

MEMORY

PSY 101 General Psychology

Instructor: Aimee Kim

Drexel University

Retrieval

Primacy effect

Reading direction ↓

bed	wake	snore
rest	snooze	nap
awake	blanket	peace
tired	doze	yawn
dream	slumber	drowsy

Recency effect

"Sleep" is not
in the list

↓
False memory

Retrieval

Problems with our memory

- Source amnesia

- Déjà vu

- Quality of encoding

- repeated retrieval and memory revisions

- Retroactive interference

- Proactive interference

COGNITION I

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What is cognition?

Mental activities

Mental process;

Memory

Thinking

Knowing

Awareness

Implicit cognition

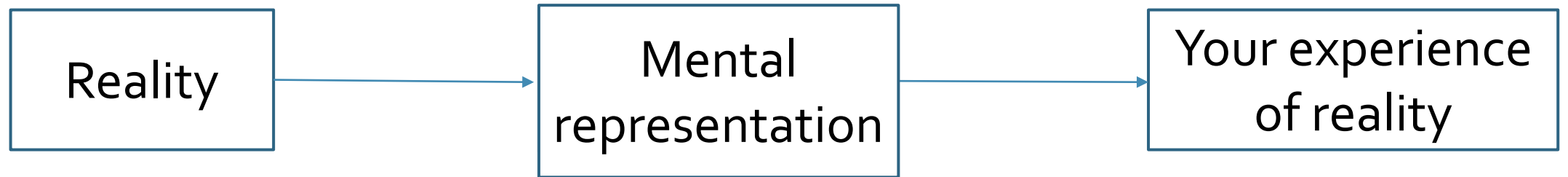
Critical thinking

Coordination of thoughts

Thinking about thinking

and the list goes on...

Mental content/object



Mental representation

to experience external reality

for things that are not picked up by 5 senses

- nonexistent
- intangibles
- product of mental processes

an internal cognitive symbol

Knowledge

- ▶ Awareness of or familiarity with objects, events, ideas, ways of doing things, etc.
- ▶ We experience awareness or familiarity because we hold a collection of information or mental representations.



How do we recognize something represented with a concept?

We categorize or put them in appropriate category.

Concepts







- Concepts help to sort information about our world, decreasing the amount of information to be processed
- Concepts allow us to make predictions.
- Concepts serve a communication purpose

Categorization



Criteria approach

Presence of defining features

				Object 4	Object 2	Object 3
Fruit						
Edible	O	O	O	O	O	O
Plant	O	O	O	O	O	X
Sweet	O	O	O	O	O	O
Seeds inside	O	O	O	O	X	X

Problems with criteria/definitional approach

Does not explain how we consider an object to be a member when criteria are not satisfied.



Not sensitive to variations of objects in a given category

Prototype approach

Prototype: average model that represents a category

Membership is determined by the distance to a given prototype

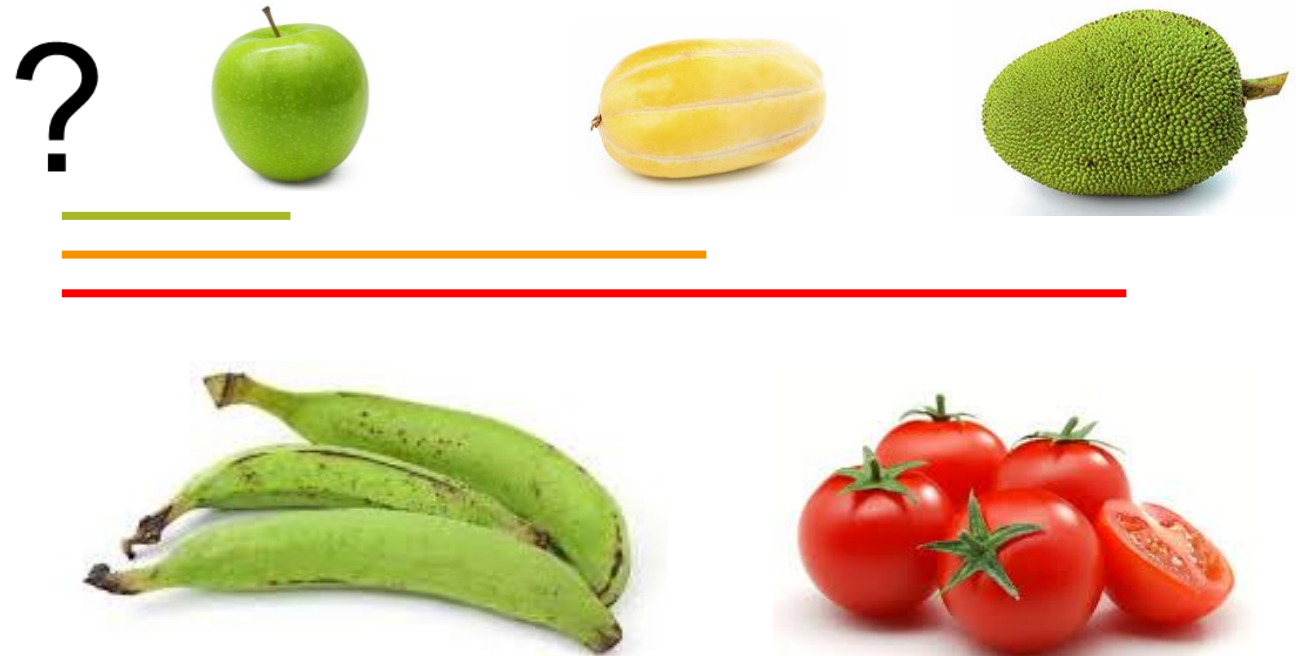
Prototypicality:

- Family resemblance

- Faster verification

- Earlier retrieval

- Stronger priming effect



Problem with prototype approach

Doesn't explain atypical membership

Fuzzy boundaries between concepts/categories



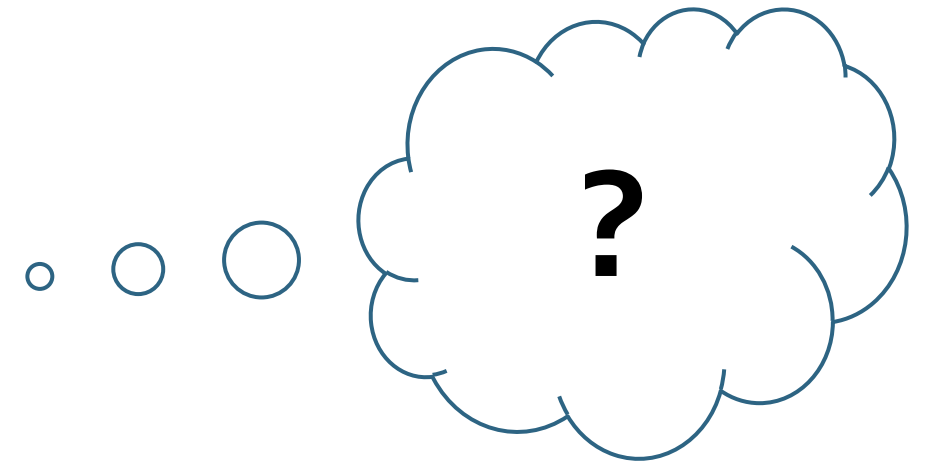
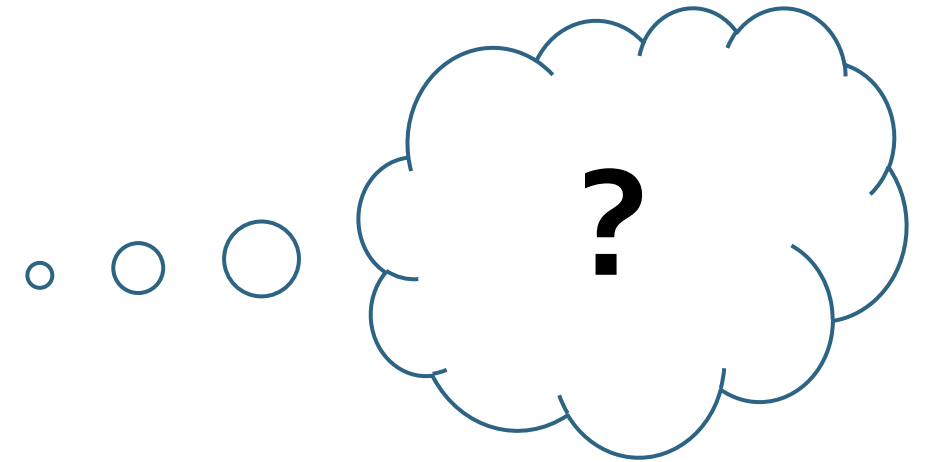
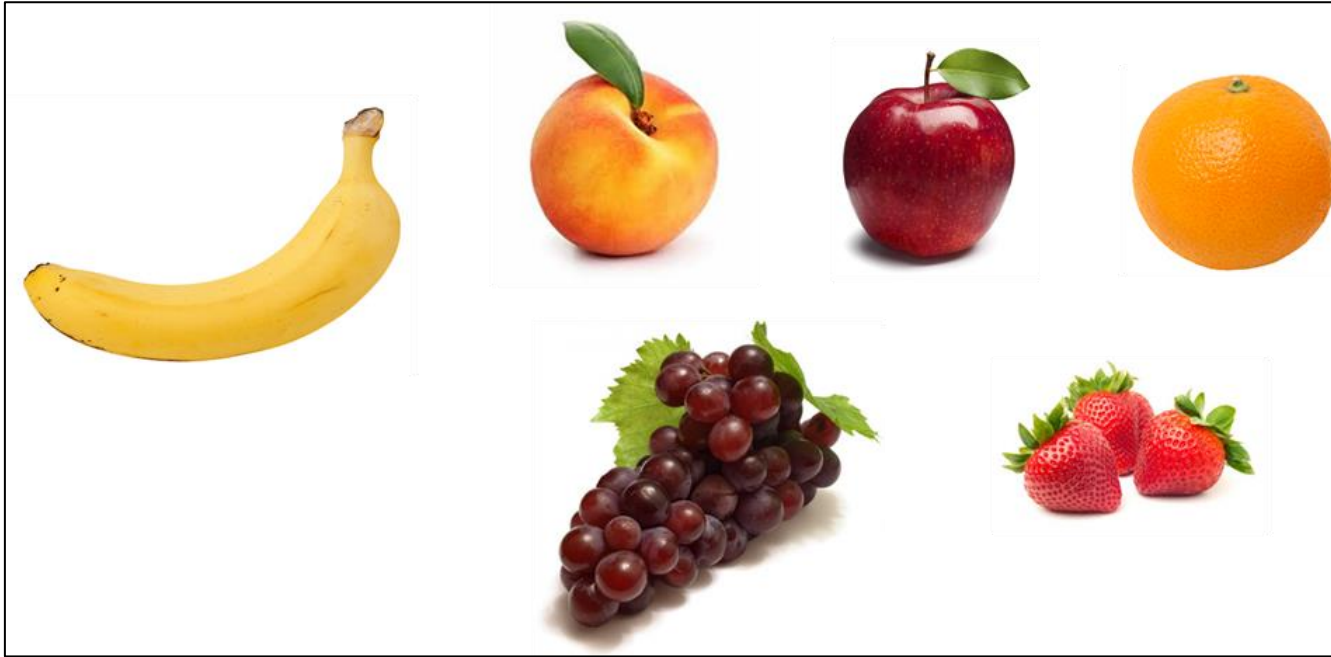
Exemplar approach

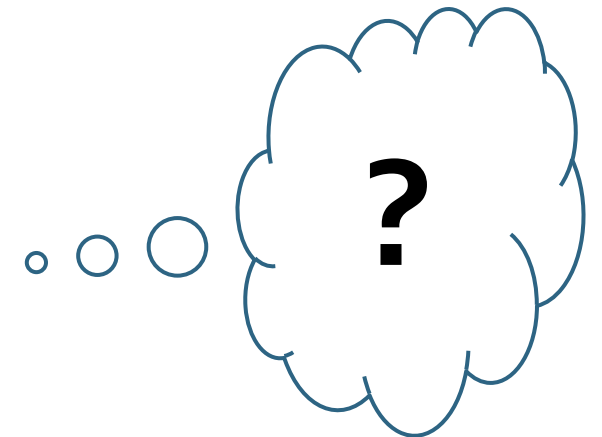
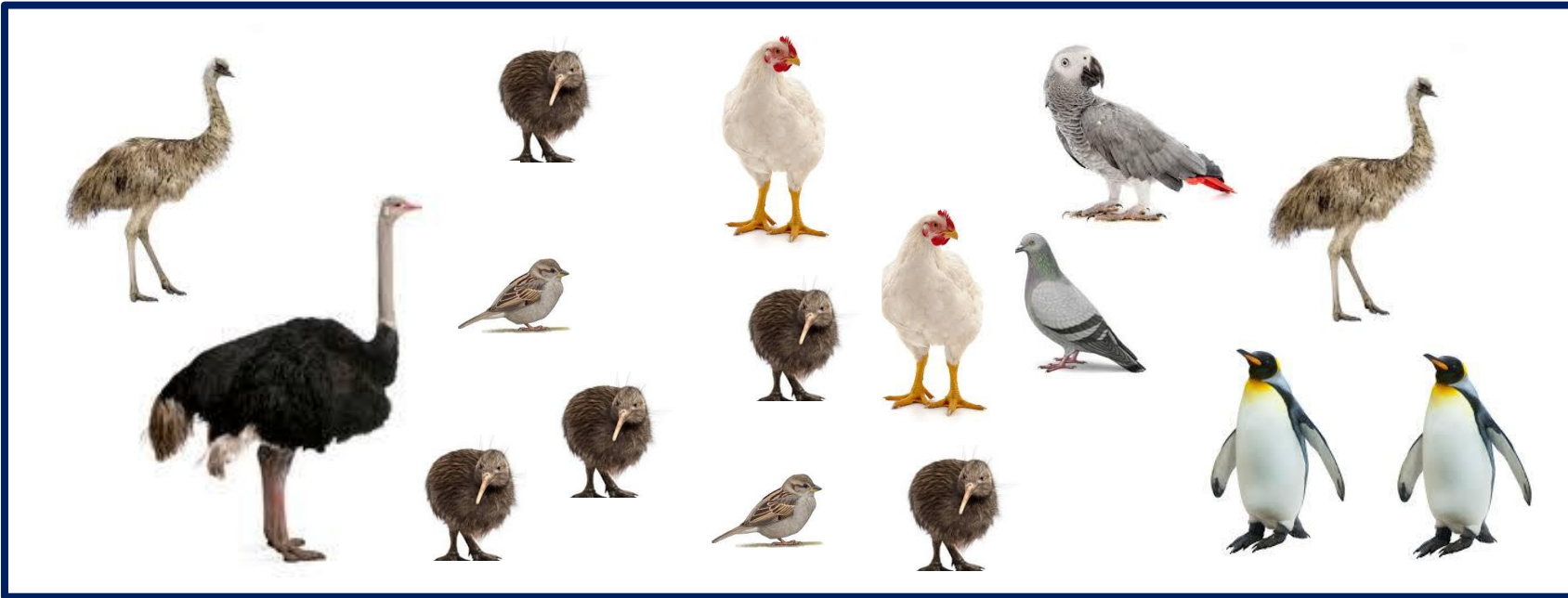
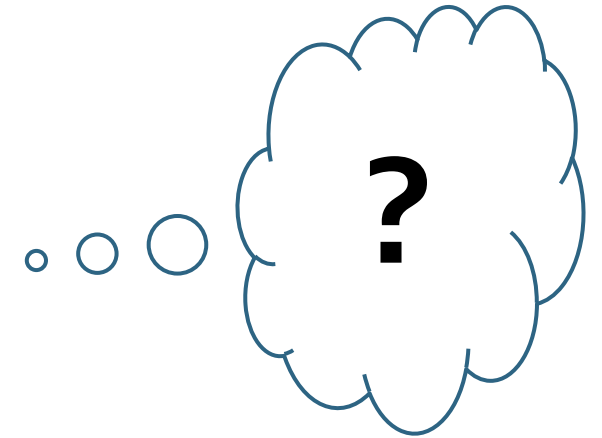
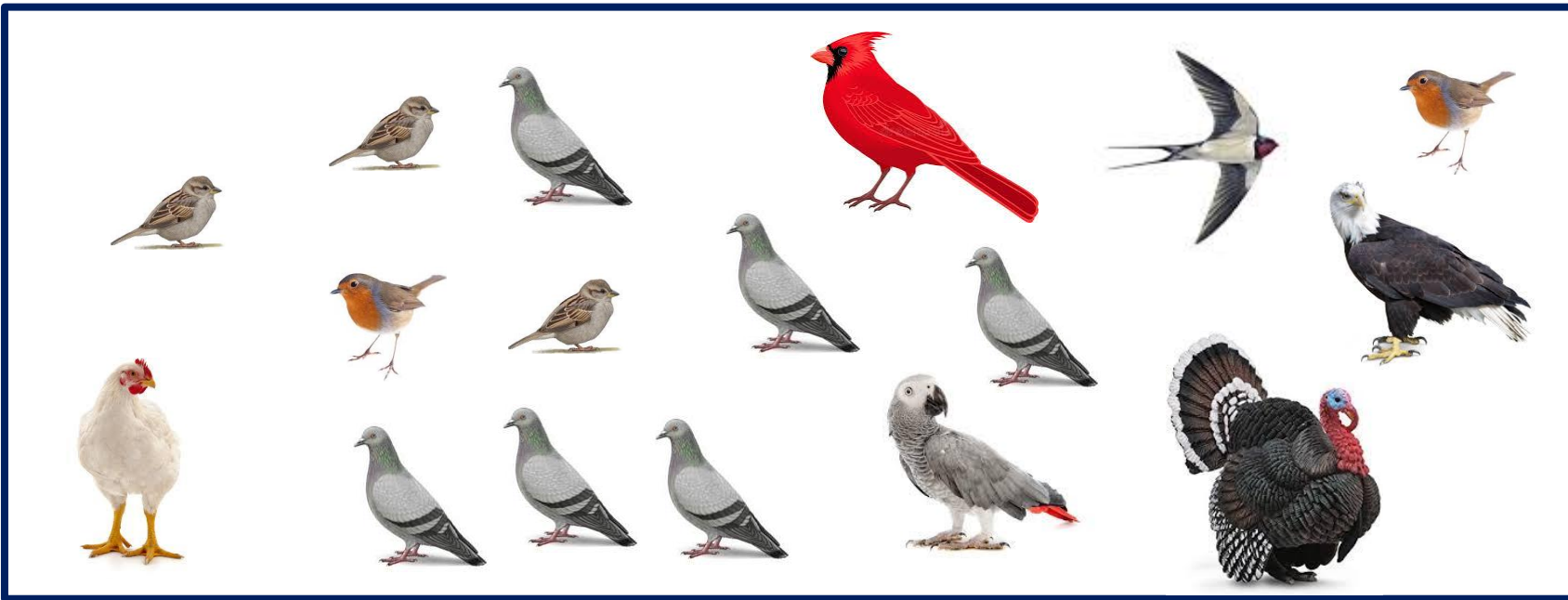
Membership based on examples

Examples are stored in memory

Typicality = most frequent items







IBM Watson – machine learning

Concept 'A'

Rules: 2 lines at an angle; 3rd line in the middle

A

A

A



a

a

a

a

a