

# Introduction to Induction & Deduction

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# Deductive Argument

- **Deductive Arguments-** An argument in which the truth of the premises absolutely guarantees the truth of the conclusion
- Its just not possible that the premises is true and conclusion is false
  - Example-
  - No A is B
  - C is A
  - So C is not B

# Deductive Research Approach

- Works from more general to the more specific
- It is most associated with scientific investigation
- Researcher studies what others have done, reads existing theories and then test hypothesis
- Top-down approach
- Conclusion follows logically from premises

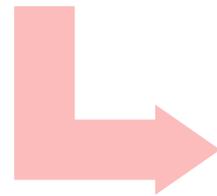
# Deductive Research Approach

Theory

Hypothesis

Observations

Confirmation



# Inductive Argument

- An argument where the truth of the premises gives good reason to believe the conclusion, but does not absolutely guarantee the truth of the conclusion
- Example- None of the medieval texts we have studied argues against the existence of God (May be argument is made but not transmitted to us)
- So, nobody in the Middle Ages argued against the existence of God

# Content of Inductive Argument

- How probabilities the things we are interested in behave uniformly
  - Example- It is quite probable that my nerves will play in the same stimulus, same way all the time and it is highly unprobeable that there is a language which everyone speaks in the world
  - Background theories in terms of human body and linguistic community play an important role in deciding how much evidence we need in order to prove the theories

# Content of Inductive Argument

- Whether data are representative or not
  - Example- Data that represent the subject matter as a whole, and not just a special part of it
  - Suppose life expectancy data
  - Information on rich people
  - The data will not be representative as socio-economic makes a big difference to the life expectancy
  - Hence data is required from groups like middle income group, low income group, farmers

## Inductive Approaches in Research with some examples

- Induction Approach- Researcher begins with collecting data that is relevant to their topic
- Substantial amount of data- gets a bird's eye view of their data
- Looks for pattern in the data
- Work to develop the theory that could explain the pattern

# Inductive Research Approach

- Moving from specific observations to broader generalisations and theories
- Bottom up Approach
- Conclusion is likely based on premises
- Involves a degree of uncertainty

# Inductive Research

Gather  
Data

Look for  
pattern

Develop  
Theory

# Inductive Research

