Responsible innovation and public engagement

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Paper for the 3rd workshop of the ESF Member Organisation Forum "Science in Society Relationships", Dublin, 12-13 May 2011

Two key terms

- Both are open, unspecific
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- But tensions which car
- Responsible innovation vs. innovation
- Research Councils UK, Grand Challenges: Ageing: life-long health and wellbeing, vs. NanoScience through Engineering to Application.
- Refer to different "grand narratives": "responding to societal needs" vs. "competing by exploiting technoscientific opportunities"
- The latter is 'responsible' when attention is paid to HES and ELSA

RESPONSIBLE INNOVATION often not about innovation, but about development of ST

A multi-level phenomenon

- Under the umbrella term there is a variety of governance arrangements and practices
- So different levels: policy and societal discourse; institutions and arrangements; ongoing/evolving practices (of scientists, industrialists, also civil society actors)
- Interaction between the levels, cf. example of EU Code of Conduct for Responsible Nanoscience and Nanotechnology Research

Broader context of present calls for ‘responsible innovation’ and ‘responsible development’

- For science: ongoing “recontextualisation” in society, including links with innovation
- For technology/innovation:
  experience with (unintended) negative effects;
  disappointment about contribution of technology to society;
  unwillingness to accept this (including public engagement/criticism/interference – cf. GMO)

Responsible innovation, at different levels

Macro-level: societal discourse policy	**Ideas about future world; division of moral labour EU Code of Conduct for Responsible NanoST Research**
Meso-level: funding agencies branch organzations consortia	[New roles/repertoires] Dutch MVI; extended impact statements code of conduct etc ELSA as integral part; Constructive Techn. Ass't
Micro-level: scientists (in the lab) Industrialists/firms	"relevance", 'fictive script' Corp.SocialResp., transparency

Shaping responsible development – also through Codes of Conduct

- Examples from nanotechnology – exploiting technoscientific opportunities while being ‘responsible’ (whatever that may mean)
- Pressure from policy level to do so, but also initiatives from nanoscience consortia (TA in Dutch NanoNed) and through micro-level interactions between social scientists and nanoscientists (STIR project at Arizona State University)
- Nano-labs start presenting themselves as responsible

Thanks to Erik Fisher, STIR project, for drawing my attention to this poster.

National Research Council (2006), *A Matter of Size. Triennial Review of the National Nanotechnology* Initiative, p. 73

- Responsible development of nanotechnology can be characterized as the balancing of efforts to maximize the technology's po… contributions and minimize it… consequences. (..)
- It implies a commitment to develop and use technology to help meet the most pressing human and societal needs, while making every reasonable effort to anticipate and mi… adverse implications or unintend… consequences.

Consequentialist ethics

Two different narratives

Codes of Conduct

- BASF and Degussa (Evonik) codes of conduct specific for nanotechnology – these are chemical companies, so earlier experience of the Responsible Care Program
- Recent initiative toward a 'Responsible Nanotechnologies Code', led by the UK Royal Society, an NGO (Insight Investment), the Nanotechnology Industries Association.
- Codes are bland? Not always. And they create openings for being held accountable – by others who have to become active
- Why specifically nanotechnology? (exceptionalism)

European Commission's proposed Code of Conduct

- Code of Conduct for Responsible Nanosciences and Nanotechnologies Research (Feb. 2008)
- Requires openness and transparency; research activities must be comprehensible to the public
- Scientific integrity and good (laboratory) practice
- Sustainability and UN Millenium Goals
- Precautionary: anticipating potential impacts
- Combines consequentialist ethics, 'good life' ethics, and process requirements

European Commission's proposed Code of Conduct (2)

- Broader aspects:
- "Good governance of N&N research should take into account the need and desire of all stakeholders to be aware of the specific challenges and opportunities raised by N&N. A general culture of responsibility should be created in view of challenges and opportunities that may be raised in the future and that we cannot at present foresee."
- Responsibility is related to anticipation (and by implication, to coordination and governance)
- Note how responsibility is delegated and distributed to us all.

Preparing for responsible innovation

Macro-level: **societal discourse** **policy**	**Ideas about future world;** **division of moral labour** **EU Code of Conduct Resp.** **Dev't Nanotechnology**
Meso-level: **funding agencies** branch organzations consortia	[New roles/repertoires] **extended impact statements** code of conduct etc ELSA as integral part; CTA
Micro-level: **scientists** (in the lab) Industrialists/firms	"relevance", **'fictive script'** Corp.SocialResp., transparency

Extended impact assessment
(EC Work programme 2009)

- Contribution (at European/international level) to the expected impacts as listed in the Call – i.e. hoped-for achievements
- Appropriateness of measures (for dissemination, engagement, exploitation etc), as formulated in the proposal
- "Expected extended impact" is third criterion, and has the same weight as the two others: scientific quality; management/implementation

One issue

- The language of goals/outcomes and how to achieve them. But research is not just a means to a goal; it is open-ended and has a variety of impacts (in a non-linear way)
- Attempts to evaluate broader, societal impacts *ex post*: mapping exercises like Sci-Quest (now European project SIAMPI), earlier UK ESRC projects
- Impacts are co-produced, so "project+" constitutes only one of the contributions, and attribution of impact to project+ is nonsensical
- Claims about potential impact must take co-production into account, which will reduce attribution to the project+ – a tension with the need of scientists to claim credit for impact

How to do ‘future impact’ assessment

- “Fictive script” – in what world could the promise embedded in the proposed research be realized (and realized well)?
- So: taking the narrative of praise seriously, and evaluate it by turning it into a “fictive script”
- The idea was used originally to support long-term strategic management of research (De Laat 2000, Larédo et al. 2002 [the EU-funded SocRobust Project])
- Processes of co-production of impacts can be made visible (sociotechnical scenarios)

Public engagement, at different levels

Macro-level: societal discourse **policy**	**Pressure for "upstream" public engagement (in UK)** **"Societal Dialogue" (Nethls.)**
Meso-level:	Stakeholder engagement in policy making and implementation Communicating about science to maintain/increase legitimacy
Micro-level:	Activities like science cafés, etc

Dialogue exercises, citizen forums etc are popular (now also at societal level, in Netherlands, France)
Symbolic exercises, but there may be impacts

Dilemmas of public engagement

- Who can speak for publics?
- NGOs and other "voices of civil society" – have their own axes to grind (can be a good thing).
- Direct involvement of publics (citizen juries, focus groups etc) may be meaningless.
- Public dialogue (as in Germany) now includes stakeholders.
- The Dutch Societal Dialogue delegated engagement completely to project proposals coming in (after selecting according to criteria).

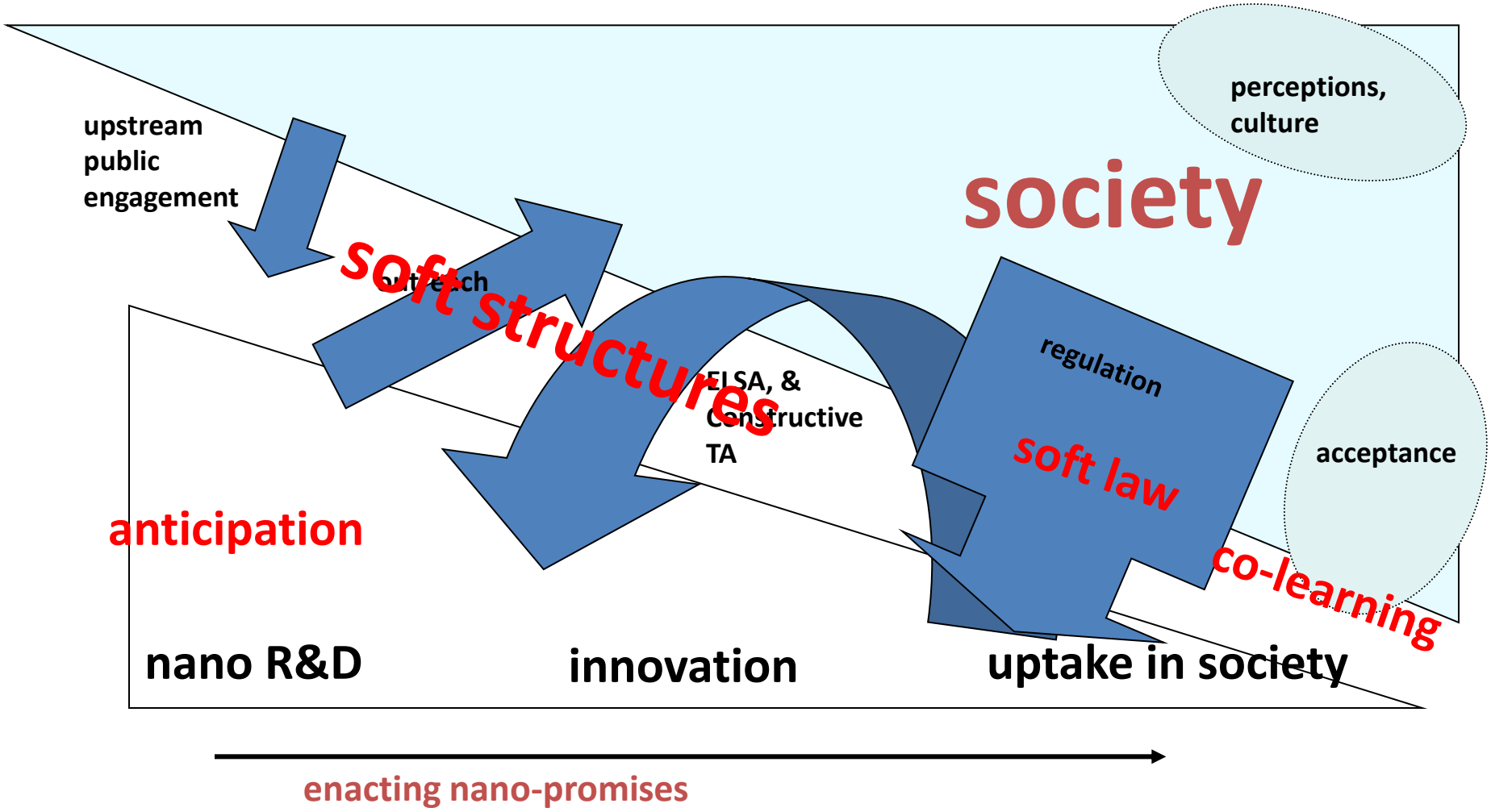
Dilemmas of public engagement

- “in a democracy, citizens should have a say in decisions about technological developments that will affect their lives significantly” (Powell & Colin 2008)
- Public engagement, if effective, undermines representative (parliamentary) democracy.
- It may lead to (further) neo-corporatist elements in our political order?
- Is that a problem?
- Deliberative democracy (as an alternative?) is discussed, but unclear what it might look like.

Background issue

- Competencies for technology appraisal must be developed – ≠ technological literacy!
- Understanding the political/power and ethical, legal, soci(et)al aspects is just as important as "factual" knowledge about scientific concepts and processes (which is often emphasized)
- Competencies development works both ways: with publics (at least some members of the publics) and with scientists/technologists

Public engagement is one element in a larger process of integration of science/technology and society



The new discourse of ‘responsible innovation’:

- Would this make public engagement superfluous, or give it a new role?
- For example: present burgeoning interest in Codes of Conduct (etc) would imply that public engagement shifts to monitoring and vigilance (happens already: watchdogs of various kinds)

By way of conclusion

- Responsible innovation and public engagement have their function, even if they do not specify what can/should be done
- They mobilize attention and resources
- Lots of things happen under the umbrella, have to be critically evaluated
- Including multi-level dynamics in broader contexts

Th

Thank you for your attention

Grand challenges

- Two types, with different implications for how they can be addressed
- (1) “responsiveness to national needs”
- Example from Research Councils UK:
- **Ageing: life-long health and wellbeing** There are considerable benefits to the UK of having an active and healthy older population with potential economic, social, and health gains associated with healthy ageing and reducing dependency in later life. Ageing research is a long standing priority area for the Research Councils. The Research Councils will develop a new interdisciplinary initiative (£486M, investment over the CSR period involving all seven Research Councils) which will provide substantial longer term funding for new interdisciplinary centres targeting themes of healthy ageing and factors over the whole life course that may be major determinants of health and well being in later life.

A contrast

- (2) “exploiting technoscientific opportunities”
- Example from Research Councils UK:
- **NanoScience through Engineering to Application** Nanotechnologies can revolutionise society. (..) It is estimated that by 2015 products incorporating nanotechnology will contribute US$1 trillion to the global economy, and that the UK has a 10 percent share of the current market. To focus the UK research effort we will work through a series of Grand Challenges. These will be developed in conjunction with researchers and users in areas of societal importance such as energy, environmental remediation, the digital economy, and healthcare.
- Note that an open promise is formulated that still has to be filled in more concretely (if that is at all possible at this early stage)