

# Psychology in the Mid-1900s

By Amy Quarton

# Discussion Questions

---

- How did cognitive psychology develop? How did Piaget, Bartlett, Broadbent, and Miller contribute?
- How did neuroscience develop? How did Lashley and Hebb contribute?
- How did perceptual psychology develop? How did J. Gibson and E. Gibson contribute?
- How did social psychology develop? How did F. Allport, Festinger, and Milgram contribute?
- How did personality psychology develop? How did Murray and G. Allport contribute?

**How did cognitive psychology develop? How did Piaget, Bartlett, Broadbent, and Miller contribute?**

# How did cognitive psychology develop?

---

- In the **mid-1900s**, cognitive psychology emerged.
- Its development led to the emergence of several other areas of psychology.

**Cognitive  
Psychology**

**Neuropsychology**

**Perceptual  
Psychology**

**Social Psychology**

**Personality  
Psychology**



# How did cognitive psychology develop?

---

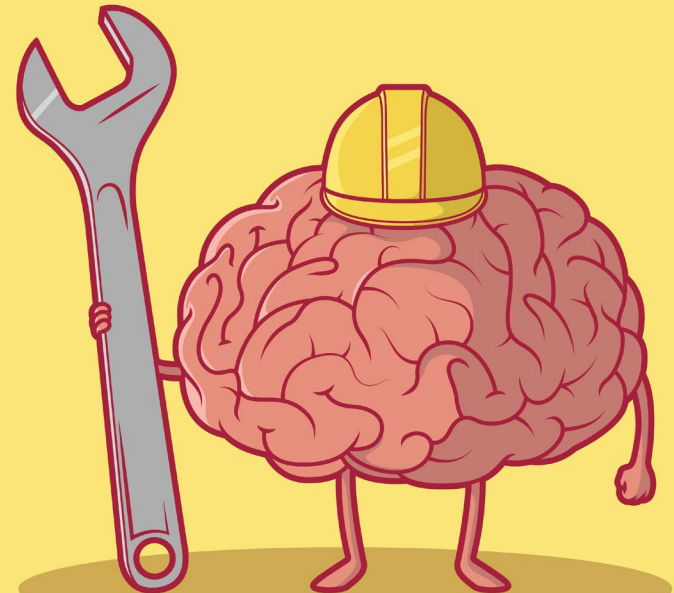
- The zeitgeist of this time was to rebel against injustice and reject institutional authority.



# How did cognitive psychology develop?

---

- In the 1940s and 1950s, psychologists questioned whether behaviorist principles could explain all human behavior.
- Piaget, Bartlett, Miller, and Broadbent made their contributions.
- In 1967, Ulric Neisser (1928-2012) gave cognitive psychology its name in his book.



# How did cognitive psychology develop?

---

- **Cognitive psychology** is the scientific study of internal mental processes.

Perception

Attention

Language

Memory

Intelligence

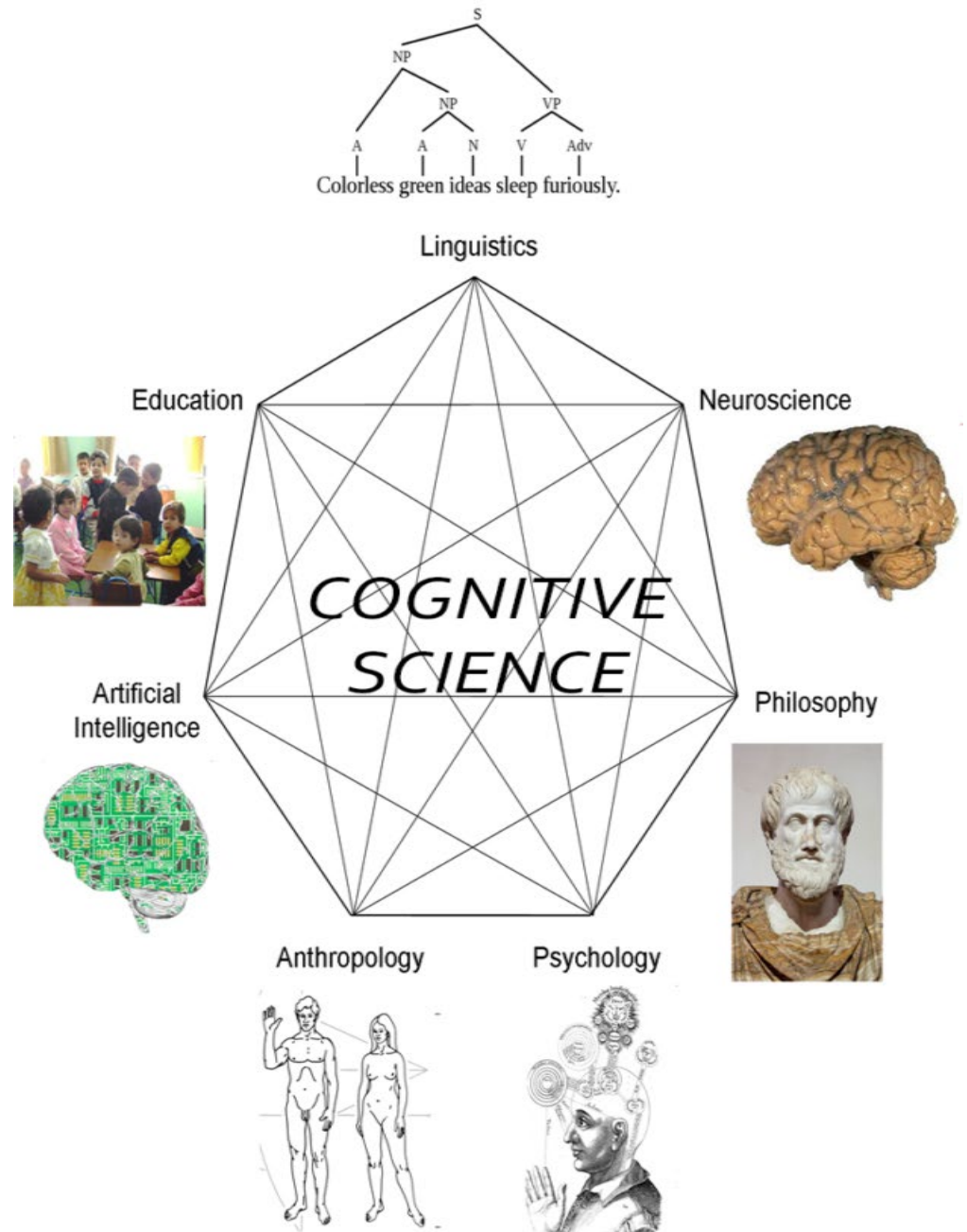
Problem-Solving

Decision-Making

Creativity

# How did cognitive psychology develop?

- Cognitive science also emerged in the mid-1900s.



# Who is Jean Piaget?

---

- **Jean Piaget** (1896-1980) was a Swiss psychologist.
- In **1918**, he earned a PhD in biology from the University of Neuchâtel.
- He studied the development of knowledge in children and adults.



# How did Piaget contribute to cognitive psychology?

---

- He concluded:
  - Children's cognition is different from adults' cognition.
  - Children are *active* formulators of knowledge.
- In **1936**, he published a stage theory of cognitive development in childhood.





# How did Piaget contribute to cognitive psychology?

---



## Sensorimotor Stage

The infant constructs an understanding of the world by coordinating sensory experiences with physical actions. An infant progresses from reflexive, instinctual action at birth to the beginning of symbolic thought toward the end of the stage.

Birth to 2 Years of Age



## Preoperational Stage

The child begins to represent the world with words and images. These words and images reflect increased symbolic thinking and go beyond the connection of sensory information and physical action.

2 to 7 Years of Age



## Concrete Operational Stage

The child can now reason logically about concrete events and classify objects into different sets.

7 to 11 Years of Age



## Formal Operational Stage

The adolescent reasons in more abstract, idealistic, and logical ways.

11 Years of Age  
Through Adulthood

# How did Bartlett contribute to cognitive psychology?

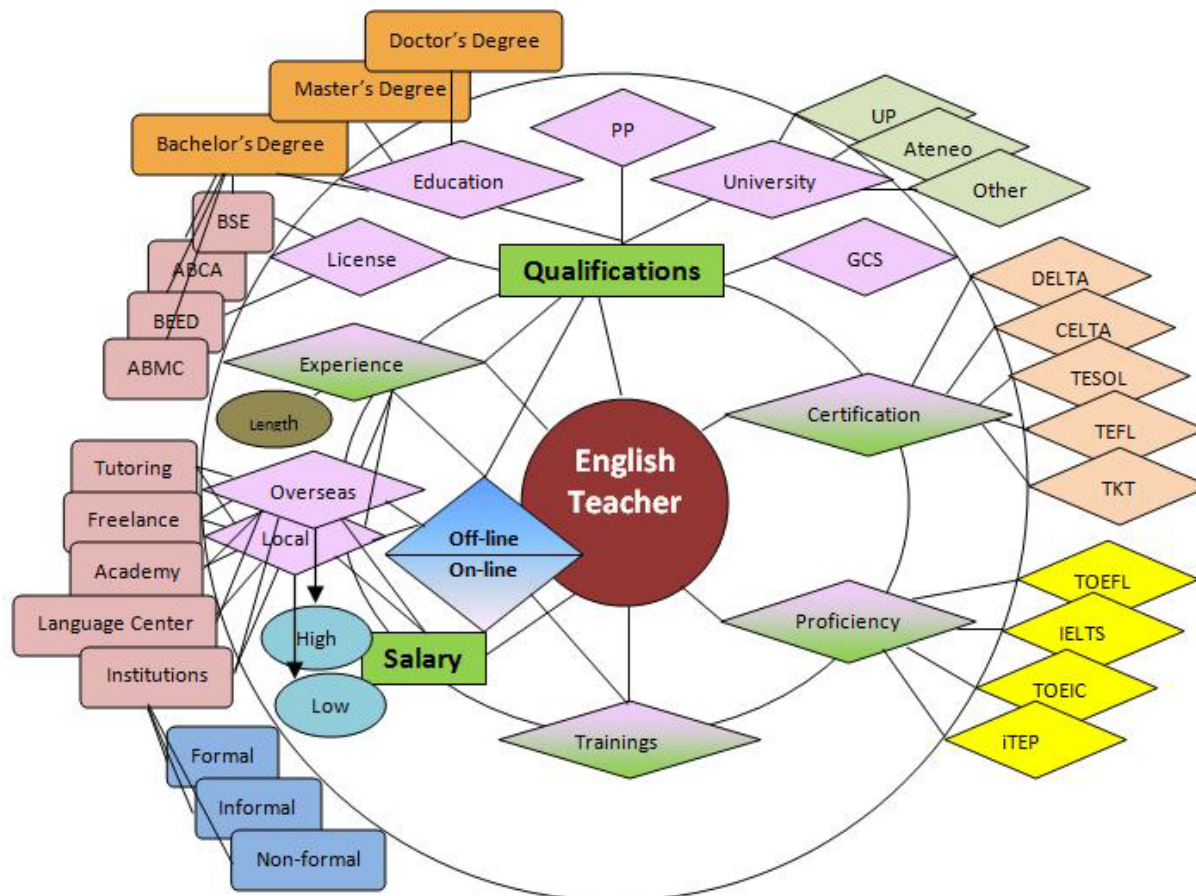
---

- **Sir Frederic Bartlett** (1886-1969) was a British experimental psychologist.
  - He studied memory and thinking, including animal learning and pilot fatigue.
- He suggested memory organizes information into meaningful wholes called **schemata**.
  - People with different experiences will have different schemata.



# How did Bartlett contribute to cognitive psychology?

---



# How did Bartlett contribute to cognitive psychology?

- He presented participants with a 328-word Native American folk tale called *The War of the Ghosts*.
  - Recall declined with the passage of time.
  - Participants recalled a coherent, understandable story within the context of their cultural schemata.
    - E.g., “Something black coming out of his mouth” became “foaming at the mouth”.

## The War of the Ghosts

- One night two young men from Egulac went down to the river to hunt seals and while they were there it became foggy and calm. Then they heard war-cries, and they thought: "Maybe this is a war-party". They escaped to the shore and hid behind a log. Now canoes came up, and they heard the noise of paddles, and saw one canoe coming up to them. There were five men in the canoe, and they said:
- "What do you think? We wish to take you along. We are going up the river to make war on the people."
- One of the young men said, "I have no arrows."
- "Arrows are in the canoe," they said.
- "I will not go along. I might be killed. My relatives do not know where I have gone. But you," he said, turning to the other, "may go with them."
- So one of the young men went, but the other returned home.
- And the warriors went on up the river to a town on the other side of Kalama. The people came down to the water and they began to fight, and many were killed. But presently the young man heard one of the warriors say, "Quick, let us go home: that Indian has been hit." Now he thought: "Oh, they are ghosts." He did not feel sick, but they said he had been shot.
- So the canoes went back to Egulac and the young man went ashore to his house and made a fire. And he told everybody and said: "Behold I accompanied the ghosts, and we went to fight. Many of our fellows were killed, and many of those who attacked us were killed. They said I was hit, and I did not feel sick."
- He told it all, and then he became quiet. When the sun rose he fell down. Something black came out of his mouth. His face became contorted. The people jumped up and cried.
- He was dead.

# How did Broadbent contribute to cognitive psychology?

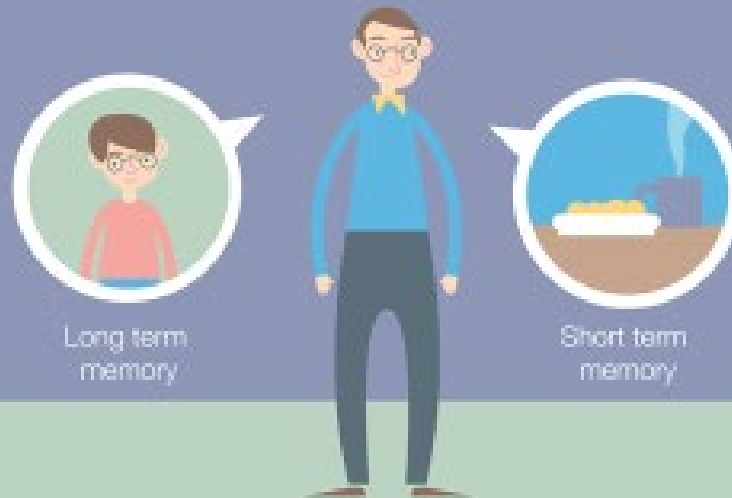
---

- During WWII, **Donald Broadbent** (1926-1993) suggested we are limited in our ability to use multiple channels of communication.
- When presented with 2 messages, we filter out 1 and select the other for further processing.
- This is known as the **cocktail party effect**.



# How did Miller contribute to cognitive psychology?

- In 1956, George Miller (1920-2012) published evidence that short-term memory is limited to  $7 \pm 2$  chunks of meaningful information.
- They also recode and reorganize information by squeezing in more information per chunk.



**How did neuropsychology  
develop? How did Lashley and  
Hebb contribute?**

# How did neuropsychology develop?

---

- **Neuropsychology** is concerned with how the nervous system (especially the brain) influences cognition and behavior.





1924: Berger invents  
electroencephalogram  
(EEG)

1924: Bykov discovers  
the corpus callosum  
allows the two brain  
hemispheres to  
communicate

1936: Freeman performs  
the 1<sup>st</sup> lobotomy

1972: Damadian invents  
magnetic resonance  
imaging (MRI)

1962: Sperry and  
Gazzaniga discover the  
two brain hemispheres  
have different functions

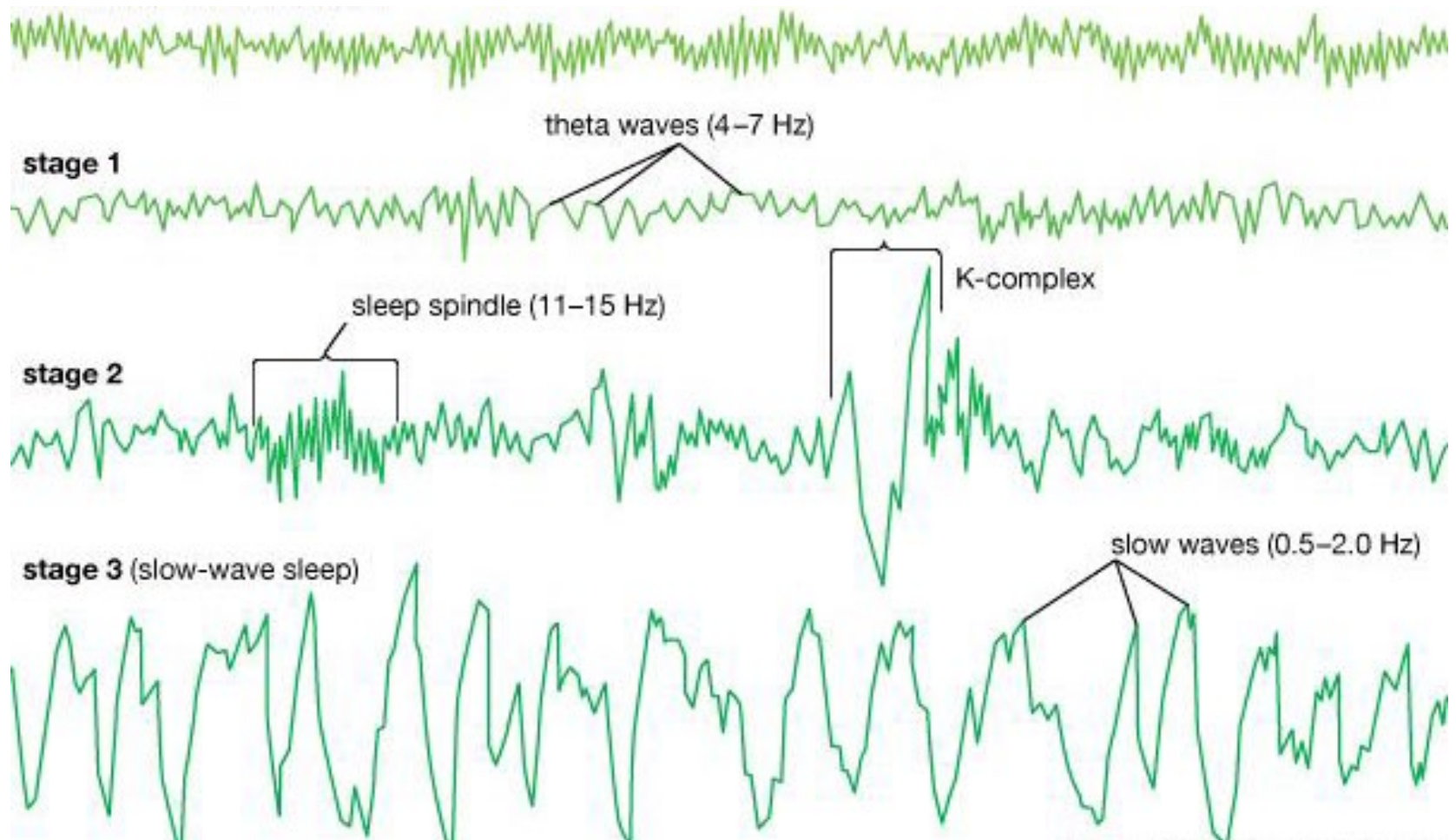
1953: Aserinsky  
discovers rapid eye  
movement (REM) sleep

1972: Hounsfield and  
Cormack invent  
computed tomography  
(CT)

1973: Hoffman and  
Phelps invent positron  
emission tomography  
(PET)

1990: Ogawa invents  
functional MRI





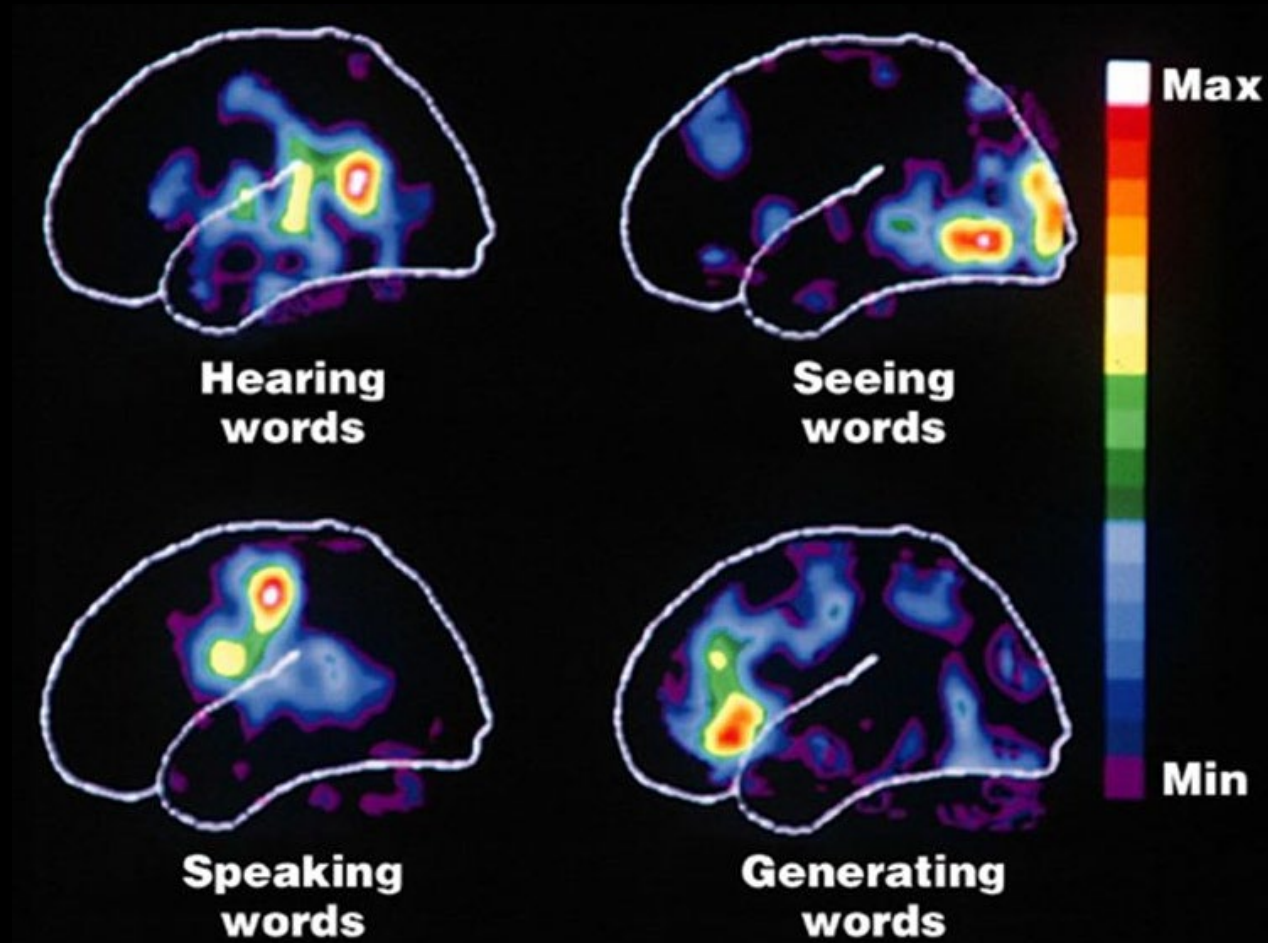
Examples of brain waves collected by electroencephalogram (est. 1924)



Magnetic resonance imaging (est. 1972)



Computed tomography scan (est. 1972)



Positron emission tomography (est. 1973)

# How did Lashley contribute to neuropsychology?

---

- **Karl S. Lashley** (1890-1958) the effects of ablation on learning and memory in the **mid-1900s**.
  - **Equipotentiality principle** says any tissue within a functional area can perform its associated function.
  - **Mass action principle** says performance deterioration is determined more by the *amount* of damage than by its location.



# How did Hebb contribute to neuropsychology?

---

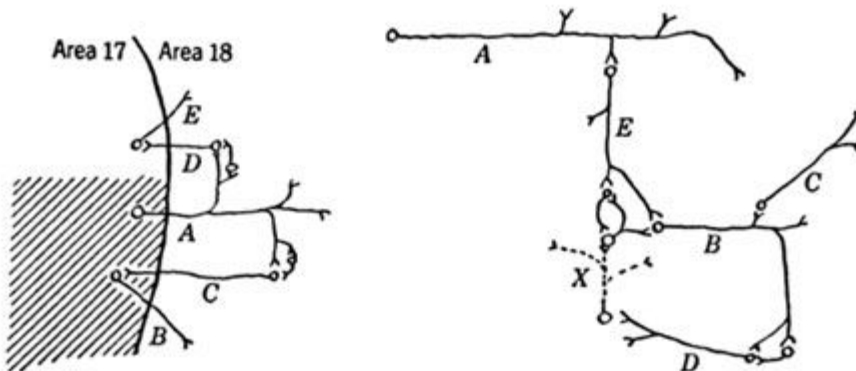
- **Donald O. Hebb** (1904-1985) was a Canadian psychologist who studied the relationship between the brain and behavior.
- In **1949**, he published *The Organization of Behavior*.
  - He suggested learning occurs through the growth of physical structures.



# How did Hebb contribute to neuropsychology?

---

- A **cell assembly (CA)** is a set of connected neurons that have been activated together by repeated experiences.
- A **phase sequence (PS)** is a higher level of organization made up of several cell assemblies.



His illustration of a  
cell assembly from  
*The Organization of  
Behavior* (1949)

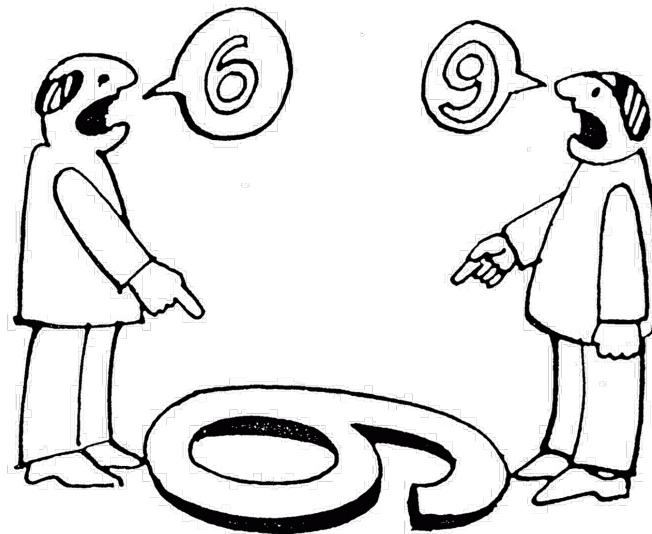
**How did perceptual  
psychology develop? How did  
J. Gibson and E. Gibson  
contribute?**



# How did perceptual psychology develop?

---

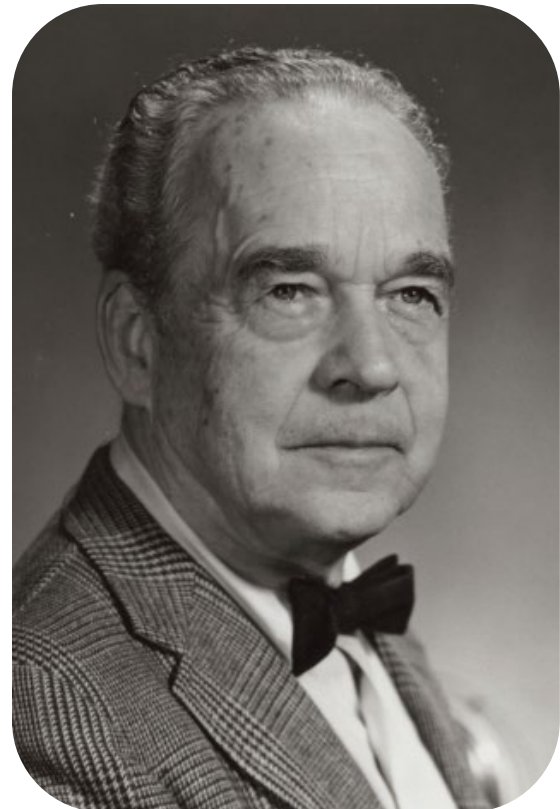
- **Perceptual psychology** is the scientific study of how sensory information is interpreted in meaningful ways.



# How did J. Gibson contribute to perceptual psychology?

---

- **James J. Gibson** (1904-1979) was an American psychologist who studied visual perception.
- He earned his PhD from Princeton University in **1928** and started his career at Smith College, where he met his wife (next).



# How did J. Gibson contribute to perceptual psychology?

- In 1941, he joined the Army and studied the effect flying an aircraft had on visual perception.
  - He created selection tests for military pilots and short training films.
- After the war, he created a research program called ecological perception.
  - He sought to describe perception as it occurred in the complexity of the real world.

# How did E. Gibson contribute to perceptual psychology?

---

- **Eleanor Gibson** (1910-2002) was an American psychologists who studied a wide range of topics.
- She earned her PhD from Yale University in **1938**.
- Her life's work was published in **1969**.
- In **1992**, President George H. W. Bush awarded her the National Medal of Science.



# How did E. Gibson contribute to perceptual psychology?

---

- In 1960, she and Richard Walk published their “visual cliff” studies.
  - Even when coaxed, most infants avoided the glass over the cliff.
  - They concluded animals and humans are competent at perceiving depth as soon as they are mobile.



**How did social psychology develop? How did F. Allport, Festinger, and Milgram contribute?**



# How did social psychology develop?

---

- **Social psychology** is the scientific study of social behavior, including how it is impacted by personal and social factors.



# How did F. Allport contribute to social psychology?

- The father of experimental social psychology, **Floyd Allport** (1890-1978), emphasized the impact of the social environment on behavior.
  - In **1920**, his social facilitation research suggested other people can increase our performance.
  - In **1924**, he called for a more scientific study of social psychology in his famous text.





# How did Festinger contribute to social psychology?

- In 1954, Leon Festinger (1919-1989) published his theory of cognitive dissonance.
- He proposed that we try to be consistent in our thoughts, feelings, and actions.
- Inconsistency creates cognitive dissonance, a state of emotional and cognitive discomfort.
- We are then motivated to reduce the discomfort and return to a balanced state.



Sometimes I  
drink alcohol.

Drinking can  
cause liver  
disease.

Sometimes I  
drink alcohol.

Drinking  
only causes  
problems for  
heavy  
drinkers.

**Strategy 1:  
Change the  
attitude**



Sometimes I  
drink alcohol.

I don't drink  
that much.

**Strategy 2:  
Change the  
perception**



Sometimes I  
drink alcohol.

My friends  
give me  
drinks all  
night.

**Strategy 3:  
Minimize  
your  
choices**



Sometimes I  
drink alcohol.

Who cares!  
You only live  
once!

**Strategy 4:  
Minimize  
the  
importance**

# How did Festinger contribute to social psychology?

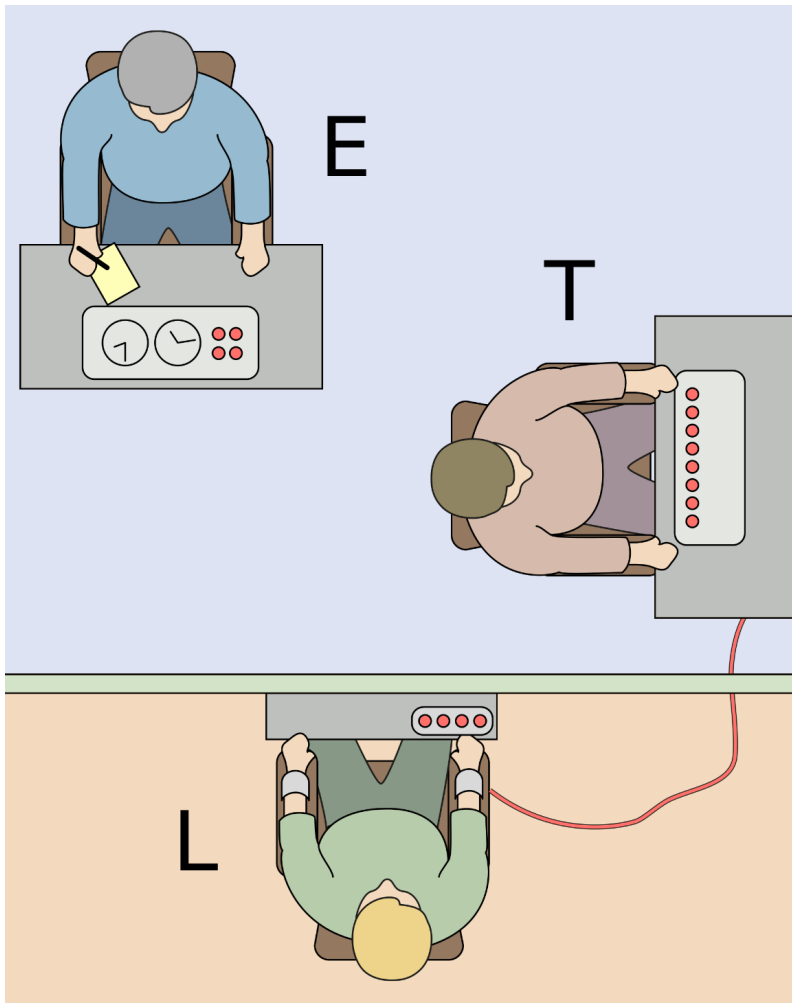
---

- His use of elaborately staged research settings created an experimental tradition.
  - In the 1960s and 1970s, social psychology research became infamous for its use of deception.
- His work enhanced social psychology's reputation.
  - He increased experimental control and systematically manipulated IVs and measured DVs.
  - He used statistical analyses to evaluate his data.



# How did Milgram contribute to social psychology?

- **Stanley Milgram** (1933-1984) published his study of obedience in **1963** and 17 variations in **1974**.
  - How much voltage would the teacher apply before disobeying the authority figure's demands?
  - He concluded the results demonstrated the power of the situation (not personal attributes).
  - His research was criticized for the use of deception and the possible damage done to participants.



**TABLE 7.5**

**Milgram's Baseline Results**

In Milgram's original experiment, participants exhibited a troubling inclination to obey blindly. This table shows the number and percentage of male participants who delivered shocks of varying maximum intensity in response to the experimenter's commands.

(Milgram, 1974.)

Participants Who Stopped at This Level		
Shock Level (Volts)	Number	Percent
300	5	12.5
315	4	10.0
330	2	5.0
345	1	2.5
360	1	2.5
375	1	2.5
450	26	65.0

# How did Milgram contribute to social psychology?

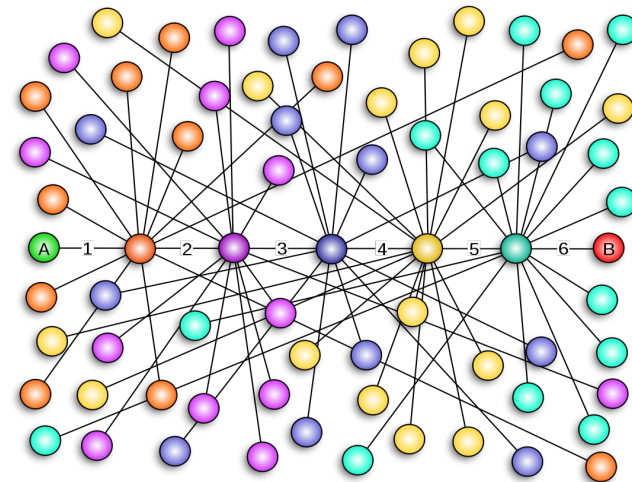
---

- He created the **lost letter technique** to measure attitudes using behaviors.
  - He placed stamped letters addressed to 1 of 4 groups in public places and counted how many were returned.
  - People were less likely to return the letters addressed to the Communist Party (25%) or the Nazi Party (25%) than those addressed to the Medical Research Associates (72%) or the individual (71%).

# How did Milgram contribute to social psychology?

---

- He coined the term **familiar stranger** to refer to those we recognize but do not know well.
- He studied the **small world phenomenon** by linking pairs of strangers in the USA and identifying an average of six degrees of separation between any two people.

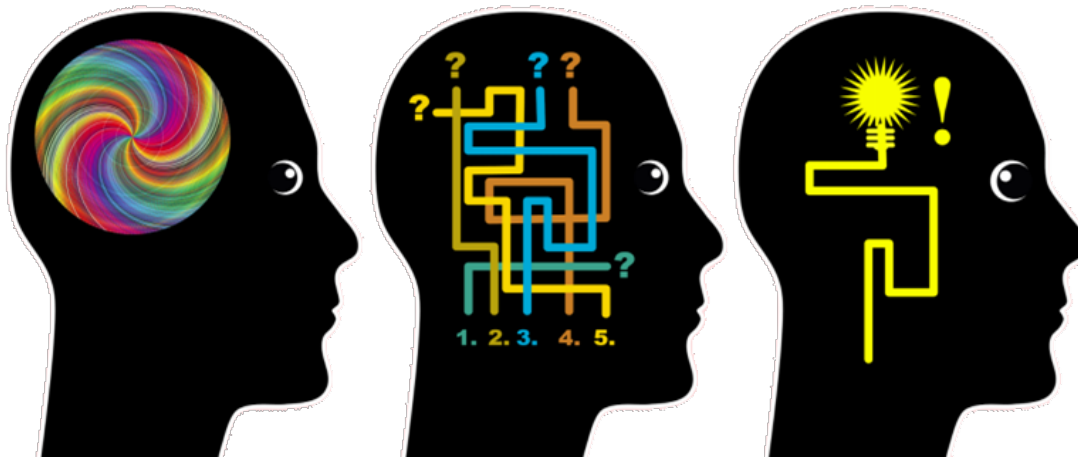


**How did personality  
psychology develop? How did  
Murray and G. Allport  
contribute?**

# How did personality psychology develop?

---

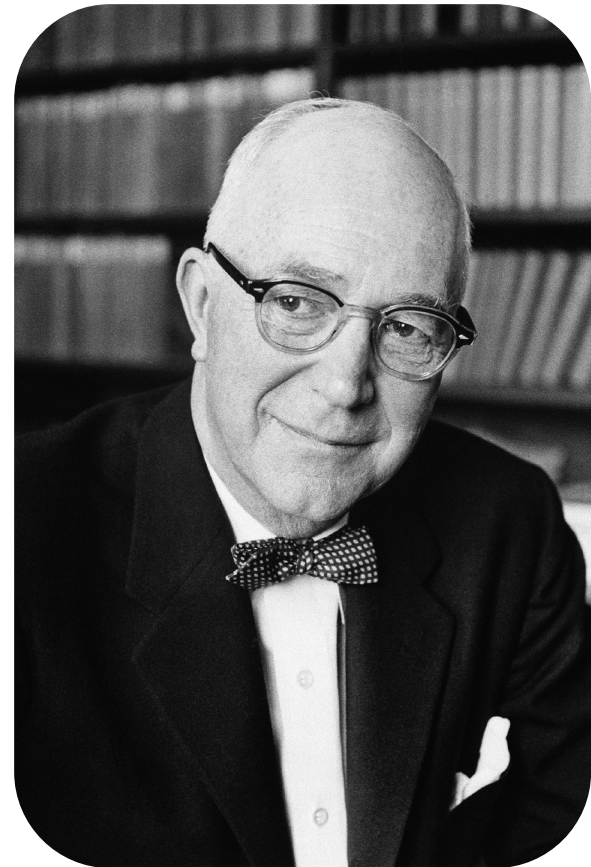
- **Personality psychology** is the scientific study of individual differences in personal characteristics.
- As an **idiographic** approach, it focuses on our differences (instead of our similarities like a **nomothetic** approach).



# How did G. Allport contribute to personality psychology?

---

- **Gordon Allport** (1897-1967) was an American psychologist.
- He earned a PhD from Harvard University in **1922**.
- He helped establish the field with *Personality: A Psychological Interpretation* in **1937**.





# How did G. Allport contribute to personality psychology?

- He introduced **traits** as components of personality.

## Cardinal trait

A powerful force that dominates behavior

E.g., sadism, chauvinism

## Central traits

The 5-10 themes that best describe one's behavior

E.g., aggressiveness, self-pity, cynicism

## Secondary traits

The least influential and consistent of the individual traits

E.g., a preference for a particular type of music or a certain food

# How did G. Allport contribute to personality psychology?

- With Philip **Vernon**, he developed a paper-and-pencil personality test in **1931** to measure the strength of 6 values:
  1. Theoretical – Discovery of truth
  2. Economic – What is most useful
  3. Aesthetic – Form, beauty, and harmony
  4. Social – Seeking love of people
  5. Political – Power
  6. Religious – Unity

# How did G. Allport contribute to personality psychology?

3. Which of the following individuals do you think should be judged as contributing more to the progress of the human race? (a) Aristotle; (b) Abraham Lincoln.
4. Assuming that you have sufficient ability, would you prefer to be: (a) a banker; (b) a politician?
1. Do you think that a good government should aim chiefly at -- *(Remember to give your first choice 4, etc.)*
  - a. more aid for the poor, sick, and old
  - b. the development of manufacturing and trade
  - c. introducing highest ethical principles into its policies and diplomacy
  - d. establishing a position of prestige and respect among nations
2. In your opinion, can a person who works in business all the week best spend Sunday in --
  - a. educating himself/herself by reading serious books
  - b. trying to win at competitive sports
  - c. going to an orchestral concert
  - d. hearing a really good sermon

# How did Murray contribute to personality psychology?

- **Henry Murray** (1893-1988) created **personology**, the in-depth study of individual people.
  - He believed laboratory psychology was too sterile, which put him at odds with academics and Boring.
- He and **Christiana Morgan** created the **Thematic Apperception Test (TAT)** in **1935**.
  - He believed people's responses to ambiguous stimuli reflected their personality attributes.



