Ethics of technology and science
Introduction

Iordanis Kavathatzopoulos and Thomas Lennerfors

The course
- Lecture, seminars, group project
- Literature: Good research practice, links, papers
- Examination: Participation, group project, presentations, home exam
- Focus on ethical guidelines, research issues, and practical methods

Program

<table>
<thead>
<tr>
<th>Date</th>
<th>Room</th>
<th>Subject</th>
<th>Presenter</th>
<th>Literature, etc.</th>
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<tbody>
<tr>
<td>29 Oct, 2115</td>
<td>10.15-12.00</td>
<td>Introduction</td>
<td>Iordanis, Thomas</td>
<td>Links, papers</td>
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<tr>
<td>05 Nov, 2115</td>
<td>09.15-12.00</td>
<td>Research issues</td>
<td>Groups</td>
<td>Good RP, Papers, Abstracts, Slides</td>
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<tr>
<td>19 Nov, 2115</td>
<td>09.15-12.00</td>
<td>Professional issues</td>
<td>Groups</td>
<td>Slides</td>
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<td>10 December, deadline</td>
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<td>Home exam</td>
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Problems

- Funding, conducting, applying
- Research collaboration, colleagues, supervisor
- Publishing, authorship etc.
- Methods, experimenting, laboratory animals, etc.
- Impact on society, human life, environment
- Privacy, intellectual property, etc.
- Plagiarism, handling of data
- ……..

Inherent contradictions

- Scientific research
- Laboratory animals
- Publishing and learning
- Privacy
- Security
- ………..

Moral theories

Categorization of classical philosophies of morality:
- Virtue
- Duty
- Utility
**Prima facie** Normative principles in applied ethics

- **Personal benefit:** acknowledge the extent to which an action produces beneficial consequences for the individual in question.
- **Social benefit:** acknowledge the extent to which an action produces beneficial consequences for society.
- **Principle of benevolence:** help those in need.
- **Principle of paternalism:** assist others in pursuing their best interests when they cannot do so themselves.
- **Principle of harm:** do not harm others.
- **Principle of honesty:** do not deceive others.
- **Principle of lawfulness:** do not violate the law.
- **Principle of autonomy:** acknowledge a person's freedom over his/her actions or physical body.
- **Principle of justice:** acknowledge a person's right to due process, fair compensation for harm done, and fair distribution of benefits.
- **Rights:** acknowledge a person's rights to life, information, privacy, free expression, and safety.

**Ethics and morality**

- Morality is “knowledge”, i.e. answers to choices we feel we need to make in our lives as persons or groups.
- Ethics is about the process of gaining this “knowledge”

**Answers or questions?**

- **Content:** “Right actions are moral but wrong actions are immoral”
  - Common sense definition based on moral content and normative aspects, focused on satisfaction with the result

- **Choice:** “Morality and ethics are related to choice”
  - Philosophy and psychology base the definition on choice and option, focused on the quality of the process
Is it easy or difficult?
Generally we are constrained because of our nature but ethics are harder:
• Incompatible values decide right and wrong
• Contradictory cases, e.g. double standards
• Strong emotions
• Group and organizational constraints
• Authority is very important
• Focus on content not on process

Rationality?
• Open: There is no limit, no end, everything can be related to everything
• No base: Premises have to be identified and questioned
• Logically imperfect thinking processes work fine

(no algorithms, no computer calculations)

Ethical insecurity?
Handling of moral issues creates a big risk:
Important myths can be destroyed
• For persons: Resolution of problems, personal development, but risk to lose enthusiasm, get disoriented, lost, cynical
• For organizations, society: Hero, e.g. whistle blowing (courageous, responsible), or offend persons and principles (show no respect, disloyalty, treason, hostility)
What do we need?

- **Ethical competence**: Know how to handle ethical issues, how to think
- **Ethical processes**: Roles, procedures, mechanisms in organizations
- **Ethical confidence**: Know that we can find good solutions and trust our ability (i.e. know that our skill and our way of handling moral issues is working)

How do we think?

- **Heteronomy**: automatic, dogmatic, constrained, authoritarian thoughts, instincts and reflexes
- **Advantages**: Quick, safe, economic, avoid responsibility
- **Disadvantages**: Bad control, chancing, difficult to explain

Could we think better?

- **Autonomy**: Critical searching, systematic thinking, supervision, holistic
- **Disadvantages**: Demands time, resources and skill, create anxiety
- **Advantages**: Good control, insight, awareness, responsibility, easy to explain
One example
You are the president of a company developing a new personnel administration system for another company where information on its employees will be stored. There are many security levels to choose among but your customer wants the cheapest one which also happens to be the less secure. You are convinced that hackers or even employees will be able to access this information. You have warned your customer but they want to take the risk.

Autonomy Skill

<table>
<thead>
<tr>
<th>Autonomy Method</th>
<th>All relevant values, interests, duties, feelings, needs, etc.</th>
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<tbody>
<tr>
<td>Design acc. customer</td>
<td>Own economy, Employee integrity, Customer's finances, Own reputation</td>
</tr>
<tr>
<td>Negotiate</td>
<td>Customer's integrity, Customer's finances, Employee's integrity, Customer's finances</td>
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<table>
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<tr>
<th>Method</th>
<th>All possible solutions</th>
<th>Design acc. customer</th>
<th>Negotiate</th>
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**OLE questionnaire**

1. Will there be any ethical problems or conflicts in the context, in the organisation or in the group where your decision will be applied or your solution will be used (e.g. your research findings)?
2. Will your decision or solution cause any ethical problems or conflicts?
3. Are there any alternatives to your solution?
4. What groups, individuals, organisations, etc, will in any way be affected by or have a stake in the development, use, application or mere existence of your decision and solution? (Including society at large and the environment.)
5. What values, interests, duties, standpoints and attitudes are involved in the use of your solution and of the possible alternatives?
6. What effects will your solution (and the alternatives) have on each of these values? What are the strengths/possibilities and the weaknesses/risks of each solution to each value? Will these solutions fit certain values and conflict with others? What values and how?
7. What will you do to make sure that the use of the solution will be optimal with regards to ethical aspects? For instance, adapt the design of the product, use of research methods, cooperation with industry, information to stakeholders, etc? How exactly are you going to succeed with this?