

History of Philosophy

73 19th Century Empiricism

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Abstract:

This lecture provides a historical overview of **19th-century empiricism**, focusing on how it diverged from continental phenomenology by prioritizing the **scientific method** as the only reliable source of knowledge. Dr. Arthur Holmes identifies the **hypothetico-deductive method** as a core characteristic of this era, which replaced certain premises with testable hypotheses to better align with actual scientific practice. Key figures like **Auguste Comte**, **John Stuart Mill**, and **Ernst Mach** extended these empirical principles to the human sciences, leading to the rise of **sociology**, **utilitarian ethics**, and **scientism**. Consequently, this tradition embraced **phenomenalism**, rejecting metaphysical speculation about ultimate reality in favor of what is positively observable. Mill specifically reduced complex concepts like the self and matter to the **permanent possibility of experience**, while Mach viewed scientific theories merely as **instrumental tools** for organizing sensations. Ultimately, the text illustrates how this movement shaped the **analytic tradition** that continues to dominate English-speaking philosophy.

Briefing Document:

19th Century Empiricism: Philosophical Foundations and Methodological Evolution

Executive Summary

19th-century empiricism represents a pivotal shift in Western philosophy, characterized by the universalization of the scientific method and a rigorous rejection of metaphysical speculation. Moving away from the Enlightenment synthesis of Immanuel Kant, 19th-century thinkers—primarily Auguste Comte, John Stuart Mill, and Ernst Mach—extended the "lens of nature" to all facets of human knowledge, including psychology, sociology, and ethics.

The movement is defined by three core pillars:

1. **The Hypothetico-Deductive Method:** Replacing self-evident or a priori premises with empirical hypotheses.
2. **Scientism:** The application of scientific criteria to the human sciences, asserting that empirical science alone yields reliable knowledge.
3. **Phenomenalism and Anti-Metaphysics:** Restricting knowledge to "phenomena" (things as they appear) and rejecting the study of ultimate reality or "noumena."

This briefing details the transition of empiricism into a dominant force in English-speaking philosophy, the development of positivism, and the radical reduction of the self and matter to "permanent possibilities of sensation."

The Methodological Divide: Phenomenological vs. Empiricist

The history of 19th and 20th-century philosophy is marked by a divergence resulting from the Enlightenment's intersection of rationalism and empiricism.

Tradition	Geographic Dominance	Central Methodology	Primary Lens
Phenomenological	Continental Europe	Examining reality through human self-awareness and creative freedom.	The Human Spirit
Empiricist	English-speaking world	Applying scientific methodology and criteria to all human knowledge.	Nature through Science

While these traditions have occasionally attempted dialogue, they often fail to find common ground due to fundamentally different expectations and methodologies, a phenomenon described as "passing like ships in the night."

Core Characteristics of 19th-Century Empiricism

1. The Hypothetico-Deductive Method

Unlike 18th-century empiricists who relied on empirical generalizations or rationalists who used a priori premises, 19th-century thinkers adopted the **hypothetico-deductive method**. This approach acknowledges that empirical generalizations are difficult to verify and that innate ideas are questionable. Instead, it posits an **empirical hypothesis** as a premise and uses deductive methods to see what follows. This more mature scientific approach persisted until the mid-20th-century shift toward "paradigms."

2. Scientism and the Human Sciences

This period saw the extension of scientific methods beyond physics and chemistry into the **human sciences**: psychology, sociology, politics, and ethics. This "scientism" asserts that science is the sole provider of reliable knowledge. This led to:

- **Methodological Naturalism:** Treating human behavior and social change as natural processes governed by laws.
- **Empirical Ethics:** The attempt (notably by Mill) to create a scientific basis for morality.

3. Phenomenalism and Anti-Realism

The consequence of globalizing the scientific method was the rise of **phenomenalism**. Proponents argued that we only know "phenomena"—objects as they appear to us—rather than reality as it is in itself. This led to a wholesale rejection of metaphysics, viewing it as a speculative holdover from a less mature intellectual age.

Key Figures and Their Contributions

Auguste Comte (1798–1857)

The founder of **Positivism**, Comte sought to establish "positive" knowledge—that which is certain and based on observable data.

- **The Law of Three Stages:** Comte argued that human knowledge evolves through three distinct historical stages:

1. **Religious Stage:** The "imaginative childhood" of the mind, characterized by mythology, theology, and fictions like the "Divine Right of Kings."
 2. **Speculative (Metaphysical) Stage:** The "adolescence" of the mind, dealing with abstract constructs, essences, and "hidden realities" (e.g., natural law, teleology).
 3. **Positive (Scientific) Stage:** The "adulthood" of the mind, focusing on empirical generalizations and "general covering laws" used to predict and control nature through technology.
- **The Unity of Science:** Comte proposed that all sciences follow the same method. He organized them into a hierarchy of increasing complexity:
 - Mathematics → Physics → Chemistry → Biology → Psychology → Sociology.
 - **Sociology:** Comte is credited with initiating sociology as an empirical science of social change, seeking to apply the rigor of physiology to "intellectual and moral phenomena."

John Stuart Mill (1806–1873)

Regarded as the "most empirical of all the empiricists," Mill pushed empirical principles to their radical conclusions.

- **Reduction of Logic and Mathematics:** Unlike Hume, who saw mathematics as "relations of ideas," Mill argued that mathematics and logic are empirical generalizations or hypotheses about how the mind thinks and how language is used.
- **Dissolution of Substance:** Mill rejected the concept of "substance" for both mind and matter:
 - **Matter:** Defined as the "permanent possibility of sensation."
 - **Mind:** Defined as the "permanent possibility of reflection."
- **Utilitarian Ethics:** Mill's ethics aimed to maximize pleasure and minimize pain for the greatest number. Because he viewed the "self" only as a bundle of experiences (a "permanent possibility of reflections"), his ethics lacked a

basis for "intrinsic rights" or "respect for persons" found in the Kantian tradition.

- **Theories of Punishment:** Mill advocated for a **utilitarian theory of punishment** (aimed at reform and deterrence) rather than a **retributivist** one (aimed at accountability/moral guilt).
- **Soft Determinism (Compatibilism):** Mill rejected "hard determinism" (necessitarianism) because it required knowing "necessary connections" that are unobservable. However, he also rejected "libertarianism" (indeterminism). He argued that while choices are not constrained by external causes, they are influenced by internal antecedent psychological factors (motives).

Ernst Mach (1838–1916)

An Austrian physicist whose work laid the groundwork for 20th-century logical positivism.

- **Sensationalism:** In *The Analysis of Sensations*, Mach argued that every object can be reduced to observable sense qualities. For Mach, the world consists of nothing but sensations; therefore, no non-empirical metaphysical assertions are acceptable in science.
- **Instrumentalism:** Mach viewed scientific theories not as "knowledge of reality," but as **economical instruments** for describing the relations between sense data. He argued that science talks about "ideal objects"—phenomenal structures we create—rather than objects as they are in themselves.

Conclusion

19th-century empiricism redefined the boundaries of philosophy by subordinating it to the scientific method. By reducing the self to consciousness and matter to sensation, and by replacing metaphysical inquiry with the search for empirical "covering laws," these thinkers established a framework for modern social science and analytic philosophy, even as they moved away from traditional concepts of human spirit and intrinsic reality.

Study Guide:

Study Guide: 19th-Century Empiricism

This study guide provides a comprehensive overview of 19th-century empiricism based on the lectures of Dr. Arthur Holmes. It focuses on the transition from Enlightenment thought to modern scientific methodology, the extension of empirical methods to the human sciences, and the rejection of traditional metaphysics.

Quiz: Short-Answer Questions

1. What defines the "hypothetico-deductive method" as it emerged in the 19th century? The hypothetico-deductive method replaces the 18th-century reliance on self-evident a priori premises or simple empirical generalizations with the use of a hypothesis as a starting premise. From this empirical hypothesis, deductive inferences are drawn to see what follows, providing a more mature understanding of the scientific method that allows for experimental testing.

2. How does the "phenomenological method" of Continental Europe differ from the "empiricist tradition" of Britain? The phenomenological method, dominant in Western Europe, views reality through the lens of human self-awareness and creative freedom, often utilizing a priori principles. In contrast, the British empiricist tradition views everything through the lens of nature as understood by the scientific method, emphasizing empirical criteria for all knowledge.

3. What is "scientism" as described in the context of 19th-century thought? Scientism is the extension of scientific methodology—originally applied to physics and astronomy—to all areas of human knowledge, including psychology, sociology, and ethics. It is the belief that science, and science alone, yields reliable and certain knowledge about the world and human affairs.

4. Describe the three stages of Auguste Comte's "Law of Three Stages." Comte argued that science evolves from a "religious" stage (imaginative fictions like

mythology), to a "speculative" stage (abstract metaphysical constructs like universals or natural law), and finally to a "positive" or scientific stage. The positive stage is the maturity of the human mind, where knowledge is limited to what can be positively asserted through empirical generalizations and general covering laws.

5. What is the "unity of science" according to Auguste Comte? The unity of science is the notion that all sciences follow the same fundamental method regardless of whether they study nature or human beings. Comte organized the sciences into a hierarchy of complexity—from mathematics and physics up to sociology—where each more complex science builds upon the foundations of the simpler ones.

6. How did John Stuart Mill's view of mathematics differ from that of David Hume? While Hume categorized mathematics as "relations of ideas" (analytic truths), Mill argued that mathematics is an empirical science. He maintained that mathematical truths, such as "three plus five equals eight," are actually empirical generalizations derived from observing sets of objects.

7. How does John Stuart Mill define the concepts of "matter" and "mind" without resorting to metaphysics? Mill rejects the idea of matter as a "substratum" and mind as an "immaterial substance," viewing these as unverifiable metaphysical speculations. Instead, he defines matter as the "permanent possibility of sensation" and the mind as the "permanent possibility of reflection," sticking strictly to what can be observed through experience.

8. What is the utilitarian theory of punishment, and how does it contrast with the retributivist view? The utilitarian theory of punishment, advocated by Mill and Bentham, views punishment as a tool for reform or deterrence rather than a matter of moral accountability. This contrasts with the retributivist view, held by figures like Kant and Aquinas, which focuses on holding an individual responsible and maintaining social balance based on moral guilt.

9. Explain Mill's position on "soft determinism" (compatibilism). Mill rejects "necessitarianism" (hard determinism) because we cannot observe "necessary connections" between causes, but he also rejects "libertarianism" (indeterminism) because of the observed constant conjunction between motives and actions. He settles on soft determinism, which affirms that while we make choices not

constrained by external causes, those choices are still produced by internal psychological causal factors.

10. What is Ernst Mach's "sensationalism"? Mach's sensationalism is the view that every object of experience can be analyzed into observable sense qualities. He argued that the world, as far as science is concerned, consists of nothing but sensations; therefore, scientific theories are merely economical ways of describing the relationships between these sense data.

Answer Key

1. **Hypothetico-deductive method:** Use of a hypothesis as a premise from which deductive inferences are drawn; more mature than Baconian induction.
2. **Phenomenological vs. Empiricist:** Phenomenological uses human self-awareness and spirit as its lens; Empiricism uses nature and the scientific method as its lens.
3. **Scientism:** The universalization of the scientific method for all human knowledge; the claim that only science yields reliable knowledge.
4. **Law of Three Stages:** 1. Religious (childhood/fictions), 2. Speculative (adolescence/abstract ideas), 3. Positive (adulthood/empirical laws).
5. **Unity of Science:** All sciences use the same method; they are arranged in a hierarchy (Physics -> Biology -> Sociology) based on complexity.
6. **Mill on Mathematics:** Math is not analytic; it is a set of empirical generalizations about sets of things.
7. **Mill on Matter/Mind:** Matter = permanent possibility of sensation; Mind = permanent possibility of reflection.
8. **Utilitarian Punishment:** Focused on utility (reform/deterrence) rather than retributive justice or moral guilt.
9. **Soft Determinism:** Rejects metaphysical necessity but acknowledges internal causal factors (motives) for human actions.

10. Mach's Sensationalism: Objects are just bundles of sense data; science should only deal with these sensations, not metaphysical realities.

Essay Questions

1. **The Shift in Methodology:** Analyze the transition from the inductive methods of Francis Bacon to the hypothetico-deductive method of the 19th century. How did this change the way philosophers like Mill and Mach understood scientific "truth"?
 2. **The Rise of the Human Sciences:** Discuss Auguste Comte's role in the founding of sociology. How did his "positive" approach attempt to resolve the social upheavals of 19th-century France?
 3. **Phenomenalism and the Rejection of Metaphysics:** Explain why 19th-century empiricists moved toward "anti-realism." Use Mill's definitions of mind and matter and Mach's sensationalism to illustrate the argument that we cannot know "reality-in-itself."
 4. **The Ethics of Utilitarianism:** Evaluate the relationship between Mill's view of the "self" (as a bundle of experiences) and his utilitarian ethics. If there is no "transcendental ego" or intrinsic personhood, how does Mill justify concepts like justice and human rights?
 5. **The Determinism Debate:** Compare and contrast "hard determinism" (necessitarianism) with "soft determinism" (compatibilism) as presented by John Stuart Mill. How does Mill's reliance on David Hume's view of causation influence his conclusions on human liberty?
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Glossary of Key Terms

Term	Definition
Anti-realism	The view that we do not have knowledge of ultimate reality as it is in itself; we only know phenomena (appearances).

Compatibilism	Also known as "soft determinism," the view that human choices are made freely (unconstrained by external causes) but are still the result of internal psychological causes.
General Covering Laws	Empirical generalizations in the "positive" stage of science that cover all data and allow for scientific prediction and technology.
Hypothetico-deductive	A scientific method starting with an empirical hypothesis as a premise, followed by deductive reasoning to determine consequences.
Instrumentalism	The view that scientific theories are not bits of knowledge about reality but are simply practical instruments for describing relations between sense data.
Law of Three Stages	Auguste Comte's theory that human thought evolves from the Religious (theological) to the Speculative (metaphysical) to the Positive (scientific).
Phenomenalism	The philosophical position that all knowledge is limited to phenomena (things as they appear to us) rather than noumena (things in themselves).
Positivism	A movement, spearheaded by Comte, asserting that only knowledge based on observable, "positive" facts is certain and valid.
Psychologism	The reduction of logical or mathematical principles to psychological generalizations about how the mind happens to think.
Scientism	The belief that the scientific method is the only valid way to gain knowledge and should be applied to all aspects of human life, including the social sciences.
Sensationalism	Ernst Mach's theory that the world and all scientific objects are composed entirely of sense data (sensations).

Unity of Science The doctrine that a single empirical method applies to all sciences, forming a hierarchy based on the complexity of the subject matter.

Utilitarianism An ethical theory suggesting that the right action is the one that maximizes pleasure and minimizes pain for the greatest number of people.