

# The potential and the challenge to expanding technical democracy

Susan Molyneux-Hodgson

Department of Sociological Studies  
University of Sheffield, UK



# Where I want to get to ...

- Three examples of research/practice on approaching nuclear matters (that are not about communicating or ethics or ... )
- Rather, examples are attempts to re-shape the sets of relations that *underpin* much of what we are discussing at RICOMET
- ***Collaborative Experiments*** in training, research collaboration and in policy making

# Starting points

- UK context
  - From silence -> communication -> upstreaming
  - Pre-emptive dialogues (in anticipation of controversy)
  - *Implementing Geological Disposal* (DECC, July 2014)
- Science & Technology Studies (STS)
  - Desire to rethink taken-for-granted assumptions about science and technology
  - Desire to shift away from ‘risk’ as the dominant frame
  - Can ‘intervene’ with publics and in science
  - Notions of ‘technical democracy’ & ‘hybrid forums’

master-narratives are the cultural vehicles through which ideas of progress are linked to S&T in particular ways ...They are an important part of the cultural and institutional fabric, of taken-for-granted aspects of social order ... In the science and governance domain, these narratives and the imaginaries they support urgently need to be subjected to more critical, open reflection, especially in the light of the global economic, scientific and political changes besetting early 21st century Europe. (EC, 2007)

# 'technical democracy'

- Opens up “secluded research”, acknowledges uncertainties as an integral part of knowledge making
- Allows for ‘hybrid forums’ as spaces in which dialogue takes place
- ‘nuclear power has been protected by an institutional web of social and technological practices...[which] engender a restricted scope for public discussion and democratic involvement within nuclear decision making’ (Irwin et.al 2000)

# my questions

- In what ways can we work together across social and technical research communities?
- What forms can collaboration take and what foci can they have?
- What ideas, concepts, theories currently inform our thinking about how to go about this & do they need to change?
- What is the 'right' role for SSH in nuclear?
- What, specifically, can STS bring to the table?

# Some theory: making communities and knowledge

- Goodwin – seeing and doing; Lave and Wenger – legitimate participation
- attention to “the daily production and reproduction of what is to be shared” (Trawick 1988:9)
- Novices .. must become unselfconscious practitioners of the culture; thinking about the world in a characteristic way (ibid:x)
- knowledge is constructed not by individuals ... but by individuals-in-interaction with one another in ways that modify practices (Longino, 1990)

# Some theory: epistemic communities

- scientific communities have been variously understood as:
  - a normative unit (Merton)
  - thought collectives / thought styles (Fleck)
  - a paradigmatic (consensual) unit (Kuhn)
  - a transactional unit (Hagstrom, Bourdieu, Latour and Woolgar)
  - communities of promise/hope (Brown, Martin)
- Epistemic cultures are cultures that create and warrant knowledge, and the premier knowledge institution throughout the world is, still, science (Knorr-Cetina)
- ‘communities of practice’ are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly (Wenger)



# 3 initiatives / experiments

- ❖ Interdisciplinary research training – joining up cohorts of sociological and technical PhD students
- ❖ An ESRC Seminar Series
- ❖ Open policy making on community engagement in GDF siting

# Nuclear Societies initiative

University of Sheffield

TEPCO / REUTERS

# Nuclear Societies initiative

- Existing research on 'civil nuclear', and specifically waste, was limited and in need of revisiting for relevance in new policy contexts
- Funding for social science PhD cohort to link to engineering PhD cohort - the starting point
- Social science projects on: Disposal cultures in UK & Finland; Fukushima effects; What nuclear as 'green' does to the environmental movement

# Nuclear Societies initiative

- A small-scale attempt to cross disciplinary boundaries in the early stages of (disciplinary) identity formation
- Only a few social scientists, but have decent visibility
- Supervised by a social scientist & an engineer
- Integrated to local engineering group. We 'do things together'
- Also a national opportunity (e.g. winter schools)



## Lab Studies in nuclear

- Analysing the everyday enactment of scientific work
- National cultures of research
- Mundane approaches to extraordinary problems
- *Constant* negotiation of relations – these are rarely static and must be built as part of a continuous process of mutual learning

# Nuclear Futures project

University of Sheffield

TEPCO / REUTERS

# Nuclear Futures

- An ESRC-funded Seminar Series, with support from RWM
- Investigators: Susan M-H; Peter Simmons; Phil Johnstone
- A meeting place for social scientists, natural scientists and engineers, RWM (implementation body), DECC (government) & industry
- Aim: (re)making a sociotechnical research agenda
- 7 or 8 meetings over 2.25 years
- What social science concepts can we bring to bear to inform the UK's ongoing work on waste disposal?
- Notions of 'hosting' and 'care' in technoscience
- Trying to set up links to management & disposal projects in USA, EU-28

# the seminar topics

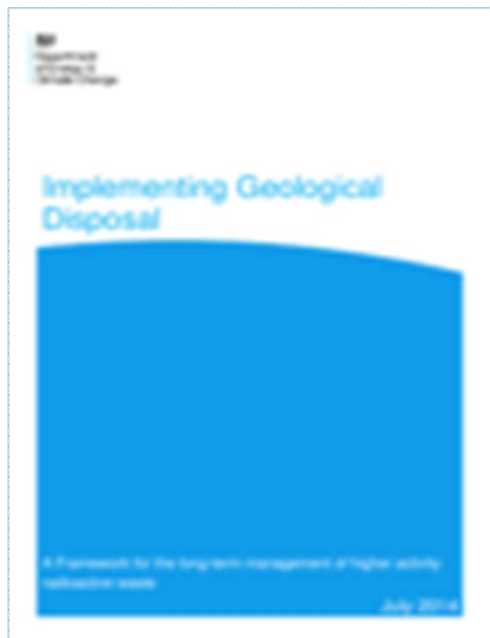
- ✧ Looking back and looking forward
- ✧ Sociotechnical dimensions of the geological
- ✧ Publics & practices of participation
- ✧ Making waste knowledge: building trust
- ✧ Disposal cultures
- ✧ Planning & siting infrastructure
- ✧ Nuclear imaginations & entanglements
- ✧ Energy futures / waste futures



# **Open policy making – a government initiative**

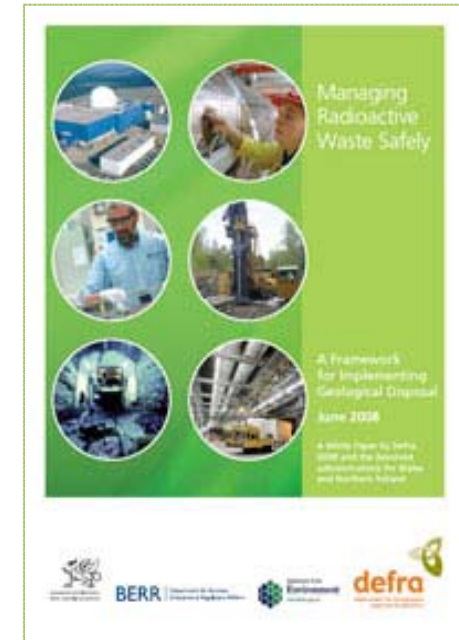
# Policies and publics

- 2008 White Paper – MRWS. Principles of volunteerism & triple ‘yes’.
- 2014 – New White Paper - IGD  
Implementing Geological Disposal.  
Volunteerism + ToPS + NSIP + ...



2008 policy process – ‘a national failure but a local success’

2014 process - ??



# IGD (2014) p.29



Department of Energy & Climate Change



# “Preparing to work with communities”

- Gov. policy is to deliver a GDF. Process for site selection not fully written into 2014 policy.
- “Communities sit at the heart of the voluntarist siting approach”. (IGD p.27)
- “develop the detail of a process for working with communities, working openly with experts in the field of community decision making” (IGD p.42)
- => Open policy making project

# 'Open policy making'

Public dialogues to complement expert group:

- Developing approaches to defining 'communities'
- Defining roles and responsibilities for community representatives & how those roles could evolve alongside the GDF siting process
- Providing clarity around when to hold a test of public support and the method for this test
- Developing options for community investment (management of money; assessment of funding applications; ability of communities to influence investment within their geographic areas).

# Even then ... publics remain bounded

Multiple positives from the open policy process. But ...

- Participants did not shift views of government trustworthiness
- Only some forms of engagement & some answers, are (or can be) taken as 'valid' (varieties of rationality)
- Publics are constrained in their forms of participation and kinds of voice they can hold
- Here, a move away from view of public as a receptacle for information towards persons with agency and own perspectives
- But, still confined to agenda set outwith public sphere



# Summary

- Want to expand the possibilities for sociological engagement with nuclear
- STS approaches allow for a range of interactions
- Building a technical democracy needs more than good communication, good governance etc ... it needs a reconsideration of some basic tenets of social order
- Want to demonstrate need for SSH in difficult spaces & not just as window dressing or tack-on
- SSH needs to influence the research agenda not sit waiting to be asked to the discussion

# References / links

- Acting in an Uncertain World: an essay on technical democracy (2009) Callon et al. MIT Press
- Taking roles in interdisciplinary collaborations (2015) *Science and technology studies* 28 (3): 3-25
- Nuclear Futures:  
<http://www.sheffield.ac.uk/socstudies/research/nuclear-futures/home>
- TAKING EUROPEAN KNOWLEDGE SOCIETY SERIOUSLY (2007)  
Report of the Expert Group on Science and Governance to DG Research, EC. Ulrike Felt (rapporteur) Brian Wynne (chairman)
- Public dialogue on geological disposal and working with communities (2016) 3KQ/DECC (embargoed until 24th June)