Scientific Paradigms: Reflection Assignment

Introduction

During reading week, you will compare two texts by different philosophers of science. This reflection assignment is intended to introduce you to key ideas from each thinker so you can make an informed choice about which two to focus on for your comparison.

You have received the introductory excerpts from books by **Karl Popper**, **Thomas Kuhn**, **Imre Lakatos**, and **Paul Feyerabend** in class. Use these texts—along with insights from our in-class discussions—to develop thoughtful responses to the questions provided.

Turn-In Instructions

- Your answers must be **handwritten** and **legible**, completed on **lined paper**.
- Assignments will be assessed based on the **depth of reflection** and your **engagement with the philosophical ideas** presented.
- **Due: Friday at 12:00 PM (noon)**
- **Submission:** Bring to my office (library office). If I am not in my office, please slide your assignment **under my door**.

Assignment Overview

After reading the provided introductory excerpts from **Karl Popper**, **Thomas Kuhn**, **Imre Lakatos**, and **Paul Feyerabend**, you will write a short reflection addressing the following four questions. Each answer should be approximately **one to two paragraphs** (100–200 words), demonstrating thoughtful engagement with the ideas and your own critical thinking.

Reflection Questions

1. Karl Popper – Falsifiability

Popper argues that falsifiability, not verification, is the key criterion of scientific theories. Why does he believe this is essential, and what does it imply about the difference between science and pseudoscience? Can you think of an example from physics or everyday life that illustrates this principle?

2. Thomas Kuhn – Paradigm Shifts

Kuhn claims that science progresses through revolutions in which entire paradigms are replaced. How does this challenge the traditional view of science as a steady, cumulative process? How might this view change the way we interpret historical scientific breakthroughs?

3. Imre Lakatos – Research Programs

Lakatos introduces the idea of competing research programs that evolve over time. How does his view balance the rigid falsificationism of Popper with the historical messiness described by Kuhn? What does it suggest about how scientists should respond to conflicting evidence?

4. Paul Feyerabend – "Anything Goes"

Feyerabend argues that there is no single scientific method and that breaking the rules often leads to progress. Do you agree with his claim that "anything goes"? What might be gained or lost by abandoning a strict method in scientific inquiry?

5. Reading Week Brainstorming

During your reading week, which two philosophers are you most interested in comparing and why? (1-2 sentences; this is not binding - you may change your mind before reading week!).