Society and the Nuclear

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Society and the Nuclear – a complicated relationship

Or:

Why do we need to talk about technology in society?

„A divided society“: Dissent on e.g. key questions of the energy transition

- Conflicts due to different interpretations of contemporary problems
- Pressure to act in the face of clear policy challenges: How do we achieve the energy transition? How do we deal with the consequences of climate change?
- Reduction of complexity as necessity for decision-making and as challenge (e.g. Luhmann 2019)

Nuclear technology as a sociotechnical system

What is a sociotechnical system?

"[…] a collection of elements, such as technologies, science, regulations, user practices, markets, cultural significance, infrastructures, and production and supply networks (Geels & Kemp 2007: 442)

- Conflicts due to different interpretations of contemporary problems
- Stabilised by rules and practices
- No coordinated, planned processes

- The technical development of nuclear applications are influenced by the meaning attributed to them by relevant actors (cf. Bijker 1997)
  - Actors who attribute different meanings to those technologies may feel unrepresented

NIMBY – Not in my backyard

Traditional view:

NIMBY as an ‘irrational’ protest stemming from public ignorance or driven by self-interest

New approach:

NIMBY is linked to social factors including various environmental policy discourses

Sociotechnical innovations as a consequence of climate change / the energy transition

- alter relationships between science, political decision-makers, stakeholders, etc.
- cause conflicts between “old” and “new” ways of thinking and patterns of behaviour (cf. Batel / Devine-Wright 2015).

What is a good solution?

Dryzek and the environmental discourses: what do people think how politics should deal with environmental problems

„Promethean Answer“

Economic growth is always positive and there shouldn‘t be too many restrictions

„Leave it to the experts“
Adminstrative rationalism

Environmental problems can be solved through regulation

„Leave it to the people“
Democratic Pragmatism

Public participation is necessary to overcome the environmental problems related to nuclear technologies

„Leave it to the markets“
Economic Rationalism

Market-based incentives help to encourage compliance with environmental standards

(Dryzek 1996, own selection)

Is it really about the nuclear? - Types of conflicts

Value Conflicts	• What values are valid and applicable? • How to weigh different values in problem solving?
Knowledge Conflicts	• Conflicts on relevant bodies of knowledge and their interpretation
Interest Conflicts	• Conflicts on the distribution of good or bads
Power Conflicts	• Who gets to take part in decision-making and in what role?
Recognition Conflicts	• Individual rights disregarded, e.g. democratic participation denied

Technology Governance

„[…] the process of exercising political, economic and administrative authority in the development, diffusion and operation of technology in societies.” (OECD)

- Particularly challenging in the case of „wicked problems“ (Rittel&Webber 1973)
  - Many stakeholders involved with different views on the problem and demands regarding possibilites for participation → more than one solution possible

Government Approaches to Conflict Resolution

Example: Planning approval procedure (land use)

Critique

- Late possibilites for public participation (when plans are already quite set)
- Only conflicts of interest are dealt with

Public Participation as Panacea?

Early forms of public participation already in the planning stage are increasingly called for and implemented

- „participatory planning“, „deliberative turn“

Challenges: public participation

- can have many different objectives
- takes time and resources
- requires willingness to listen and adapt on operator‘s side
- needs clear communication on limits and objectives
- can lead to frustration among participants if not properly designed and communicated

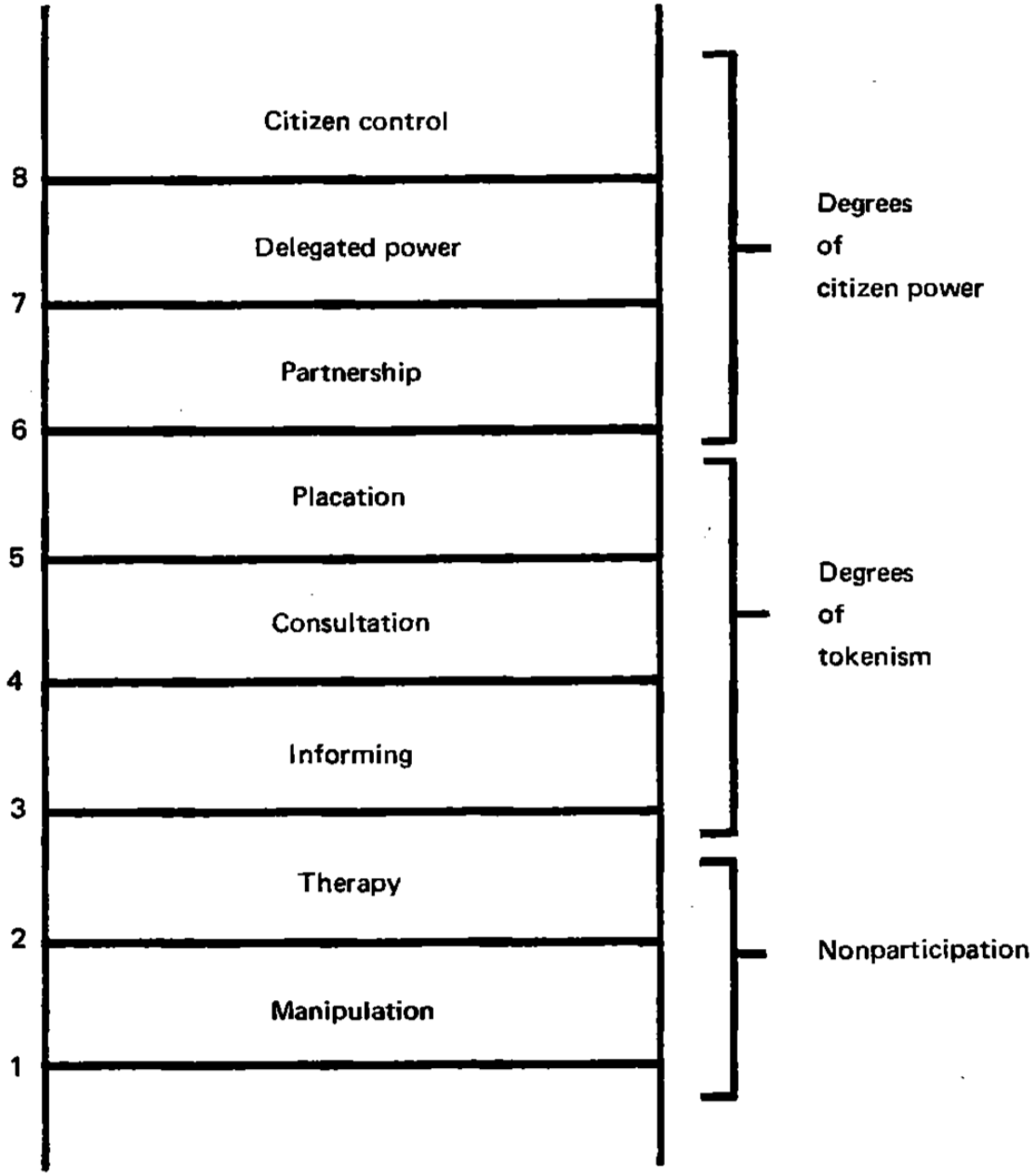
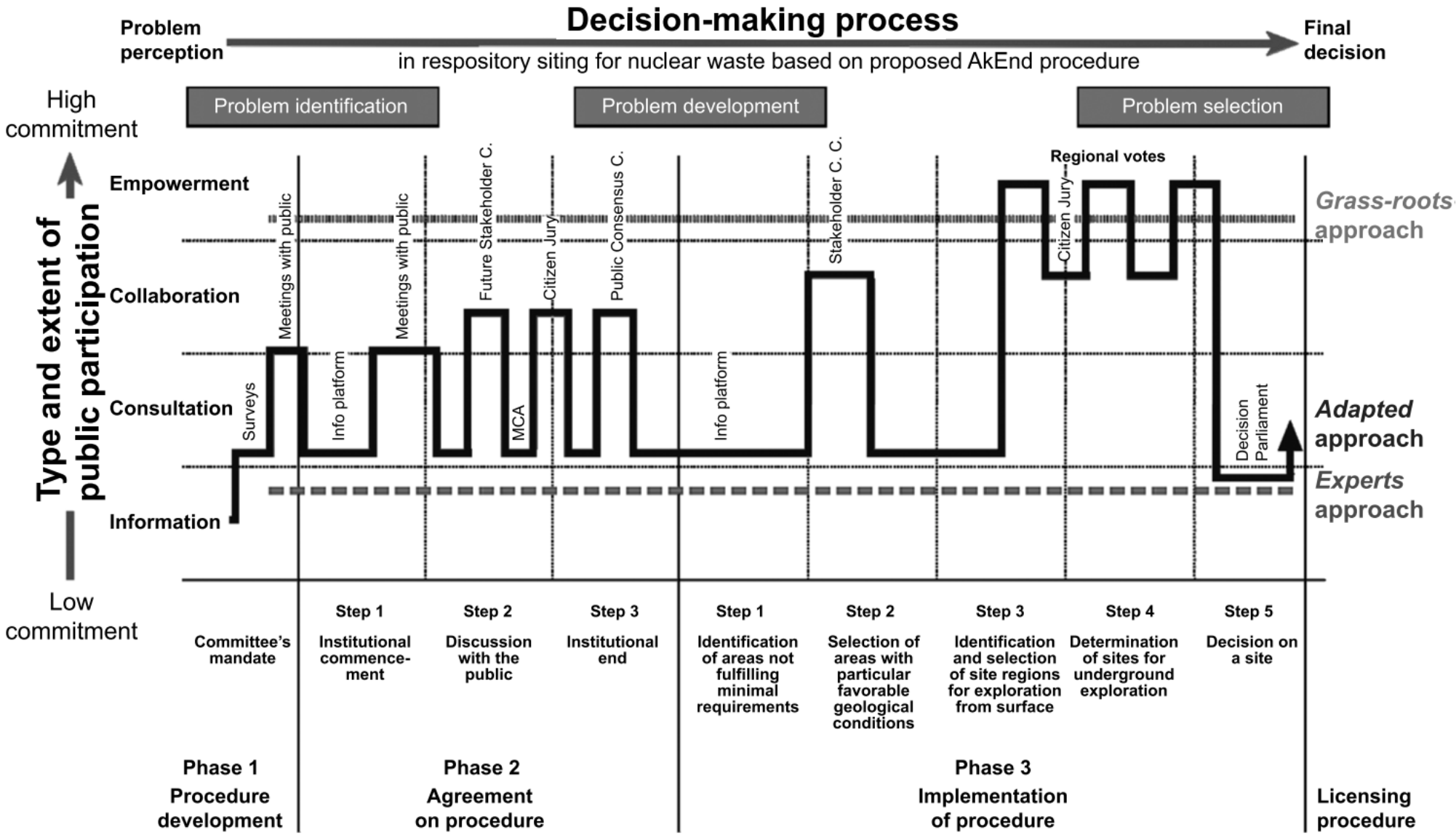


FIGURE 2 *Eight Rungs on a Ladder of Citizen Participation*

Public Participation as Panacea?

Arnstein 1969, p. 217



One idea: functional-dynamic public participation

Krütli et al. 2010, p. 7

Basic Criteria for Success

- “Checks and Balances”

- Transparency

- Appropriate handling of scientific information

- Problem-oriented involvement of relevant actors/stakeholders in the policy cycle

- Fairness (minimal disparities in power and resources among actors)

- Interest in participatory processes among all actors (e.g. civil society, policymakers, businesses)

Cooperative decision-making needs to fulfil certain criteria to be able to succeed

Society and the Nuclear – a complicated relationship

Nuclear technologies are at the same time

- An investment opportunity
- An opportunity to address the consequences of climate change / a key component of the energy transition
- An employer
- A source of environmental and health problems
- A tool of power in energy policy (cf. Abbink 2012)
- An intrusion into the lives of local residents (e.g. Habermas 1981)

Conflicts on nuclear technologies are not a flaw in the system – they are an expression of the structural complexity.

The question is not whether conflicts can be avoided, but how they can be turned constructively.