

# Responsible research and innovation

Pre-emptive ethics as a tool to decide  
before they become problems

Arto Mustajok

# Research ethics evolution

**0.0 Ethical thinking transferred through supervision**



**1.0 Guidelines for research integrity (plagiarism, falsification, fabrication)**



**2.0 Responsible research and innovation**



# What fuels the need for 2.0?



- Changes in the research world:
  - Big data and open science
  - Citizen science
  - More intensified interdisciplinary research
  - Increase of internationalisation
- Changes in society
  - Demand of societal impact of research and universities
- Insufficiency of black and white thinking



A good place to start with  
<https://www.vastuullinentiede.fi/en>



FI EN SV

# Responsible Research

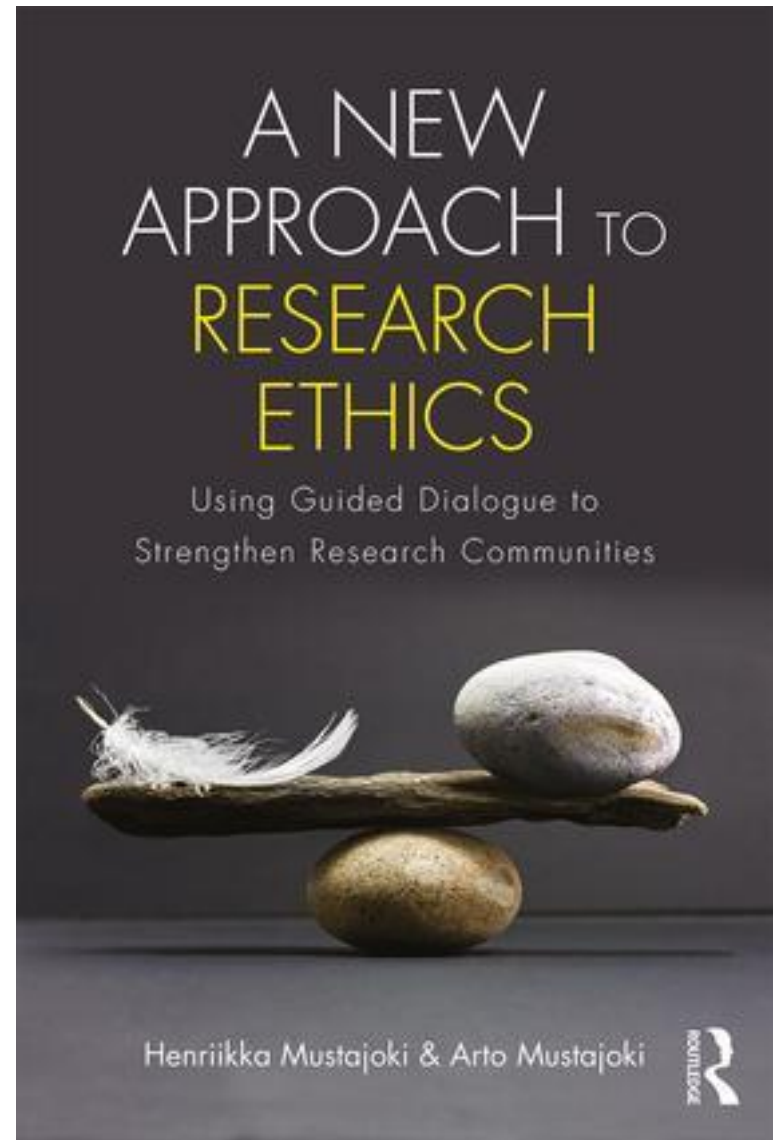
GUIDE TO RESEARCH INTEGRITY, RESEARCH ETHICS AND SCIENCE COMMUNICATION IN FINLAND

Planning      Doing research      Publishing      Reuse

Henriikka Mustajoki  
&  
Arto Mustajoki


**New approach to  
research ethics: Using  
Guided Dialogue to  
Strengthen Research  
Communities**

Routledge 2017



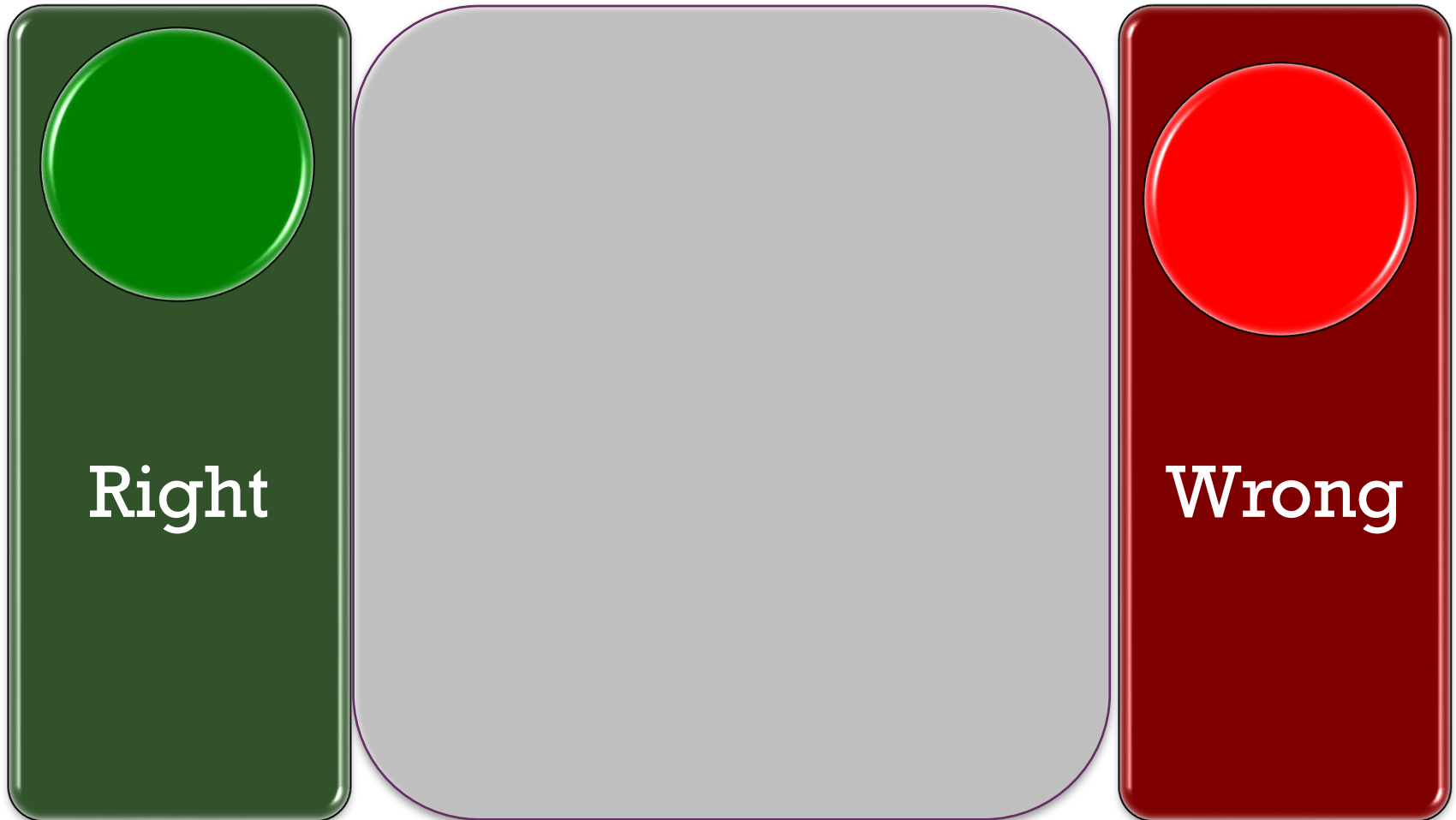
# Transfer from 1.0 to 2.0

1.0 Ethics is understood as a set of rules to be followed



2.0 Pre-emptive rethics which support problem solving and decision-making

# The grey area of ethics



## + Characteristic of the **pre-emptive ethics**

- Strict principles and rules are important but insufficient in solving ethical questions
- In tackling ethical questions one needs problem solving tools
- Capability to conduct ethical dialogue is a characteristic of a high level research community







# Various aspects of researcher's life



A researcher meets ethical questions not only in doing research and publishing, but also

- in supervising
- in recruiting people
- in assessing other researchers' works and applications
- in interacting with society
- in career building



# Value of ethical thinking

- Approaching ethical questions before they become problems
- Prepared to meet new ethical challenges that appear as science and society develop
- Supports open dialogue
- Recognition of grey areas as essential part of research work



# Step 1: Identification of an ethical question

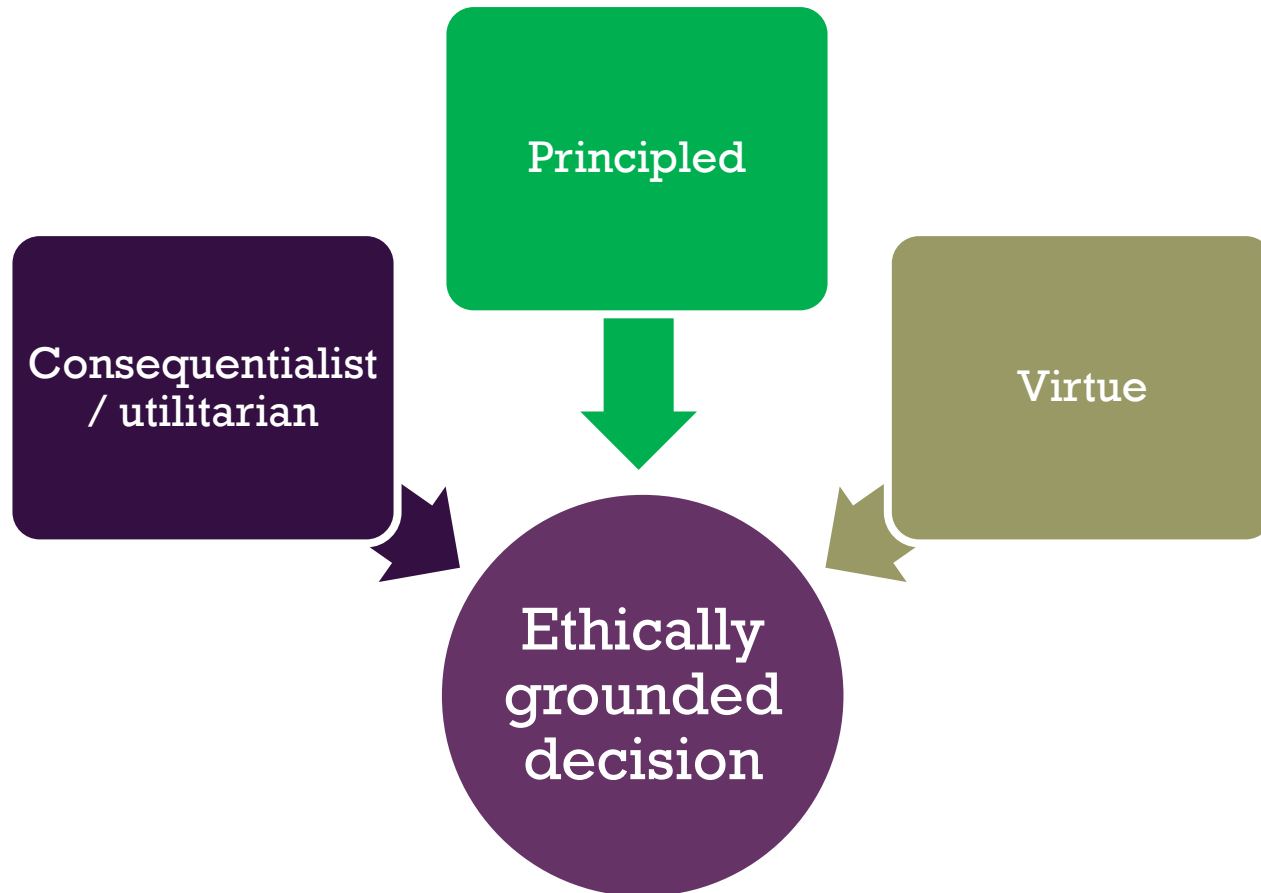


# + Why is this important?

- Identifying the question creates focused dialogue
- Many significant ethical decisions are made in defining the question
- Tendency to consider very limited set of options



Step 2:  
Tools for making an ethically  
grounded decisions





# Approaches to decision-making



- Allows seeking different ways to answer an ethical question
- Simplified from philosophical theories
- None of them guarantee a right answer
- Used to understand others
- Guaranteeing systematic and transparent process of decision-making



# Consequentialist approach



Focus on the **outcome**

- What is harm and benefit for various stakeholders?
- What are the short-term / long-term consequences for the stakeholders?



# Principled approach



## Focus on **the process**

- What rules/principles/ values guide us to do?
- Do we have the right/responsibility to do it or to not do it?





# Virtue approach



Focus on the **decision-maker**

- How would an ideal researcher act in this situation?

Further reasoning:

- Is my understanding about being an ideal researcher based on relevant sources?



## **Four cases:**

**Media contact: TV interview**

**Societal impact of research**

**Authorship**

**Recruitment**



**A concrete case: a TV  
channel turns to the  
researcher and asks for an  
interview**

To give a TV interview or  
not?



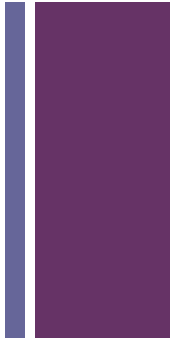
# TV interview

**Consequentialist:** harm and benefit from the point of view of various stakeholders:

- me
- my department or my research group
- my research field
- researcher community as a whole
- society (economy, decision-makers, people)

**Principled:** it is my duty / responsibility as a (state financed) researcher to do so

**Virtue:** good researchers do so



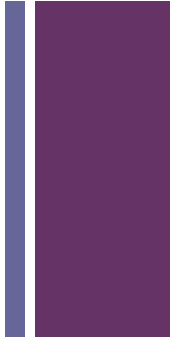


# TV interview



What if...

- (TIME) I am busy with writing an application / a paper
- (DEPTH OF SCIENTIFIC KNOWLEDGE) there is not much scientific evidence on the issue at hand
- (MY EXPERTISE) the topic is rather far from my own interests
- (OTHER EXPERTS) I am not the best expert in that field in my country
- (OTHER OPTIONS) not me, do they take a layman instead
- (SPACE GIVEN) they give only one minute for the answer
- (ATTITUDE) I do not like the interviewer / the TV channel
- (EXPERIENCE) my colleague has negative experience of that interviewer / TV channel



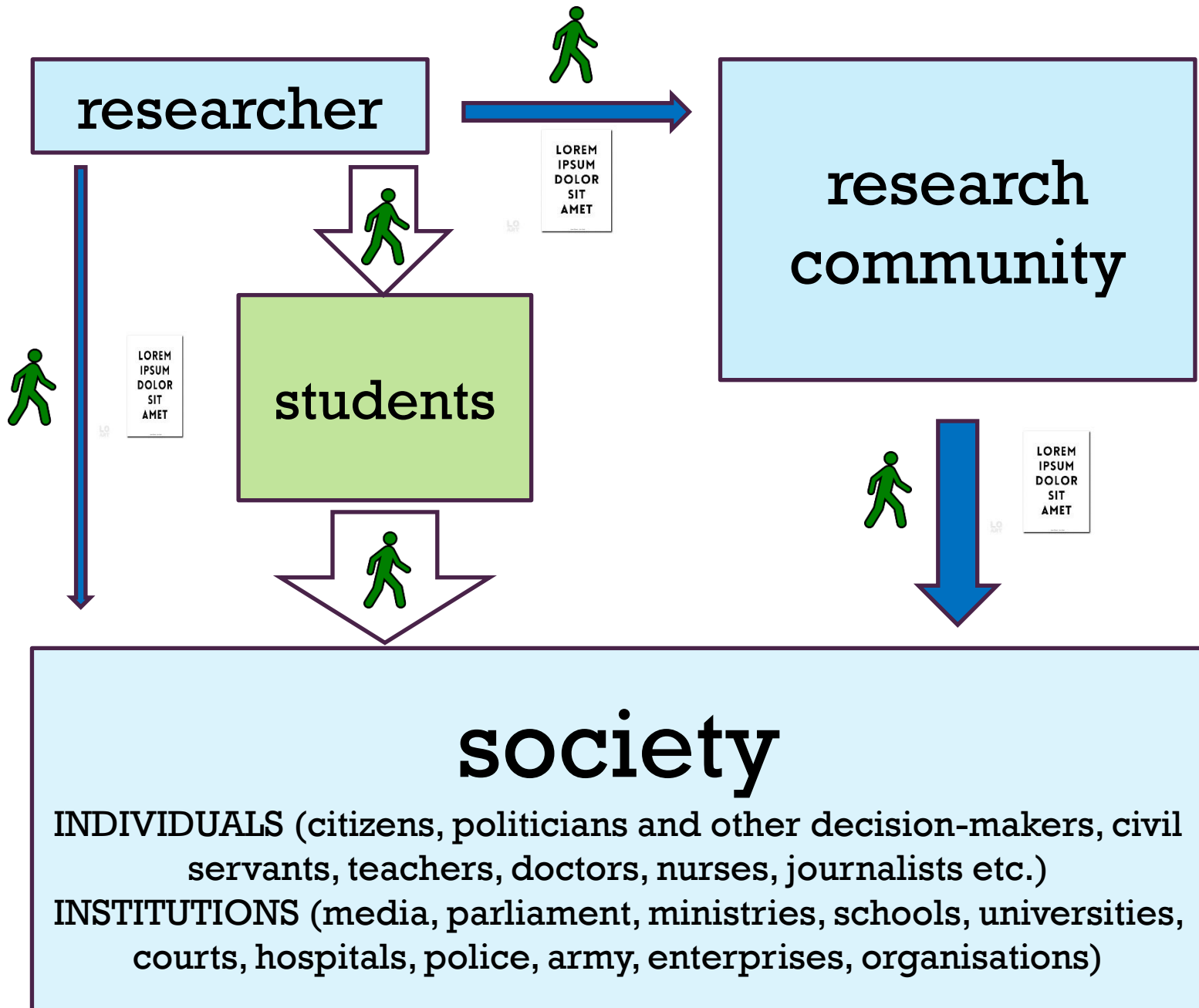
**A case at a general level:  
societal impact of  
research and universities**



# Questions to be touched

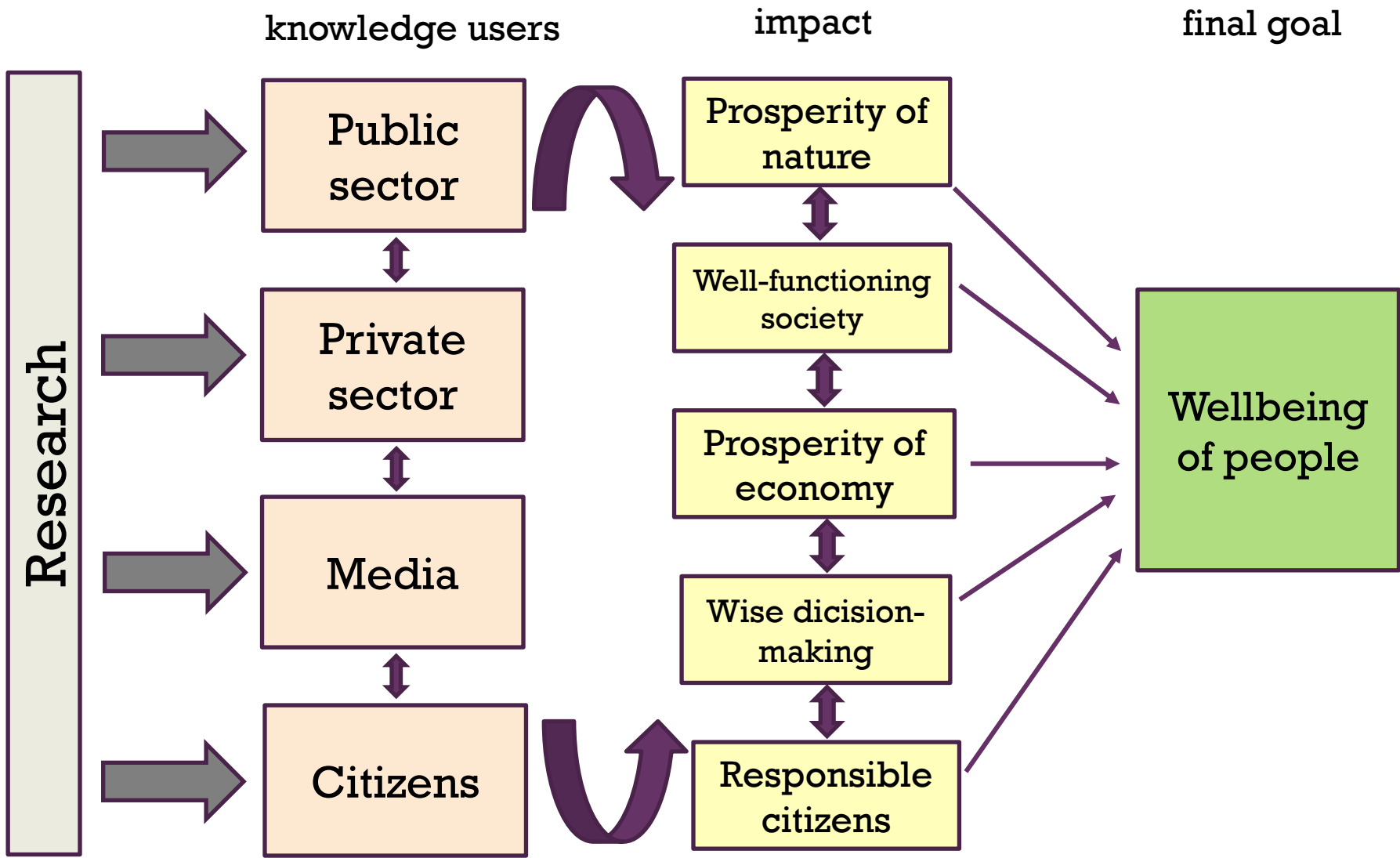


- Understanding the complexity of the issue
- Consequences for various stakeholders
- How to measure / assess?
- Fairness?
- Time scale?





# Channels and forms of societal impact





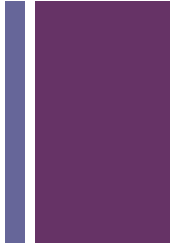
# **Benefit and harm from the perspective of various stakeholders**



- The researcher herself/himself
- The research group
- The department / faculty / university
- **The reseacher community as a whole**
- **The research field in case**
- The society / citizens / industry
- The humankind



# Principles



## **Honesty**

Usually impact is gained by a joint effort of various parties (researchers, media, legislation, public opinion, literature, movies)

## **Fairness**

Do we only pay attention to impact, which is seen quickly and is easy to measure?



# Virtue



How does act

a good researcher

a good research group

a good university?

How is knowledge transfer organised  
and what is the role of “usefulness” of  
research in research funding

in a country with an ideal research  
policy?

+

# What is needed for positive consequences?

## **Scientific evidence:**

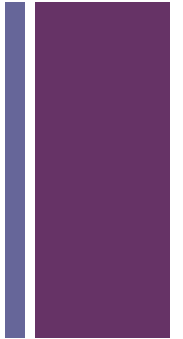
findings to be told to knowledge-users

## **Motivation:**

willingness to try to have an impact  
(attitude of researchers; incentives)

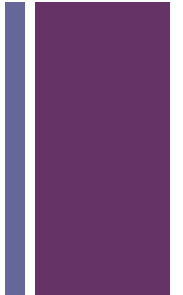
## **Skills:**

ability to communicate with various  
knowledge-users, to use possibilities of  
open science





# Need for multidisciplinary research



Some examples:

**Reducing pollution of the Baltic sea**

**Miscommunication and conflicts between people and nations**

**Balance between needs for economic growth and equal opportunities of people**



# **A case: Authorship**



# Authorship



- The research was dominantly based on laboratory work.
- **Sofia** and **Hasina** designed the research methodology.
- The actual work was carried out by an experienced lab technician **Veronica**.
- The analysis was supported by **Sam** from the statistics department. Sam's support and development of an analysis software was essential for the results.
- The head of the project **Erik** followed the research closely and supported Hasina and Sofia in theory work.
- The first version of the manuscript was written by Sofia. Hasina read the manuscript several times and made corrections. Sam read and checked the section relating to statistical analysis. Erik read the last draft but made no changes. Veronica did not participate in the writing process.
- In the end Sofia spent approximately 5 months on the project, Hasina three weeks, Veronica 4 months, Sam a week and Erik maybe a little less than a week.





# Authorship



- What aspects of the research project are essential in deciding authorship?
- Are there other stakeholders than the persons mentioned?
- What principles should be followed?
- What benefits could different authorship decisions bring?
- Is there any harm that could follow from choosing a particular author list/order?
- Does the field of research play a role here i.e. should the question be answered differently in different research contexts? What would have to change in the context to justify change in authorship?



# **A case: Recruitment**

# Recruitment

<b>Name (years of experience)</b>	<b>Quality of research</b>	<b>Relevance of research</b>	<b>Capacity as teacher and supervisor</b>	<b>Future perspective</b>	<b>Language command</b>	<b>total</b>
<b>Emilia (15)</b>	4	3	5	4,5	N	16,5
<b>Veronica (7)</b>	5	4	2	5	N	16
<b>Edward (19)</b>	4	3	4	4,5	Y	15,5
<b>Antonio (6)</b>	5	4	2	4	Y	15
<b>Lars (21)</b>	3	2	5	5	Y	15
<b>Tina (10)</b>	5	1	5	3	Y	14
<b>Akiko (9)</b>	3	2	3	5	Y	13
<b>Timothy (5)</b>	5	1	1	3	Y	10



# Recruitment



- **Quality of research** and **Relevance of research** are assessed by international referees
- **Capacity as teacher and supervisor** by the pedagogical skills committee on the basis of a test lecture and written documents
- **Future perspective** (capability to develop the field) by the recruitment committee on the basis an interview and written documentation.
- The last column refers to **command of Thelandish** (the language spoken in that country). This was mentioned as a demand in the announcement of the position, because the owner of the professorship is supposed to take part in the societal discussion.



# Recruitment



- Are all the criteria relevant? Should any be given more weight than others?
- Are there other stakeholders than the persons mentioned?
- What principles should be followed in recruitment?
- What benefits could different recruitment decisions bring?
- Is there any harm that could follow from choosing a particular applicant?
- Does the field of research play a role here i.e. should the question be answered differently in different research contexts?



# Recruitment



- **Personal experience issue:** Two of the members of the Recruitment Committee know Antonio very well as he has worked in the university in another position. They have a very positive opinion of him as a worker and as a person. Two other members of the Recruitment Committee know Edward well and say he has a reputation of a troublemaker. How to handle this kind of information?
- **Language issue:** How to take into consideration the language ability? Does it make a difference that Emilia and Veronica stated in their applications that they are ready and willing to learn to speak Thelandish; they said that will be able to teach in Thelandish in two years' time.
- **Gender issue:** If Emilia and Veronica are excluded, the three next best candidates are all male. The department has a reputation as the 'boys' club' with all the senior positions held by men and recruiting another male professor would appear to strengthen this already negative image when majority of the graduate students are currently female. Can the gender criteria be ethically justified in this situation when the criteria for the selection and utility for the department appear to support different options?

# **Concluding remarks**



## Why is this hard?



- Fear – e.g. loosing one's face
- Lack of time
- Thinking slow  $\Leftrightarrow$  thinking fast





# Putting all this into everyday work



- Common language
- Transparent discussion
- Creating safe places for discussion (*ba's*)
- Learning process



## Why we should do it anyway?



- Glue for making a coherent researcher community
- Supporting healthy community with value harmony
- Is there another way to manage complex situations in the modern research world?

**THANK YOU!**

[arto.mustajoki@helsinki.fi](mailto:arto.mustajoki@helsinki.fi)