Ethics, Equity and Law in Engineering FA24

Today's Agenda

01 **Recap + Housekeeping**

Participation

02 **Ethics**

Our morality in decisions and actions

03 **Misconduct**

Violation of standards and ethical principles

04 **Whistleblowing**

Report wrongdoing at personal risk

Consider these situations, what would you do?

1. Your boss asks you to stop thinking like an engineer and start thinking like a manager.
2. An international customer/government official suggests a bribe would secure a major order.
3. A friend in the class you TA for hands you an assignment after the deadline.
4. Your friend asks you to sign the class roll for them.

Onto some definitions...

1. **Ethics** – A branch of philosophy concerned with ways of thinking philosophically about morality, and moral judgment.
2. **Morality** – Human conduct and character referring to "those acts which it makes sense to describe as right or wrong, good or bad."
3. **Moral Judgment** – Judgments based on considerations of how other people are to be treated, and how others interests are to weigh against their own.
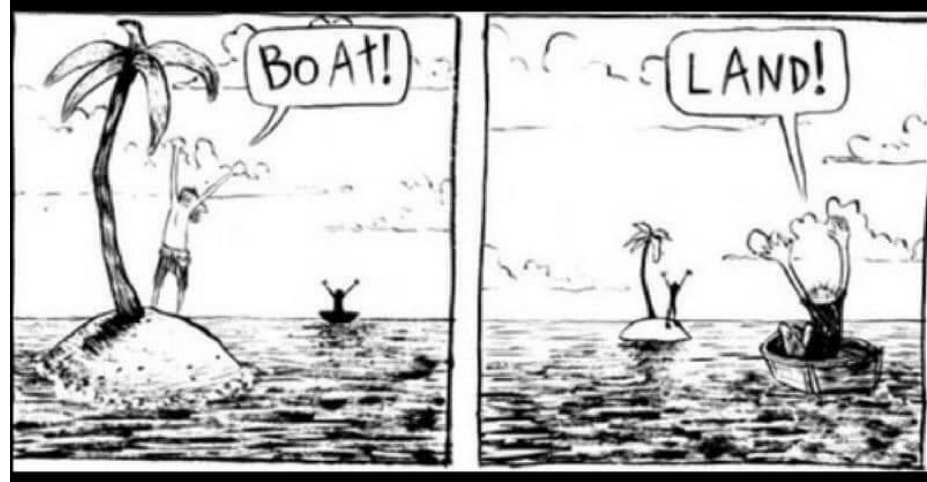
Morals
Provides the Foundations
Individual's beliefs
Tends to be Flexible

Ethics
Provides the guiding principles
Societal Standards
Rigid and prescriptive

Watch this video: https://www.youtube.com/watch?v=Xki2fRA0bY8

What then?

Ethics is the study of characteristics of morals.
Deals with moral choices each person makes in dealing with others.
1. Engineering ethics
   body of rules and standards
   governs the conduct of engineers in their roles as professionals.

Define role morality

Watch: https://www.youtube.com/watch?v=_tPveSnUyVY

Why is it important for Engineers to understand ethics?

Ethics has far–reaching impacts on society

Engineering work can:

- affect public health and safety
- influence business practices
- sway politics

As Engineers, we:

Build products – cell phones, home appliances, heart valves, bridges, & cars.

–advance society by building new technology.

Develop processes – the process to convert salt water into fresh water or the process to recycle bottles.

–change how we live and what we can accomplish.

Ethical Decision Making

Just like a design problem

- Define the problem
- Assess possible solutions
- Resolve moral problems and develop moral criteria to guide human behaviour and decision
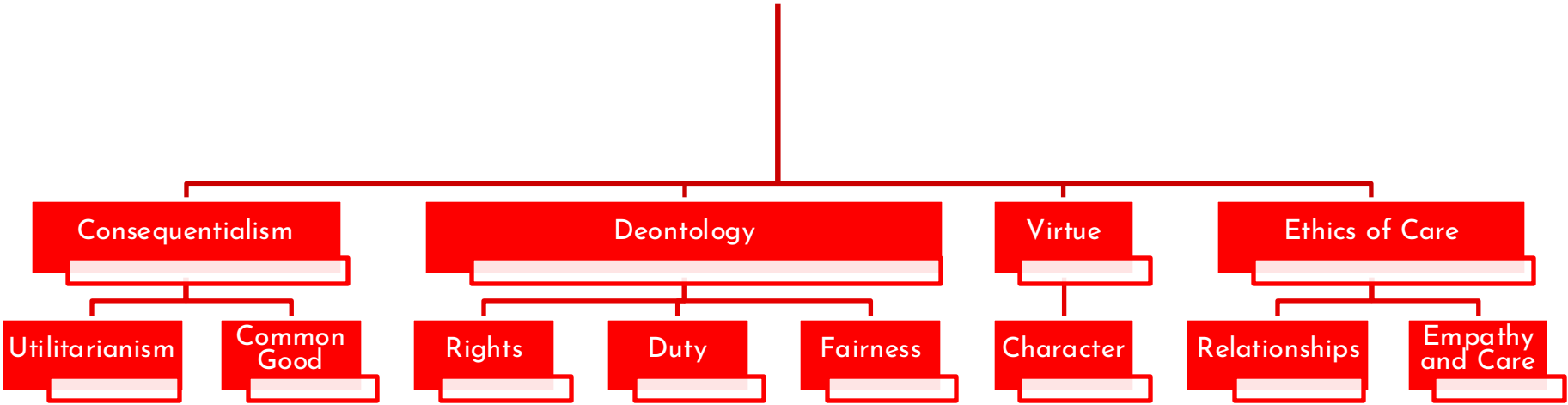
Normative vs Applied Ethics

Normative Ethics

Understanding of right vs. wrong, good vs. bad

Applied Ethics

Ethics Application in specific situations, domains of study, etc. faced in the real-world

Normative Ethics

Consequentialism
- Utilitarianism
- Common Good

Deontology
- Rights
- Duty
- Fairness

Virtue
- Character

Ethics of Care
- Relationships
- Empathy and Care

Ethical Decision Making: EGAD Framework

What is the **Ethical** Dilemma (Conflicts/Challenges)

Generate Potential Alternative Solutions

Analyse the Alternative Solutions According to Ethical Theories (etc.)

Decide on the <u>Most Ethical</u> Alternative

Ethical Dilemma 1: The Burger Murders

You founded a company that manufactures meatless burgers that are sold in stores worldwide. But you've recently received awful news: three people in one city died after eating your burgers.

A criminal has injected poison into your product! The deaths are headline news and sales have plummeted.

How do you deal with the crisis?

Ethical Dilemma 2: Driverless Car Programmer

You are the programmer of a driverless car. You have a scenario where the truck infront drops a massive log onto the street. There's an SUV to the left lane and a motorcycle on the right lane. What do you program the car to do?

- Swerve left, hot the SUV, potentially killing all occupants.
- Swerve right, potentially killing the motorcyclist.
- Continue straight, potentially killing the occupants of the driverless car.

03

Misconduct

What is it?

- Behavior or actions violating established rules or standards.

- Could be in a professional, ethical, or legal context.
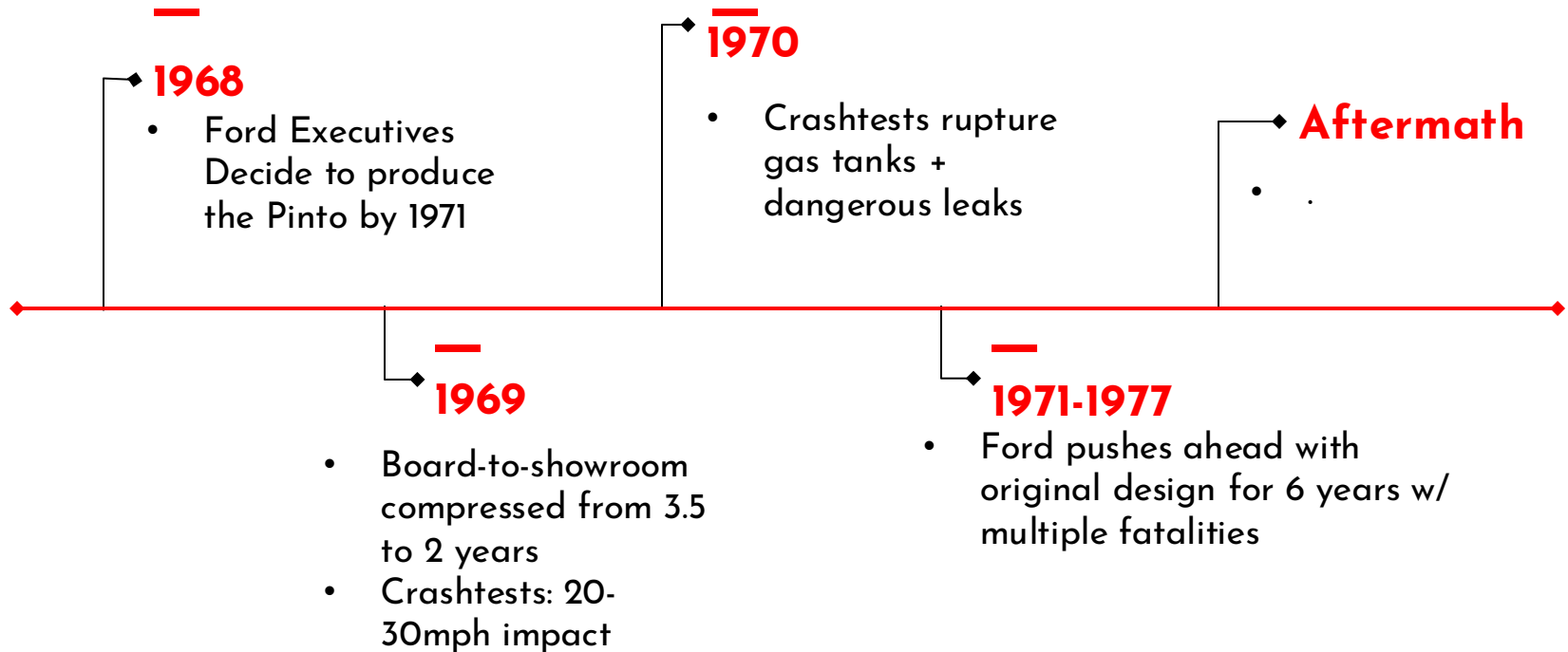
Ethics Problems can be complex

Engineering ethics problems are complex, and involve conflicting ethical principles
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Ford Pinto Case
VW Emissions Scandal

Challenger Disaster - the cost of putting a civilian in space

1968
- Ford Executives Decide to produce the Pinto by 1971

1970
- Crashtests rupture gas tanks + dangerous leaks

Aftermath
- .

1969
- Board-to-showroom compressed from 3.5 to 2 years
- Crashtests: 20-30mph impact

1971-1977
- Ford pushes ahead with original design for 6 years w/ multiple fatalities

McGinn, R. (2018). *The ethical engineer: Contemporary concepts and cases*. Princeton University Press. [20]

It can take many forms.

- Professional Misconduct
- Financial Misconduct
- Scientific Misconduct
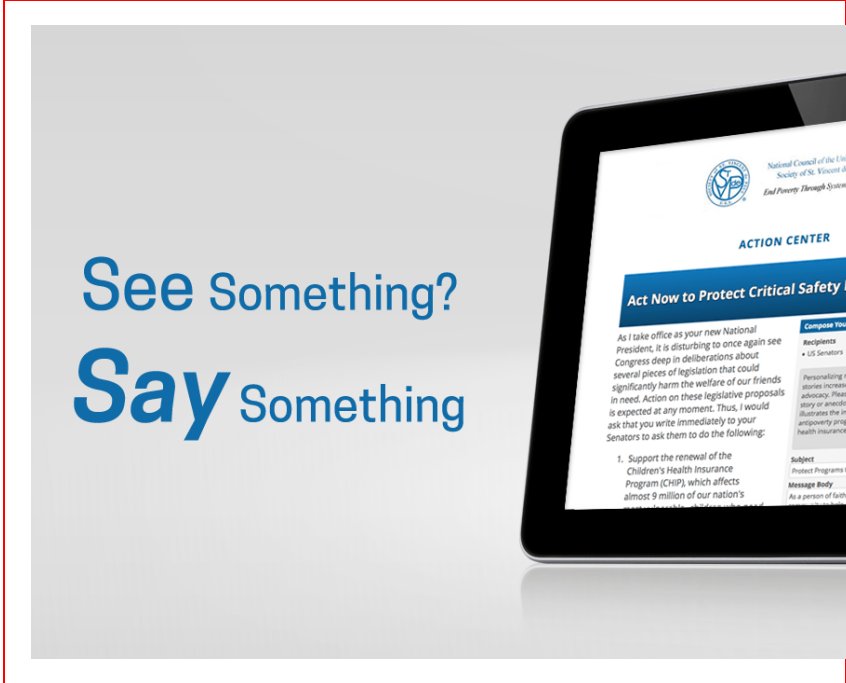- Workplace Misconduct
- Criminal Misconduct

Outcomes/Reparations?

Depending on the severity:

- Warning or Reprimand
- Suspension
- Termination/Expulsion/Loss of License
- Financial Penalties (Civil lawsuits?)
- Prison

- Loss of Reputation?
- Mandatory Training / Re-education?

04

Whistleblowing

What is whistleblowing?

... is when an employee reveals corporate wrongdoing to law enforcement.

"an act of a man or a woman who, believing in the public interest overrides the interest of the organization he serves, publicly blows the whistle if the organization is involved in corrupt, illegal, fraudulent or harmful activity."
Ralph Nader, 1972

Who is a whistleblower?

Whistleblowers, "…are people (usually employees) who believe an organization is engaged in unsafe, unethical or illegal practices and go public with their charge, having tried with no success to have the situation corrected through internal channels"

(Eng. Dimensions, Mar/Apr 1990, p29)

Protection for Whistleblowers

Few Canadian laws pertain directly to whistleblowing

Canadian *Criminal Code*, <u>Public Servants Disclosure Protection Act</u> (*PSDPA*), the *Public Service of Ontario Act, 2006* as well as the *Securities Act.*

<u>Section 425.1</u> of the *Criminal Code:* no threat to whistleblowers

Employee duty of fidelity

- As an employee, you have a legal duty of confidentiality and fidelity to your employer.
- If you become aware that a superior in your company has committed a misdeed, usually you must first to the employer, **not the police or a regulatory body.**
- Employer doesn't have to disclose to you what they do with this information. You may never know the results of their inquiry.

This is not whistleblowing

- Personal or personell issues (nature dependent) e.g. work re-assignment
- Dispute between you and the organization e.g. dispute on vacation time
- Simple mismanagement vs Gross mismanagement (poor supervision vs risk to the organization or public)

Liability Coverage

Whistleblowing coverage

Engineers Canada whistleblower coverage hotline: 800-361-9080.

Watch this video: https://www.youtube.com/watch?v=EHsyzr3Bw7c