

# Philosophy of Pascal

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Dr. Cindy Ausec



# Objectives

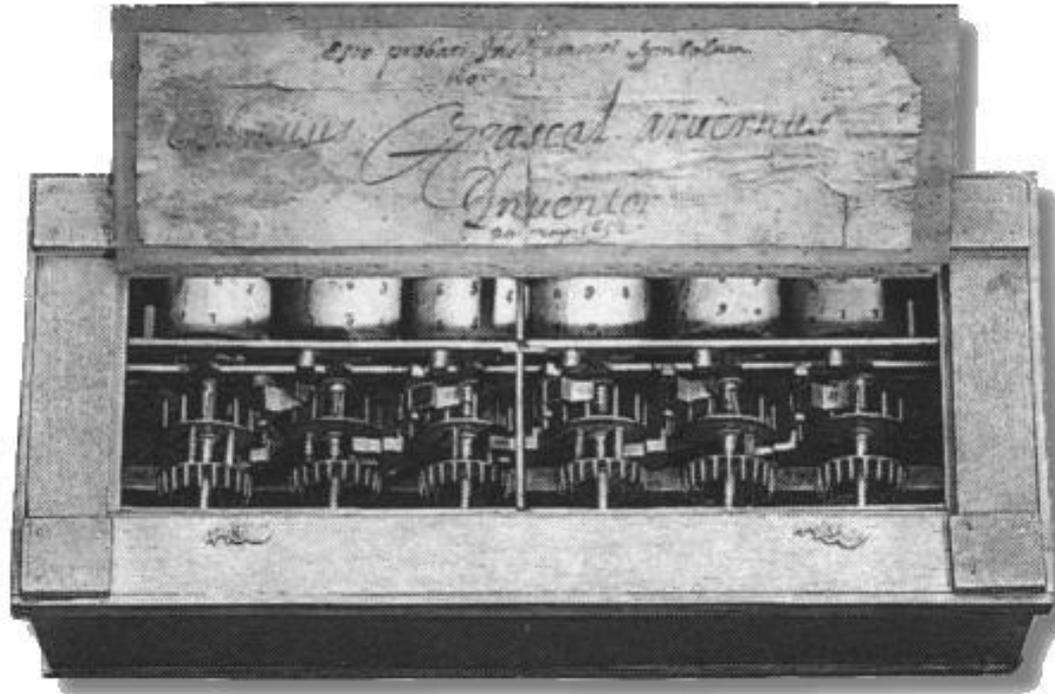
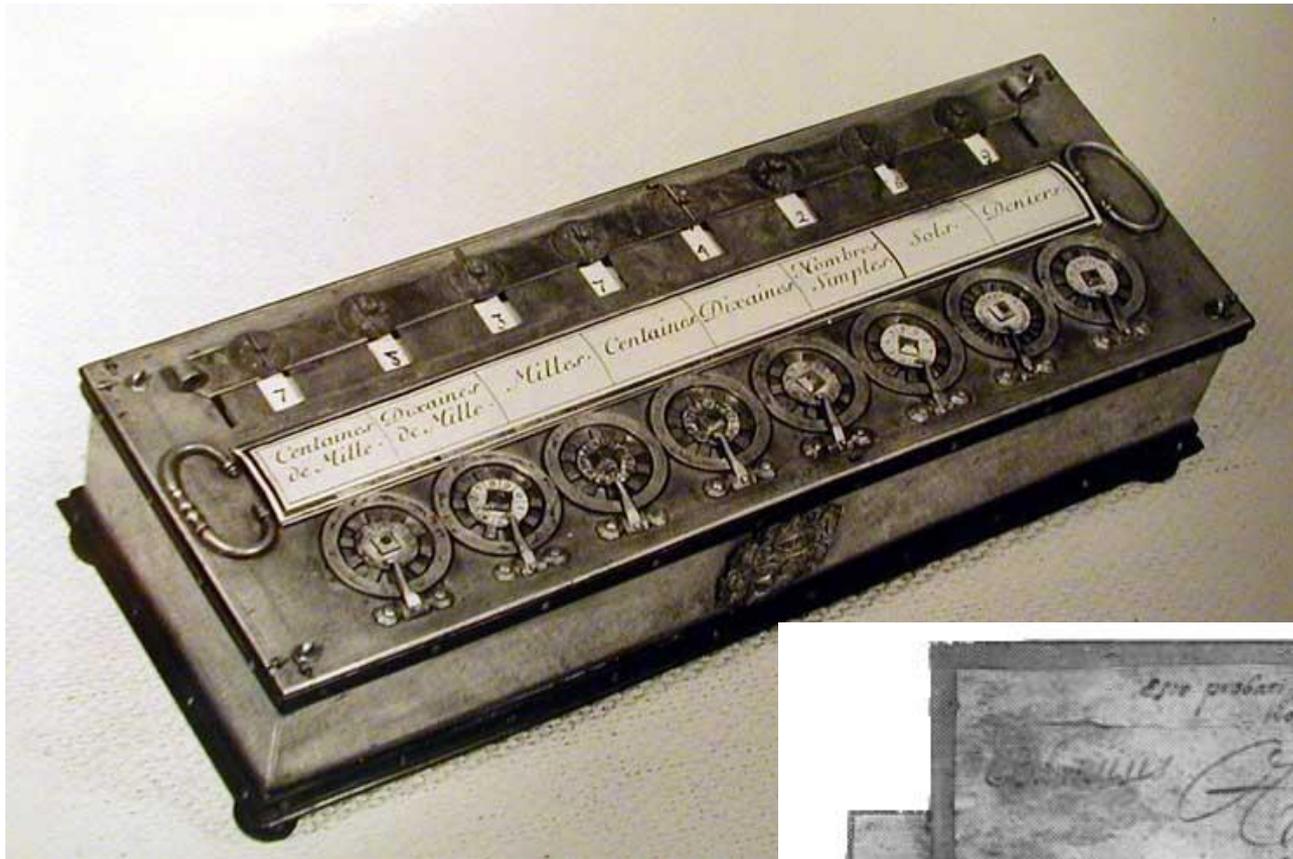
- Life of Blaise Pascal
- Works
- Basic Philosophical Tenets
  - Nature and Grace
  - Theory of Knowledge
- Pascal's Wager
  - Discussion Theory
  - Three Arguments
- Objections to Pascal's Wager

# Blaise Pascal 1623 - 1662

- Born in Montferrand France
- Very poor health all of his life
- Educated at home by his father in mathematics
- Education focused on classical languages and mathematics, Not trained in theology or philosophy
- 23 November 1654, has a religious conversion
- After 1654 terminated the mathematical discussions
- Final period of his life was dominated by religious controversy, continual illness and loneliness

# Works

- Developed a calculating machine
- Most of his published works were in mathematics and science
- *Pensées*
  - Began collect ideas and to draft notes for a book in defense of the Catholic faith
  - Collected these notes into bundles and provided tentative titles for each bundle
  - Published as a note book after his death
  - One of the most extensive and famous note - Paragraph 233 contained “Pascal’s Wager”



# Philosophical/Theological Tenets

# Nature and Grace

- Humans tainted by original sin
- Recovery from the fallen state was a gift of God = faith
- Faith is a means to transcend the limits of what is intelligible and to accept as true even matters that they cannot understand
- Committed to the exclusive truth of Catholicism
- No human effort could contribute to salvation, even as a partial cause
- God's agency is completely efficacious

# Theory of Knowledge

- Did not publish an explicit theory of knowledge or philosophy of science in any single text
- “Experience and reason” as the only ways of acquiring knowledge of the natural world
- Tendency towards skepticism – still frequently expressed confidence in the certainty with which we can know “matters of fact”
- The same kind of certainty about experimental facts

# In Reference to Galileo's Work

*“It was in vain’ therefore that the Jesuits obtained from Rome a decree against Galileo...That is not what will prove the earth does not move; and if one had unchanging observations that proved the earth revolves, all the men in the world could not stop it moving”*

# Reason & Hypotheses

- Even facts known with certainty by observation require the use of reason to understand or explain natural phenomena
- Analysis of arguments based on mathematics
- Three types of hypothesis
  - True hypotheses (their negation implies an absurd consequence)
  - False hypotheses (their affirmation implies an absurdity)
  - Those from which no valid conclusion about its truth can be drawn

# Knowledge of God

- One cannot prove the existence of God by rational means
- Reason completely inadequate to the task of relating to a transcendent divinity
- Only way to god is through faith

# Pascal's Wager

# Pascal's Wager

- Argument for believing in God
- Problems with presenting Pascal's philosophy
  - Never finished the *Pensées*
  - "Infinite – nothing" the *Pensées* that contained the Wager consisted of two pieces of paper covered on both sides by handwriting
- The three arguments are interwoven in the text
- Disagreement over just what "wagering for God" involves
  - *Believing* in God
  - *Trying* to believe in God

# Pascal's Wager – Perspective

- Perspective of someone who already believes in God and assumes that their belief is itself a gift from god
- It purports to show **only that** those who have accepted divine grace and believed in God have made a wager that is not unreasonable

# Cannot Prove God's Existence

*"God is, or He is not." But to which side shall we incline? Reason can decide nothing here. There is an infinite chaos which separated us."*

# The *Pensées* and the Wager

- In a single paragraph he presents at least three arguments the final of these that is traditionally referred to as “Pascal’s Wager”
  - Justification of theism
  - Probability theory and decision theory – used for almost the first time in history
  - Voluntarism (the thesis that belief is a matter of the will)
  - Use of the concept of *infinity*

# Decision Theory

- Ian Hacking – describes the “Wager” as “the first well-understood contribution of decision theory
- In any decision problem, the way the world is, and what an agent does, together determine an outcome for the agent
  - We may assign *utilities* to such outcomes, numbers that represent the degree to which the agent values them
  - Typical to present these numbers in a decision matrix
    - Columns corresponding to the various relevant states of the world
    - Rows corresponding to the various possible actions that the agent can perform

# Decision Types

- *Decisions under uncertainty*
  - Nothing more is given – agent does not assign subjective probabilities to the states of the world
  - Sometimes rationality dictates a unique decision none the less:
- *Decisions under risk*
  - *Expected utility* – expectation of a given action can be calculated by a formula

# Formula for Decisions Under Risk

## Example

- Playing a game that costs \$1 with equal chance of returning \$0 or \$3

$$0*(1/2) + 3*(1/2) = 1.5$$

- Expectation of paying a dollar for certain, then playing, is

$$-1 + 1.5 = 0.5$$

- Exceeds the expectation of not playing (namely 0) so you should play
- If the game gave an equal chance of returning nothing and returning two dollars, the expectation would be

$$0 * (1/2) + 2 * (1/2) = 1$$

- Expectation either way would be 0 so you would not play

# Pascal's Arguments

- The Argument from *Superdominance*
- The Argument for Expectation
- The Argument from generalized Expectations “Pascals’s Wager”

# The Argument from *Superdominance*

*“Which will you choose then? Let us see. Since you must choose, let us see which interests you least. You have two things to lose, the true and the good; and two things to stake, your reason and your will, your knowledge and your happiness; and your nature has two things to shun, error and misery. Your reason is no more shocked in choosing one rather than the other, since you must of necessity choose. This is one point settled. But your happiness? Let us weigh the gain and the loss in wagering that God is. Let us estimate these two chances. If you gain, you gain all; if you lose, you lose nothing. Wager, then, without hesitation that He is”*

# Decision Matrix

|                          | <i>God exists</i> | <i>God does not exist</i> |
|--------------------------|-------------------|---------------------------|
| <i>Wager for God</i>     | Gain all          | Status quo                |
| <i>Wager against God</i> | Misery            | Status quo                |

# Argument from *Superdominance*

- We are incapable of knowing whether God exists
- Reason cannot settle which way we should incline
- Wagering for God *superdominates* wagering against God:
  - the worst outcome associated with wagering for God (status quo) is at least as good as the best outcome associated with wagering against god
- If god exists, the result of wagering for God is strictly better than wagering against god

# Argument for Expectation

*. "Let us see. Since there is an equal risk of gain and of loss, if you had only to gain two lives, instead of one, you might still wager. But if there were three lives to gain, you would have to play (since you are under the necessity of playing), and you would be imprudent, when you are forced to play, not to chance your life to gain three at a game where there is an equal risk of loss and gain."*

# The Argument for Expectation

- Pascal apparently assumes now that utility is linear in number of *lives*
  - Wagering for God costs “one life”
  - Prize is three *lives*
- Pascal has now made two assumptions:
  - The Probability of God’s existence is  $\frac{1}{2}$
  - Wagering for God brings *infinite* reward if God exists

## Argument From Generalized Expectations “Pascal’s Wager

*“But there is an eternity of life and happiness. And this being so, if there were an infinity of chances, of which one only would be for you, you would still be right in wagering one to win two, and you would act stupidly, being obliged to play, by refusing to stake one life against three at a game in which out of an infinity of chances there is one for you, if there were an infinity of an infinitely happy life to gain. But there is here an infinity of an infinitely happy life to gain, a chance of gain against a finite number of chances of loss, and what you stake is finite. It is all divided; where-ever the infinite is and there is not an infinity of chances of loss against that of gain, there is no time to hesitate, you must give all”*

# The Argument From Generalized Expectations “Pascal’s Wager

- The point is rather that if God exists, then wagering for God results in infinite utility
- “Misery” = negative infinity
- The argument from expectation goes through equally well whatever your probability for God’s existence is, provided that it is non-zero and finite (non-infinitesimal) – “a chance of gain against finite number of chances of loss”

# Pascal's Wager

- Three premises
  - First concerns the decision matrix of rewards
  - Second concerns the probability that you should give to God's existence
  - The third is a maxim about rational decision-making
    - The utilities of the relevant possible outcomes are as follows, where  $f_1$ ,  $f_2$ ,  $f_3$  are numbers whose values are not specified beyond the requirement that they are finite:

# Pascal's Wager

|                          | <i>God exists</i> | <i>God does not exist</i> |
|--------------------------|-------------------|---------------------------|
| <i>Wager for God</i>     | $\infty$          | $f_1$                     |
| <i>Wager against God</i> | $f_2$             | $f_3$                     |

# Objections to Pascal's Wager

# Premise 1: The Decision Matrix

- Different matrices for different people
  - Predestined infinite reward for the Chosen, whatever they do
  - Finite utility for the rest
- The utility of salvation could not be infinite
- There should be more than one infinity in the matrix
- The matrix should have more rows
- The matrix should have more columns: the many Gods objection

# Premise 2: The Probability Assigned to God's Existence

- Undefined probably for God's existence
  - To assign a probability at all – en  $\frac{1}{2}$  - to God's existence is to feign having evidence that one in fact totally lacks
  - Rationality actually requires us to *refrain* from assigning a probability to God's existence
- Zero probability for God's existence
  - Strict atheists may insist on the rationality of a probability assignment of 0
  - May contend that reason alone can settle that God does not exist

# Premise 3: Rationality Requires maximizing Expected Utility

- Maximizing expectations can lead one to perform intuitively sub-optimal actions
- Practical rationality vs theoretical rationality

# Summary

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