Scientific Disciplines in Concert

- and Philosophy Calls theTune?

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Philosophy of/as Interdisciplinarity
PIN-net - Workshop

18.-21.09.2010,
Udo Keller-Stiftung Forum Romanum
Neversdorf

Three guiding questions

1. What are major conceptual and practical problems of interdisciplinarity that you are faced with in your research projects, and which problems should our project address in the future?

2. What can or should philosophy contribute to an understanding of interdisciplinarity?

3. What kind of new philosophical practice can we envision that will be shaped by interdisciplinary collaboration?

Conceptual and Practical Problems

In Technology Assessment:

ITAS (Institute for Technology Assessment and Systems Analysis) at the Karlsruhe Institute of Technology (KIT)

Research Institute at a University-like Campus doing research for Policy Advice

Since 20 years ITAS runs the office for technology assessment (TA) at the German “Bundestag”

Since six years ITAS coordinates the European Technology Assessment Group (ETAG) of 8 European parliamentary TA institutions

Conceptual and Practical Problems

TA as problem oriented research:

Policy makers are asking questions or formulate problems

Policy makers do not care about scientific disciplines

TA needs to find science based solutions for societal problems.

Technology Assessment:

Technology assessment (TA) is a scientific, interactive and communicative process which aims to contribute to the formation of public and political opinion on societal aspects of science and technology.

TAMI project (TA in Europe: Between Method and Impact)

Conceptual and Practical Problems

TA of Service Robotics

Technical aspects

Legal aspects

Economical aspects

Ethical aspects

Psychological aspects

… other aspects

Conceptual and Practical Problems

TA as research:

Science and Research are “arguing” (“Chains of arguments”)

Scientific disciplines are able to distinguish between good arguments and bad arguments by referring to criteria of validity. “Quality Control”.

Problem solutions can be described as interdisciplinary argumentation chains

How does interdisciplinary quality control look like?

Conceptual and Practical Problems

Example “Recommendation” of a TA:

„Position“ of humans in the control-hierarchy of the robot

„In contexts of robot application we should stick to the competence of setting goals of humans to avoid instrumentalisation (Kant‘s „formula of humanity“).

The technical realisation of the competence to decide is a crucial aspect of shaping the user-interface. In order to enable humans to take over responsibility for the well functioning of robots, the robots need to be control-able in the sense of transparence, predictability and influencing.

We recommend for all cases in which decision making is delegated to the robot the people concerned are well informed about that and gave the explicit or implicit acceptance to record. Especially in the context of medical application and care taking the rejection of this acceptance should be taken as a veto.

Christaller et al. 2004

Philosophy‘s contribution

Philosophy is a discipline as the other scientific disciplines:

- **Ethical reflection**
- **Anthropology**
- **Philosophy of “artificial intelligence”**

Philosophy is a different discipline:

- **Theory of Science : In the interdisciplinary argumentation process**
- **Recommendations: What *should* be done (normative)**

New philosophical practice?

Interdisciplinarity calls in the relevant scientific disciplines

- **They provide their perspective on the problem**
- **They “combine” their perspectives in a discursive process**
- **They develop common (interdis.?) argumentation chains**

- **New philosophical practice shaped by interdis. collaboration?**
- **New technical, legal, social, economical practice shaped by interdis. collaboration?**

New philosophical practice?

Theory of science for interdisciplinary argumentation?

Development of quality criteria for interdisciplinary scientific statements?

TAMI-Project:

M. Decker, M. Ladikas (eds.)

Bridges between science, society and policy. Technology assessment - Methods and impacts. Springer 2004

Robotics TA-Report:

T. Christaller, M. Decker, J.-M. Gilsbach, G. Hirzinger, K. Lauterbach, E. Schweighofer, G. Schweitzer, D. Sturma

Robotik. Perspektiven für menschliches Handeln in der zukünftigen Gesellschaft. Springer 2001