Final Exam Review

- Sunday Gréve Part

Lecture 02 What is Analytic Philosophy?

- Logic Intuition and Paradox

Analytic Philosophy

- Analytic Philosophy is a western tradition beginning in Europe in late 19th century.

Ideals

- Clarify of thoughts
- Objectivity of results

Strategies

- Precision of expression
- Rigor(Strictness) of argument

Method

- Analysis

Tool

- Formal Logic

Paradox

- Paradox = distinct form, against(para~) + opinion, belief(~doxa)
- Paradox vs. contradiction
- Interesting paradoxes: Involving opinion widespread, or belief deeply held.
- Even more interesting paradoxes: Both belief and paradox are independently intuitive (for example, sorites paradox)

Early Analytic Philosophy

- Bertrand Russell (1872-1970) :"On Denoting (1905) " "Principia Mathematica(1910) "
- G. E. Moore (1873-1958) :"Principia Ethica (1903) " "Proof of an External (1939) "
- Gottlob Frege (1848-1925) :"Concept Script (1879) " "The Foundation of Arithmetic (1884) "

- Ludwig Wittgenstein (1889-1951) :"Tractatus Logio-Philosophicus (1921) " "Philosophical Investigation (1953) "

Moore

- Confidence in analysis/logic: Low
- Confidence in intuition: High
- Tolerance of paradox: Low
- Common Sense Philosophy

Proof of an External World

- External world scepticism as a paradox
- Moore argues we should keep the "dox"

Open Question Argument

- The good is unanalysable

Frege

- Confidence in analysis/logic: High
- Confidence in intuition: Low
- Tolerance of paradox: Hight
- Logicism

Sinn vs. Bedeutung

- Two possible translations: sense & meanings sense & reference
- referentialism: the meaning of a word is referent
- "morning star = evening star"
- "5=2+3"
- expressions have sense as well as meaning/reference
- sense: mode of presentation

The concept *horse* paradox

- The concept horse is not a concept
- Frege argues we should accept the paradox

Russel

- confidence in analysis/logic: Very high
- confidence in intuition: Low
- tolerance of paradox: Very high
- Logicism + Logical Atomism

Theory of Descriptions

- Logical analysis reveals "logical form": "morning stars" and "evening stars" are not names, but descriptions in disguise

- Quantification vs Predication: "The square circle does not exist"
- Hidden quantification: "The square circle is beautiful" = "There exist something that is square, circle and beautiful"

Logical Atomism

- complex vs simple: logical fiction vs logical atom
- concepts, sets, chairs, etc. are logical fictions
- The only logically proper names are "this", "that" etc. which refer to sense data

A great challenge: Experimental Philosophy

- Analytic philosophers are relying on intuition in an irresponsible way
- problem with the method of cases
- Example: Gödel case

Responses: Contemporary and Historical

Contemporary Responses

- Restriction of the method of cases
- use of quantitative psychology
- criticism of significance of results
- rationalism
- expertise defence
- denial of existence of an intuitive method
- scepticism about the category of intuition

Defence against scepticism

- intellectual vs preceptual cases

Historical Responses

- Frege and Russel
  - High tolerance of paradox
  - Low confidence in intuition
- Moore
  - High confidence in intuition but not naive
- Wittgenstein
  - Criticism of referentialism in Frege and Russell
  - Criticism of Moore's "Proof of an External World"

Lecture 03 Philosophical Paradoxes

Examples of Philosophical Paradoxes

Paradox of analysis

- For any A=B either A or B have the same meaning or not
- So A=B is either trivial or incorrect

The concept *Horse* Paradox

- The concept *horse* is not concept

Russel's Paradox

- For every predicate, there is a set consists of all and only those objects that satisfy that predicate.
- But not for the predicate is a a set which contains all and only those sets that do not contain themselves.
- So naive comprehension is false.

Barber Paradox

- There can exist no barber who shaves all and only those who do not shave themselves.

Liar Paradox

- This statement is a lie

Paradox of Omnipotence

- Can God create a stone too heavy for him to lift?

Paradox of Inference

- If A, B and C(If A and B, then Z), why Z?
- Because of D(If A, B and C, then Z)?

What, exactly, are philosophical paradoxes?

- The nature of paradox
- Quine:"A paradox is just any conclusion that at first sounds absurd but that has an argument to sustain it."
- Recent criticism
  - False identification of a paradox on the basis of one's own (subjective) preference for a way of resolving.
  - False identification of a paradox on the basis of one's own (subjective) epistemic attitude, specifically on the basis of how plausible one finds individual propositions!
- Alternative definition: Paradox = inconsistent set of individually plausible propositions.
- Possible defence of Quine (and rejection of alternative):
  - Correct resolution of a given paradox also reveals its true nature.
  - Heliocentrism vs geocentrism, before and after Copernican Revolution

- Philosophical vs non-Philosophical paradoxes
  - Scientific paradoxes
  - Children's paradoxes
  - Philosophical paradoxes
    - object vs subject (compare psychology): Philosophers are most interested in cases that tend to be found paradoxical by even the most intelligent subjects.
    - Generality: Philosophers are most interested in cases that only require a minimal amount of common knowledge to be found

The value of Philosophical Paradoxes

Sorites Paradox

- Argument: A pile of 10,000 grains is a heap; For any number n>1: If a collection of n grains is a heap, so is a set of n-1; So one grain is a heap.

Proposed solutions

- Epistemicism: There exists sharp cut-off points and vagueness is ignorance.
- Degrees of truth: Truth comes in degrees.
- Supervaluationism: Vagueness requires higher-order truth values.
- The problem of higher-order vagueness.

Lecture 04 AI Ethics

What is AI (artificial intelligence)

- The science and engineering of making intelligent machines.
- For our purpose, we can broadly understand AI as getting machines to do things that require cognitive functions such as thinking, learning, and problem-solving when done in intelligent beings such as humans.
- Philosophical issues include:
  - What, if anything, are intelligent machines.
  - Can machines have subjectivity, consciousness, etc.?

What is ethics?

- The study of morality
- A subfield of philosophy

Main issues in reading

- "Machine learning is data hungry"
- "Garbage in / garbage out"
- "Faculty algorithms"
- "Deep learning is a black box"
- "Machine learning is weak AI"
  - "In addition to being narrow AI, current machine learning systems are also weak AI in that they do not have self-awareness or consciousness and they cannot think for themselves"
  - Machine ethics ("Engineering moral machines")
  - "Child" case

Some other issues

- Manipulation of behavior, surveillance, human-robot interaction, moral status of machines (as patients, as agents), automation and employment, "singularity", existential risk.

"Child" case

- A runaway self-driving car is headed toward a child who will be killed. The self-driving car can swerve slightly to avoid hitting the child. Swerving the car slightly to avoid hitting the child has a low (but not zero) chance of harming the passenger in the car.

What should a self-driving car do in this case?

- Should the passenger have absolute priority?
- If not, how else might we solve the problem?
  - Notice vague elements
  - Can we wait for a theoretical solution?
- Do we have to wait with philosophy?
  - No, philosophy can be even more practically oriented.

Reading Materials

Russel: The Problems of Philosophy "Appearance and Reality"

Gettier: Is Justified True Belief Knowledge?

Plato: Knowledge is Justified True Belief (JTB)

- S knows Proposition IFF:
  1. P is true
  2. S believes P
  3. S is justified in believing P

Gettier argues that: JTB is not knowledge

- Case 1: Smith and Jones have applied for a certain job. Smith has strong evidence that Jones is the man who will get the job and Smith sees that Jones has ten coins in his pocket. So, he derives that "The man who will get the job has ten coins in his pocket". However, Smith himself get the job and he also has ten coins in his pocket.
- Case 2: Smith has strong evidence that Jones owns a Ford. So, he believes that "Either Jones owns a Ford or Brown is in Barcelona". However, Jones doesn't own a Ford but Brown does be in Barcelona.
- Gettier argues that the two case upon satisfies the principle of JTB, but the two propositions are not knowledge to Smith.

The Sorites Paradox

- Argument I: A pile of 10,000 grains is a heap. If 10,000 grains are a heap, so are 9,999 grains. So 9,999 grains are a heap. If 9,999 grains are a heap, so are 9,998 grains. So 9,998 grains are a heap. .....If 2 grains are a heap, so is one grain. So one grain is a heap.
- Argument II: A pile of 10,000 grains is a heap. For any number n greater than 1, if a pile of n grains is a heap then so is a pile of n – 1 grains. So one grain is a heap.

Epistemic View (Epistemicism)

- There is a sharp cut-off point, it is just that we do not know where it is.
- This is simply because our powers of discrimination are limited and we have to recognize margins of error.

Degrees of Truth

↓ ↓

—— heaps —— —— borderline cases —— —— not heaps ——

- Giving every proposition a value of truth, which called the degree of truth.
- Every grain more makes it closer to the truth.
- Problems: What value?
- If Amanda is borderline tall so that "Amanda is tall" is assigned 0.5, the necessary falsehood "Amanda is tall and not tall" gets the value 0.5

Supervaluations

- Give a proposition "Super-true" and "Super-false". For instance, "10,000 grains make a heap" is super-true while "1 grain is a heap" is super-false.
- Problem: Higher-order vagueness.

Lewis Carroll: What the Tortoise Said to Achilles. (The Paradox of Inference)

- Given:
  - A: Things that are equal to the same are equal to each other.
  - B: The two sides of this Triangle are things that are equal to the same.
  - Z: The two sides of this Triangle are equal to each other.
- However, why we have to accept Z if we accept that both A and B