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Transnational media discourse on nuclear energy before and after the Fukushima accident

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Introduction

The Project "WP12-SER-ACIF-1: Public Discourse about Nuclear Energy before and after Fukushima accident" was launched in 2012 and drew upon methodological approach and findings from the previous sociological study Social Field of ITER: The Analysis of Discourse and the Question of Public Acceptability accomplished in 2011 within the EFDA-SER Programme (Task: WP10-SER-ACIF-3). The main aim of the study was to characterise the discourse about nuclear energy, to depict the nuclear, and in particular, fusion energy discursive representations, to reveal main actors and objects, the reasons why fusion is positively or negatively valued, and to understand the change in the discourses occurred after the Fukushima accident. The analysis conducted by our team was part of larger research project in which teams from IPP, CIEMAT, and IST participated. The contribution of other teams consisted in analysis of local national discourses (German, Spanish, and Portuguese respectively). The contribution of NCU to the project consisted in the analysis of transnational discourse on fission and fusion. Comparative analysis was conducted by transnational coordinator of the task (IST).

In case of all teams the analysis of fission articles included papers published between Jan 2010 and Jun 2012 (due to enormous number of records all teams decided to analyse only papers published within first 15 days of each month starting with Mondays). In case of articles referring to fusion we also included texts published since 2008. The sampling procedure was based on key phrases 'nuclear energy' for fission and 'nuclear fusion' for fusion articles. The final sample of texts taken from selected newspapers and magazines which have transnational reach and are addressed to global elites consisted of 569 fission and 95 fusion articles.

Each and every sampled articles was coded according to unified codebook (one for all research teams). There were two general levels of statistical analysis. First, involved mainly frequency analysis. The second consisted of bivariate analyses of main dependent variables (valuation grades, thematic frames, actors uttering statements on fusion/fission) and independent variables (newspaper, time of publication and alike). The statistical analysis was complemented by in-depth qualitative thematic analysis of subsample of fusion articles (subsample consisted of 24 texts).

Results

The rationale for comparing transnational discourse on fusion and fission was the assumption that fission can be regarded as a benchmark for fusion (in the meaning of main characteristic of the discourse). Therefore we assumed that the current discussion on fission, following the Fukushima accident, may have a significant influence on the future debate on fusion. At the moment, there are important differences in the ways how fission and fusion are debated in transnational discourse. Fission and nuclear energy are treated as policy and industrial issues rather than scientific ones, whereas fusion is treated predominantly as a scientific and research issue and the majority of the articles does not explain even the basic science behind the process.

An important change in the discourse was noticed due to the Fukushima accident. The Fukushima accident resulted in an increased attention on the safety and cleanliness of fission whereas it had no direct influence on debate on fusion. It lets us pose the question: how the shift in debate on nuclear fission will affect future discussion on fusion? Are the frames, which shape the current discussion also fruitful ways of discussing fusion? How will the observed focus on safety standards, financing, cost

competitiveness and possible risk influence the chances for fusion to became the “energy source of future”?

Magazines from the USA tend to treat nuclear energy almost as a green energy source, together with renewables. The discursive struggle will most probably concentrate on the definition of situation around the question, if fission can be put in line with renewables, taking into account its importance as a low carbon energy source.

The Fukushima accident has also led to a revival of a public debate on nuclear energy. Public participation in energy development scenarios has again gained in importance, creating a new challenge for the future fusion acceptability.

Interestingly, the Fukushima accident did not influence the character of discussion on fusion, whereas – as we could see – it changed a lot in the debate on fission. There is almost no difference in the data frequencies in articles on fusion before and after Fukushima. It means that the accident did not open a window of opportunity to discuss fusion, as a possible alternative for nuclear energy and other conventional energy sources (or the window has not been appropriately used by the fusion community to introduce the new technology in the wide public debate).

As thematic analyses have shown, in transnational discourse fusion is presented as a frontier of science and technology: important albeit very complex (in terms of technology, organization, and infrastructure) endeavour. In other words, it is presented as eluding, challenging, risky, uncertain, tempting, but constantly decades away. In effect, it is discussed as remote and uninteresting from the perspective of political and economic ‘here and now’.

Nuclear fusion is depicted as safe and potentially unlimited source of energy, but those topics are not in the centre of discourse. It is rather a slogan – the obvious information that do not need to be elaborated. Nuclear fusion is opposed to fission as cleaner but not necessarily safer. What is interesting, fusion is not confronted with fission – both technologies are presented rather as complementary pair.

Conclusions

The conducted analysis has shown interesting emerging topics which rather eluded our variables and the codebook than derive from actual finding. As far as transnational discourse is concerned these are:

1. Some striking differences between the US and European (British) press in terms of nuclear energy presentation. The difference concerns the fact that nuclear energy in US discourse is presented more or less as unproblematic (although not always safe) whereas in European discourse the question ‘can we go without an atom?’ is still treated as justified and worth debating.
2. As nuclear energy is being treated as industrial and political issue some new aspects (not grasped by our codebook) beg for attention – these are:
    a. European debate over nuclear energy subsidies and definition of fission as a low-carbon technology;
    b. Debate over the urgent need for the international safety standard for nuclear industry revealed by Fukushima;
    c. General shift towards the questions of management and forms/procedures of state regulation and control of the nuclear industry (‘We do trust technology, we are suspicious towards people that oversee its workings’ – may be the right summary of that issue).
3. The number of articles on fusion does not justify future quantitative analysis and comparisons. The possible shifts in our research focus may go towards historical or in-depth qualitative analysis.

Collaboration

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