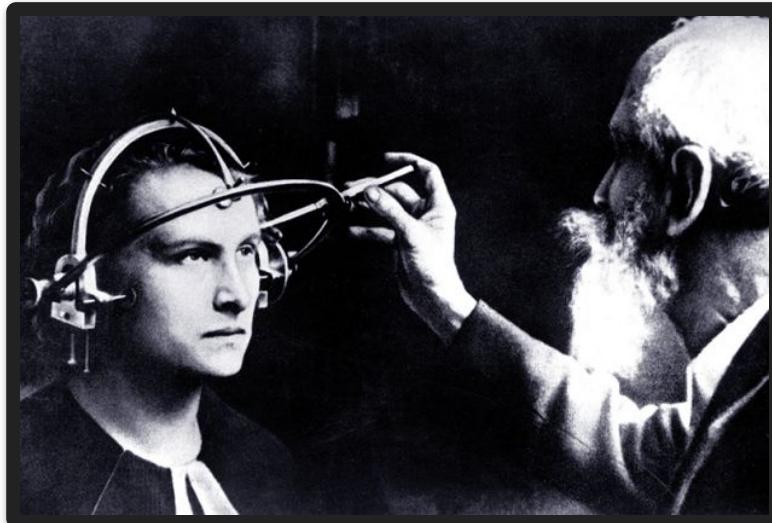


# *Psychology*

*a history in three chapters*



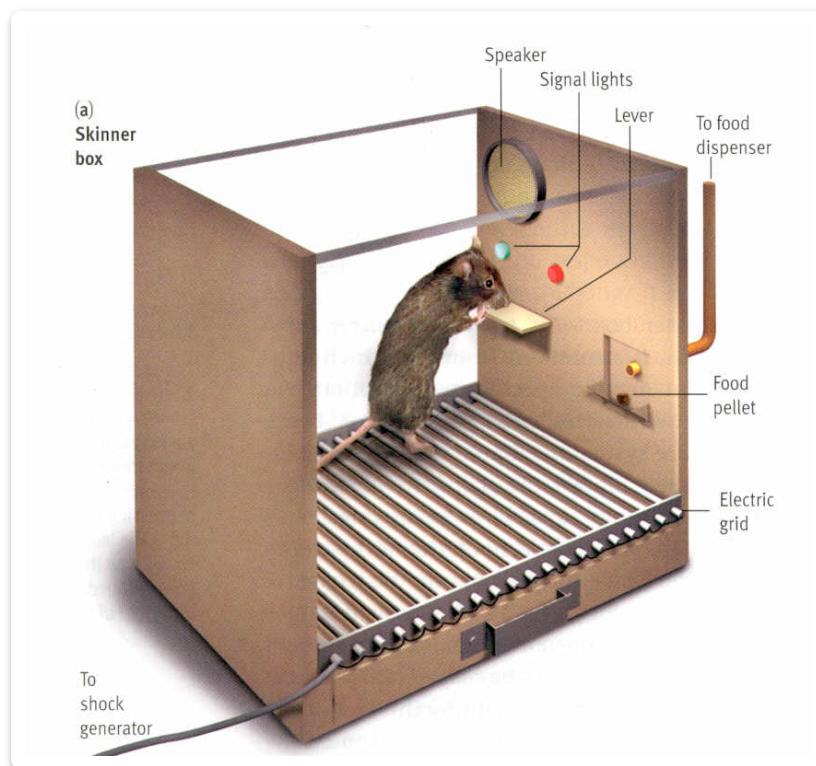
George Matthews, Plymouth State University

2020

## 1. Behaviorism

## 2. Neuroscience

## 3. Cognitive Science

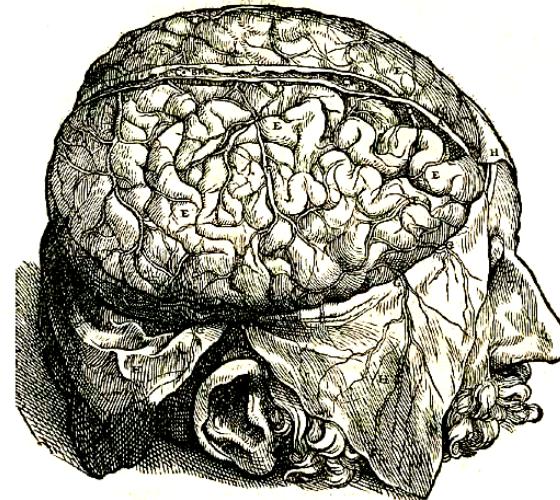


1. Behaviorism

2. Neuroscience

3. Cognitive Science

SECVNDA SEPTIMI LIBRI FIGVRA.



SECVNDAE FIGVRAE, EIVSDEM QVE CHARA  
cterum Index.

PRAES E N S figura sectionis scrie primam subsequens, tertium duræ membrane  
sinum (quem prima figura C aliquot insignitum gerit) longa sectione secundum capitum longitu  
dinem ducta adapertum commonstrat. Insuper ad huius tertij sinus latera, per capitum quoque lon  
gitudinem duas deduxi sectiones, utrinque nimirū ad sinus singulas, quæ duram membranam dun  
taxat penetrarunt, & duræ membrane latera ab ea membranæ separarunt parte, qua dextram  
cerebri partem dinsistra dirimit, atque in subsequenti figura tribus D insignetur. Præter tres  
iam commemoratas sectiones utrinque aliæ quoque molitus sum, quæ ab aure ad uerticem pertingent,  
folam

1. Behaviorism

2. Neuroscience

3. Cognitive Science



# *prehistory*

"I am really distinct from my body and can exist without it."



Rene Descartes  
1596-1650

# *prehistory*

"I am really distinct from my body and can exist without it."



Rene Descartes  
1596-1650

- Descartes gave a philosophical defense of the traditional conception that the mind, or soul, is essentially distinct from the body, otherwise known as **dualism**.

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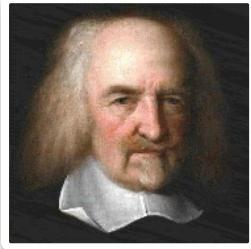


Rene Descartes  
1596-1650

- Descartes gave a philosophical defense of the traditional conception that the mind, or soul, is essentially distinct from the body, otherwise known as **dualism**.
- If science is the study of the physical universe, and the mind is separate from this universe, how can the mind be studied scientifically?

# *prehistory*

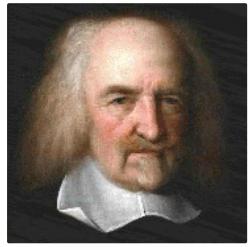
"What is the heart but a spring, and the nerves but so many strings, and the joints but so many wheels, giving motion to the whole body?"



Thomas Hobbes  
1588-1679

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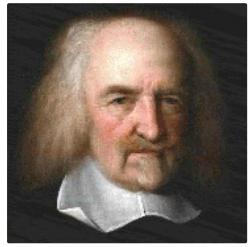


Thomas Hobbes  
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- Hobbes suggested a mechanistic theory of mind, but this remained a metaphoric model.

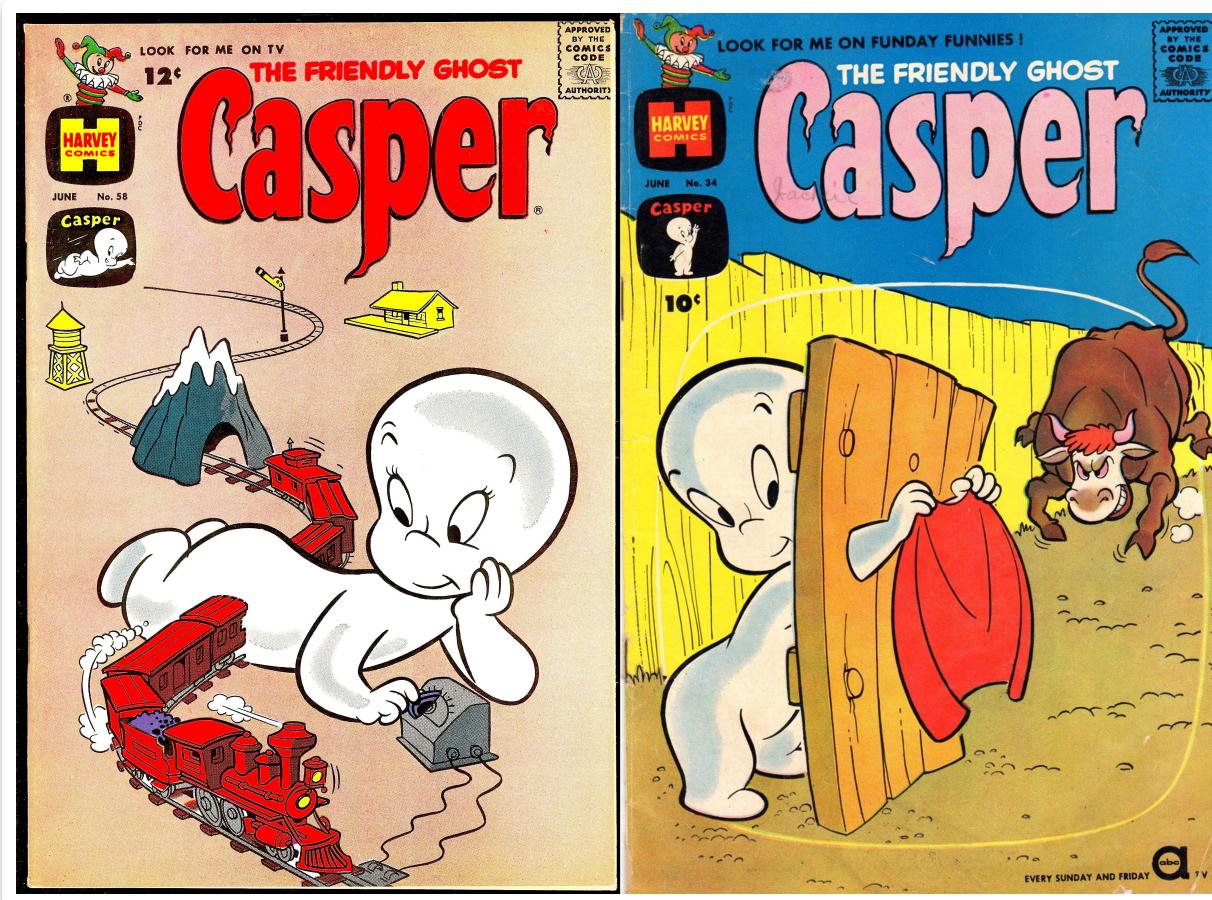
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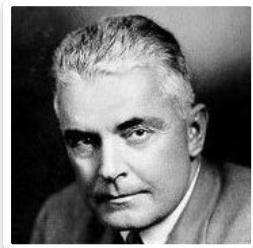


Thomas Hobbes  
1588-1679

- Hobbes suggested a mechanistic theory of mind, but this remained a metaphoric model.
- How can we study the mind scientifically when it seems to be different than physical phenomena which are accessible to public inspection and objective experimentation?



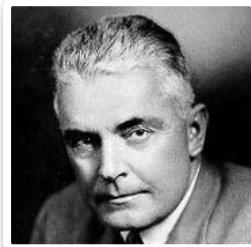
## *1. Behaviorism*



J.B. Watson  
1878-1958

"Psychology as the behaviorist views it is a purely objective experimental branch of natural science. Its theoretical goal is the prediction and control of behavior."

## *1. Behaviorism*

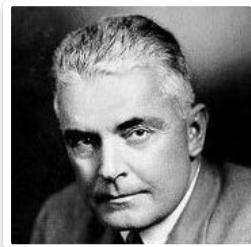


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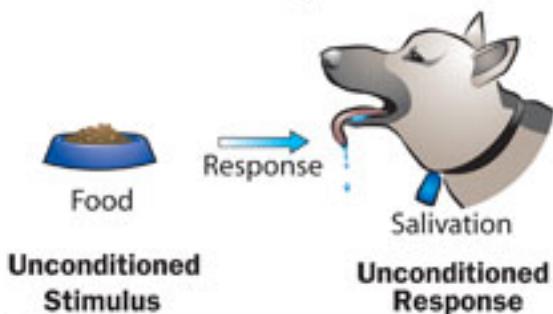
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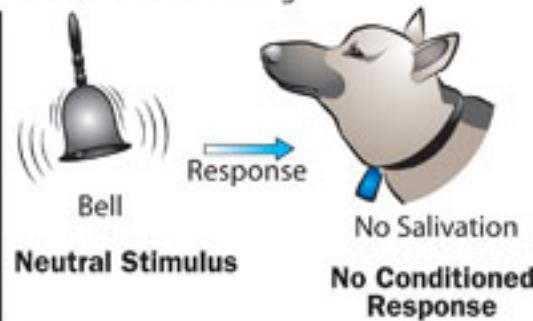
- Behaviorism ignores the "inner world" of conscious experience and focuses on what organisms with minds **do** in controlled experiments.
- Watson's vision of a scientific psychology was of a science with all of the predictive power of physics.

## How Dog Training Works

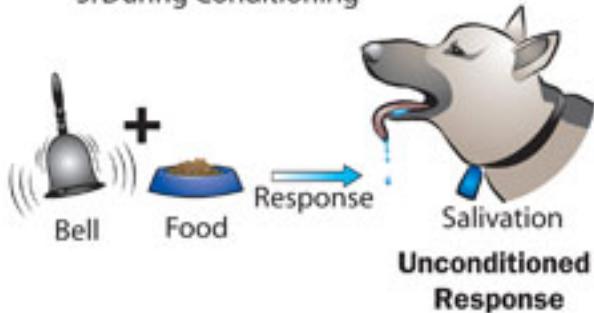
1. Before Conditioning



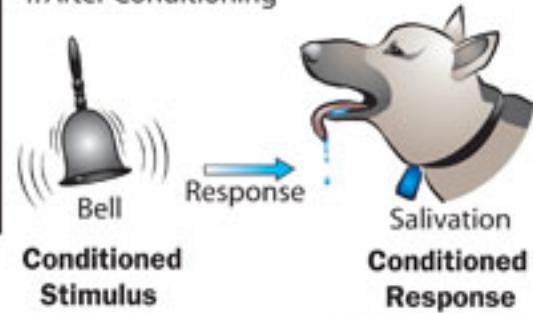
2. Before Conditioning



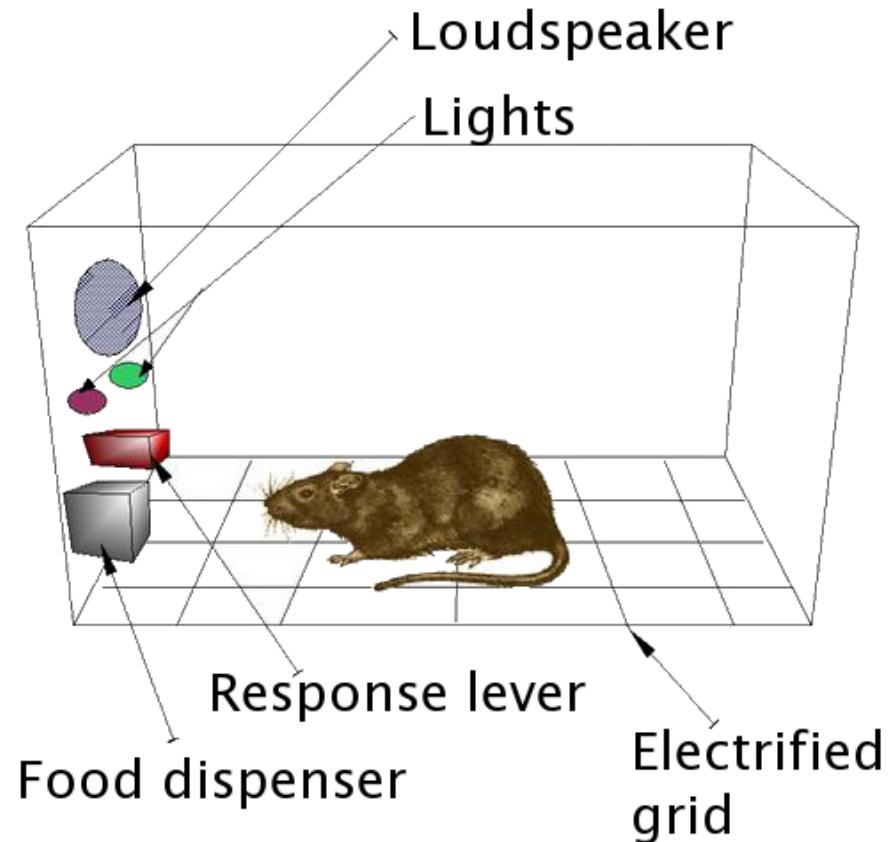
3. During Conditioning



4. After Conditioning



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*How predictable are people?*

# *How predictable are people?*



*As predictable as a clock?*

# *How predictable are people?*



*As predictable as a clock?*



*As random as dice?*

# *How predictable are people?*



*As predictable as a clock?*



*As random as dice?*



*As chaotic as a storm?*

## 2. Neuroscience



Hippocrates of  
Cos  
5th Century BCE

"From the brain, and from the brain only, arise our pleasures, joys, laughter and jests, as well as our sorrows, pains, griefs and tears. Through it, in particular, we think, see, hear, and distinguish the ugly from the beautiful, the bad from the good, the pleasant from the unpleasant"

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- The role of the brain in mental life was suspected for thousands of years before a comprehensive theory was developed.

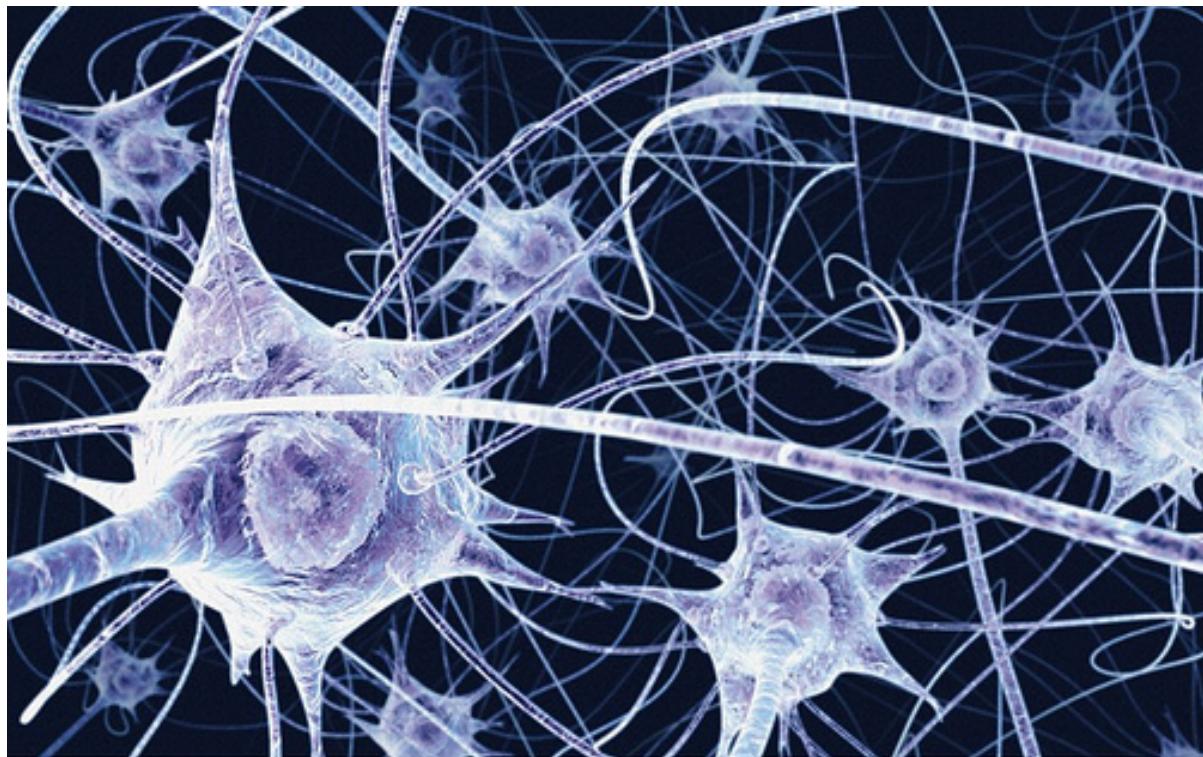
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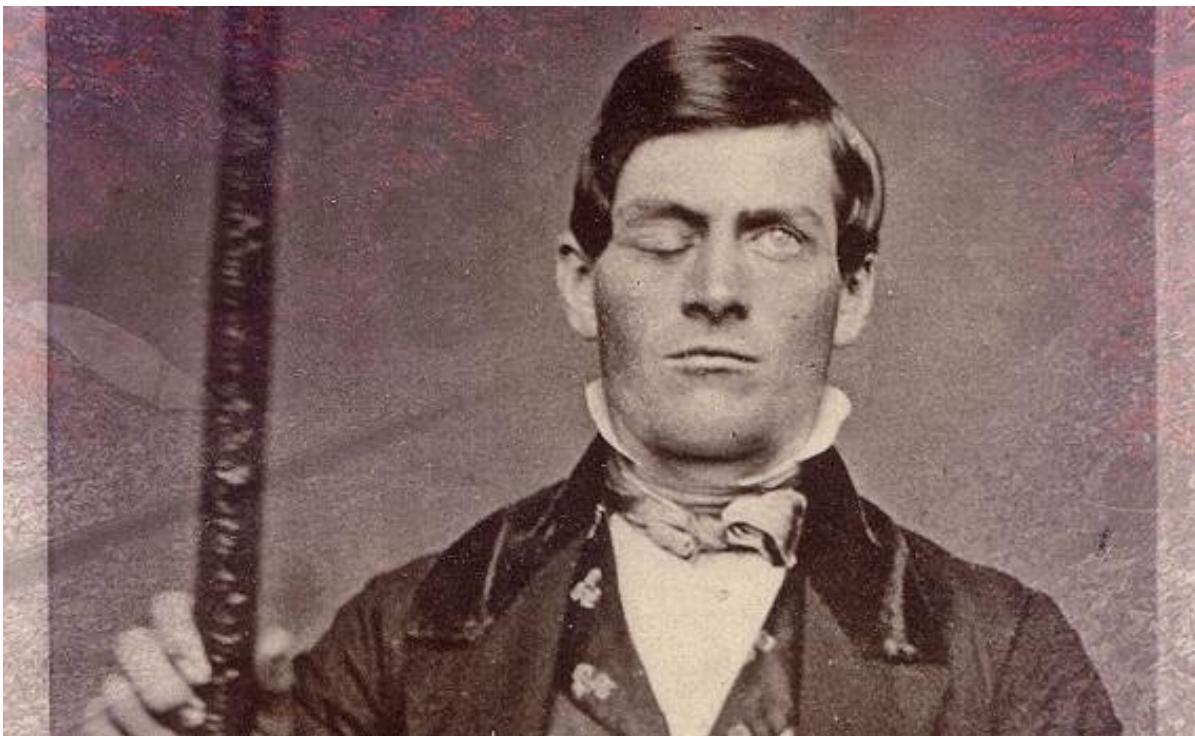
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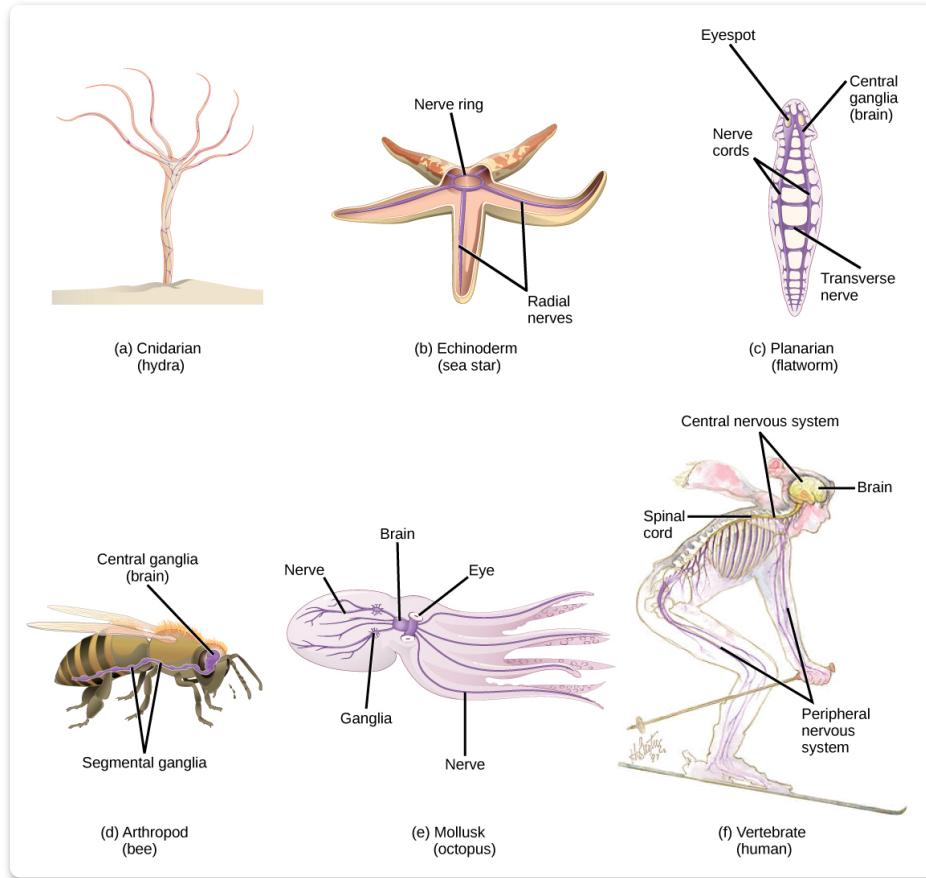
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- The role of the brain in mental life was suspected for thousands of years before a comprehensive theory was developed.
- What theoretical developments were crucial to the birth of neuroscience?

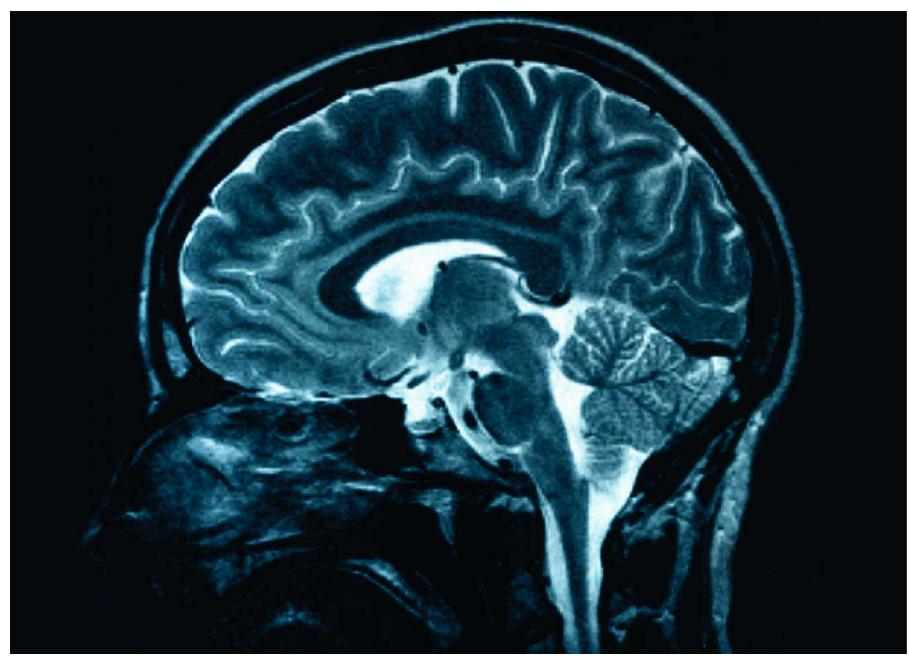


Wellcome Images





*Is this all there is to me?*



### *3. Cognitive Science*

"A computer would deserve to be called intelligent if it could deceive a human into believing that it was human."



Alan Turing  
1912-1954

### *3. Cognitive Science*

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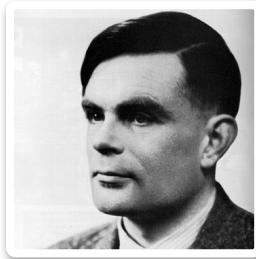


Alan Turing  
1912-1954

- Turing laid the foundations for computer science as well the new sciences of the mind collectively called "cognitive science."

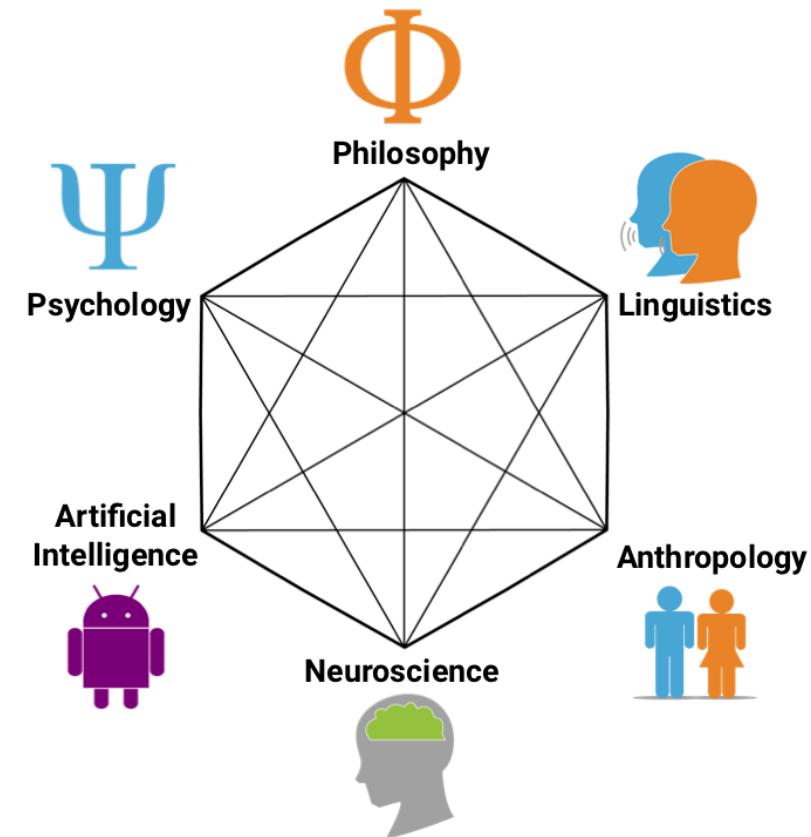
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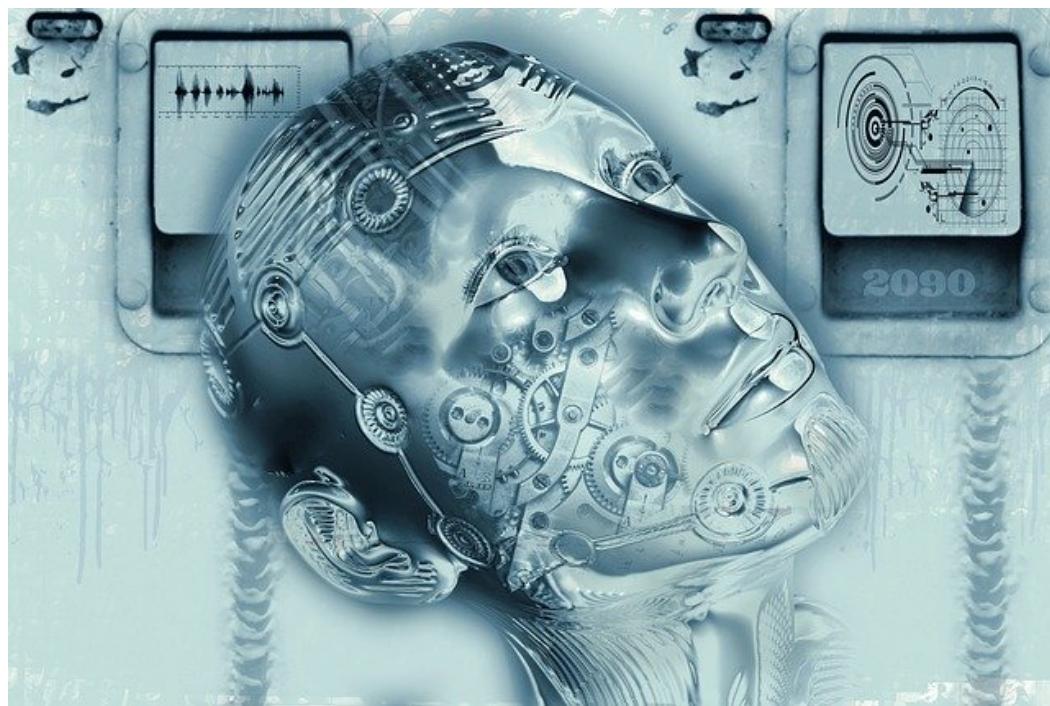


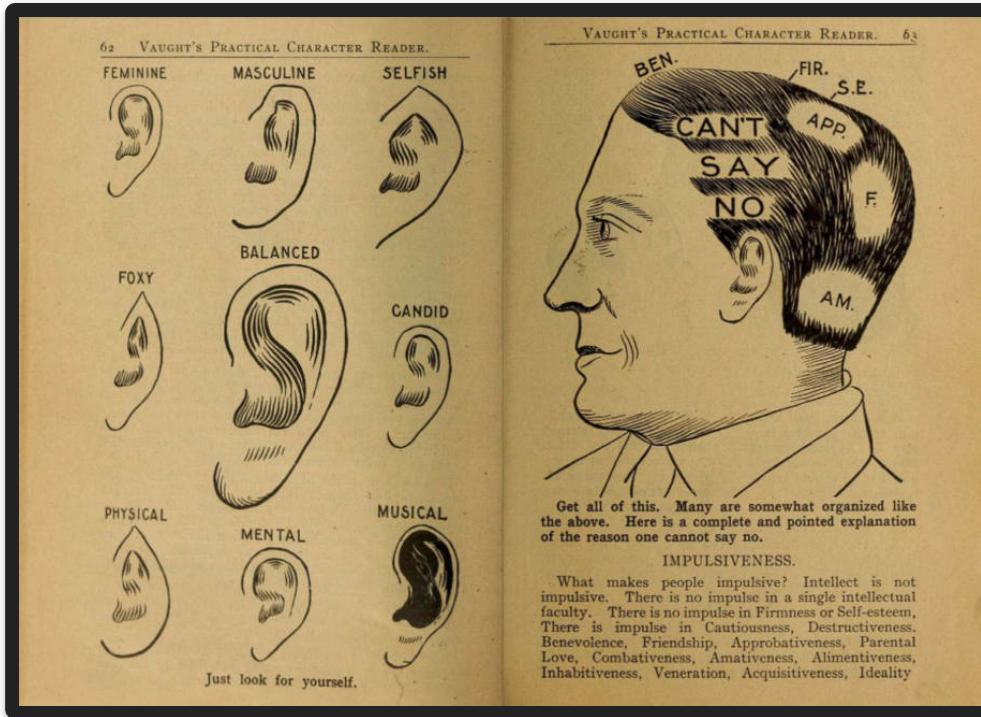
Alan Turing  
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- Turing laid the foundations for computer science as well the new sciences of the mind collectively called "cognitive science."
- Cognitive science looks at the ways in which minds process information enabling organisms who have them to adapt to changing circumstances in real time.



*Are we nothing but fancy biological machines?*





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