



Plausibility  
and the  
The Plausibility Ranking Task

# Plausibility: A Refresher

How do scientists change their plausibility judgments?

Plausibility is a judgment we make about the potential truthfulness of one model compared to another. The judgment may be tentative (not certain). You do not have to be committed to that decision.

Scientists may change their plausibility judgments about scientific ideas.

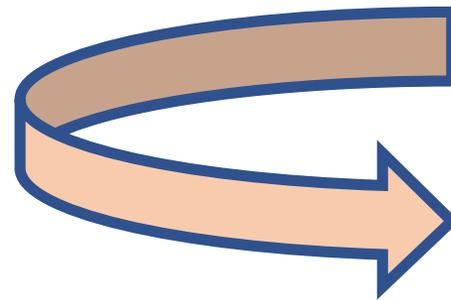


# Analysis of Evidence

Strongly supports

Has nothing to do with/unrelated

Supports



Contradicts

# Falsifiability

Scientific ideas must be *falsifiable*. In other words, scientific ideas can never be proven. But, ideas can be disproven by opposing evidence. When this happens, scientists must revise the idea or come up with another explanation. *Falsifiability* is a very important principle when evaluating scientific knowledge.

## The True/False Strategy



# Falsifiability Examples:

White Swans



Black Swans

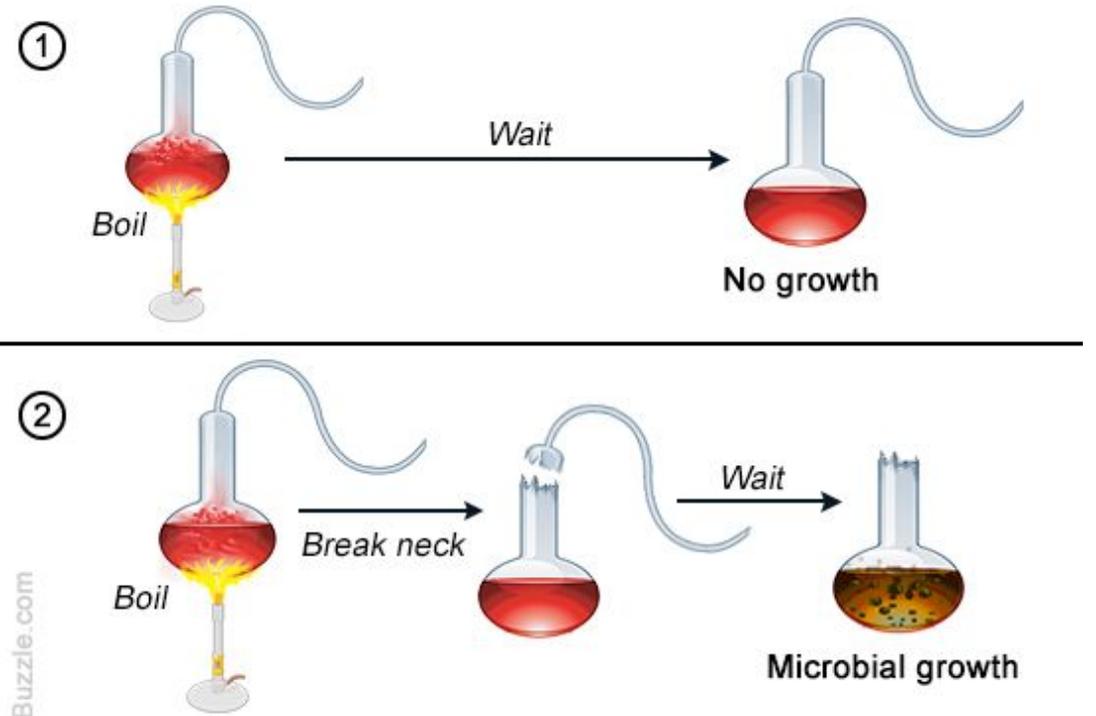


# Falsifiability Examples:

## Spontaneous Generation

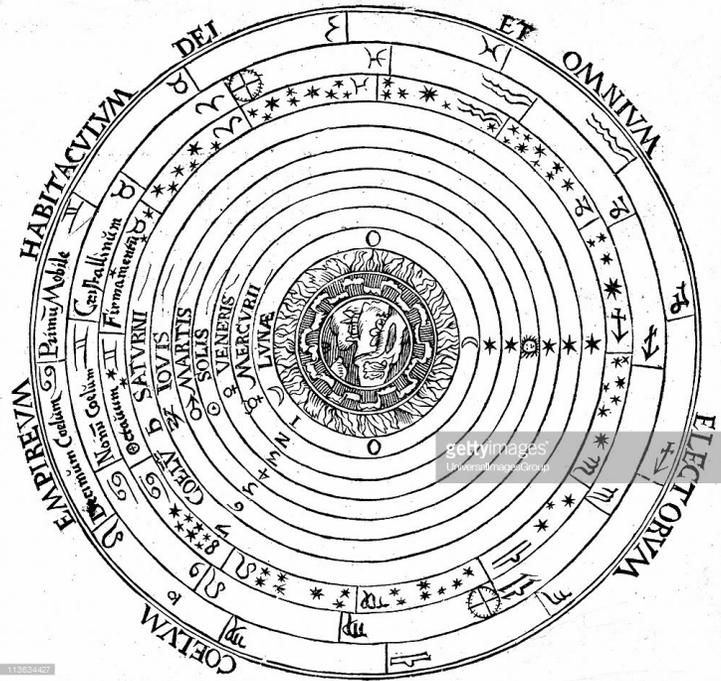


## Univocal Generation

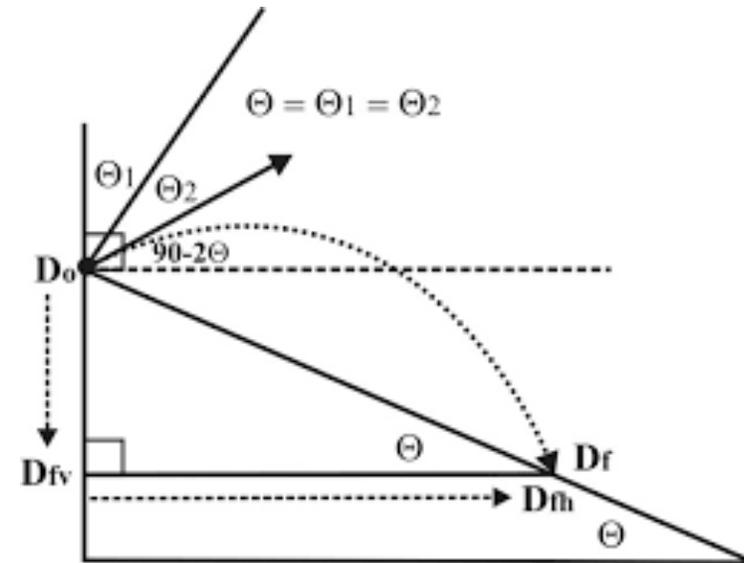


# Falsifiability Examples:

## Aristotelian Physics



## Newtonian Physics



# Falsifiability Examples:

What examples do you have?

# Plausibility Non-Examples:

Avoid things like

- Miraculous
- Magical
- Supernatural

Realistic Choices

# What do students do?

## Goals:

- Recognize that plausible competing models exist
- Evidence influences plausibility
- Falsifiability is an important scientific concept

## Discussion Points:

- Probability vs Plausibility
- Emphasize the importance of falsifiability- the null hypothesis

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