

~SCIENCE AND STATISTICS~

Lecture 1: The Attitude of Science

- Some people are ignorant of science BUT if it is not harmful, no need to worry
- Science is a system bounded by possibilities
 - Nothing in science is absolutely certain
 - Humble and open-minded sense of science→ that we admit it is not certain
- Which questions belong to the magisterium of science and which do not?
 - Science→ if you can test it, empirical testing
 - Not science→ if you can't test it→ questions of morality cannot be tested
 - Questions of science and religion should not contradict each other, because they should not intersect in the first place→ separate from one another
- Sources of knowledge
 - Revelation—taught or told by parents, religion, teachers
 - Emotions, intuition and opinions
 - Scientific method—doing tests→ can yield results contradictory to what we believe
- Misconceptions of science
 - That its strength lies in the body of knowledge and experts
 - BUT strength is in its methods and attitudes
- Tennis analogy
 - Tennis games→ testing of theories→ constant testing and research
 - Ranks→ who is the best player is of the now→ what is best is what we know now
 - Rankings are not stable→ they can change
 - Pseudoscience—people outside the stadium, stubborn with opinions, claims they don't need to be inside, don't need to watch the game because they're the best
 - Close minded people—people stubborn to change their opinions on who is the best tennis player despite the evidence of wins or losses
- Science should have no authorities
 - Decisions should not be made based on the person who claims something
 - Don't believe just because the person is credible
 - Don't reject just because the person is unknown
 - We are all in the search for what is really going on→ everything is questionable and open to criticism→ no favourites
 - Appeal to authority—you believe in the opinion of one just because they are credible
 - Ad hominem—attacking the person and not the argument
 - Argument from antiquity—believe something is true just because it has been accepted or known for a long time
- Science as open-minded
 - Science has an endeavour to disprove→ nothing is right forever

- If you accept things eternally→ no room for improvement, for a better understanding→ no room for adapting even with contradictory evidence→ no progress
 - Scientific method is employed to look for new realities
 - Science operates with the mindset that our current understanding is imperfect
 - “Science knows it does not know everything, otherwise it will stop”
 - Constant testing and criticising for the sake of progress
- We deal with understandings of what we have now
 - We don't deal with certainties or perfection, just what is with the times→ zeitgeist
 - In the past we have disproven theories→ so can our theories be now in the future
- Scientific arguments involve statements supported by evidence and research
 - We should be neutral to something when no evidence exists→ appeal to ignorance: absence of evidence is not evidence of absence
 - Science works not on possibilities, but probabilities
 - Open mindedness→ not accepting everything, but considering everything and evaluating before accepting
- Accusing someone of being close minded is also being close-minded→ ad hominem