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**Philosophy 427**  
***Intuitions and Philosophy***

**Russell Marcus**  
**Hamilton College**  
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Class 3  
Wittgenstein and the Logical Empiricists

# Rationalist Foundations

- Descartes tried to establish firm foundations for philosophy on the basis of something like intuition.
- We saw that Descartes had difficulties establishing his definitions as given.
- Worse problems infect his postulates.
- But Descartes's project is just one attempt to construct rational foundations for all knowledge.
- Perhaps a better set of foundations would be successful.
- Are the problems we saw emblematic of foundationalism, or are they specific to Descartes's formulation?

# Logical Empiricism

- We looked briefly at the (British) empiricism of the modern era.
- The last gasp of traditional, naive foundationalism is the project of logical empiricism.
  - British empiricism plus logic
- A systematic justification for our scientific beliefs, relying only on sense experience
- Hume and Locke were content to imagine how all our knowledge could be grounded in sense experience.
- The logical empiricists tried actually to trace the line between science and sense data.
- The new logic of Frege, Russell, and Wittgenstein gave Hume's claim that mathematics is the relation of ideas a plausible interpretation.
- Carnap's 1928 *Aufbau: The Logical Structure of the World*.
  - attempts to develop scientific theory, using the tools of logic, out of sense-data, or sense experiences
  - If the project were to succeed, Descartes's dream of a firm foundation for science could be achieved without appeal to anything like rational insight (or intuition).

# Logical Empiricism Against Hegelian Idealism

- Pseudo-problems, pseudo-questions, meaningless language, and controversial epistemology
  - A. The meaning of life
  - B. The existence (or non-existence) of God
  - C. Whether the world was created, with all its historical remnants and memories, say, five minutes ago
  - D. Why there is something rather than nothing
  - E. Emergent evolutionary theory, and Bergson's *elan vital*
  - F. Freudian psychology
  - G. Marxist theories of history
- Verificationist theory of meaning: for a sentence to be meaningful, it must be verifiable on the basis of observation.
- Any sentence which is unverifiable, like any of the examples A-G above, is meaningless.
- The challenge for the logical empiricists was to clarify what it meant to verify a sentence.

# Wittgenstein's *Tractatus*

- The founding work of logical empiricism
- The culmination of the enterprise of logical analysis begun by Frege
- Wittgenstein seeks the limits of language, in distinguishing between what can and what can not be said.
- How can we think about the boundary of thought?
- What is outside of the boundary is inaccessible to us.



# The Picture Theory

- Both the world and our language consist of independent atomic elements, which are combined according to strictly logical principles.
- The world is a collection of independent states of affairs.
- If I am standing to the right of you, we could have two atomic facts (my standing and your standing) and a logical relation (to the right of) between those facts.
- I could stand to the right of you, or to the left of you, or on the other side of the planet, all of which are independent of you.
  - ☞ §1.2. The world divides into facts.
  - ☞ §2.06. From the existence or non-existence of one state of affairs, it is impossible to infer the existence or non-existence of another (Wittgenstein, *Tractatus*).
- Language consists of atomic statements of those facts, connected into more complex statements by logical principles.



# Language Mirrors the World

- Language consists of atomic statements of those facts, connected (into more complex statements) by logical principles.
- Language provides a logical structure which is isomorphic to the structure of the world
  - ☞ §2.16. If a fact is to be a picture, it must have something in common with what it depicts.
  - ☞ §2.17. What a picture must have in common with reality, in order to be able to depict it - correctly or incorrectly - in the way it does, is its pictorial form (Wittgenstein, *Tractatus*).

# Analysis and Atomism

- My standing in a place is not an atomic fact, it is a complex fact.
  - ▶ I am a complex
  - ▶ standing is a complex
  - ▶ you are a complex
- The true analysis of the world will involve analyzing these complexes into their simple (atomic) components.
- Wittgenstein never gives a clear example of an atomic fact.
  - ▶ The color of a spot in my field of vision?
- The representations of atomic facts are the foundational elements of the *Tractatus*.
  - ▶ the postulates of Euclidean geometry
  - ▶ or of Descartes's synthetic presentation of the *Meditations*
- A theory of the world that analyzed all of the myriad complexes into their atomic elements would present a veridical and secure picture of the world.
- Analytic philosophy

# Logical Truths as Necessary

- One of the most important advances in modern logic was its ability to characterize properties of logical truth.
- In propositional logic, all logical truths are tautologies, complex statements which are true no matter the truth values of their component variables.
- We might characterize these statements as necessary truths.
  - ▶ the certainty of logic and mathematics provided essential support to Descartes's claim that our minds have substantial content built into their structures.
  - ▶ From the claim that logic and mathematics are innate, it is reasonable to ask whether there are other innate ideas, including the idea of God.

# Logical Truths as Nonsense

- The only statements that can picture the world are those that have sense, that can be either true or false, that can picture accurately or not.
- Tautologies are empty of content.
  - ☞ §4.46. The proposition shows what it says, the tautology and the contradiction that they say nothing. The tautology has no truth conditions, for it is unconditionally true; and the contradiction is on no condition true. Tautology and contradiction are without sense.
  - ☞ §6.1251. Hence, there can *never* be surprises in logic.

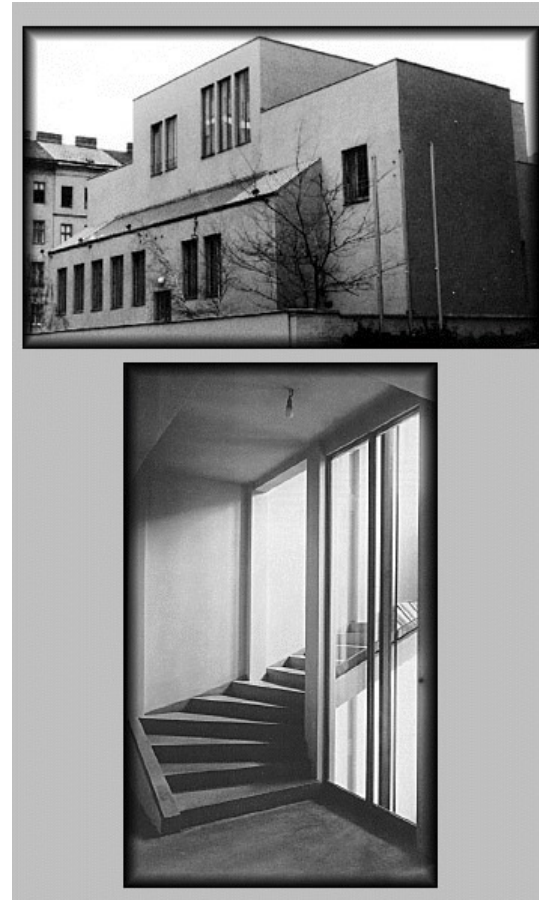


# Tautologies Resist Foundations

- ☞ §6.127. All the propositions of logic are of equal states: it is not the case that some of them are essentially primitive propositions and others essentially derived propositions. Every tautology itself shows that it is a tautology.
  - ▶ If they can not be placed into an order, they are outside of the realm of knowledge.
  - ▶ But, they are not unknowable in the way that, say, God's goodness would be unknowable, or whether we have free will.
  - ▶ They are unknowable because they are too thin to be objects of knowledge.
  - ▶ They don't picture any fact.

# Wittgenstein's House

- Notice the affinity between Wittgenstein's project of providing limits to thought (or expression) and Hume's smaller house.
- Like Hume, Wittgenstein wants to carefully circumscribe what we can know, and justify that, and only that.
- For our purposes, the more interesting project is the justification, rather than the circumscription.



# Logical Empiricism After the *Tractatus*

- Vienna Circle:
  - Rudolph Carnap
  - Otto Neurath
  - Moritz Schlick
  - Carl Gustav (Peter) Hempel
  - Herbert Feigl
- Berlin Circle, around the physicist Hans Reichenbach
- The young A.J. Ayer visited Vienna from England and wrote about the movement he found there.
- The logical empiricists saw the picture theory as accommodating a scientific view of the world.
- Scientific laws, for example, were mere generalization over, and reducible to, the separable atomic facts.

# Principle of Verification

- All our legitimate claims are traceable to a core set of claims which refer only to things or events that we can experience.
  - ☞ “There is a class of empirical propositions of which it is permissible to say that they can be verified conclusively. It is characteristic of these propositions, which I have elsewhere called ‘basic propositions’, that they refer solely to the content of a single experience, and what may be said to verify them conclusively is the occurrence of the experience to which they uniquely refer... Propositions of this kind are ‘incorrigible’,...[in that] it is impossible to be mistaken about them except in a verbal sense.”
  - ☞ “There is nothing in these circumstances which is allowed to count as one’s being factually mistaken.”
  - ☞ “There is nothing fallible about the experience itself. What may be wrong is only one’s identification of it” (Ayer).
- All and only meaningful statements will be analytic, observable, or derivable (using logic) from observable axioms.

# Holism I

- Logical Empiricism took an atomistic view of language.
  - ▶ Our foundational sentences are independent of one another.
- Atomism was killed by holism.
  - ☞ “It is obvious that truth in general depends on both language and extralinguistic fact. The statement “Brutus killed Caesar” would be false if the world had been different in certain ways, but it would also be false if the word “killed” happened rather to have the sense of “begat.” Hence, the temptation to suppose in general that the truth of a statement is somehow analyzable into a linguistic component and a factual component. Given this supposition, it next seems reasonable that in some statements the factual component should be null; and these are the analytic statements. But, for all its a priori reasonableness, a boundary between analytic and synthetic statements simply has not been drawn” (Quine).
- This problem with the analytic/synthetic distinction is connected to the interconnectedness of individual statements, their involvement with a broader theory, in contrast to Wittgenstein’s atomism.

# Holism II

- Confirmation holism: given a theory and a contravening observation, there are many different ways to restore consistency.
  - ☞ “In the language of science, and for similar reasons even in prescientific discourse, a single statement usually has no experiential implications. A single sentence in a scientific theory does not, as a rule, entail any observations sentences; consequences asserting the occurrence of certain observable phenomena can be derived from it only by conjoining it with a set of other, subsidiary, hypotheses” (Hempel).
- The meaning of a single expression is “elliptical”, incomplete on its own.
- It requires, for its meaning, reference to an entire linguistic framework, a theoretical context which forms the background to that expression.
- Semantic holism: the unit of empirical significance is not the individual sentence, but the entire theory.

# Crumbling Foundations

- We have looked at the most ambitious foundationalist programs, both rationalist and empiricist.
- The rationalist program ran into troubles immediately, giving contentious definitions and indefensible postulates.
- The empiricist program assumed that there are atomic facts to which all of our knowledge could be reduced.
- But, for both kinds of projects, the starting points do not seem to have the authority that their proponents impute to them.
- If the foundations are weak, we are back to the position of Descartes, at the beginning of the *Meditations*, unsure of what to believe.



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# Next Week

- More on holism
- Scientific method
  - deduction and induction
  - reflective equilibrium