Intellectual, Cultural, and Technological Developments

I. Developments in Physics

A. Relativity Theory (Albert Einstein — 1905) — understanding the Mind of God

B. Quantum Mechanics — no underlying reality?
   1. Ernest Rutherford — March 7, 1911
   2. Niels Bohr — matrix mechanics and “quantum weirdness”
   3. J. B. S. Haldane: “my own suspicion is that the Universe is not only queerer than we suppose, but queerer than we can suppose.”
   4. Werner von Heisenberg – “Uncertainty Principle”

II. Theories of the Age of the Universe

A. Religious Interpretations

B. Calculations

C. Estimates Based on Gathered Evidence
   1. Georges Buffon, French Naturalist (1707–1788) = “at least 70,000 years ago”
   2. Abraham Werner, German Geologist (1749–1817) = “a million years ago”
   3. Charles Darwin, English Naturalist (1809–1882) = 300 million years
   4. The Scientific View of Mid to Late Twentieth Century = 6.4 – 20 billion years ago
      a. Edwin Hubble, American Astronomer (1889–1953)
      b. Milton Humason (1891–1957)
      c. Red Shift, Doppler Effect, Big Bang

III. Philosophy

A. Existentialism — a philosophy of the individual insofar as that philosophy is based on personal experience
   “Existentialism represents the perpetual revolt of subjectivity against systems, any system that objectifies and enslaves it.” (Mikel Dufrenne)
   1. Georg Freidrich Wilhelm Hegel
   2. Soren Kierkegaard
   3. Fedor Dostoevskii
   4. Martin Heidegger
   5. Jean-Paul Sartre. Being and Nothingness
      a. “If God does not exist, then all things are permitted.”
   6. Simone de Beauvoir, Second Sex
   7. Czesław Miłosz: “The pressure of the state machine is nothing compared with the pressure of a convincing argument.”
B. The Significance of Language and the Philosophy of Science (October 25, 1946)
   1. Ludwig Wittgenstein, *Tractatus logico-philosophicus*

C. Logical Basis of Mathematics
   1. Bertrand Russell and Alfred North Whitehead, *Principia Mathematica*
   2. Kurt Gödel — Gödel’s Theorem

IV Literature

A. Poetry
   1. T. S. Eliot
      b. “The Wasteland”
   2. Ezra Pound

B. Prose Fiction
   1. James Joyce
      a. *Ulysses*
      b. *Finnegan’s Wake*
   2. Franz Kafka (d. 1924)
      a. Metamorphosis
      b. The Trial (1925)
      c. The Castle (1926)

V. Music

A. Popular
   1. Jazz
      a. Louis Armstrong
      b. Duke Ellington
      c. Bessie Smith
      d. Benny Goodman

B. Serious
   1. Igor Stravinsky (1882–1971)
      a. *Firebird*
      b. *Le Sacre du printemps (The Rite of Spring)* May 29, 1913
   2. Arnold Schoenberg – 12-tone row

VI. Art

A. Cubism
   1. Pablo Picasso – *Demoiselle d’Avignon*
   2. Marcel Duchamp – *Nude Descending a Stair*

B. Fauvism — Henri Matisse
VII. Film