



# Universities and their role in fostering "response–ability" in a fast developing socio-technical world

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**Inaugural lecture,**

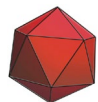
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# Science and technology as motor for societal development!?

- expectations are high: science and engineering should
  - contribute to finding solutions to the broad range of global/local challenges contemporary societies are facing
  - bring innovations into being which will shape our futures (and make us economically competitive)
- we simply tend to assume that scientific knowledge and technological innovations will benefit society at large => in turn, societies are expected to support and embrace scientific and technological innovations



# Society we live in and we innovate for ...

“Industrial capitalist societies are inescapably wedded to innovation and progress. Change rather than stability is the order of the day. In this dynamic world of universal mobility, standing still means falling behind. This committed pursuit of novelty distinguishes this contemporary mode of being, so aspired to across the world, from other socio-economic systems in which the creation of permanence and stability was and is the desired goal, where products were and are crafted to last, where political structures are designed to endure and people conduct their social relations with a fair measure of predictability”.

Barbara Adam & Chris Groves (2007): Futures matters: Actions, Knowledge, Ethics





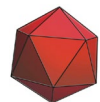
# Where in all these developments is the question of responsibility?

If change driven by scientific and technological innovations is so important to us, we have to ask:

How good is actually our **response-ability**, i.e. our "ability" to "respond" to, our capacity to anticipate and reflect on ever new challenges in a fast evolving socio-technical world?

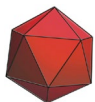
Paradoxically, these challenges are often both

- created by scientific and technological developments
- and in need for answers by scientific and technological innovations



“Technology is messy and complex.... In its variety, it is full of contradictions, laden with human folly, saved by the occasional benign deeds, and rich with unintended consequences”.

(Thomas Hughes, 2004)





# Do artefacts have politics?

(Langdon Winner 1980)



the tomato harvesting machine: a mundane technology which was meant to “simply” support those who have to do the hard manual harvesting labour

What it did, however, was

- ✓ requesting a restructuring of land and ownership
- ✓ collectivizing the growing of tomatoes, leaving little to no place to smaller owners
- ✓ changing work culture and killing a segment of the labour market
- ✓ leads to the creation of different tomatoes that fit the machine

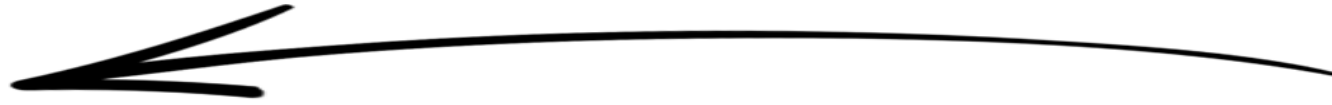
⇒ humans “script” (Akrich 1992) technologies

⇒ scripts reorder the world and define ways of acting

⇒ create new “geographies of responsibility”



perception and experience



complex networks of entanglement of human and non-human elements => redefines what responsibility means and how it comes to matter

CITIZENS & RESEARCHERS



practices and actions

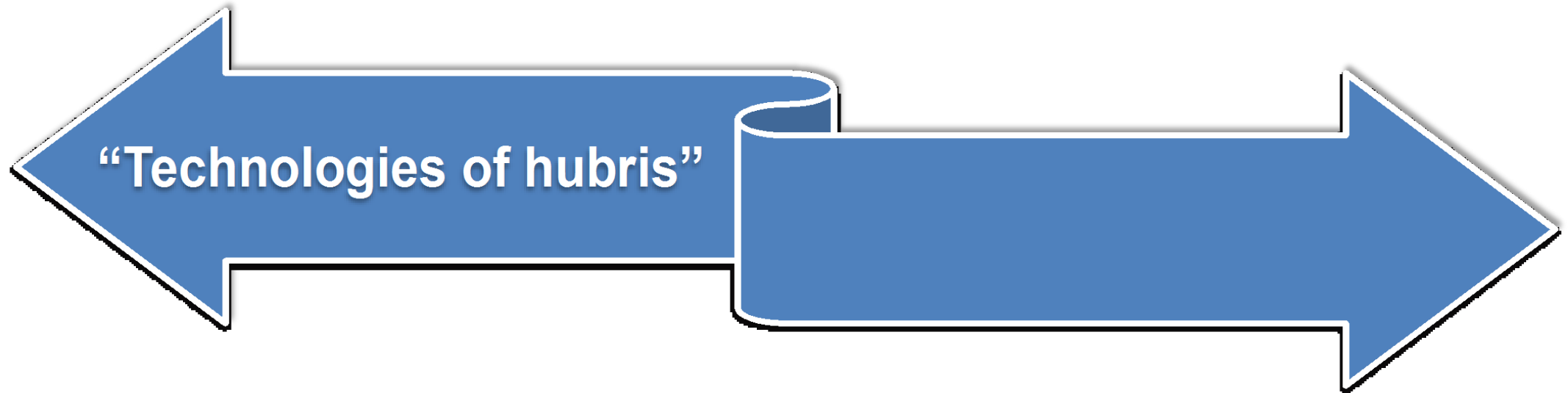


How to deal with our complex relations with scientific and technological innovation?

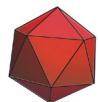




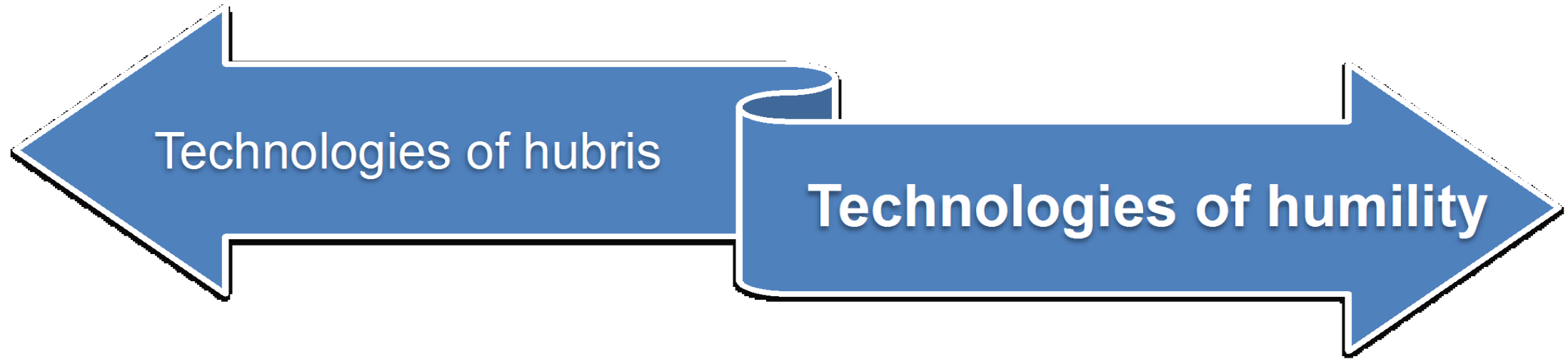
# From „technologies of hubris .....



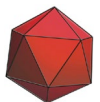
“To reassure the public, and to keep the wheels of science and industry turning, governments have developed a series of predictive methods (e.g., risk assessment, cost-benefit analysis, climate modelling) that are designed, on the whole, to facilitate management and control, **even in areas of high uncertainty.**“  
(Jasanoff 2003)



## ... to technologies of humility



“... methods, or better yet institutionalized habits of thought, that try to come to grips with (...) **the unknown, the uncertain, the ambiguous, and the uncontrollable**. Acknowledging the limits of prediction and control, (...). They **call for different expert capabilities (...)**.” (Jasanoff 2003)

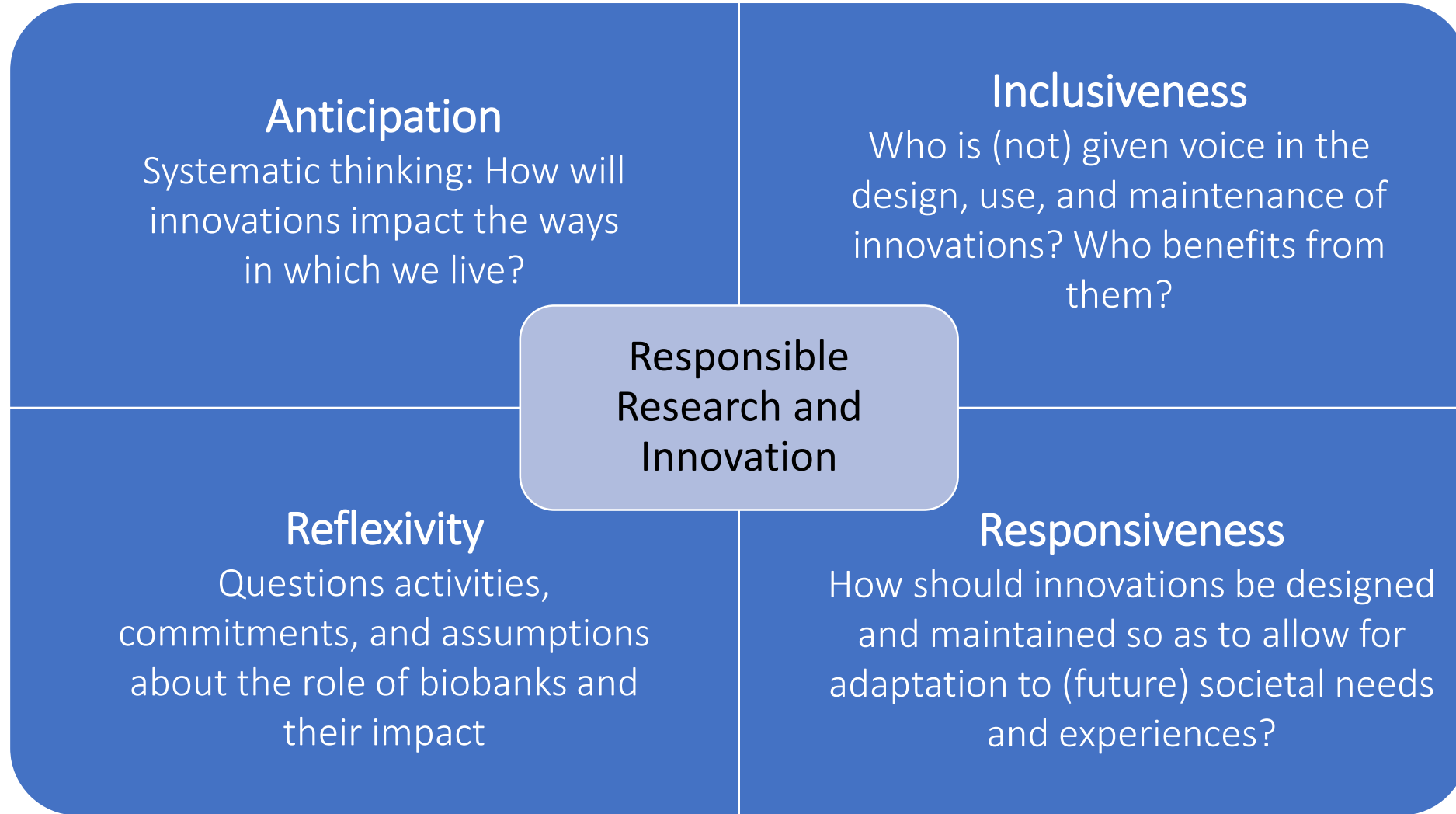


*Move from thinking in terms of  
„account-ability“ to  
„response-ability“*

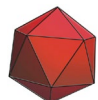




# A framework to think with: Responsible Research and Innovation



Stilgoe, Jack, Richard Owen, and Phil Macnaghten. 2013. "Developing a framework for responsible innovation." *Research Policy* 42 (9):1568-1580.





# Value of innovation < == > values in innovation

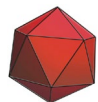
- Think of the very meaning of the notion of the “public good” that is to be achieved through innovation processes – who is the public being imagined as profiting from an innovation? Who speaks in the name of this public?
- *not solely market mechanisms should be the leading force in deciding the normative dimension of what counts as an ‘improvement’ (von Schomberg 2013)*





# What does this mean for universities?

- Universities are key institutions in contemporary innovation societies; they
  - train/form the next generation of knowledge workers for research and beyond
  - create important parts of the knowledge base for contemporary societies (multi-disciplinary space)
  - develop a long-term vision through an engagement in research in a rather broad manner (thinking with and against the contemporary moment)
  - curating and caring for knowledge/know-how across times



# Universities — a balancing act

They should

- be engines for economic growth while championing for the importance of academic values and a certain degree of freedom in doing so;
- train a highly specialized skilled labour force, while educating the next generation of responsible academic citizens which we trust in reimagining our societies
- be highly competitive and efficient, while being open, explorative and cooperative on many different levels (within research and beyond)
- ...



# Inspiring response-able innovators — empowering talent



... to develop, train and cherish  
the capacity of scientific and  
technological innovators to be  
response-able

and

... to understand that this skill is  
key for entrusting them to  
assure a societal future we all  
find worth living.





Thank you for your attention and  
my best wishes for  
the academic year 2019/2020!

