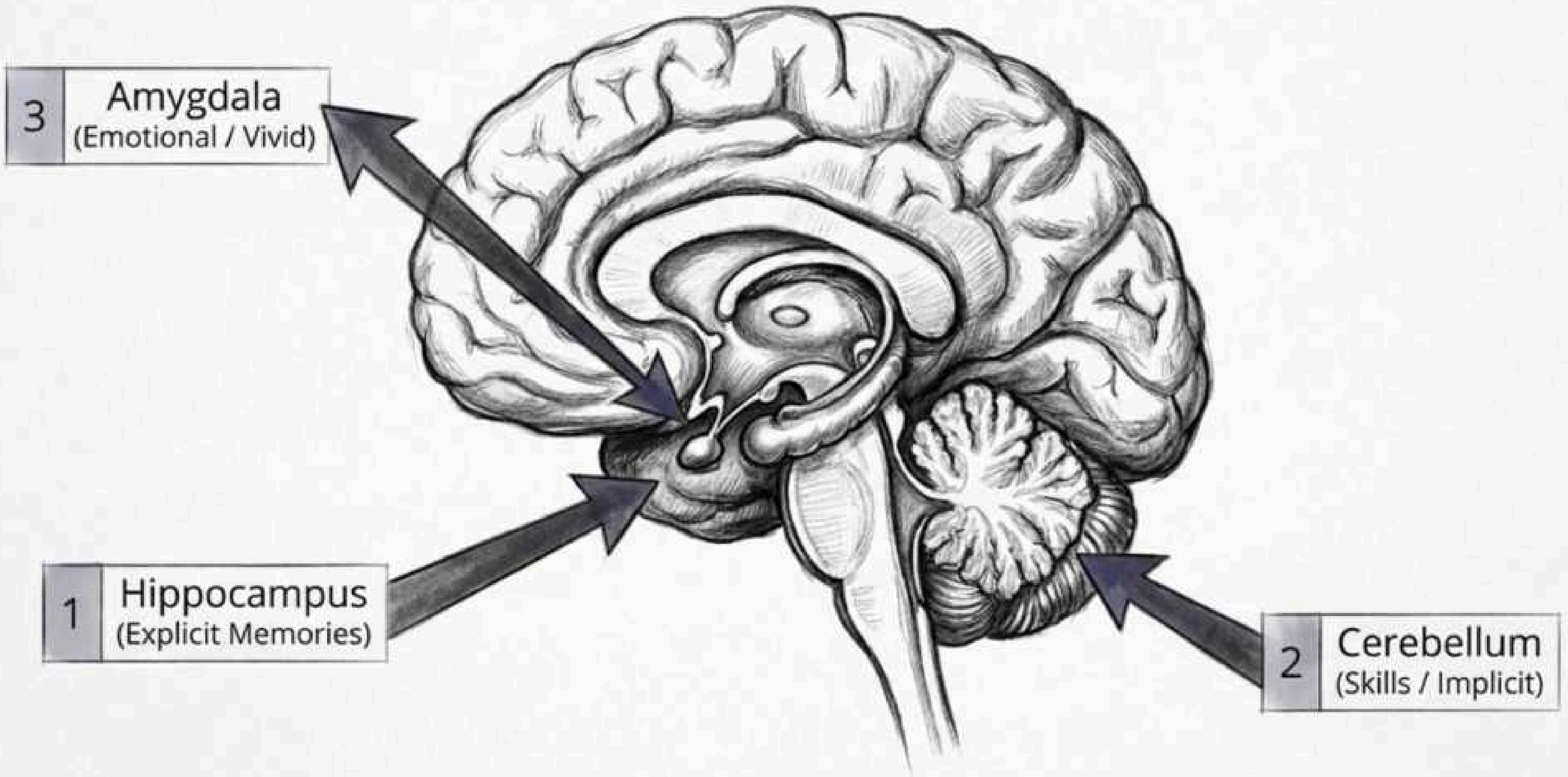
Skills & Conditioned Responses

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Brain Systems & Memory

Hippocampus, Cerebellum, Amygdala

4.18

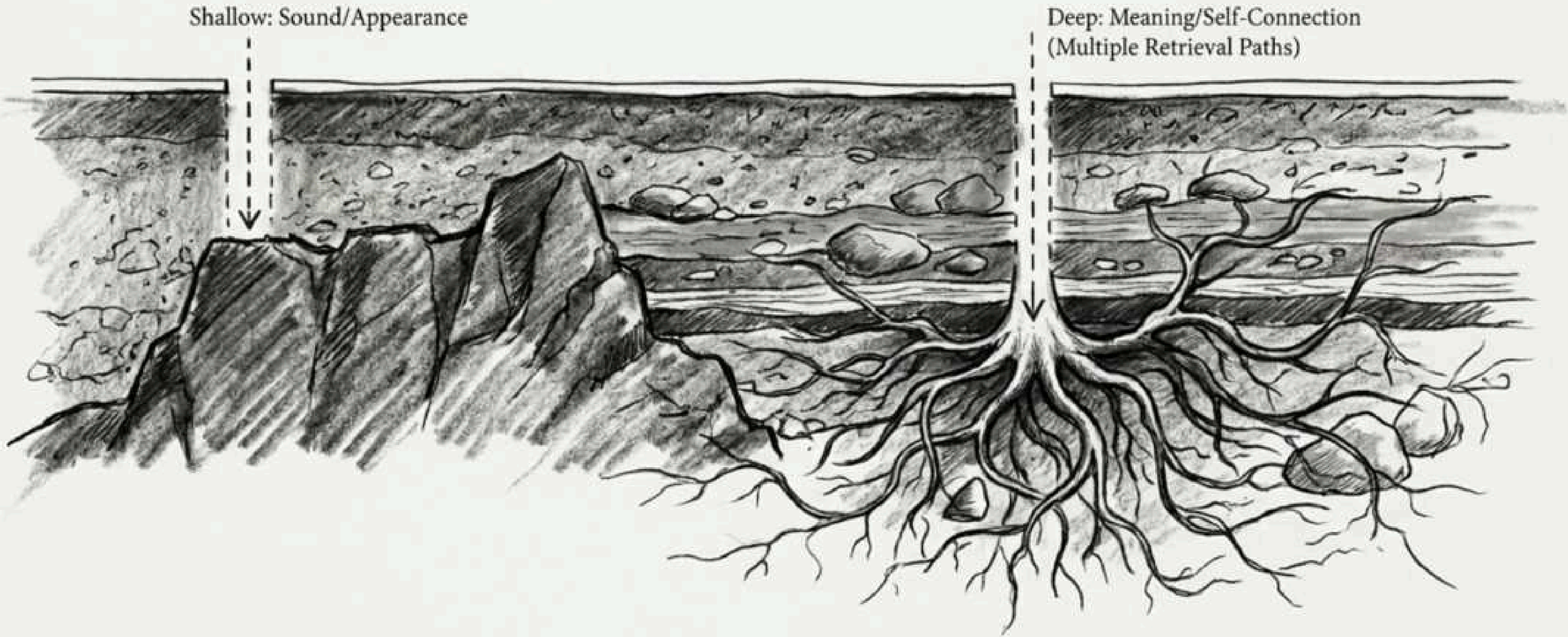


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4.19

Encoding Depth

Shallow Processing, Deep Processing

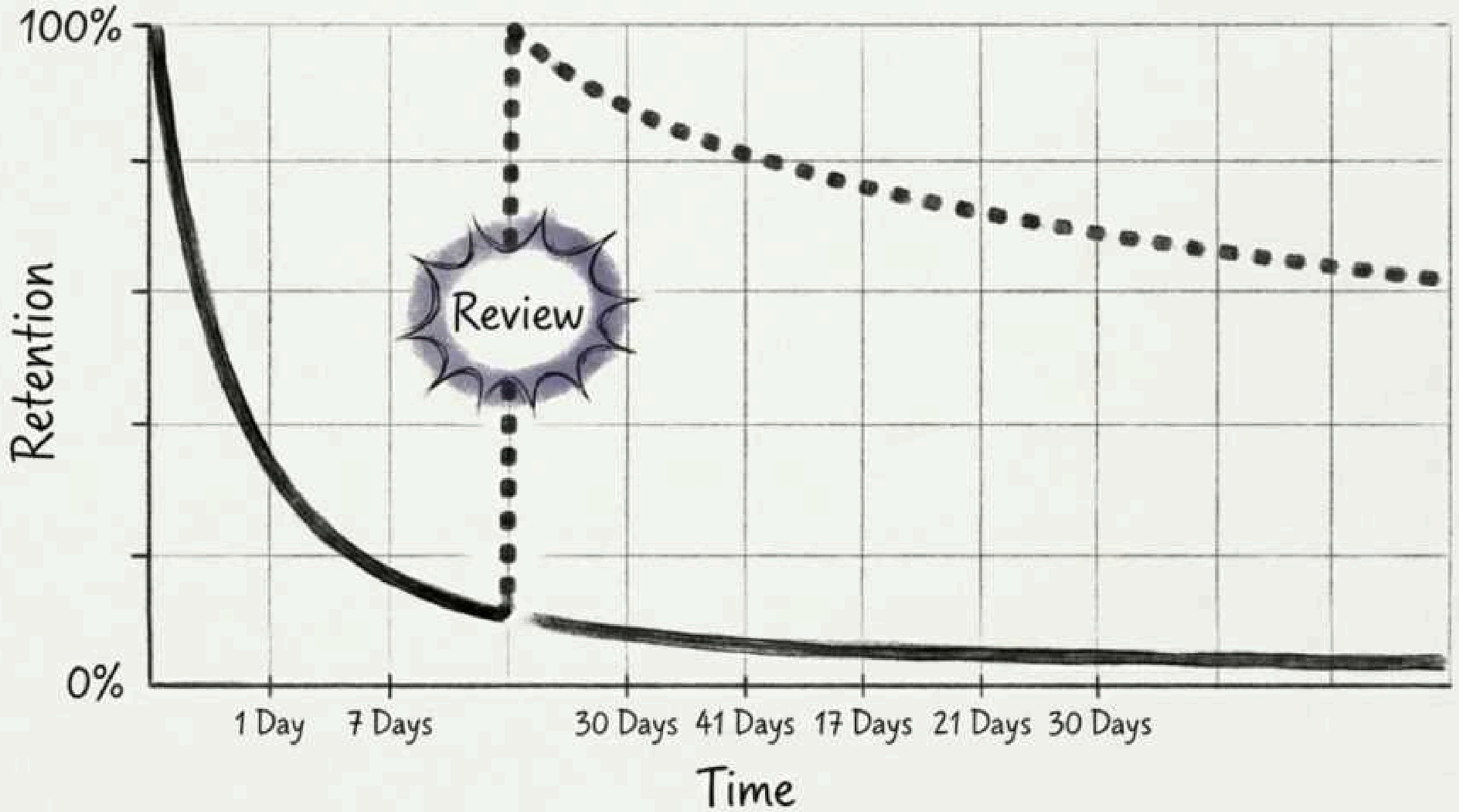


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Ebbinghaus Forgetting Curve

Rapid Drop, Leveling Off, Review

4.20



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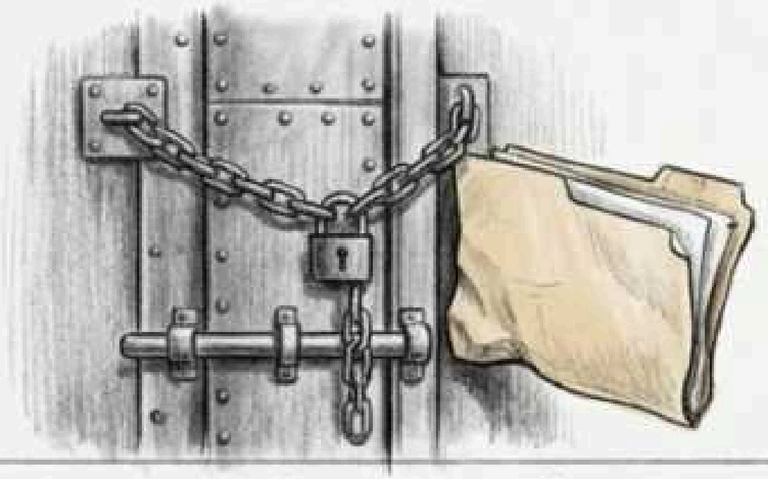
4.21

Why We Forget

Encoding Failure, Interference, Retrieval Failure

Encoding Failure, Interference, Retrieval Failure

Encoding Failure
(Never entered) →



Interference →
(Disrupted by other memories)



Retrieval Failure
(Tip-of-the-tongue) →

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4.22

Reconstructive Memory

Rebuilding, Misleading Questions, Loftus



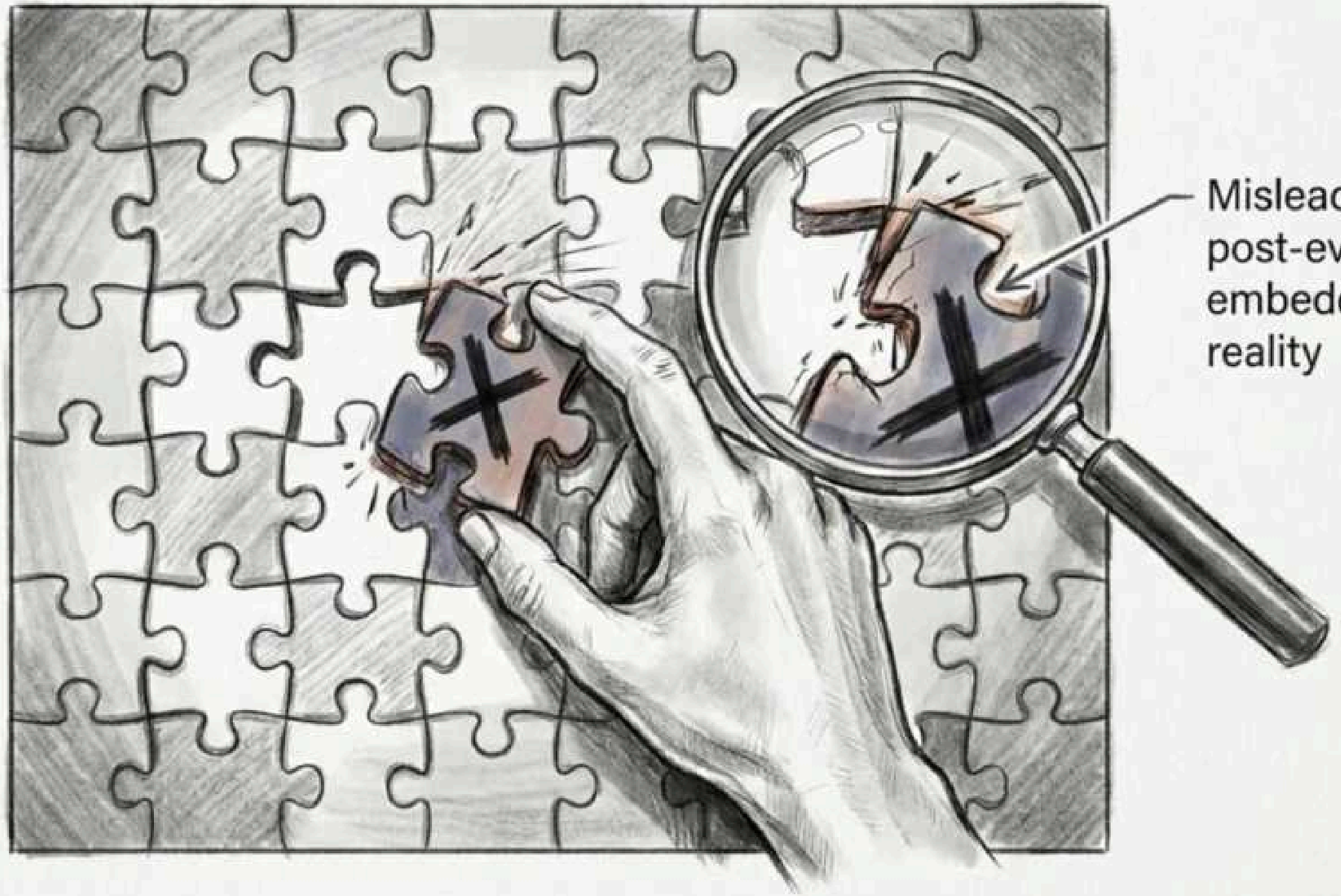
Confidence does not equal accuracy

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Memory Distortion

Misinformation Effect, False Memories

4.23



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4.24

Improving Memory

Spacing, Testing, Mnemonics, Sleep



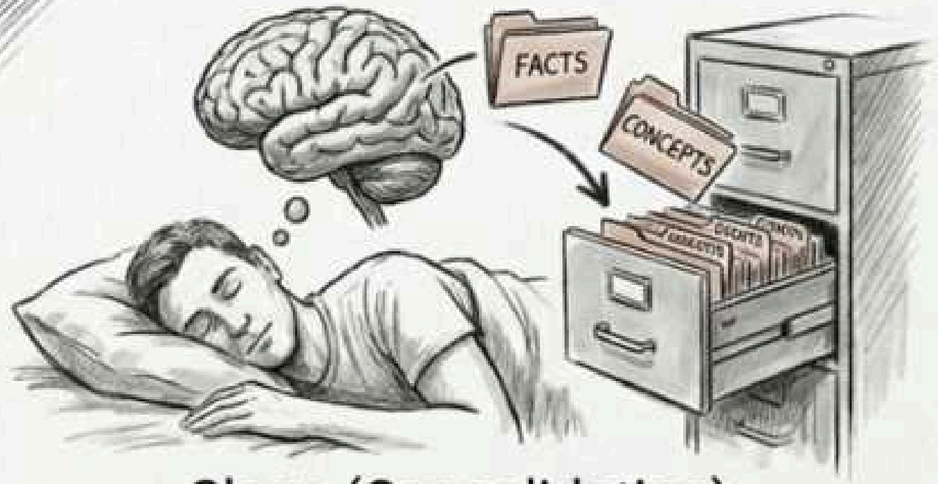
Spacing (Prevent cramming)



Testing (Over rereading)



Mnemonics (Making meaning)



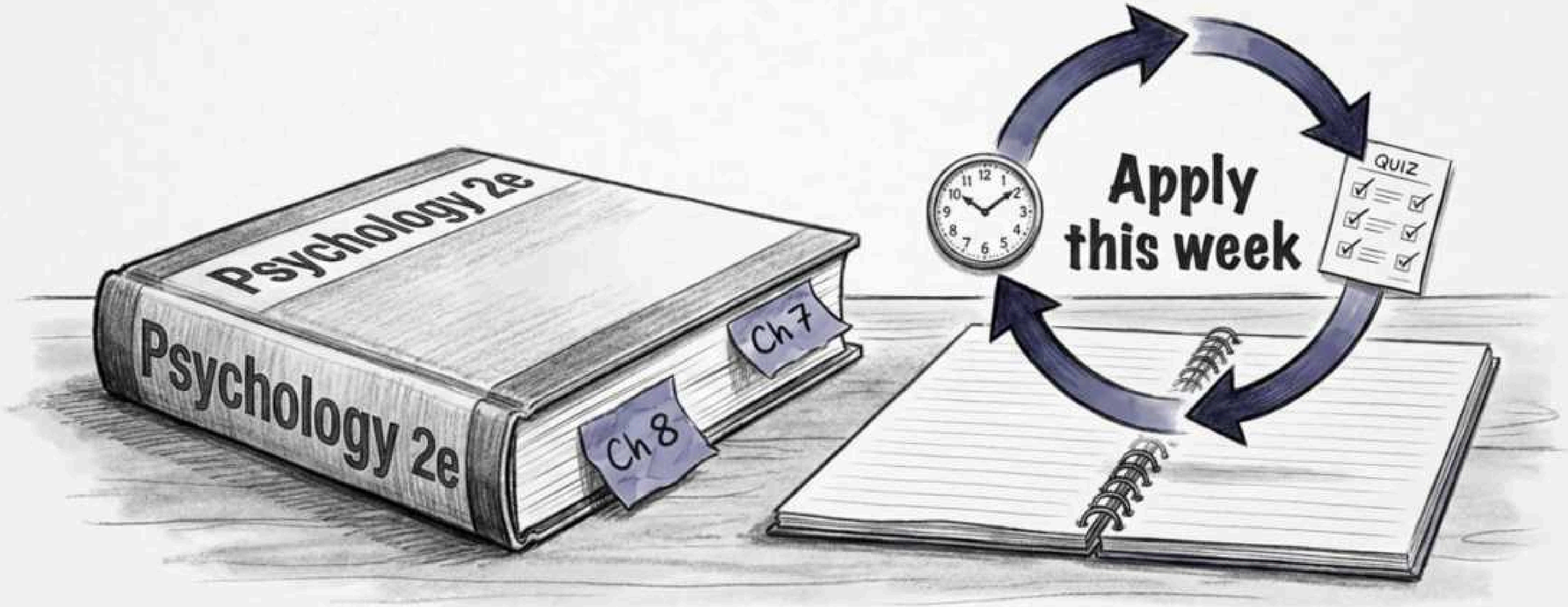
Sleep (Consolidation)

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4.25

Going Further

Spacing, Self-Testing, Psychology 2e



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