PROFESSIONAL ETHICS

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Responsibility and Blame

Responsibility

- Responsibility is often linked to the role that you have in a particular situation.
- In the Challenger case Roger Boisjoly fulfilled the role of engineer and not that of, for example, family member, friend, citizen, employee, expert and colleague.
- You often have to fulfil a number of roles simultaneously.
- Each role brings with it certain responsibilities.

Professional Responsibility

- Professional responsibility is the responsibility that is based on your role as professional engineer in as far it stays within the limits of what is morally allowed.
- An engineer is expected to carry out his work in a competent way.
- Professional responsibilities are not just passive but they also contain an active component.

Passive Responsibility

- The person who is held responsible must be able to provide an account why he followed a particular course of action and why he made certain decisions.
- We will call this type of passive responsibility *accountability.*
- Passive responsibility often involves not just accountability but also *blameworthiness*.
- Blameworthiness means that it is proper to blame someone for his/her actions or the consequences of those actions.

Passive Responsibility

- Four conditions need to apply:
- Wrong-doing:
  - Whenever one blames a person or institution, the individual or the institution in question has violated a norm or did something wrong. This can be a legal or moral norm, or that is common in the organization.
- Causal contribution:
  - The person who is held responsible must have made a causal contribution to the consequences for which he or she is held responsible.

Passive Responsibility

- Foreseeability:
- A person who is held responsible for something must have been able to know the consequences of his or her actions. The consequences are the harm actually arising from transgressing a norm.
- Freedom of Action:
- The one who is held responsible must have had freedom of action, i.e. he or she must not have acted under compulsion.

Active Responsibility

- Responsibility that comes into play beforehand.
- If nothing has yet gone wrong or if there is the chance to realize something good is referred to as active responsibility.

Conflict in Responsibility

- Professional responsibility as engineer may sometimes conflict with your responsibility as employee.
- There are three models of dealing with the tension and the potential conflict between engineers and managers.
- Separatism
- Technocracy
- Whistle-blowing

Conflict in Responsibility

- **Separatism:**
- Is the notion that engineers should apply the technical inputs, but appropriate management and political bodies should make the final decisions.
- The professional responsibility of engineers is confined to engineering matters and all decisions are made by managers and politicians.
- The disadvantage of this model is that engineers may lose sight of the engineering ideal of public welfare.

Conflict in Responsibility

- **Technocracy:**
- means that engineers take over the decision power of managers and politicians.
- One disadvantage of this model is that engineers do not possess expertise on basis of which they can decide and make managerial decisions.
- **Whistle-blowing:**
- *Whistle-blowing* means that you, as an engineer, speak out in public about certain abuses or dangerous situations in a company.
- whistle-blowing may sometimes be required it is not a very attractive model for the relation between engineers and managers.

Conflict in Responsibility

- Wernher von Braun (1912-1977) is famous for being the creator of the space programme that made it possible to put the first person on the moon on 20th July 1969. In the 1930s Von Braun was involved in developing rockets for the German army. In 1937 he joined Hitler's National Socialist Party. Later he explained that he had been forced to join that party and that he had never participated in any political activities, a matter that is historically disputed.
- Wernher von Braun's belief must have been: "In times of war, a man has to stand up for his country, as a combat soldier as a scientist or as an engineer, regardless of whether or not he agrees with the policy his government is pursuing."
- With which model of dealing with the tension between the reponsibility of a company and the professional responsibility does Von Braun's belief correspond?

Saving Citicorp Tower

- Structural engineer Bill LeMessurier and architect Hugh Stubbins faced a challenge when they worked on the plans for New York's fifth highest skyscraper, the Citicorp Tower.
- Questions raised a year after the tower completion.
- The tower could collapse under heavy wind.
- LeMessurier faced an ethical dilemma involving a conflict between his responsibilities to ensure the safety of his building for the sake of people who use it, his responsibilities to various financial constituencies, and his self-interest, which might be served by remaining silent. What to do?

Distribution of Responsibility

- It is often very difficult to pinpoint responsibility and blame in cases in which many people are involved in an activity and in which many causes contributed to a disaster.
- It is very hard, if not impossible, to hold any individual reasonably responsible. Such a situation may be referred to as the problem of many hands.
- Dealing with the problem of many hands requires attention for the distribution of responsibility in engineering.

Distribution of Responsibility

- Suppose individual cars emit concentrations of greenhouse gases that are — considered in isolation — completely reasonable and harmless, whereas all cars together cause a significant harm to future generations. Is this an example of the problem of many hands?

Responsibility and the law

- Responsibility is not only a moral concept, but also a legal concept.
- We will use the term liability to refer to legal responsibility.
- Liability is different from moral responsibility.

1. The conditions by which someone is held liable are often different from the conditions by which someone is held morally responsible.
2. Secondly, liability is established in an official and well-regulated procedure in court.

Responsibility and the law

3. Liability usually implies the obligation to pay a fine or to repay damages, while this is not necessarily an implication of moral responsibility.

4. Fourth, liability always applies after something undesirable has occurred, while responsibility is relevant both after the fact as well as before something undesirable has occurred (active responsibility).

Responsibility and the law

- Liability is one of the legal tools that can be used to deal with the social consequences of technology.
- The other main legal tool is *regulation*. Regulation can forbid the development, production or use of certain technological products, but more often it formulates a set of the boundary conditions for the design, production and use of technologies.

Responsibility and the law

- However regulative frameworks are usually absent in the case of radical, innovative design.
- One reason for this is that regulation is usually based on our current knowledge of a technology and its consequences and on past experiences with that technology.
- Regulation is therefore often not able to deal with innovation.
- As a consequence, regulation will either have to forbid certain innovations or will lag behind the technological developments.

Responsibility and the law

- Mostly the main condition for liability is *negligence*. In order to claim negligence, proof must be given of:
  - A duty owed. This is the legal obligation that individuals adhere to a reasonable standard of care while performing any acts that could foreseeably harm others;
  - A breach of that duty;
  - An injury or damage;
  - A causal connection between the breach and the injury or damage.

Responsibility and the law

- In contrast to negligence, *strict liability* does not require the defendant to be negligent in order to be liable.
- Technological innovation is obviously a risky activity and it might produce unknown hazards to society.
- So innovation is a possible candidate for strict liability.
- In the US and the countries of the European Union a manufacturer is liable for defects in a product, without the need to proof that that manufacturer acted negligently.

Responsibility in Organizations

- Most modern organizations are characterized by a division of tasks and roles.
- We will study three different models for distributing responsibility in organizations.
- Two considerations are then, again, important.
- First, whether the model is *morally fair* in how it allocates responsibility and, second, whether, it is *effective* in avoiding undesirable behavior.

Hierarchical Responsibility

- In case of the hierarchical responsibility model, it is only the organization's top level of personnel that is responsible for the actions of the organization.
- The hierarchical model is attractive because of its relative simplicity and clarity.
- The hierarchical responsibility model is not always effective in preventing undesirable consequences.

Hierarchical Responsibility

- The managers of organizations may be, to an extent, outsiders within their own organization.
- It is very difficult for executives within an organization to get hold of the right information in time or to effectively steer the behavior of lower organizational units.
- The hierarchical responsibility model also seems somewhat morally unfair.

Collective Responsibility

- Collective Responsibility, in general, refers to a group of people associated with an organization/business taking responsibility of a task or person.
- Everyone is responsible to an equal degree for the actions of the collective body.
- Individual differences in being at fault or being able to prevent certain damage cannot be accounted for in this model.
- This is often seen as morally unacceptable
- Examples are, A software team collectively finishing a project, a CM and his cabinet ministers taking care of the State and even we all staying indoors to prevent spread of Coronavirus.

Individual Responsibility

- In the individual responsibility model each individual is held responsible.
- A main advantage in this model is that it is morally fair.
- The model also might seem effective because it encourages individuals to behave responsibly.
- Individual moral responsibility may lead to the problem of many hands.
- The organization may collectively bring about undesirable consequences for which no individual can be held responsible.

Practice Question

- Suppose that you are working as an engineer for a company producing cars. The head of the R&D department asks you to set up a design team for the design of a new type of truck. One of the issues you will have to take into account is how to distribute the responsibility for the safety of the truck. Which of the models for distributing responsibility maximizes the value of "fairness"?
- Suppose a firm is set up so that the leader of a large design team takes full responsibility for safety on behalf of the whole team. This is best described as based on which model?

References

- Mike Martin and Ronald Schinzinger, “Introduction To Engineering Ethics”, McGraw Hill, New York, 2010
- Miscellaneous Journals and Internet Resources.