

# Rational Integrity:

## The place of philosophical ethics in engineering education

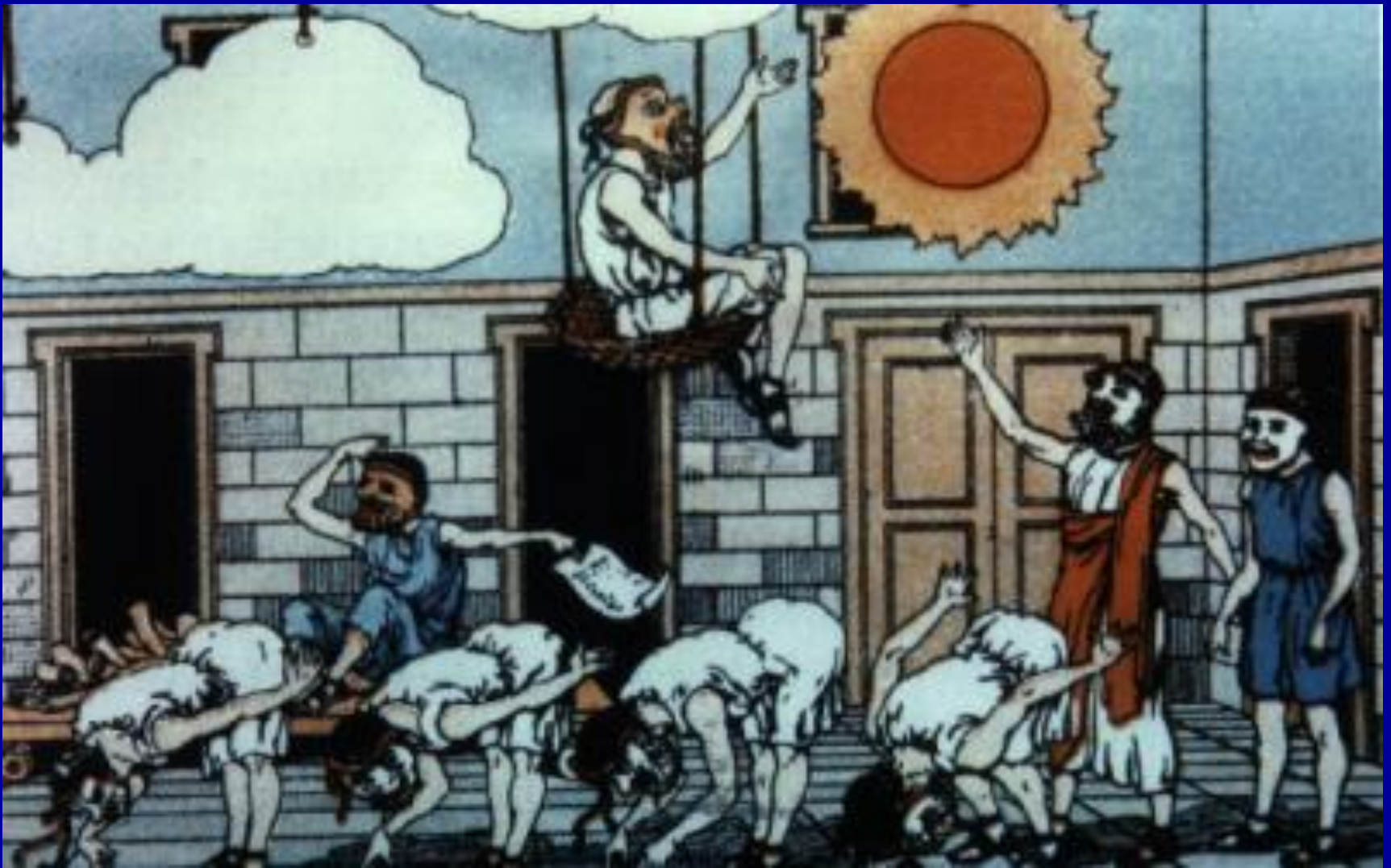
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- *Socrates explores heavenly phenomena, while his pale-faced pupils investigate subterranean matters in Aristophanes' comedy Clouds.*
  - *Image courtesy of Willamette University*

# Skills common to Engineers and Philosophers

- 1. Passion for problem-solving
- 2. Propensity to think things through to their conclusions
- 3. Precision

Human being



Aristotle

# Human Being

= (df) rational animal

# Rationality

# Rationality

- = (df) **the intellectual capacity to act for reasons**

# Aristotle's Three Types of Wisdom

- *Episteme* = metaphysical understanding
- *Techne* = technical know-how
- *Phronesis* = practical judgment



ΣΟΦΙΑ  
ΓΕΛΕΘΟΥ

Philos + Sophia = love of wisdom

# *Philosophy*

Philos + Sophia = study of wisdom

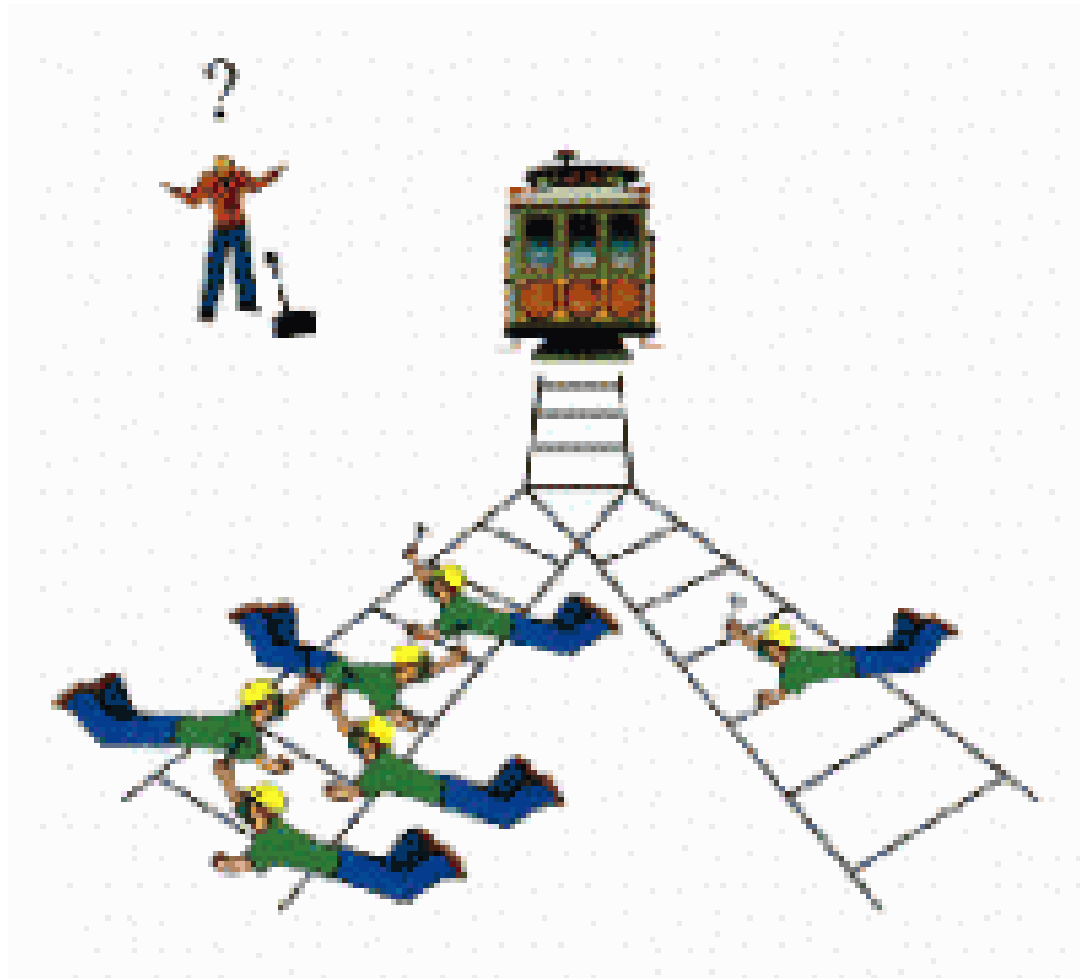
# 4 Branches of Philosophy

- Logic
- Metaphysics/Epistemology
- History of Philosophy
- Ethics

# Ethics

= (df) the philosophical discipline  
approaching the question,

“What ought I to do?”



*Image courtesy of Bryn Mawr College*

***Action Principle***

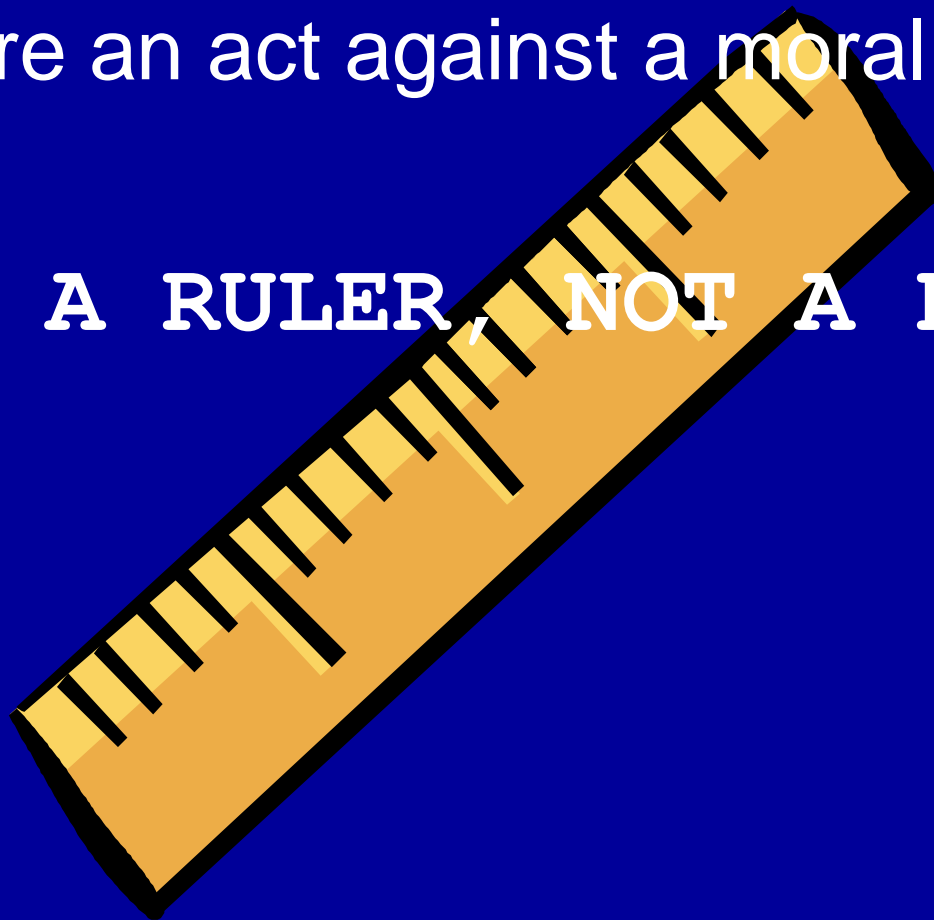
***Criterion of Rightness***

|  |                                     |            |
|--|-------------------------------------|------------|
|  | Do whatever your conscience directs | Conscience |
|  |                                     |            |
|  |                                     |            |
|  |                                     |            |
|  |                                     |            |
|  |                                     |            |

# Conscience

= (df) intellectual faculty by which we measure an act against a moral standard.

**IT IS A RULER, NOT A PENCIL!**



*Ethical Framework*

*Action Principle*

*Criterion of Rightness*

| <b>Seat-of-the-Pants</b> | Do whatever your conscience directs                | Conscience              |
|--------------------------|--|-------------------------|
| <b>Egoism</b>            | Do whatever is in your own long-term self-interest | Long-term self-interest |
|                          |  |                         |
|                          |  |                         |
|                          |  |                         |

# Morality

= (df) a set of specific directives, derived from the Action Principle, given a specific conception of the Criterion of Rightness, that **answers** the question,

“What ought I to do?”

*Ethical Framework*

*Action Principle*

*Criterion of Rightness*

| <i>Ethical Framework</i> | <i>Action Principle</i>                            | <i>Criterion of Rightness</i> |
|--------------------------|--|-------------------------------|
| <b>Seat-of-the-Pants</b> | Do whatever your conscience directs                | Conscience                    |
| <b>Egoism</b>            | Do whatever is in your own long-term self-interest | Long-term self-interest       |
| <b>Utilitarianism</b>    | Do whatever produces the best consequences overall | Greatest net good (aggregate) |
|                          |  |                               |
|                          |  |                               |

*Ethical Framework*

*Action Principle*

*Criterion of Rightness*

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| <b>Deontology</b>        | Do your duty                                       | Duty (decreed by accepted authority) |
|                          |  |                                      |

*Ethical Framework*

*Action Principle*

*Criterion of Rightness*

| <i>Ethical Framework</i> | <i>Action Principle</i>                            | <i>Criterion of Rightness</i>        |
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| <b>Utilitarianism</b>    | Do whatever produces the best consequences overall | Greatest net good (aggregate)        |
| <b>Deontology</b>        | Do your duty                                       | Duty (decreed by accepted authority) |
| <b>Virtue ethics</b>     | Do whatever the ideally virtuous person would do   | Ideal habits of character            |

# Which Criterion is the Right One?

Greatest net good (aggregate)

Duty (decreed by accepted authority)

God's command

Long-term self-interest

Relationship

Ideal habits of character

Integrity

# Integrity

= (df) wholeness; rational consistency of ethical framework across all areas of one's life

# What IS the RIGHT THING to do?

This is a philosophical question...  
concerning truth and reality,  
constrained by logic,  
informed by history...

*the most important one  
any of us can ask  
and try to answer.*



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