

A (Very) Brief Introduction to Epistemology

Lecture 1

Palash Sarkar

Applied Statistics Unit
Indian Statistical Institute, Kolkata
India
palash@isical.ac.in



What is Epistemology?

- Greek origin: theory of knowledge.
- Basic questions:
 - What is knowledge?
 - What are the processes of acquiring knowledge?
 - Other related questions.

Why will we discuss epistemology?

- We have discussed science and scientific knowledge. So, it might be a good idea to take a look at what people have generally thought about knowledge.
- Roots of several thoughts regarding philosophy of science can be found in the more general approaches to epistemology.



What is Epistemology?

- Greek origin: theory of knowledge.
- Basic questions:
 - What is knowledge?
 - What are the processes of acquiring knowledge?
 - Other related questions.

Why will we discuss epistemology?

- We have discussed science and scientific knowledge. So, it might be a good idea to take a look at what people have generally thought about knowledge.
- Roots of several thoughts regarding philosophy of science can be found in the more general approaches to epistemology.



Epistemology: What and Why?

What is Epistemology?

- Greek origin: theory of knowledge.
- Basic questions:
 - What is knowledge?
 - What are the processes of acquiring knowledge?
 - Other related questions.

Why will we discuss epistemology?

- We have discussed science and scientific knowledge. So, it might be a good idea to take a look at what people have generally thought about knowledge.
- Roots of several thoughts regarding philosophy of science can be found in the more general approaches to epistemology.



Among the greatest of the Western philosophers of all times.

Born around 482-7 B.C.

We will briefly consider the following aspects.

- The dialectical method of Socrates.
- Knowledge and perception.
- Theory of ideas.



Among the greatest of the Western philosophers of all times.

Born around 482-7 B.C.

We will briefly consider the following aspects.

- The dialectical method of Socrates.
- Knowledge and perception.
- Theory of ideas.



The Dialectical Method

- Based on a dialogue between two or more people who may hold differing views, yet wish to seek the truth of the matter through the exchange of their viewpoints while applying reason.
- Related methods.
 - Debate: both sides are committed to their viewpoints and a jury is required to pronounce the outcome.
 - Rhetoric: communication designed to persuade an audience to side with a particular argument or action.



The Dialectical Method

- Based on a dialogue between two or more people who may hold differing views, yet wish to seek the truth of the matter through the exchange of their viewpoints while applying reason.
- Related methods.
 - Debate: both sides are committed to their viewpoints and a jury is required to pronounce the outcome.
 - Rhetoric: communication designed to persuade an audience to side with a particular argument or action.



The Dialectical Method (Contd.)

- Socrates favoured “truth” as the highest value.
 - It can be discovered through reason and logic in discussion.
 - This leads to the dialectical method.
- Socrates valued rationality, i.e. logical appeal, above emotional appeal, as the proper means for persuasion, discovery of truth, and as the determinant of action.
 - Each person should seek truth above all to guide his life.
- Socrates opposed the teaching of rhetoric as artistic, emotional oratory that did not require logic or proof.



The Dialectical Method (Contd.)

- Socrates favoured “truth” as the highest value.
 - It can be discovered through reason and logic in discussion.
 - This leads to the dialectical method.
- Socrates valued rationality, i.e. logical appeal, above emotional appeal, as the proper means for persuasion, discovery of truth, and as the determinant of action.
 - Each person should seek truth above all to guide his life.
- Socrates opposed the teaching of rhetoric as artistic, emotional oratory that did not require logic or proof.



The Dialectical Method (Contd.)

- Socrates favoured “truth” as the highest value.
 - It can be discovered through reason and logic in discussion.
 - This leads to the dialectical method.
- Socrates valued rationality, i.e. logical appeal, above emotional appeal, as the proper means for persuasion, discovery of truth, and as the determinant of action.
 - Each person should seek truth above all to guide his life.
- Socrates opposed the teaching of rhetoric as artistic, emotional oratory that did not require logic or proof.



Theaetetus: a great work on epistemology

- Written as a dialogue between Socrates on one side (questioner) and Theaetetus and Theodorus on the other (responder).
- Examines several definitions of knowledge and rejects all of them.
 - The first one is immediately dismissed, while three others are dismissed after detailed investigation.
- Does not offer any definition of knowledge.
 - The dialectical method need not necessarily resolve an issue.

“Dogmatism and skepticism are both, in a sense, absolute philosophies; one is certain of knowing, the other of not knowing. What philosophy should dissipate is certainty, whether of knowledge or ignorance.”

– *Bertrand Russell*



Theaetetus: a great work on epistemology

- Written as a dialogue between Socrates on one side (questioner) and Theaetetus and Theodorus on the other (responder).
- Examines several definitions of knowledge and rejects all of them.
 - The first one is immediately dismissed, while three others are dismissed after detailed investigation.
- Does not offer any definition of knowledge.
 - The dialectical method need not necessarily resolve an issue.

“Dogmatism and skepticism are both, in a sense, absolute philosophies; one is certain of knowing, the other of not knowing. What philosophy should dissipate is certainty, whether of knowledge or ignorance.”

– *Bertrand Russell*



Knowledge and Perception in Plato (Contd.)

0. Knowledge of things may be given by examples such as geometry, astronomy, arithmetic.

- Criticism: Examples of X are neither necessary nor sufficient for a definition of X .

1. Knowledge is perception.

- One who knows something is perceiving the thing that he knows and so, knowledge is nothing but perception.
- Some criticisms put forward by Socrates.
 - Perception *is through* sense-organs rather than *with them*.
 - Certain kinds of knowledge (e.g., sounds and colours are unlike) is not connected to any sense-organ.
 - Only the mind can reach existence and truth cannot be reached without reaching existence.



Knowledge and Perception in Plato (Contd.)

0. Knowledge of things may be given by examples such as geometry, astronomy, arithmetic.

- Criticism: Examples of X are neither necessary nor sufficient for a definition of X .

1. Knowledge is perception.

- One who knows something is perceiving the thing that he knows and so, knowledge is nothing but perception.
- Some criticisms put forward by Socrates.
 - Perception *is through* sense-organs rather than *with them*.
 - Certain kinds of knowledge (e.g., sounds and colours are unlike) is not connected to any sense-organ.
 - Only the mind can reach existence and truth cannot be reached without reaching existence.



Knowledge and Perception in Plato (Contd.)

0. Knowledge of things may be given by examples such as geometry, astronomy, arithmetic.

- Criticism: Examples of X are neither necessary nor sufficient for a definition of X .

1. Knowledge is perception.

- One who knows something is perceiving the thing that he knows and so, knowledge is nothing but perception.
- Some criticisms put forward by Socrates.
 - Perception *is through* sense-organs rather than *with them*.
 - Certain kinds of knowledge (e.g., sounds and colours are unlike) is not connected to any sense-organ.
 - Only the mind can reach existence and truth cannot be reached without reaching existence.



2. Knowledge is true belief.

- Possibility of false belief is explored and found to be unsatisfactory.
- Accidental true belief cannot be called knowledge.
 - Provides the example of Athenian juries.

3. Knowledge is true belief with an account (logos).

- Three possible explanations of logos is examined and found to be unsatisfactory.
 - Logos means speech or statement.
 - Logos of O is an enumeration of the elements of O.
 - To give the logos of O is to provide the diagnostic feature wherein O differs from everything else.



2. Knowledge is true belief.

- Possibility of false belief is explored and found to be unsatisfactory.
- Accidental true belief cannot be called knowledge.
 - Provides the example of Athenian juries.

3. Knowledge is true belief with an account (logos).

- Three possible explanations of logos is examined and found to be unsatisfactory.
 - Logos means speech or statement.
 - Logos of O is an enumeration of the elements of O.
 - To give the logos of O is to provide the diagnostic feature wherein O differs from everything else.



- What is meant by the word 'cat'?
 - Something different from any particular animal.
 - If the word 'cat' means anything, then it denotes some kind of universal 'cattiness'.
 - This notion does not arise with the birth of a particular cat.
 - The notion has no position in space or time; it is eternal.
- Universals.
 - Idea or form: whenever a group of things have a common name, they have a common idea.
 - This idea is real, particular things (such as particular beds) are unreal.
 - There can be *knowledge* only about the real bed; in respect of particular beds, there can only be *opinion*.

Theorems are *discovered* rather than being *invented*.



- What is meant by the word 'cat'?
 - Something different from any particular animal.
 - If the word 'cat' means anything, then it denotes some kind of universal 'cattiness'.
 - This notion does not arise with the birth of a particular cat.
 - The notion has no position in space or time; it is eternal.
- Universals.
 - Idea or form: whenever a group of things have a common name, they have a common idea.
 - This idea is real, particular things (such as particular beds) are unreal.
 - There can be *knowledge* only about the real bed; in respect of particular beds, there can only be *opinion*.

Theorems are *discovered* rather than being *invented*.



- What is meant by the word 'cat'?
 - Something different from any particular animal.
 - If the word 'cat' means anything, then it denotes some kind of universal 'cattiness'.
 - This notion does not arise with the birth of a particular cat.
 - The notion has no position in space or time; it is eternal.
- Universals.
 - Idea or form: whenever a group of things have a common name, they have a common idea.
 - This idea is real, particular things (such as particular beds) are unreal.
 - There can be *knowledge* only about the real bed; in respect of particular beds, there can only be *opinion*.

Theorems are *discovered* rather than being *invented*.



René Descartes (1596–1650)

- Considered to be the founder of modern philosophy.
- Proposed the coordinate geometry.
 - Connection between geometry and algebra and use of algebraic methods to solve geometrical problems.
 - The cartesian coordinates bear his name.



Method of Cartesian Doubt

- The process of doubting everything possible until something is found which cannot be doubted.
- There remains something which cannot be doubted.
 - No demon, however cunning, could deceive me if I did not exist.

Cogito ergo sum.
I think, therefore I am.

- Existence of the first person is assured.



Method of Cartesian Doubt

- The process of doubting everything possible until something is found which cannot be doubted.
- There remains something which cannot be doubted.
 - No demon, however cunning, could deceive me if I did not exist.

Cogito ergo sum.
I think, therefore I am.

- Existence of the first person is assured.



Method of Cartesian Doubt

- The process of doubting everything possible until something is found which cannot be doubted.
- There remains something which cannot be doubted.
 - No demon, however cunning, could deceive me if I did not exist.

Cogito ergo sum.
I think, therefore I am.

- Existence of the first person is assured.



Method of Cartesian Doubt

- The process of doubting everything possible until something is found which cannot be doubted.
- There remains something which cannot be doubted.
 - No demon, however cunning, could deceive me if I did not exist.

Cogito ergo sum.
I think, therefore I am.

- Existence of the first person is assured.



Method of Cartesian Doubt (Contd.)

- Why is the cogito so evident?
 - Because it is clear and distinct.
 - Principle: *All things that we conceive very clearly and very distinctly are true.*
 - Descartes admits that there is sometimes difficulty in knowing which things these are.
- Since thought is the essence of mind, the mind must always think, even during deep sleep.
- Goes on to a detailed investigation aimed at building the edifice of knowledge.



Method of Cartesian Doubt (Contd.)

- Why is the cogito so evident?
 - Because it is clear and distinct.
 - Principle: *All things that we conceive very clearly and very distinctly are true.*
 - Descartes admits that there is sometimes difficulty in knowing which things these are.
- Since thought is the essence of mind, the mind must always think, even during deep sleep.
- Goes on to a detailed investigation aimed at building the edifice of knowledge.



Method of Cartesian Doubt (Contd.)

- Why is the cogito so evident?
 - Because it is clear and distinct.
 - Principle: *All things that we conceive very clearly and very distinctly are true.*
 - Descartes admits that there is sometimes difficulty in knowing which things these are.
- Since thought is the essence of mind, the mind must always think, even during deep sleep.
- Goes on to a detailed investigation aimed at building the edifice of knowledge.



John Locke (1632–1704):

- The only knowledge humans can have is a posteriori, i.e., based upon experience.
- Human mind is a white paper on which the experiences derived from sense impressions as a person's life proceeds are written.
- Two sources of our ideas: sensation and the perception of the operation of our own mind.
 - We can only think by means of ideas.
 - All ideas come from experience.
 - So, none of our knowledge can antedate experience.
- Our knowledge of things is a perception of ideas.
 - Perception is the first step and degree towards knowledge.
 - Advocates complete dependence of knowledge on perception.



John Locke (1632–1704):

- The only knowledge humans can have is a posteriori, i.e., based upon experience.
- Human mind is a white paper on which the experiences derived from sense impressions as a person's life proceeds are written.
- Two sources of our ideas: sensation and the perception of the operation of our own mind.
 - We can only think by means of ideas.
 - All ideas come from experience.
 - So, none of our knowledge can antedate experience.
- Our knowledge of things is a perception of ideas.
 - Perception is the first step and degree towards knowledge.
 - Advocates complete dependence of knowledge on perception.



John Locke (1632–1704):

- The only knowledge humans can have is a posteriori, i.e., based upon experience.
- Human mind is a white paper on which the experiences derived from sense impressions as a person's life proceeds are written.
- Two sources of our ideas: sensation and the perception of the operation of our own mind.
 - We can only think by means of ideas.
 - All ideas come from experience.
 - So, none of our knowledge can antedate experience.
- Our knowledge of things is a perception of ideas.
 - Perception is the first step and degree towards knowledge.
 - Advocates complete dependence of knowledge on perception.



John Locke (1632–1704):

- The only knowledge humans can have is a posteriori, i.e., based upon experience.
- Human mind is a white paper on which the experiences derived from sense impressions as a person's life proceeds are written.
- Two sources of our ideas: sensation and the perception of the operation of our own mind.
 - We can only think by means of ideas.
 - All ideas come from experience.
 - So, none of our knowledge can antedate experience.
- Our knowledge of things is a perception of ideas.
 - Perception is the first step and degree towards knowledge.
 - Advocates complete dependence of knowledge on perception.



British Empiricism (Contd.)

George Berkeley (1685–1753):

Considered that Locke's view opened the door to ultimate atheism. Put forward another (and an extreme) form of empiricism.

- Things only exist either as a result of their being perceived, or by virtue of the fact that they are an entity doing the perceiving.
- Denies the existence of matter independent of perception.
- God is always perceiving everything.
- Some consequences:
 - God becomes central to the theory.
 - Conception of the infinite becomes troublesome.
- Some criticisms:
 - Peculiar application of logical/deductive method to the process of perceiving.
 - To be observed is merely to have certain effects.



British Empiricism (Contd.)

George Berkeley (1685–1753):

Considered that Locke's view opened the door to ultimate atheism. Put forward another (and an extreme) form of empiricism.

- Things only exist either as a result of their being perceived, or by virtue of the fact that they are an entity doing the perceiving.
- Denies the existence of matter independent of perception.
- God is always perceiving everything.
- Some consequences:
 - God becomes central to the theory.
 - Conception of the infinite becomes troublesome.
- Some criticisms:
 - Peculiar application of logical/deductive method to the process of perceiving.
 - To be observed is merely to have certain effects.



British Empiricism (Contd.)

George Berkeley (1685–1753):

Considered that Locke's view opened the door to ultimate atheism. Put forward another (and an extreme) form of empiricism.

- Things only exist either as a result of their being perceived, or by virtue of the fact that they are an entity doing the perceiving.
- Denies the existence of matter independent of perception.
- God is always perceiving everything.
- Some consequences:
 - God becomes central to the theory.
 - Conception of the infinite becomes troublesome.
- Some criticisms:
 - Peculiar application of logical/deductive method to the process of perceiving.
 - To be observed is merely to have certain effects.



British Empiricism (Contd.)

George Berkeley (1685–1753):

Considered that Locke's view opened the door to ultimate atheism. Put forward another (and an extreme) form of empiricism.

- Things only exist either as a result of their being perceived, or by virtue of the fact that they are an entity doing the perceiving.
- Denies the existence of matter independent of perception.
- God is always perceiving everything.
- Some consequences:
 - God becomes central to the theory.
 - Conception of the infinite becomes troublesome.
- Some criticisms:
 - Peculiar application of logical/deductive method to the process of perceiving.
 - To be observed is merely to have certain effects.



British Empiricism (Contd.)

George Berkeley (1685–1753):

Considered that Locke's view opened the door to ultimate atheism. Put forward another (and an extreme) form of empiricism.

- Things only exist either as a result of their being perceived, or by virtue of the fact that they are an entity doing the perceiving.
- Denies the existence of matter independent of perception.
- God is always perceiving everything.
- Some consequences:
 - God becomes central to the theory.
 - Conception of the infinite becomes troublesome.
- Some criticisms:
 - Peculiar application of logical/deductive method to the process of perceiving.
 - To be observed is merely to have certain effects.



British Empiricism (Contd.)

David Hume (1711-1776):

Developed the empirical philosophy of Locke and Berkeley to its logical conclusion (Russell).

Framework of knowledge: *perceptions* and *relations*.

Two kinds of perceptions: impressions and ideas.

- Impressions have more force and violence.
- Ideas.
 - Simple: these are like impressions, but fainter.
 - Complex: need not resemble impressions; constituents of complex ideas are derived from impressions, e.g., winged horse.



British Empiricism (Contd.)

David Hume (1711-1776):

Developed the empirical philosophy of Locke and Berkeley to its logical conclusion (Russell).

Framework of knowledge: *perceptions* and *relations*.

Two kinds of perceptions: impressions and ideas.

- Impressions have more force and violence.
- Ideas.
 - Simple: these are like impressions, but fainter.
 - Complex: need not resemble impressions; constituents of complex ideas are derived from impressions, e.g., winged horse.



British Empiricism (Contd.)

David Hume (1711-1776):

Developed the empirical philosophy of Locke and Berkeley to its logical conclusion (Russell).

Framework of knowledge: *perceptions* and *relations*.

Two kinds of perceptions: impressions and ideas.

- Impressions have more force and violence.
- Ideas.
 - Simple: these are like impressions, but fainter.
 - Complex: need not resemble impressions; constituents of complex ideas are derived from impressions, e.g., winged horse.



Humean Relations

- Resemblance; Contrariety; Degrees in Quality; Proportions in Quantity or Number.
 - These depend only on ideas and can be changed without change in the ideas.
 - These relations give *certain* knowledge. Our knowledge concerning other relations are uncertain.
- Identity, Spatio-Temporal Relations.
 - Do not depend only on ideas, but, the mind does not go beyond what is presented to the senses.
- Causal.
 - The only relation which enables us to infer something from some other thing.
 - But, there is no such thing as an *impression* of a causal relation; not possible to perceive a relation which can be called causal.
 - This was in marked contrast with previous philosophy which had considered cause and effect to be connected by logical necessity.



Humean Relations

- Resemblance; Contrariety; Degrees in Quality; Proportions in Quantity or Number.
 - These depend only on ideas and can be changed without change in the ideas.
 - These relations give *certain* knowledge. Our knowledge concerning other relations are uncertain.
- Identity, Spatio-Temporal Relations.
 - Do not depend only on ideas, but, the mind does not go beyond what is presented to the senses.
- Causal.
 - The only relation which enables us to infer something from some other thing.
 - But, there is no such thing as an *impression* of a causal relation; not possible to perceive a relation which can be called causal.
 - This was in marked contrast with previous philosophy which had considered cause and effect to be connected by logical necessity.



Humean Relations

- Resemblance; Contrariety; Degrees in Quality; Proportions in Quantity or Number.
 - These depend only on ideas and can be changed without change in the ideas.
 - These relations give *certain* knowledge. Our knowledge concerning other relations are uncertain.
- Identity, Spatio-Temporal Relations.
 - Do not depend only on ideas, but, the mind does not go beyond what is presented to the senses.
- Causal.
 - The only relation which enables us to infer something from some other thing.
 - But, there is no such thing as an *impression* of a causal relation; not possible to perceive a relation which can be called causal.
 - This was in marked contrast with previous philosophy which had considered cause and effect to be connected by logical necessity.

