

Behaviorism: Watson and Pavlov

By Amy Quarton

Discussion Questions

- What is behaviorism?
- Why did behaviorism develop? Who contributed to the development of behaviorism?
- Who is Ivan Pavlov? What did Pavlov study? How did Pavlov contribute to behaviorism?
- Who is John Watson? What did Watson study? How did Watson contribute to behaviorism?



What is behaviorism?

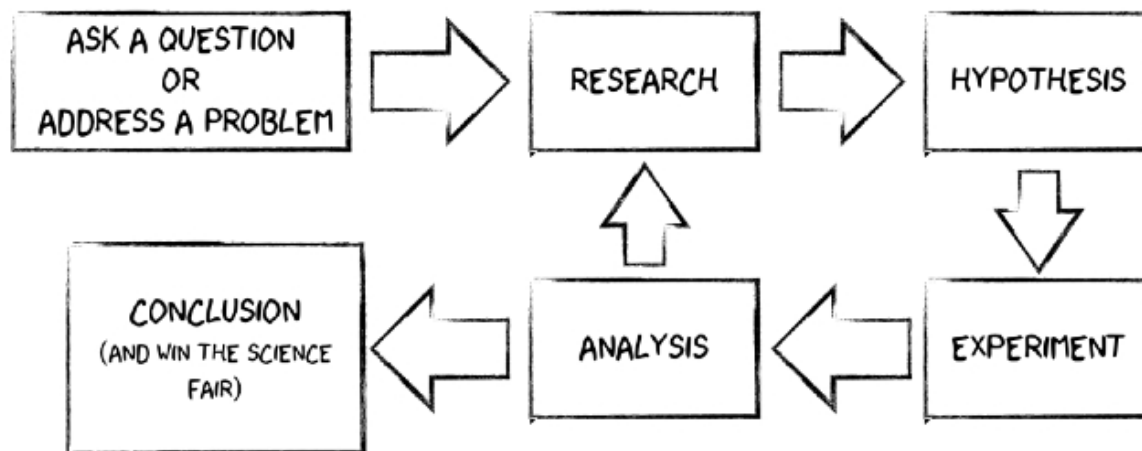
What is behaviorism?

- **Behaviorism** is the study of human behavior (instead of consciousness).
- Its establishment in the **early 1910s** marked the transition from the unobservable to the observable.



What is behaviorism?

- Behaviorists believed:
 - Knowledge is produced by scientific inquiry and verifiable observation by others.
 - Knowledge has practical value; the goal is to control behavior by controlling the environment.



What is behaviorism?

- Behaviorists said the environment plays an important role in shaping behavior.
 - Like empiricists, they said our experience impacts our behaviors.
 - We learn how to behave through rewards and punishments.
 - We learn by associating stimuli and responses (i.e., associationism).



What is behaviorism?

- Behaviorism was an American phenomenon.
 - John Watson's version from the 1910s was not immediately popular with American psychologists.
 - Others expanded upon Watson's ideas in the late 1920s and early 1930s, and behaviorism continued to gain popularity through the 1960s.
- Other schools of thought (e.g., applied psychology, gestalt psychology) were available at that time.

**Why did behaviorism
develop? Who contributed
to the development of
behaviorism?**

Why did behaviorism develop?

- **Reason #1** – By the **early 1900s**, American psychologists wanted to abolish introspection, which had become synonymous with psychology.
 - **Weakness #1** – Introspection is highly subjective and cannot be independently verified.
 - **Weakness #2** – Introspection relies on highly “trained” participants/researchers.



Why did behaviorism develop?

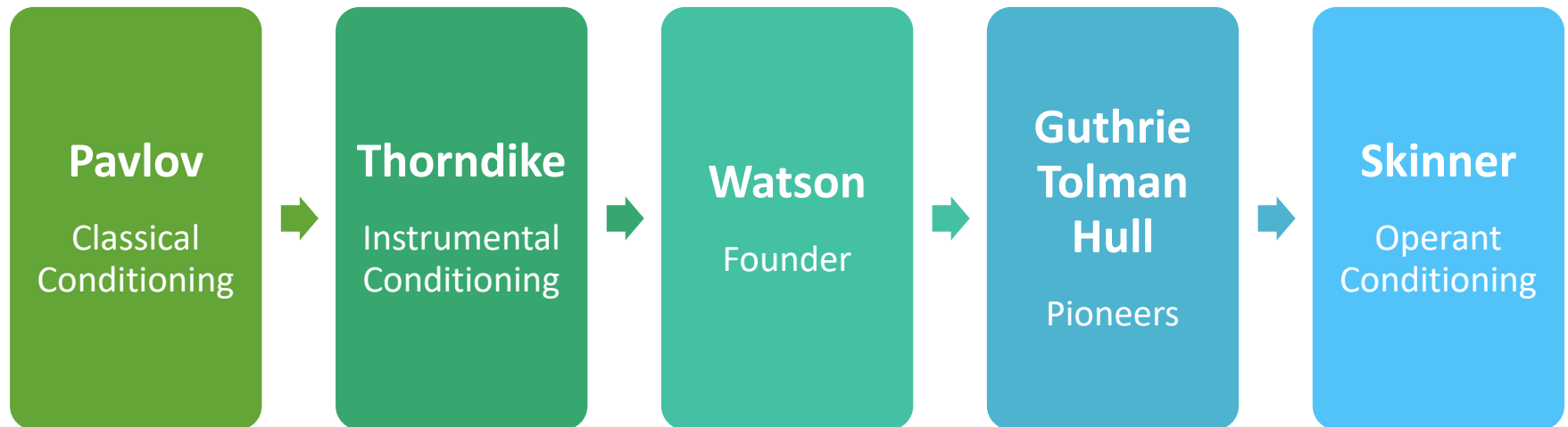
- **Reason #2 – Americans were pragmatic.**
 - As a result, American psychologists were more interested in the practical value of their research.
 - Behaviorists began studying humans as a way to promote the application of behaviorist principles to everyday American life.
 - Like the early applied psychologists, the behaviorists also applied their research in educational, business, clinical, and legal settings.

**New York
City in
the early
1900s**

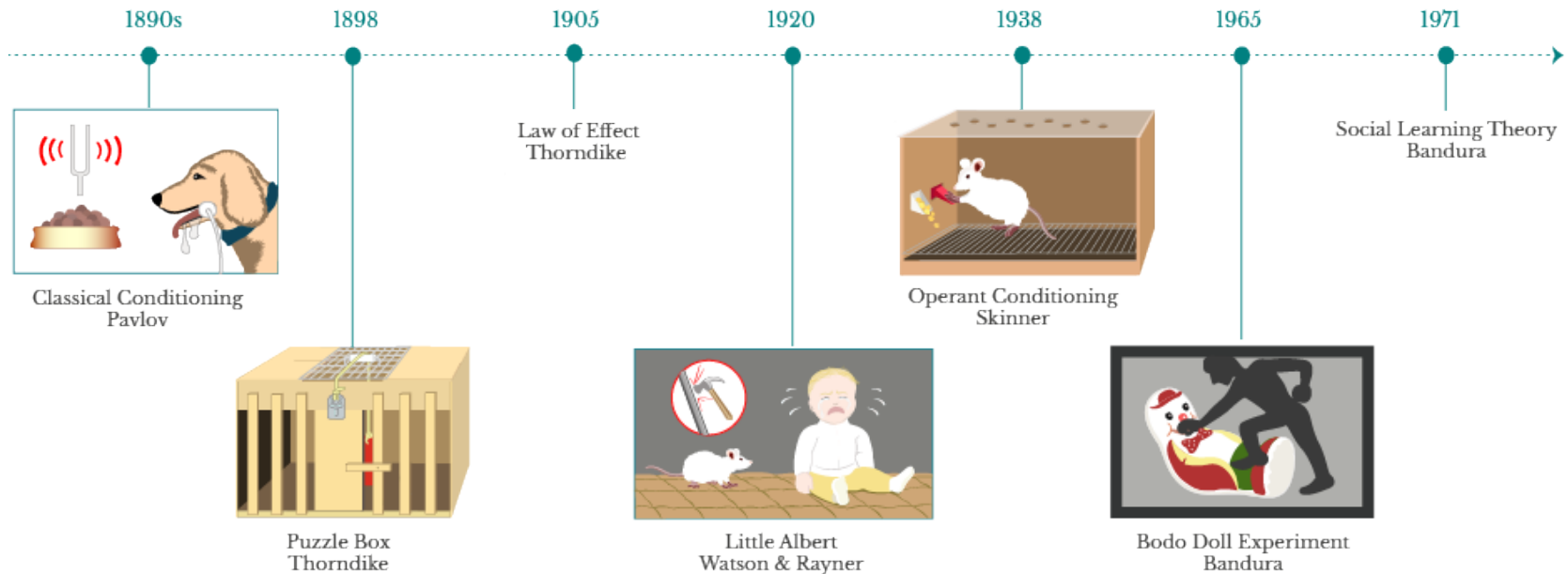


Who contributed to the development of behaviorism?

- Although **John B. Watson** is considered its founder, all the individuals below (and more) contributed.



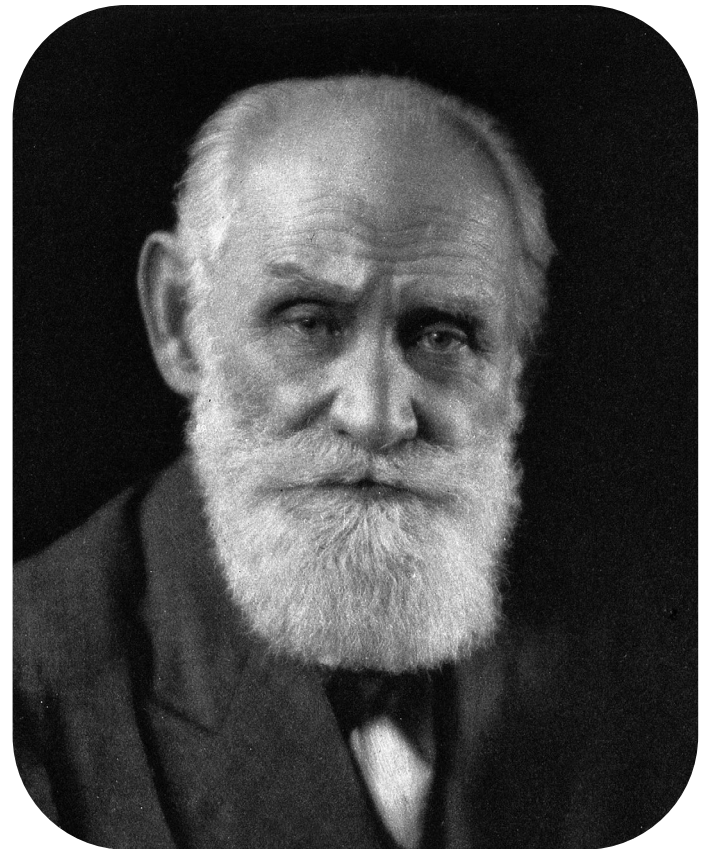
Who contributed to the development of behaviorism?



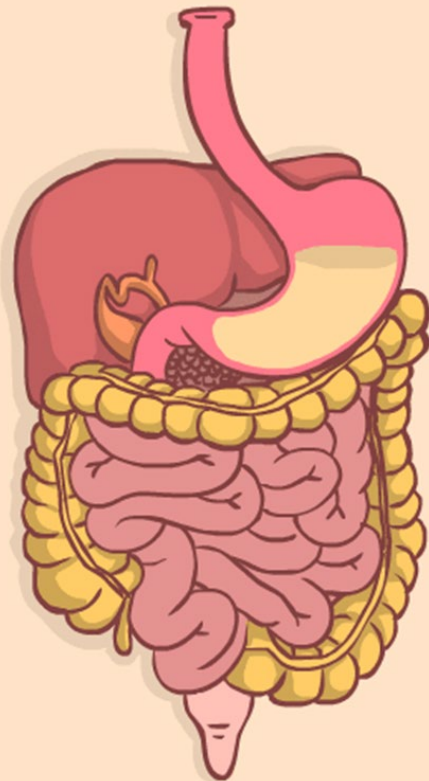
**Who is Ivan Pavlov? What
did Pavlov study? How did
Pavlov contribute to
behaviorism?**

Who is Ivan Pavlov?

- **Ivan P. Pavlov** (1849-1936) was a Russian physiologist known for his classical conditioning research.
- He disliked introspection and psychology.
- He was influenced by **Darwin** and **Sechenov**.



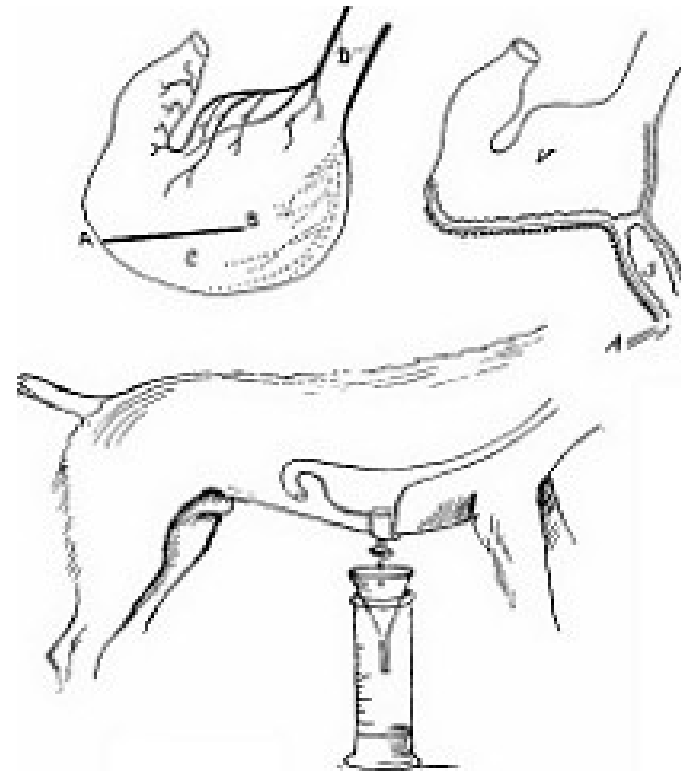
Who is Ivan Pavlov?



- In 1883, he earned a MD from Saint Petersburg University in Russia.
- In 1891, he studied digestion at the Institute of Experimental Medicine.
- In 1904, he earned a Nobel Prize for the surgical techniques he invented to conduct his studies.

What did Pavlov study?

- Using these new techniques, he isolated various parts of the digestive system and created a miniature stomach.
- He then extracted digestive fluids that could be studied (and sold to the public).



What did Pavlov study?

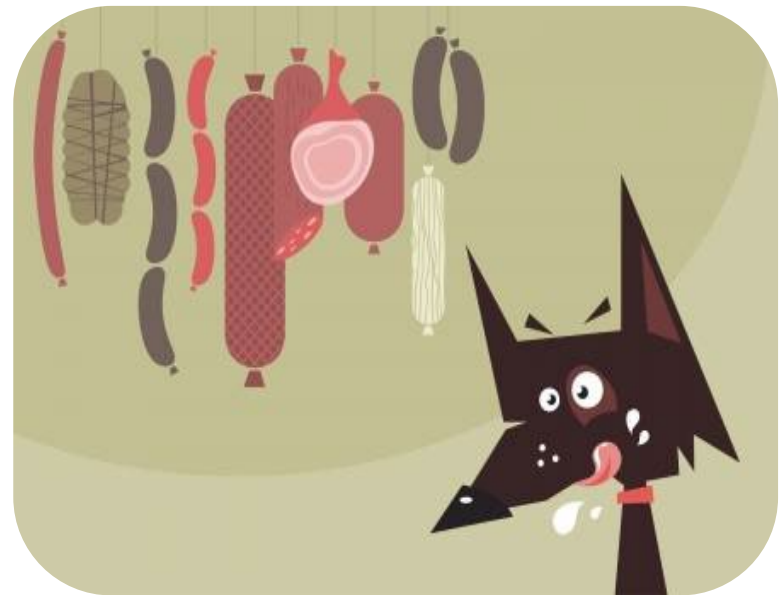
- In the 1890s, he also studied the salivary reflex.
 - He found that dogs salivated more when they ate dry foods than when they ate wet foods.



Pavlov's technique for collecting saliva (left) and digestive fluids (right)

What did Pavlov study?

- With [S. G. Vul'fson](#), he discovered that the dogs salivated *before* they ate their food.
 - The sight and smell of food were enough to produce salivary and motor reflexes.
 - To explain this discovery, he began his famous classical conditioning studies in the [early 1900s](#).



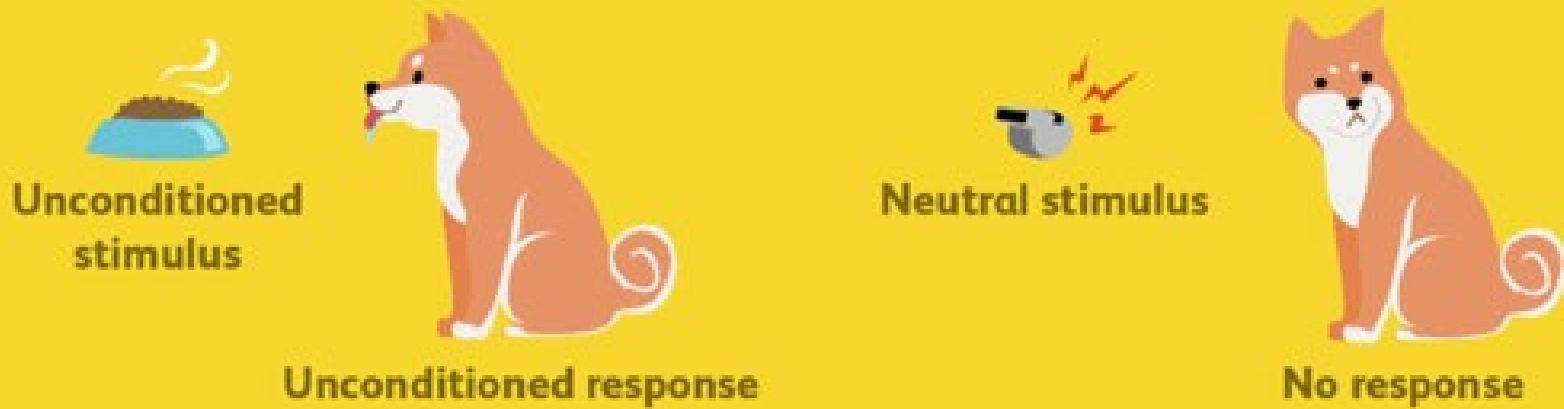
What did Pavlov study?

- He studied the acquisition and extinction of conditioned (learned) reflexes.
 - His studies inspired the beginning of behaviorism.
 - His research was popular with those who wanted to predict and control behaviors.
 - The Soviet Union eagerly supported his research.
 - In the [1910s](#), the Institute of Experimental Medicine built him a special laboratory called the Tower of Silence.

A photograph of a large, multi-story red brick building with a prominent curved section. The building has several windows, some of which are boarded up. A bronze bust of a man is mounted on a stone pedestal in front of the curved part of the building. A street lamp stands to the left of the bust. The building is surrounded by trees with yellow autumn foliage and a clear blue sky. The text "Pavlov's Tower of Silence (est. 1910s)" is overlaid in the bottom left corner.

**Pavlov's
Tower of
Silence (est.
1910s)**

Before Conditioning



1. Before conditioning, only the **unconditioned stimulus** (food) produces the **unconditioned reflex** (drooling). The **neutral stimulus** (bell) does not produce the **unconditioned reflex**.

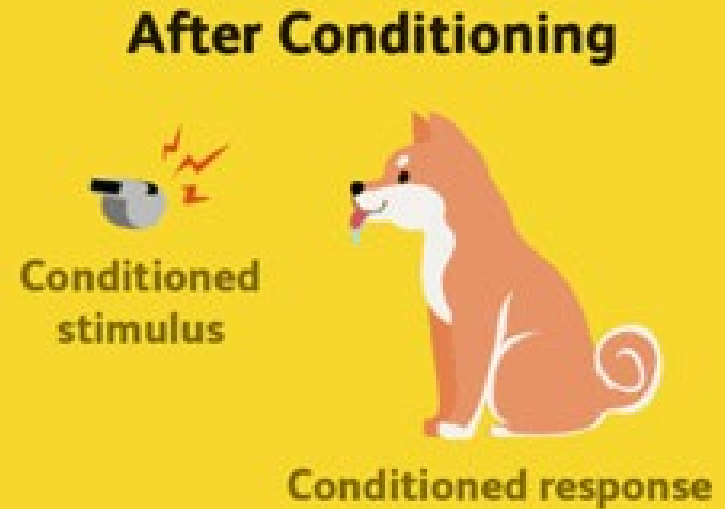
2. During conditioning, the **neutral stimulus** (bell) is paired with the **unconditioned stimulus** (food) repeatedly. The **unconditioned reflex** (drooling) is produced.

During Conditioning



Unconditioned response

3. After conditioning, the **neutral stimulus** is now called the **conditioned stimulus** (bell). It now produces the **conditioned reflex** (drooling) without the presence of the **unconditioned stimulus** (food).



Before Conditioning



Unconditioned stimulus



Unconditioned response



Neutral stimulus



No response

-
1. Before conditioning, only the **unconditioned stimulus** (virus) produces the **unconditioned reflex** (vomiting). The **neutral stimulus** (soup) does not produce the **unconditioned reflex**.

2. During conditioning, the **neutral stimulus** (soup) is paired with the **unconditioned stimulus** (virus) repeatedly. The **unconditioned reflex** (vomiting) is produced.

During Conditioning



Unconditioned response

3. After conditioning, the **neutral stimulus** is now called the **conditioned stimulus** (soup). It now produces the **conditioned reflex** (vomiting) without the presence of the **unconditioned stimulus** (virus).

After Conditioning



Conditioned stimulus

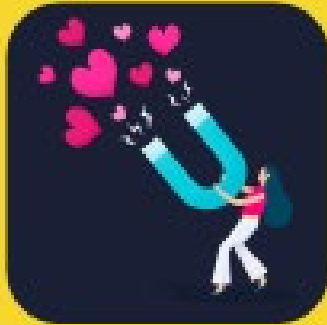


Conditioned response

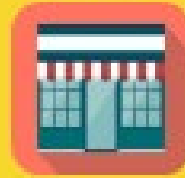
Before Conditioning



Unconditioned stimulus



Unconditioned response



Neutral stimulus

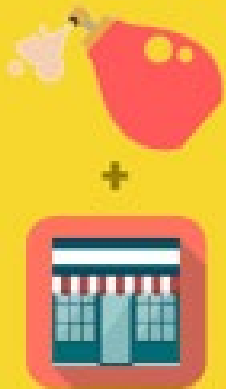


No response

-
1. Before conditioning, only the **unconditioned stimulus** (perfume) produces the **unconditioned reflex** (pleasant mood). The **neutral stimulus** (retail store) does not produce the **unconditioned reflex**.

2. During conditioning, the **neutral stimulus** (perfume) is paired with the **unconditioned stimulus** (retail store) repeatedly. The **unconditioned reflex** (positive mood) is produced.

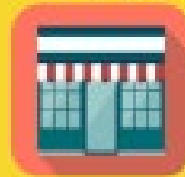
During Conditioning



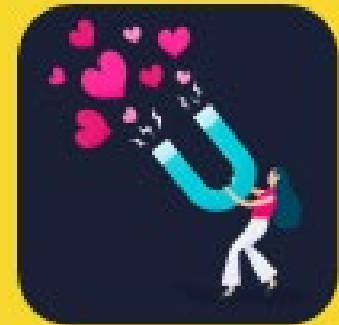
Unconditioned response

3. After conditioning, the **neutral stimulus** is now called the **conditioned stimulus** (retail store). It now produces the **conditioned reflex** (positive mood) without the presence of the **unconditioned stimulus** (perfume).

After Conditioning



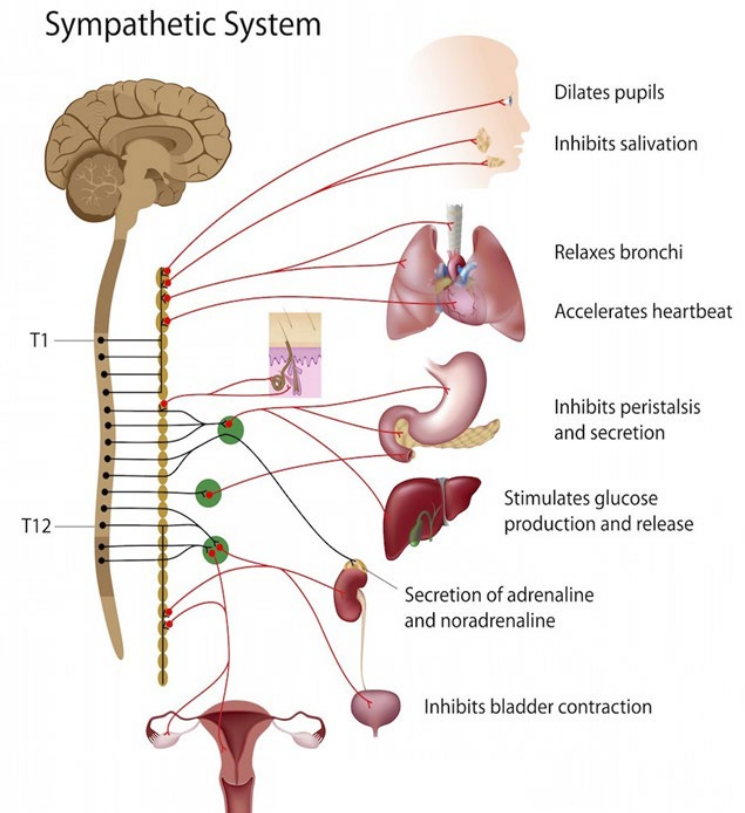
Conditioned stimulus



Conditioned response

How did Pavlov contribute to behaviorism?

- In 1927, he promoted the study of physiological (not psychological) responses to stimuli in *Conditioned Reflexes*.
 - He also described his conditioning procedures and control measures.



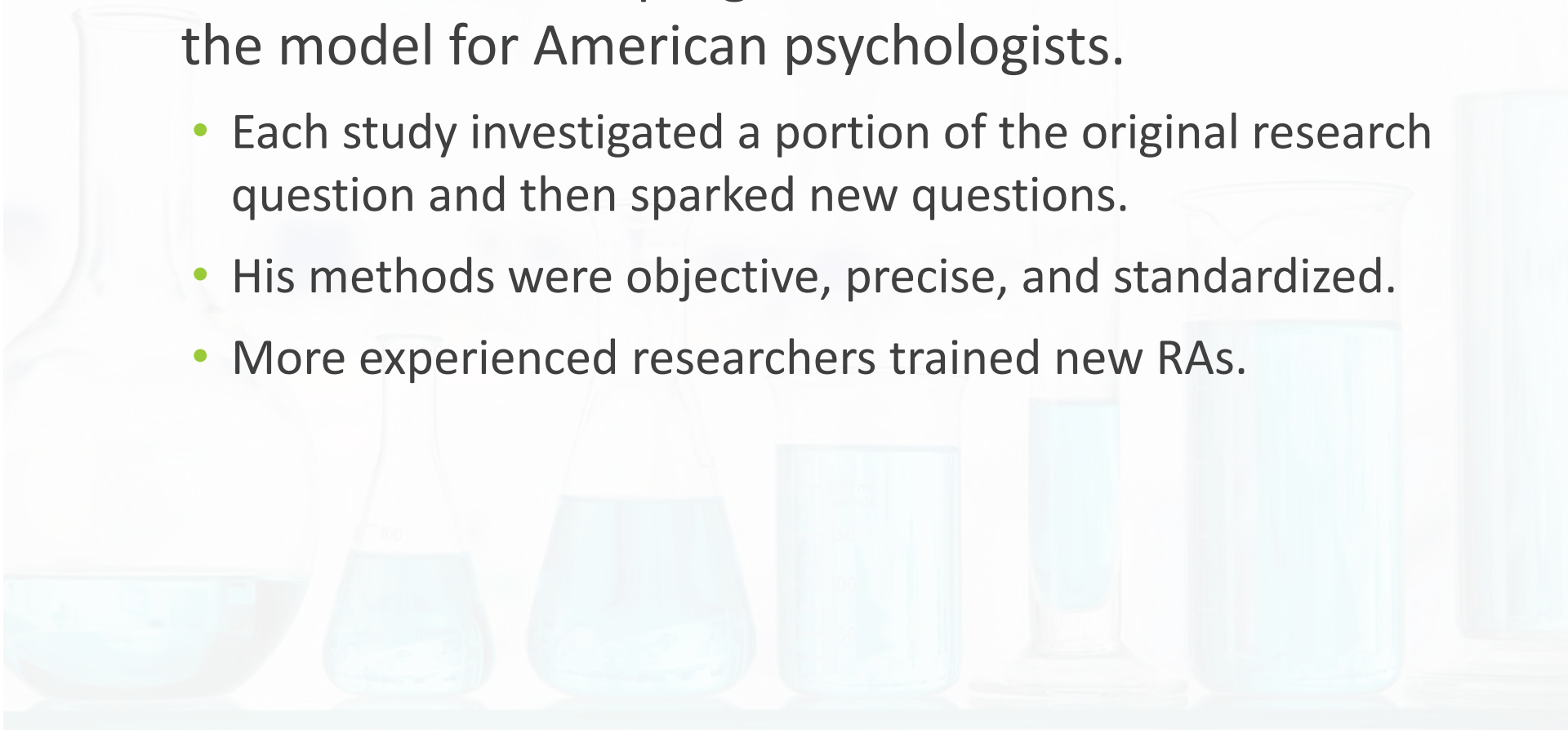
How did Pavlov contribute to behaviorism?

- Between **1891 and 1904**, he directed more than 100 doctoral dissertations in physiology.
- In the **1920s** and **1930s**, American psychologists were introduced to his work when it was translated into English.
 - It inspired others like **John Watson** and **B. F. Skinner**.



How did Pavlov contribute to behaviorism?

- His methods and “program of research” became the model for American psychologists.
 - Each study investigated a portion of the original research question and then sparked new questions.
 - His methods were objective, precise, and standardized.
 - More experienced researchers trained new RAs.



Why was
Pavlov's hair
so soft?

Because he
conditioned it.



**Who is John Watson? What
did Watson study? How did
Watson contribute to
behaviorism?**

Who is John Watson?

- **John B. Watson** (1878-1958) was an American psychologist, the founder of behaviorism, and one of the best-known psychologists of all time.
- Although he was not the first to embody its beliefs, he was its loudest promoter.



Who is John Watson?

- In 1903, he earned a PhD from the University of Chicago and studied with Dewey and Angell.
 - At the time, functionalism and comparative psychology were popular at this university.
 - His dissertation showed that baby rats became more trainable with age.



What did Watson study?

- In 1907, he and Harvey Carr taught rats to run through mazes for a food reward.
 - They showed that voluntary responses (running through a maze) could become conditioned responses.
 - They concluded that the rats learned through their kinesthetic senses, not external stimuli.
 - They would run into the walls when the maze was changed.

What did Watson study?

- In 1908, he moved to John Hopkins University and became the psychology departments' chair.
 - With Robert Yerkes, he designed equipment to study the sensory capabilities of various species.
 - In Florida, he studied imprinting and instinctual drift among two species of terns.



How did Watson contribute to behaviorism?

- In 1913, he described his vision for psychology in his “Psychology as the Behaviorist Views It”.
 - He criticized introspection.
 - He called for a more objective study of psychology with a focus on the behavior instead of the mind.
 - The goal was to predict and control behavior by controlling the environment.
- In 1914, he was elected APA president.

What did Watson study?

- In 1917, he and J.J.B. Morgan identified 3 human emotions and the stimuli that produced them.
 - Fear included crying and blinking.
 - It was a response to loud noises or a loss of support.
 - Rage included striking motion and stiffening of the body.
 - It was a response to movement restriction.
 - Love included smiling and cooing.
 - It was a response to gentle touches, rocking, or patting.

What did Watson study?

- In 1920, he and Rosalie Rayner published their “Little Albert” study.
 - They studied the acquisition, generalization, and persistence of fear.
 - They said emotional responses are conditioned.
 - They did not attempt to extinguish his fear!
- Later that year, he resigned from John Hopkins after his wife discovered his affair with Rayner.

What did Watson study?

- At first, Albert was only afraid of a loud noise.
 - He was not afraid of the rat or other stimuli.
- After the rat and the noise were paired together, he began to fear the rat, an effect that lasted for weeks.



What did Watson study?

- His fear generalized to other furry stimuli (e.g., Rayner's fur coat and Watson's Santa Claus beard).



How did Watson contribute to behaviorism?

- Watson was the loudest promoter of behaviorism.
 - He promoted it in books, magazines, journals, radio broadcasts, public debates, and speeches.
 - American psychologists were already interested in a more objective psychology.
 - Americans believed people are shaped by their environment.



How did Watson contribute to behaviorism?

- He bridged the gap between basic research and applied research in psychology.
 - He studied behavior in the lab and then applied the knowledge to real-world problems in education, business, and law.

BASIC RESEARCH

APPLIED RESEARCH



How did Watson contribute to behaviorism?

- In 1920, he resigned from John Hopkins University for having an affair with one of his students.
- In 1921, he became an advertising executive at J Walter Thompson and applied psychology to the marketing of products and services.

