

# History of Philosophy

## 29 Francis Bacon

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#### Abstract:

In this lecture, Dr. Arthur Holmes provides an overview of **Francis Bacon**, identifying him as a foundational figure in **modern philosophy** and the **British empiricist tradition**. Bacon's work marks a shift from medieval scholasticism to a **scientific worldview** driven by the "cultural mandate" to exercise **stewardship over nature**. His famous dictum, "**knowledge is power**," reflects a belief that science should have **instrumental value** for the betterment of society rather than existing for purely theoretical contemplation. To achieve this, Bacon rejected traditional Aristotelian deduction in favor of a new **inductive method** and identified four "**idols**"—tribal, cave, marketplace, and theater—that represent the psychological and cultural prejudices hindering objective inquiry. Ultimately, Holmes emphasizes Bacon's lasting legacy through his influence on **Scottish realism** and his role in establishing the **objectivity of science**.

#### Briefing Document:

Francis Bacon and the Foundations of Modern Empiricism

Executive Summary

Francis Bacon stands as a pivotal figure in the transition from medieval to modern philosophy. His work marks a shift from the contemplative, metaphysical focus of the Scholastic tradition to a utilitarian, empirical approach focused on the transformation of society. Bacon's philosophy is underpinned by a Reformed theological framework, specifically the "cultural mandate" from Genesis, which he interprets as a divine command for humanity to exercise stewardship and dominion over nature.

The core of the Baconian project is the synthesis of three primary themes: the development of an inductive method to discover the "forms" (uniformities) of nature, a commitment to the absolute objectivity of scientific inquiry, and the belief that knowledge possesses primarily instrumental value. By identifying "Idols" that distort human reasoning and proposing a systematic method for tabulating empirical observations, Bacon laid the groundwork for modern scientific methodology and significantly influenced the development of Scottish Realism and American intellectual history.

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### The Philosophical Shift: From Contemplation to Utility

Bacon represents the British empiricist strain of modern philosophy, which stands in contrast to the continental rationalism proposed by figures like Descartes. His primary objective was to move away from what he deemed the "sterility" of Aristotelian philosophy.

- **Philosophical Role:** In medieval times, philosophy was viewed as *ancilla theologiae* (the servant of theology). Bacon redefined philosophy as the servant of society, tasked with improving the human condition.
  - **The Utopian Ideal:** Bacon's work was characterized by a Renaissance-era utopianism. He envisioned a "scientific utopia" where the application of knowledge regarding nature's processes would transform social conditions, a state he equated with the "kingdom of God."
  - **Knowledge is Power:** His famous dictum, "knowledge is power," reflects his view that the goal of inquiry is not truth for its own sake or the contemplation of the divine, but the practical ability to control and shape nature.
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### Theological Framework: The Cultural Mandate

Contrary to interpretations that suggest Bacon sought to exploit nature for its own sake, his motivations were deeply rooted in a Reformed theological worldview encompassing creation, sin, and redemption.

- **Creation and Mandate:** Bacon cited the "cultural mandate" of Genesis—the instruction to Adam and Eve to subdue the earth—as a divine bequest. He

argued that humanity had a responsibility to recover the right over nature that was lost through sin.

- **Sin as Distraction:** He viewed Scholastic disputes as a "crime" of distraction, arguing that these abstract debates did nothing to enrich human life or fulfill the divine mandate.
- **Redemptive Knowledge:** For Bacon, the pursuit of science was a redemptive act, calling the human race back to its original task of stewardship.

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### The Critical Project: The Four Idols

Bacon identified four "Idols"—non-scientific influences and psychological biases—that must be "exorcised" from the human mind to achieve objective knowledge.

<b>Idol</b>	<b>Description</b>	<b>Source of Error</b>
<b>Idols of the Tribe</b>	Errors inherent to human nature.	Uncritical acceptance of "first principles" and the limits of the human mind.
<b>Idols of the Cave</b>	Errors based on individual temperament.	Personal atmosphere, psychological disposition (e.g., "tender-minded" vs. "tough-minded").
<b>Idols of the Marketplace</b>	Errors arising from social interaction and language.	The misuse of words and idioms; assuming nouns represent substantive entities (e.g., Plato's metaphysics).
<b>Idols of the Theater</b>	Errors stemming from false philosophical systems.	Sophistical (Aristotle), Empirical (insufficient observation), or Superstitious (mixing religion/myth with philosophy).

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### The Constructive Project: Inductive Method

Bacon rejected the Aristotelian method of "intuitive abstraction" as imprecise and hasty. Instead, he proposed a systematic inductive logic based on three tables of observation.

## The Tables of Investigation

1. **Table of Presence (Agreement):** Observing instances where a phenomenon occurs to identify a common antecedent.
2. **Table of Absence (Difference):** Observing instances where the phenomenon is absent despite similar circumstances, identifying what is missing.
3. **Table of Degrees (Concomitant Variations):** Observing how the intensity of an antecedent correlates with the intensity of the phenomenon.

## Redefining "Forms"

Bacon repurposed the Aristotelian term "forms" to suit an empirical context. While Aristotle sought metaphysical universals, Bacon's "forms" were the **uniform ways in which natural processes proceed**. He viewed the world through a mechanistic lens, heavily influenced by Democritus and the rise of mechanistic science (e.g., Galileo).

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## The Separation of Science and Religion

A significant aspect of Bacon's legacy is his insistence on the separation of scientific content from religious doctrine.

- **Institutional Insulation:** Living in an era of intense religious persecution (spanning the reigns of Mary I, Elizabeth I, and the Stuarts), Bacon sought to protect scientists from being targeted for religious reasons.
  - **Functional Relationship:** In the Baconian view, religion dictates the *purpose* of science (stewardship and the cultural mandate) but does not provide its *content*. Science must remain a purely empirical, objective pursuit, accessible to anyone regardless of their religious affiliation.
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## Historical Influence and Legacy

Bacon's emphasis on objective, presuppositionless science had a profound impact on later intellectual movements.

- **Scottish Realism:** In the 18th century, thinkers like Thomas Reid adopted the Baconian view of science as a firm foundation of common knowledge upon which a culture could build its moral and theological superstructure.
- **American Intellectual History:** Through figures like John Witherspoon, Baconian science became a dominant influence at Princeton and other American institutions. It shaped the apologetics of 19th-century theologians like Charles Hodge and influenced American evangelical thought well into the 20th century.
- **Modern Philosophy of Science:** Bacon is recognized as a transitional figure who moved philosophy toward the study of physical forces in the material world, marking the beginning of the modern philosophy of science.

## Study Guide:

Study Guide: The Philosophy of Francis Bacon

This study guide examines the transition from medieval to modern thought through the work of Francis Bacon, as presented in Dr. Arthur Holmes' History of Philosophy series. It covers Bacon's theological motivations, his critique of historical philosophical methods, and the development of his new inductive approach to science.

Section 1: Review Quiz

**1. How does Dr. Holmes schematize the history of modern philosophy?** The history of modern philosophy is viewed as an intersection of two distinct lines of thought. These consist of the British empiricist tradition, which emphasizes inductive methods, and the Continental rationalist tradition, which focuses on deductive, mathematical methods.

**2. What is the "cultural mandate" and how does it inform Bacon's work?** Based on the opening chapters of Genesis, the cultural mandate is the divine bequest given to humanity to replenish, subdue, and exercise dominion over nature. Bacon believes that while sin has distracted humanity from this task, the proper role of the intellect and science is to recover this stewardship through redemption.

**3. In what way did Bacon shift the traditional role of philosophy?** In the medieval period, philosophy was viewed as *ancilla theologiae*, or the servant of theology. Bacon redefined philosophy as the servant of society, intended to enrich human life and transform the social condition through the application of scientific knowledge.

**4. What are the three "grades of ambition" Bacon identifies in mankind?** Bacon distinguishes between those who seek personal power (vulgar and degenerate), those who seek national power (corporate egoism), and those who seek to extend the dominion of the entire human race over the universe. He considers this third grade to be the most wholesome and noble ambition because it fulfills the mandate over creation.

**5. How does Bacon's definition of "forms" differ from the Aristotelian definition?** Aristotle viewed forms as metaphysical essences or universals to be understood through intuitive abstraction. In contrast, Bacon rejects metaphysical forms in favor of empirical forms, which refer to the uniform, physical processes in nature where specific causes are routinely followed by specific effects.

**6. What are the "Idols of the Tribe" and the "Idols of the Cave"?** The Idols of the Tribe are unconscious influences rooted in human nature that lead to the acceptance of inadequately secured first principles. The Idols of the Cave refer to the individual temperament and personal atmosphere of the thinker, which can bias the direction of their inquiry.

**7. How do the "Idols of the Marketplace" and the "Idols of the Theater" hinder scientific progress?** The Idols of the Marketplace involve the influence of common language and idioms that instill erroneous beliefs, such as assuming every noun represents a substantive reality. The Idols of the Theater refer to the "make-believe" worlds of past philosophical systems, which Bacon classifies as sophistical, empirical, or superstitious.

**8. Describe the three tables used in Bacon's inductive method.** Bacon proposes a Table of Presence (noting when a phenomenon occurs), a Table of Absence (noting when it does not), and a Table of Degrees (noting variations in intensity). Together, these simple experimental methods allow a researcher to identify causal relationships between natural factors.

**9. Why did Bacon advocate for the separation of religion and the content of science?** Bacon sought to insulate scientists from the religious persecution and struggles prevalent in 16th and 17th-century England. By separating the two, he argued that religion provides the moral purpose and mandate for science, while the content of science remains an objective, empirical study of nature.

**10. What is the "Baconian view of science" as adopted by the Scottish Realist tradition?** This view emphasizes that science is a completely objective, purely empirical pursuit that functions without presuppositions. It posits that scientific knowledge provides a firm foundation of common reality upon which superstructures like theology and apologetics can be built.

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## Section 2: Answer Key

1. Modern philosophy is an intersection of British empiricism (induction) and Continental rationalism (deduction).
2. It is the divine command in Genesis to exercise dominion over nature; Bacon sees science as the means to fulfill this stewardship.
3. He shifted it from being a servant of theology to being a servant of society.
4. Personal power, national power, and the power of the human race over the universe.
5. Aristotle's forms are metaphysical essences; Bacon's forms are uniform physical processes and causal patterns.
6. Tribe: influences of human nature/mind; Cave: individual temperament/psychological bias.
7. Marketplace: errors caused by language/idioms; Theater: errors caused by past philosophical and scientific systems.

8. These are methods of agreement (presence), difference (absence), and concomitant variation (degrees) used to determine causal links.
  9. To protect practitioners from persecution and to ensure science remains an objective study of material forces.
  10. Science as an objective, presuppositionless, and empirical foundation for all other forms of knowledge.
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### Section 3: Essay Questions

1. **The Transformation of Philosophy:** Analyze Bacon's shift from the medieval concept of *ancilla theologiae* to his utopian vision of science as a tool for social transformation. How does this redefinition change the perceived goal of human knowledge?
  2. **The Four Idols:** Evaluate Bacon's "Idols of the Mind" as a critique of human subjectivity. Which of these idols do you believe poses the greatest threat to modern scientific objectivity, based on Bacon's descriptions?
  3. **The Theological Framework of Empiricism:** Discuss the apparent paradox of Bacon's Reformed theological motivations (the creation mandate) alongside his insistence on the separation of religious content from scientific inquiry.
  4. **Baconian Induction vs. Aristotelian Abstraction:** Compare and contrast the methods of induction proposed by Aristotle and Bacon. How does Bacon's focus on "material forces" and "tables" represent a departure from the "intuitive abstraction" of the past?
  5. **Legacy and Influence:** Trace the influence of Baconian thought through the Scottish Realist tradition and into American intellectual history. How did his view of "objective science" shape early American theology and apologetics?
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### Section 4: Glossary of Key Terms

Term	Definition
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<b>Ancilla Theologiae</b>	A Latin phrase meaning "handmaid of theology," referring to the medieval view that philosophy's primary role was to serve theological inquiry.
<b>Cultural Mandate</b>	The divine instruction found in Genesis for humanity to subdue the earth and exercise stewardship over creation.
<b>Empiricism</b>	The philosophical tradition, particularly strong in British thought, that emphasizes inductive methods and sensory experience as the primary source of knowledge.
<b>Forms (Baconian)</b>	The uniform ways in which natural processes proceed; the regular causal relationship where one physical force is followed by another.
<b>Idols of the Cave</b>	Biases and distortions of truth resulting from an individual's specific temperament, education, and environment.
<b>Idols of the Marketplace</b>	Errors in understanding caused by the influence of language, words, and social discourse on the human mind.
<b>Idols of the Theater</b>	False dogmas or philosophical systems of the past (sophistical, empirical, or superstitious) that create "make-believe" worlds.
<b>Idols of the Tribe</b>	Distortions of reality inherent in human nature and the structure of the human mind itself.
<b>Induction</b>	A method of reasoning that moves from specific empirical observations to the discovery of general laws or "forms."
<b>Knowledge is Power</b>	Bacon's famous dictum suggesting that the value of knowledge lies in its instrumental ability to produce effects and grant humanity dominion over nature.
<b>Scottish Realism</b>	An 18th-century philosophical movement that emphasized the Baconian view of science as an objective, empirical, and presuppositionless foundation for knowledge.
<b>Table of Degrees</b>	An inductive method noting how the increase or decrease of one factor results in a proportionate change in another.

<b>Table of Presence</b>	An inductive method that identifies instances where a specific phenomenon and its suspected cause both occur.
<b>Utopian Ideal</b>	In the Baconian context, the vision of a society transformed and perfected through the application of scientific knowledge and the control of nature.