To Understand, or Not To Understand?

Discussion: “The Path-finding Process for Nuclear Waste Disposal”
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by

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I am overwhelmed by the talks of the speakers not only because nuclear waste disposal is socially very important but also because the unique solution to the problem seems to have not been found. Due to the limit of time, let me focus on what is running through the arguments by all the speakers and try to make comments on that, and to develop the insights presented by them further from the sociological point of view.

If you permit me to confine myself to the structure of the arguments developed by the speakers for the sake of simplicity, there seems to be the following typical structure common to their arguments. That is to say,

THE TYPICAL STRUCTURE OF ARGUMENTS FOR NUCLEAR WASTE DISPOSAL

Indeterminate Scientific Knowledge (Underdetermination)

The Need for Social Decision-Making
Underdetermination in this context includes a selective use of assumptions that have higher degree of freedom than expected in building and operating simulation models (MacFarlane 2003). If this structure is existent, then the design of social decision-making processes comes to the forefront as an important focus of the problem, and in fact various participatory decision-making procedures have been introduced in the nuclear power plants siting processes, and will be introduced in the site selection processes for nuclear waste disposal as well. The reason for this outlook is that intuition tells us participation and democracy have something to do with each other. But what is the actual relationship between the two? It is exactly here that we need a symmetrical application of the perspective of social constructivism because participation seems to be a singular point that has escaped for some reason the symmetrical application of the perspective of social constructivism and, as a result, provided a kind of the “reverse salient” compared with expertise.

There is no a priori reason to believe that participation always guarantees democracy in the science-technology-society interface since the procedure of participation could go hand-in-hand with techno-mass democracy, in which a particular stakeholder could seek its own interest with legitimacy by using various skillful procedures of participatory decision-making whose results can be represented as the results of “social” decision-making.

From such a sociological point of view, it follows that the results of participatory decision-making strongly depend on social contexts in which the decision-making process is designed, implemented, and evaluated.
The Need For Opening the Black Box of Participation

- Who Can Participate?
- Who Is in Actual Terms Excluded?
- Who Is Regarded As Experts and/or the Lay Citizen by Whom, and with Regard to What?
- Who Evaluates Participation as Success or Failure in What Respects?
- Who Subsidizes Who for What?

These are some examples of questions which hold the key to the clarification of the social settings of participation. It hardly needs saying that well-devised participatory procedures could enhance the quality of democracy and be in the public interest, while seemingly similar procedures could be “little more than a coopting device” as once mentioned with reference to participatory experiments such as consensus conferences on biotechnology (Nelkin & Marden 2004).

To be more specific with reference to nuclear waste disposal, participation requires the agent who participates to understand what is going on in someone’s backyards such that ....
高レベル放射性廃棄物（ガラス固化体）

- 直径：43cm
- 高さ：134cm
- 重量：約500kg

（おりなれ燃料サイクル開発機構で製造されたもの）
- 直径：43cm
- 高さ：104cm
- 重量：約400kg

この写真は、実物と同じ寸法で作った模型を断面がわかるようにカットしたものです。

（日本原子力発電社「海外から運搬されるガラス固化体の管理について」）
In such a case, participation of the agents concerned on that understanding could be a means to allocate responsibility for something infinite to agents concerned alone. Since no one can take responsibility for something infinite such as responsibility for future generation in general, a new framework for designing social decision-making processes that makes responsibility for something infinite that for something finite in the science-technology-society interface should be created.

In designing that social decision-making processes, it should be noted that there is another kind of underdetermination, the underdetermination of policy due to the changing limit of budget and the necessity of execution within a strict date limit, the need for face-saving, the particularistic interests of a specific public body, and struggles between them. That is to say, even if scientific knowledge could determine everything in handling nuclear waste disposal, it does not necessarily mean that there is only one policy option with respect to retrievability, point of no return, and others. This underdetermination of policy has escaped the scholarly attention it deserves up to now. The complicated situation due to this type of underdetermination has been put in a black box by appealing to dichotomous phrases such as the technocratic way of decision-making vs the participatory way. To break through this problem situation, the following questions should be posed. How is the indeterminate state due to the changing limit of budget, the need for face-saving in the public sphere, the particularistic interests of a specific public body handled in the entire social process of policy making, implementation and evaluation by what kind of assumptions introduced to fix that state?

What is Virtually Implied by “Understanding”

• $2 \times 10^7$ YEARS (in maximum)
• MORE THAN 300 M UNDERGROUND
• $2 \times 10^{10}$ YEN FOR ACCEPTANCE
And the procedure of participatory decision-making is one of the assumptions introduced to cope with the indeterminate state springing from the underdeterminaton of policy. That is to say, it is an open-ended question whether the procedure of participatory decision-making will lead us to democracy or techno-mass democracy in the actual science-technology-society interface. Therefore, the new frameworks should elucidate both the social function and dysfunction of social decision-making processes and enhance their quality in the case of nuclear waste disposal because it accompanies the allocation of almost infinite responsibility for something collectively decided.

For further details, please look at Matsumoto (2010), which is a theoretically extended version of what is stated here.

References