Sheffield University Management School.

ReTraCE

Realising the Transition towards the Circular Economy

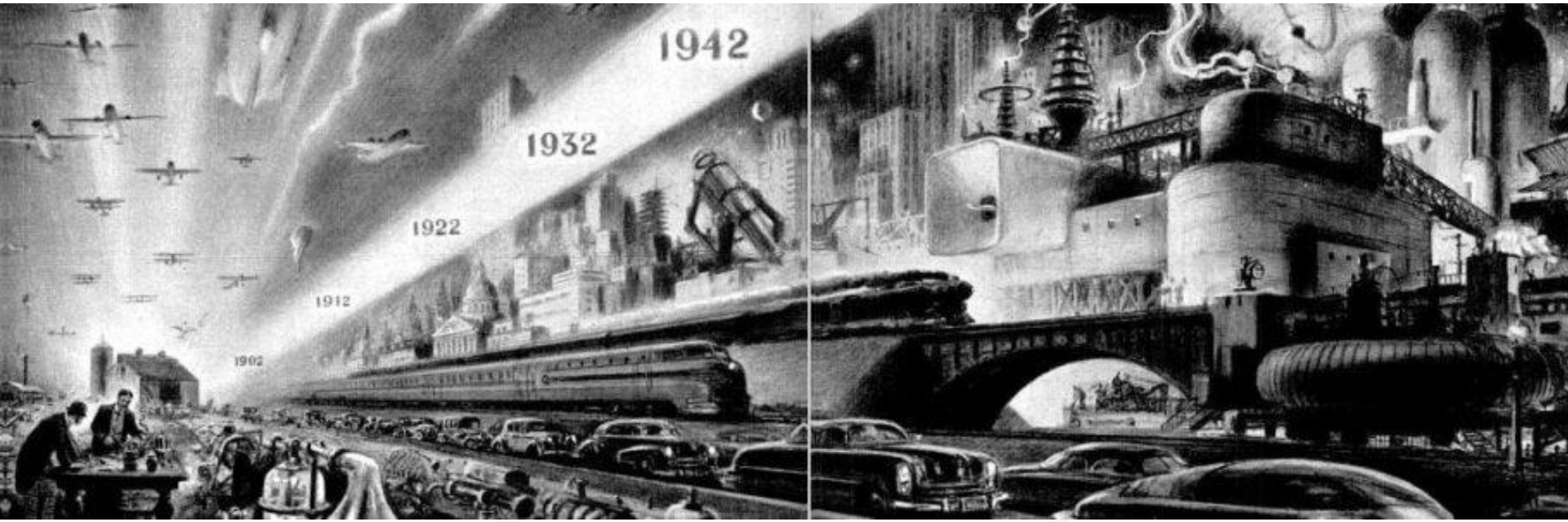
The social construction of technology

Dr Mario Pansera, Dr Stevie De Saille, Dr Andrea Jimenez

1st ReTraCE Network School
Sheffield, 3-7 June2019

This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie European Training Networks grant agreement ReTraCE No 814247.

The social construction of technology



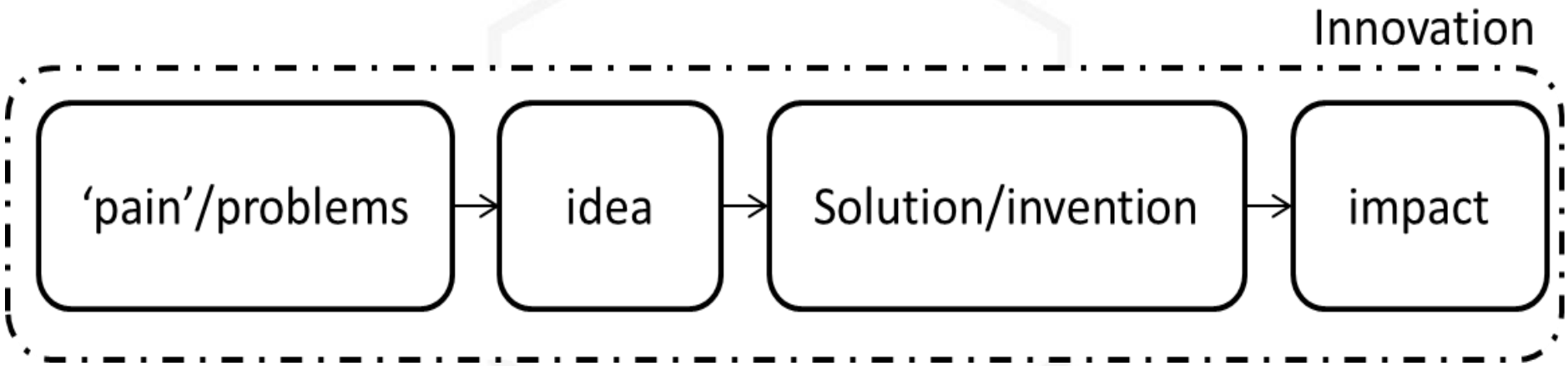
here is absolutely no inevitability as long as there is a willingness to contemplate what is happening."

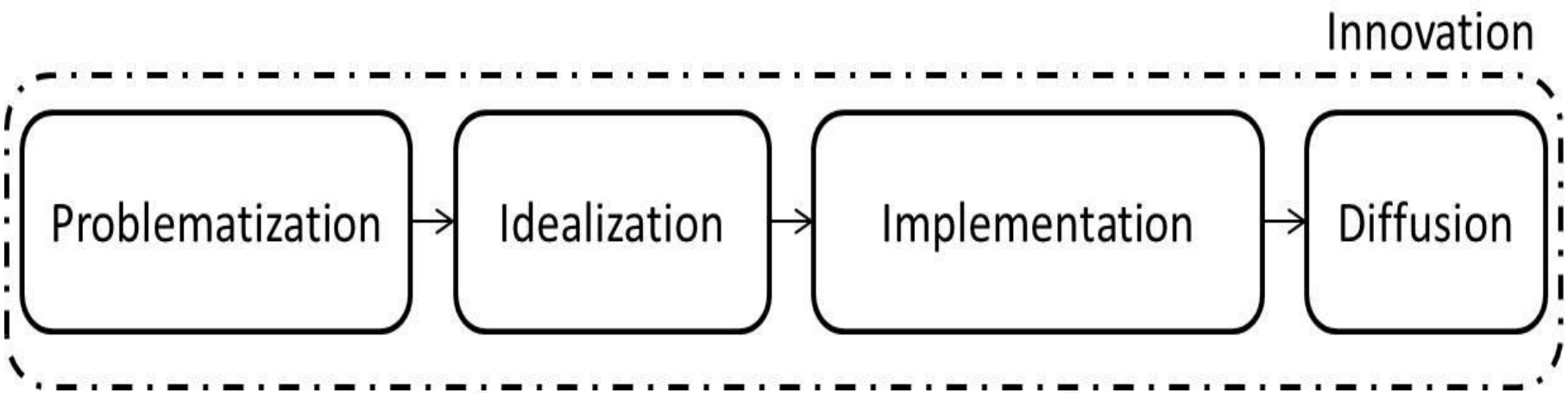
– Marshall McLuhan

Lines of Research

- ***Politics of Innovation****: What is innovation for? Who's innovation for? Who wins and who loses?*
- ***Responsible Innovation:*** *how to govern innovation according to normative stances?*
- ***Grassroots movements:*** *how to democratise technical change?*
- ***Degrowth, post-growth, a-growth paradigms:*** *How does innovation look like in a post-growth economy?*

Innovation


Innovation
‘pain’/problems
idea
Solution/invention
impact

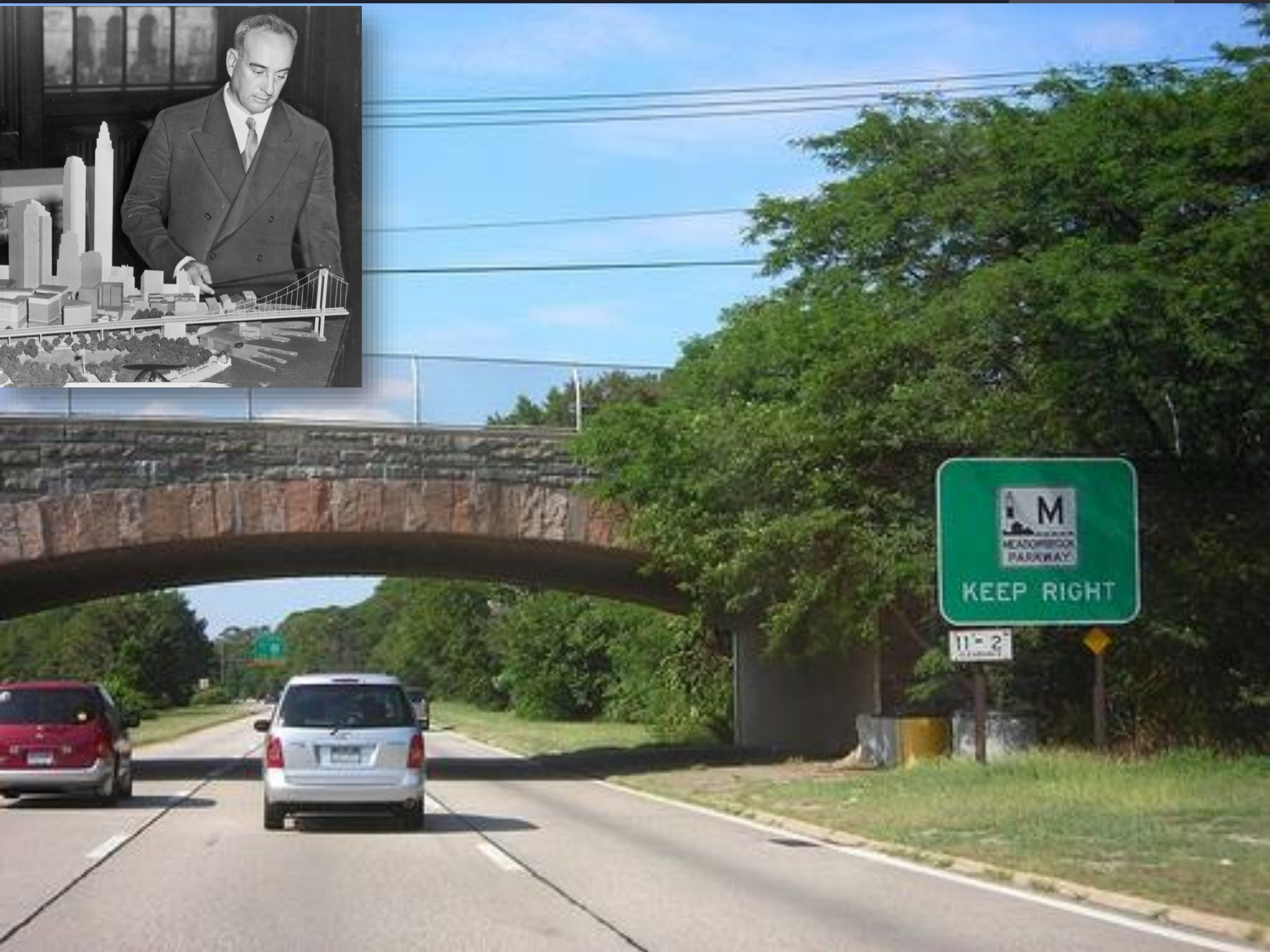

Innovation
Problematization
Idealization
Implementation
Diffusion

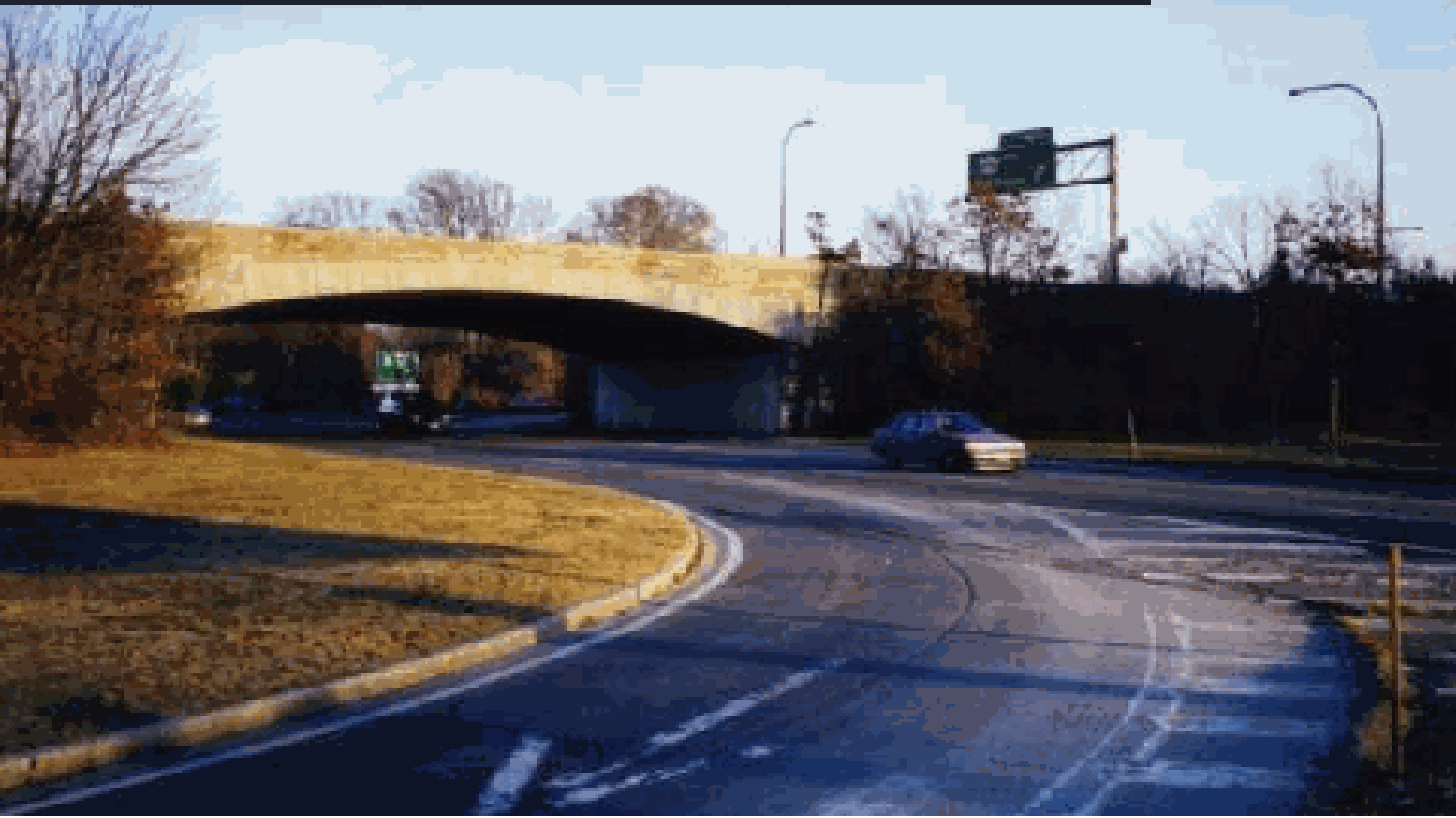
Examples

- Who defines the problem? Who creates the idea? There is/was alternatives?
- Who implements the idea? What other technologies are needed to its implementation?
- Who diffuse the idea/necessity and the product? Who benefits?
- What changes does it bring in society? Good things? Bad thing? Is this desirable?

We have to accept that technological products are not neutral, for they create a framework which ends up conditioning lifestyles and shaping social possibilities along the lines dictated by the interests of certain powerful groups. Decisions which may seem ***purely instrumental*** *are in reality decisions about the kind of society we want to build.*

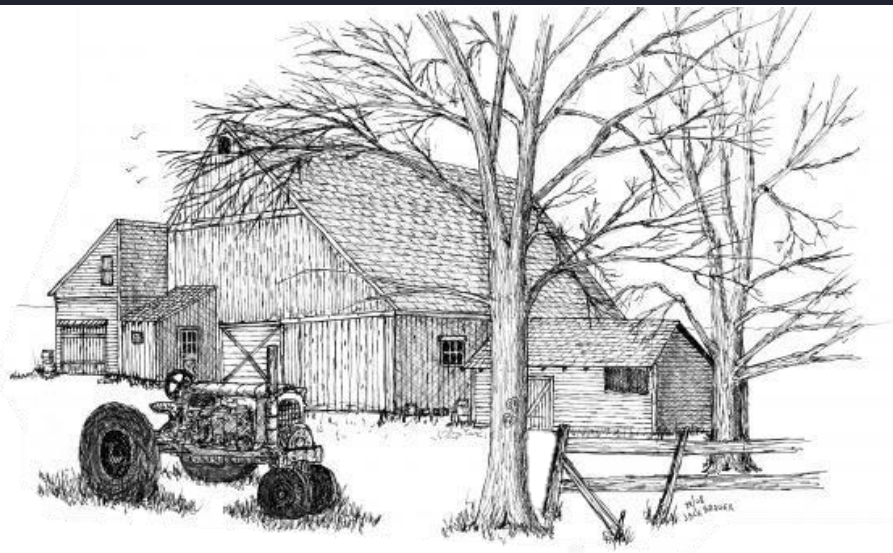
Papa Francisco I Carta Encíclica Laudato Si' par.107

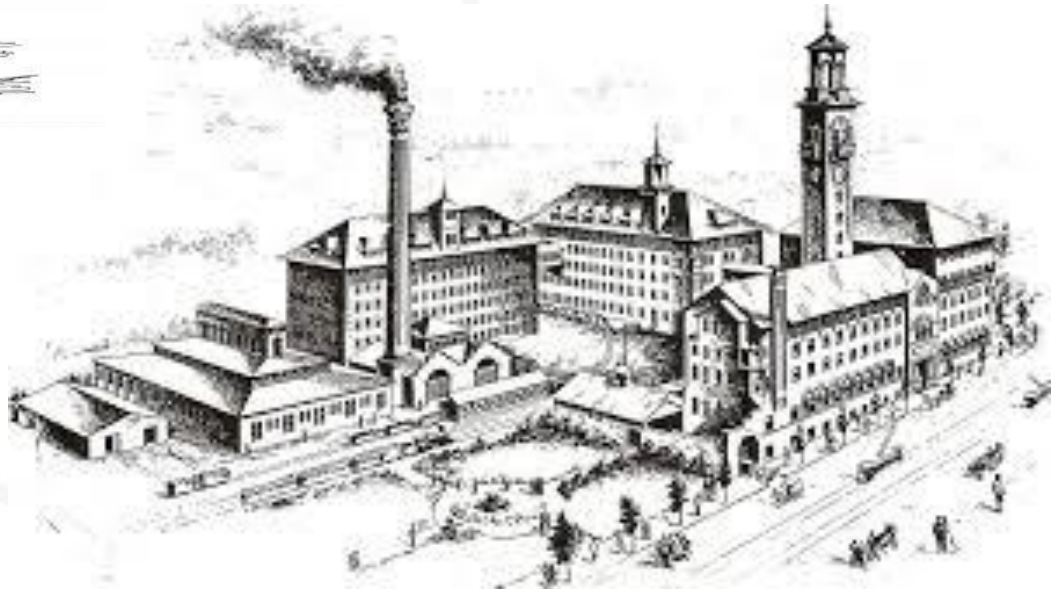

M
MEADOWBROOK
PARKWAY
KEEP RIGHT
11'-2"




LOW CLEARANCE
© AAPIMAGE


LOW CLEARANCE
VanWyk



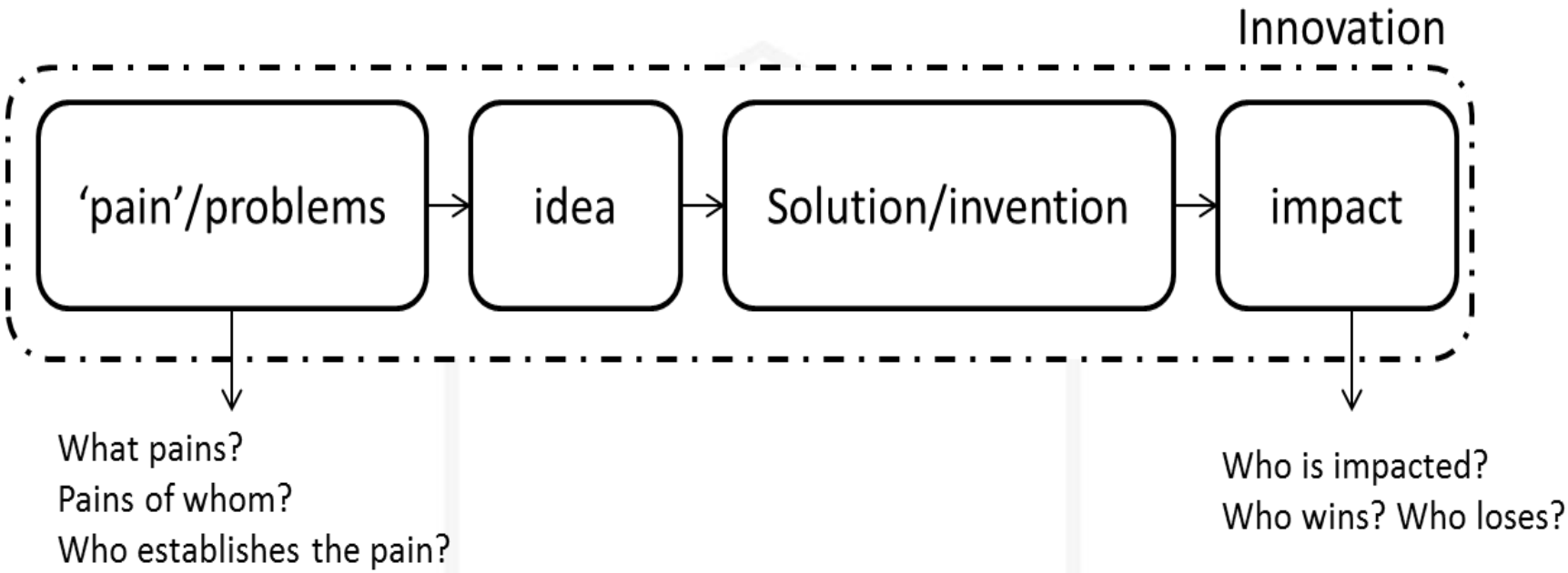


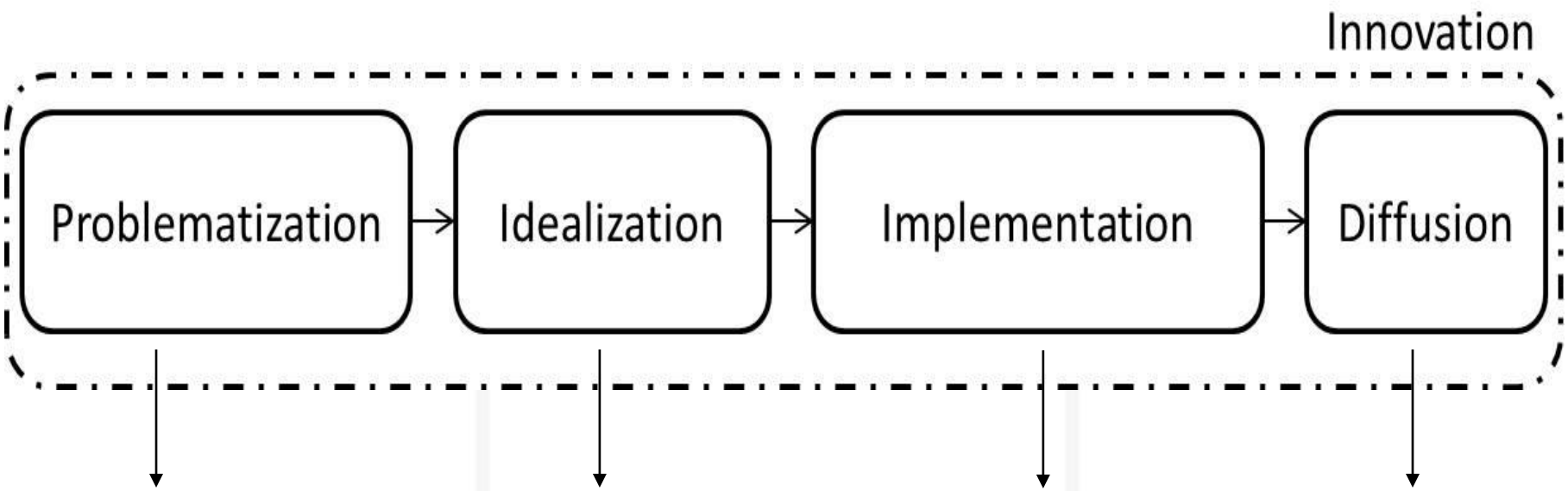
Polanyi, K., 2001. The Great Transformation: The Political and Economic Origins of Our Time. Beacon Press, Boston.

Do Artefacts Have Politics?

- Technology is never neutral or apolitical. Its consequences are the result of the socio-economics (including values and world views) in which they emerge

- Technology never comes alone. It always comes in the form of interconnected systems of artefacts, processes, **ideas and social relations**


Innovation
'pain'/problems
idea
Solution/invention
impact
What pains?
Pains of whom?
Who establishes the pain?
Who is impacted?
Who wins? Who loses?

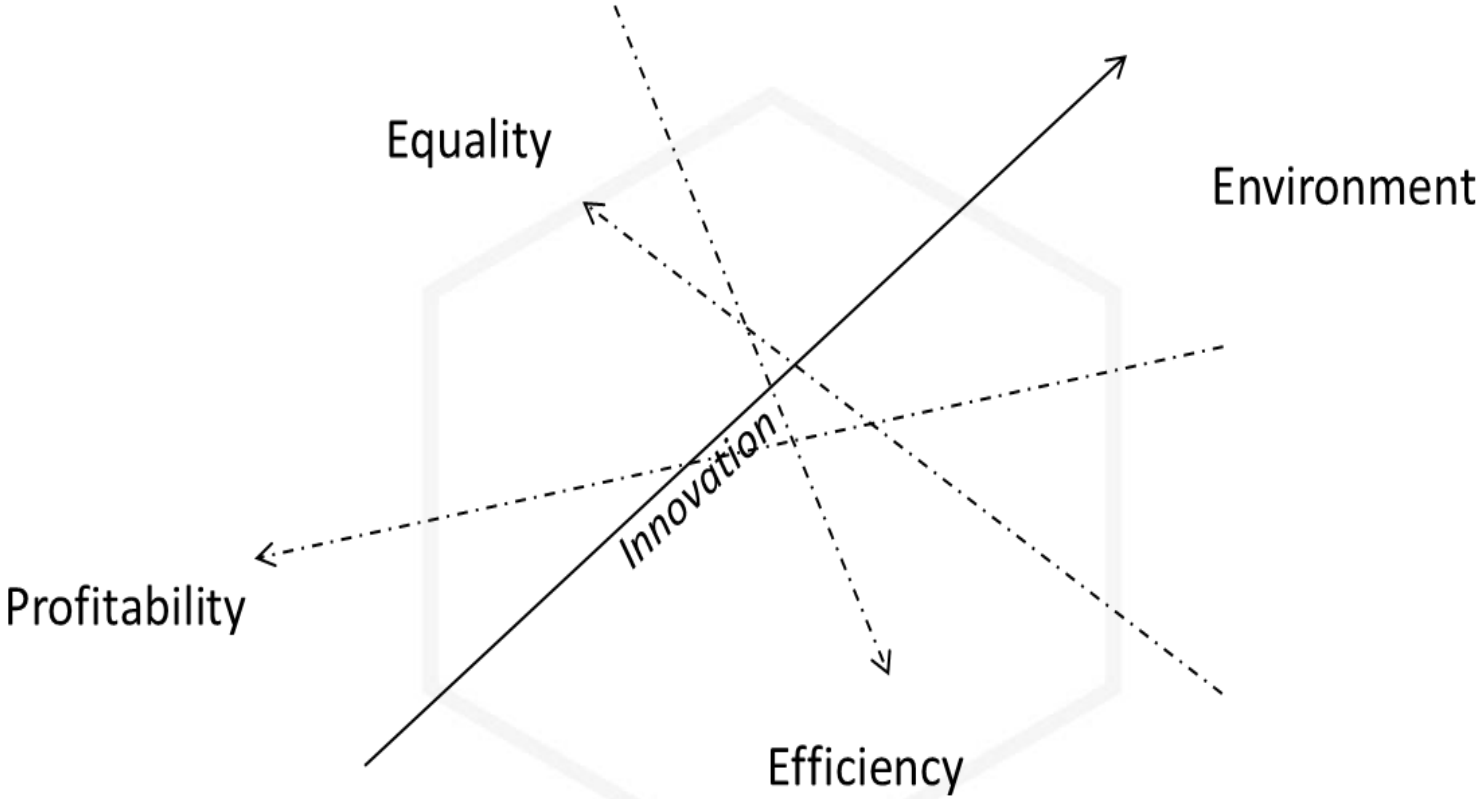


Who defines the problem?

Who defines the solution?

Who implements the solution?

Who organize the diffusion?



Innovation is a vector

Stirling, A. (2008). “Opening Up” and “Closing Down”: Power, Participation, and Pluralism in the Social Appraisal of Technology. *Science, Technology & Human Values*, *33*(2), 262–294.

Risk based regulation is important, but it is not enough……

1. Innovation will always exceed the grasp of regulation – plays catch up

2. Regulation rarely considers **PURPOSES, MOTIVATIONS and POLITICS** other than contexts such as dual use

   : why are we doing it?
   : who will benefit …, and who might not?
   : should we be doing it?

i.e. questions not just about risks but motivations, purpose and values

Responsible Research and Innovation: 3 challenges

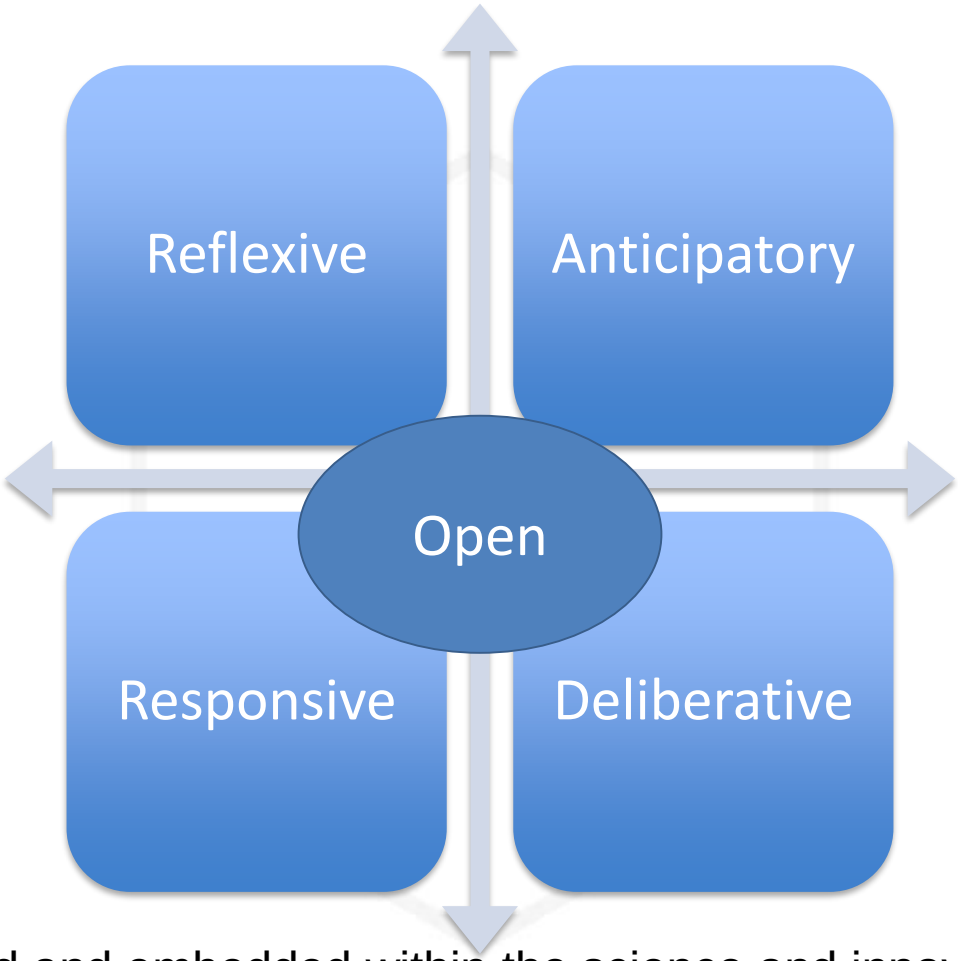
1. What kind of future do we want science and innovation to bring into the world?

2. How should we proceed under conditions of uncertainty and ignorance?

   to acceptable and desirable ends……

3. How do we do this collectively?

Framework for Responsible Research Innovation



Integrated and embedded within the science and innovation process

Adapted from Stilgoe, Owen and Macnaghten (2013) Research Policy 42, 1568-1580

RESEARCH

- Our portfolio
- Facilities and equipment
- Centres and major investments
- Case studies
- Partnerships
- Framework for Responsible Innovation
  - Anticipate, reflect, engage and act (AREA)
  - Support
  - Expectations
  - Acknowledgements and resources

Home > Research > Framework for Responsible Innovation

FRAMEWORK FOR RESPONSIBLE INNOVATION

EPSRC is committed to develop and promote Responsible Innovation. This site reaffirms our own commitment and sets out our expectations for the researchers we fund and their research organisations.

INTRODUCTION

Responsible Innovation is a process that seeks to promote creativity and opportunities for science and innovation that are socially desirable and undertaken in the public interest. Responsible Innovation acknowledges, that innovation can raise questions and dilemmas, is often ambiguous in terms of purposes and motivations and unpredictable in terms of impacts, beneficial or otherwise. Responsible Innovation creates spaces and processes to explore these aspects of innovation in an open, inclusive and timely way. This is a collective responsibility, where funders, researchers, stakeholders and the public all have an important role to play. It includes, but goes beyond, considerations of risk and regulation, important though these are.

As a public funder of research, we have a responsibility to ensure that our activities and the research we fund, are aligned with the principles of Responsible Innovation, creating value for society in an ethical and responsible way. EPSRC does not wish to be prescriptive about how Responsible Innovation is embedded in the research and innovation process. We recognise that some researchers are already well engaged with this agenda. We also recognise that different approaches might be required for different research areas. There may be instances where detailed consideration is premature or even unwarranted. In other areas of research, a responsible innovation approach may be highly recommended, or even required. As such we recommend that all researchers demonstrate awareness of and commitment to, the principles of Responsible Innovation. Taking an approach that encompasses the following steps, should provide a flexible framework for researchers to use.