

Contemporary Japan

Challenges for a World Economic Power in Transition

edited by Paolo Calvetti, Marcella Mariotti

Japanese Discourses on Nuclear Power in the Aftermath of the Fukushima Disaster

Barbara Pizziconi (SOAS, University of London, UK)

Abstract The critical damage to the Fukushima nuclear plant in March 2011 triggered more than nuclear debris. The explosions at Fukushima arguably blew up a few myths: 'cleanness', 'safety', 'cheapness', which decades of propaganda had successfully created and maintained, and provoked noticeable cracks in the hitherto hegemonic discourse on nuclear power. This paper offers a few observations on the discursive positioning of various social actors in the weeks and months following the disaster, from the pro-nuclear camp of industry officials to the anti-nuclear grassroots movements, and in the fora of institutional news media and social media. I maintain that the latter at least contributed to shaking up public consciousness, and reignited big political issues such as the public's right to information, the accountability of industry players, the rights of local communities, etc. Equally importantly, through the production of alternative 'packages' of images, metaphors and narratives, they facilitated the reshaping of the whole discursive space surrounding the nuclear, and increased the currency of an alternative discourse, which has the potential to have dramatic and long-lasting effects on Japanese social and cultural values.

Summary 1. Introduction. – 2. The Post-war Nuclear Discourse. – 2.1. Public Relations Campaigns. – 2.2. Manufacturing Consensus. – 2.3. TEPCO (Tokyo Electric Power Company). – 3. Discourse in the Anti-nuclear Camp. – 4. The Media. – 5. New Voices and New Themes: the Internet and Social Media. – 6. Japanese Culture and Concluding Remarks.

1 Introduction

The earthquake, and the consequent tsunami that hit Japan in 2011 caused not only telluric shocks and aftershocks, but represented arguably the biggest psychological blow in Japan's post-war history as well, forcing the country to a deep and painful reflection about the sustainability of its lifestyle, and the social, political, economic, environmental implications of its future policies.

The 'transition' alluded to in the title of the conference, where this paper was first presented, is interpreted here as the transition from one type of dominant discourse to another, i.e. from the fundamentally unquestioned pro-nuclear discourse that Japan adopted in the '50s, and that carried on until 11 March 2011, to the much more sceptical, critical, multifaceted, articulate discourse on the nuclear of the post-Fukushima era. I examine

this discourse from the viewpoint of the language that constitutes it, and through various semiotic ‘packages’ in a variety of channels from mainstream news media to grassroots movements’ posters and blogs, YouTube videos and the nuclear industry’s digital archives, all public – hence social – acts of communication. I take these semiotic products to be instrumental in the construction, the maintenance of, or the challenge to specific ‘discourses’ about nuclear power, but not in any direct or mechanical way. The meaning of these signs follows patterned ways of thinking or talking about nuclear issues, but they also interact in complex ways with the social, historical, cultural context, and with particular ideological stances that individuals take *vis-à-vis* them.

Talking of ideologies may suggest that what I am examining here are just different ways, some biased perhaps, in which individuals evaluate the same facts, but look at them from different positions of interest. While I do maintain that different positions of interest are what determine different ‘readings’ of the same facts, in the case of the Fukushima disaster the very establishing of the mere facts (if they ever were established) carried such gigantic potential implications – e.g. the need for large-scale evacuations, the danger of mass panic, and the like-that blind faith in or defence of an ideology were tested to the limits. I argue that Fukushima constituted an instance of what Paul Chilton (1987) calls a «critical discourse moment», which shakes the current beliefs of language users, and makes the previously taken-for-granted discourse visible and susceptible to re-evaluation.

The Fukushima problem exemplifies several important issues, some of which have linguistic implications: for example, the public’s right to information and the duty of accountability of both the government and private companies, the question of authority over and access to scientific information; the unequal distribution of the power to communicate, and so on – i.e. ultimately, issues of democracy – and also how these are affected by new information technologies. Access to the truth regarding nuclear issues, it could be argued, is intrinsically restricted – even before being subject to censorship – because of the specialised knowledge that it presupposes, including linguistic terminology, which is the purview of a restricted community of users. Those who wanted to keep themselves up to date with the events unfolding in Fukushima had to learn, or at least familiarise themselves with a language that the ordinary layperson was unlikely to have encountered before: Gray, Sievert, Becquerel, *naiibu hibaku* (内部被曝=体内被爆 internal exposure). But the inaccessibility of specialist terminology was not the only linguistic hurdle that common citizens had to struggle with. They had to contend more broadly with a whole hegemonic discourse, which construed, over many decades, the question of nuclear power as a technological rather than social issue, an economic rather than philosophical issue.

Nuclear discourse, as Allan notes, «contains fragmentary traces of other, often contradictory, discourses (those of Nation, Sovereignty, Duty, Geo-

politics, Economics, Defence, Deterrence, Peace, and Security)» (1989, p. 17). This paper cannot aim to provide an exhaustive account of the cultural history of nuclear power in Japan or engage in depth with these macro-themes, and my account will be necessarily sketchy and partial (regrettably, no account can be provided of TV coverage), but I will try to provide a brief outlook of diverse, competing, and occasionally paradoxically permeable narratives on the nuclear mobilised by the critical 'Fukushima moment', and with which the future Japan will have to engage. As Gamson and Modigliani note, «nuclear power, like every policy issue, has a culture. There is an ongoing discourse that evolves and changes over time, providing interpretations and meanings for relevant events». Through some of the clusters of «metaphors, catchphrases, visual images, moral appeals, and other symbolic devices that characterise this discourse» (1989, p. 1) I hope to provide a glimpse of the massive cultural shock that Japan experienced in the aftermath of the Fukushima disaster.

2 The Post-war Nuclear Discourse

Japan's enthusiastic embracing of a pro-nuclear policy since the late '50s is puzzling to most observers, given that Japan was the very (and only) country to have experienced the horror of the military use of nuclear power - Hiroshima and Nagasaki being the primal «critical discourse moment» on the nuclear (Chilton 1987, p. 16). Some historians, however, have recently argued that Japan's first steps to becoming a 'nuclear nation' were taken immediately after the bombing of Hiroshima and Nagasaki, when its government yielded to US interest and utilised victims as subjects of research, rather than address them as victims. It was only in 1957 that the A-Bomb Victims Medical Care Law was enacted (Sasamoto 1999, pp. 89, 91; Hook 1987, p. 35); until then the Japanese Government had just stared at the results of various scientific studies on the biological effects of the atomic bombs. No significant anti-nuclear position existed in occupied Japan, mostly because of the secrecy about and the high specialisation required by nuclear matters, so that the debate remained quite unknown outside of the physicists' circles (Nakayama 2005, p. 336).

An important turning point in the global discourse on nuclear power was Eisenhower's speech *Atoms for Peace* at the United Nations in 1953.¹ Addressing both domestic and international concerns, it attempted to reshape the US democratic credentials after the bombing of Japan (and to distance itself, at the same time, from the undemocratic Soviet Union) and,

¹ But see Gamson, Modigliani (1989, p. 12) on the remarkably quick reaction, already in the autumn of 1945, in the American media, by proponents of a discourse about peaceful uses of the atom.

crucially, broke the association of the atom with war (Jasanoff, Kim 2009; pp. 126 ff.), invoking a peaceful future where the atom would be controlled for civil use, expertise would be shared globally, and this new form of energy would be capable of sustaining rather than threatening life. A budget for nuclear development (tabled by the then member of the diet Nakasone Yasuhiro) was passed by the Japanese diet in 1954 (Yoshioka 2005a, p. 80; 2005a, pp. 109 ff.).

The 'Atoms for Peace' vision was congenial to Japan, in search of energy sources other than the coal that had sustained it during the war, and the oil shocks of the '70s further incited a major nuclear construction programme (Vivoda 2012, p. 7). Nationwide concern about nuclear power began arguably with the Lucky Dragon incident (the US test at the Bikini Atoll in 1954; Nakayama 2005, p. 338). Although the global debate about the safety of nuclear power that had begun in the 1960s did eventually spread to Japan² (Yoshioka 2005, p. 117; 2011, p. 155), and in spite of the growing local opposition during the '70s, including the wave of concern that the Three Mile Island accident of 1976 had sent around the world, the government embarked in the ambitious plan of the construction of nuclear plants, which mushroomed through the '80s. The discursive arena had been prepared, arguably, by the progressive marginalisation of anti-nuclear sentiment in the political discourse. Hook (1984) for example, details the birth of the metaphor of 'nuclear allergy' in the Japanese news media to refer to the Japanese people's particular sensitivity about nuclear matters, and notes how the nature of the metaphor (coupled with the absence of an equally powerful counter-metaphor) branded anti-nuclear stances as 'abnormal', 'pathological' elements of a healthy body culture in need of a 'cure'.

An extremely successful public relations campaign managed to transform the public's perception of the nuclear power from an enemy to a friend. This major feat was achieved through the use of a few discursive mechanisms: the systematic disassociation of nuclear power for military and for civil uses, which had already featured in the US *Atom for Peace* campaign, and, together with this, the promotion of other key themes, which later events arguably exposed as myths, such as **safety, energy security, cleanness, cheapness** (Gamson, Modigliani 1989; Koide 2011).

2 Particularly responsible for this were the activities of the Zengenren or Zenkoku genshiryoku kagaku gijustuka rengōkai (全国原子力科学技術家連合会 National federation of nuclear power technician), mostly composed of young scientists and technicians, the Gensuikin (原水爆禁止日本国民会 Japan council against atomic and hydrogen bombs) networking across all Japanese anti-nuclear groups, the birth of the Hangenpatsu undō zenkoku renrakukai (All-Japan liaison centre for anti-nuclear movements) and the Genshiryoku shiryō jōhō shitsu (原子力資料情報室 CNIC, Citizen's Nuclear Information Centre).

2.1 Public Relations Campaigns

The first of these themes – safety – is prominent in TEPCO’s 1987 promotional film on the Fukushima power plant, which had begun operations in 1971. Five minutes into the film, we have heard the word *anzen* 安全 (safe) three times. As the film shows the insertion of fuel rods into the reactor, and the critical point of fission is reached for the first time, the narration proudly declares that «the [...] light of the atom is lit, greeting the dawn of a new form of energy». We are shown prospering local communities, children growing up «in great health and vigour». Others have noted the significance of the musical packaging: «various musical melodies that suggest harmony between the nuclear plant and the environment runs [*sic*] throughout the background of the video. [...] On the other hand, music evocative of a James Bond movie also cues in scenes that seem to suggest awe of the scale of the human technological and architectural accomplishment».³ What we see at work here is a whole symbolic «package», to use Gamson and Modigliani’s (1989) terminology, one that can be labelled as ‘progress’. While allowing a moderate degree of variable positions within it (e.g. on the type of reactor that should be built), the «package frames the nuclear power issue in terms of the society’s commitment to technological development and economic growth» (p. 4). A ‘package’ has a wider cognitive appeal than specific statements, and can withstand, by incorporating them within its logic, apparently countering events such as nuclear accidents.

The ‘progress’ package appears to have been (and to be) considerably resilient; nevertheless, especially after the Chernobyl accident of 1986, the government and nuclear industry felt the need for a sustained campaign, revamped again in the ‘90s, as can be evinced by the promotion video commissioned in 1993⁴ by the agency now called the Japan Atomic Energy Agency (JAEA),⁵ and distributed to facilities such as atomic energy museums, or the visitor centres of nuclear power stations. The lead character Pluto-kun represents the radioactive element used in the nuclear industry, saddened by the bad reputation he acquired for being first used for military purposes. He wants everyone to know the ‘real’ story of Plutonium («*hontō no hanashi o kiite kudasai*»), so – to the sugary soundtrack of *Twinkle Twinkle Little Star* – Pluto-kun attempts to rectify the many misunderstandings about him.

3 «FILM: Fukushima Nuclear Power Plant» 2011, available at <http://teach311.wordpress.com/author/remmid/>.

4 The video was available at the time of the conference, but has been removed «due to a copyright claim by the JAEA». A synopsis and some snapshots are still available at <http://pinktentacle.com/2011/03/cute-pluto-kun-cartoon-dispels-plutonium-fears/>.

5 The then Power Reactor and Nuclear Fuel Development Corporation.



Figure 1. Pluto-kun promotion video

First - he says - it is very unlikely that plutonium could fall into the wrong hands as facilities are absolutely secure.⁶ It is thought to be poisonous and to trigger cancer, but if it touches your skin, it is not absorbed. Only if it enters the body through a wound it can collect in lymph nodes and spread to tissues and organs. Also, although there is some evidence that ingesting radium has caused cancer, so far - he continues - there is absolutely no evidence that Plutonium does. Some are concerned about what would happen if some bad guys dumped plutonium in a river and you drank that water for a long time. Your body - he reassures us - would just get rid of it naturally.

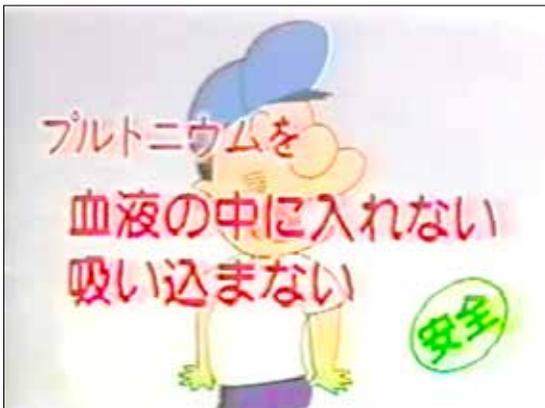


Figure 2. Plutonium is safe if not injected in the bloodstream, or inhaled

6 Interestingly, the theme of nuclear material getting in the ‘wrong hands’ is still a major concern in 2002 for UK citizens asked for their opinion about nuclear waste disposal (Bickerstaff et al. 2008, p. 157).

Pluto-kun is sad, because only his dangerous sides are emphasised, and he has become an instrument of threat (*odoshi*). Scary notions of radiation or of nuclear bombing come to the fore and get in the way, because of a lack of correct knowledge («*tadashii chishiki ga fusoku shite ite...*»). The new power plants⁷ are far more efficient than before, and they fill humans' future with bright hope («*ningen no shorai wa akarui kibō ni michita mono desu*»). If we approach him with a peace-loving and warm heart he is not at all scary or dangerous («*heiwana atatakai kokoro de tsukiatte kudasareba, boku wa, kesshite osoroshii mono demo, kikenna mono demo arimasen*»), he will deliver an inexhaustible («*tsukiru koto no nai*») amount of energy, and we will be able to count on him («*tayori ni naru nakama na no desu*»).

It is hard to overlook that this is the same packaging of 'nuclear as progress' featured in the Fukushima plant's promotional video made 20 years earlier, along with the blatant propagandistic tenor: not only because the information provided would have appeared doubtful even at the time (how many of us would feel safe drinking plutonium-polluted water?), but also because of the insistence on 'correct' knowledge, which assumes only one type of admissible knowledge, and obscures the ideological nature of the pro-nuclear stance; the emphasis on rationality (scientific evidence is quoted as uncontroversial supportive evidence), which disqualifies emotional commentaries; the eerie mantra of a bright future built on nuclear power.

Also, what is arguably particularly Japanese is not just the use of anime for the purpose of indoctrination, but also the language of 'cuteness' - soft colours, a child's voice-over - which is all the more grotesque in light of the recent disaster, but, as we will see later, a recurrent aesthetic trope in many other forms of nuclear discourse.

2.2 Manufacturing Consensus

In spite of considerable and growing opposition to Japan's nuclear policy, especially from the '90s onwards, the discourse in the industry never changed substantially, and the same, obviously successful ideas were re-packaged and reproduced time and again. If anything, the discourse increasingly emphasised the theme of **cleanness**, which, in fact, appears to be powerful enough to charm even environmentalist campaigners worldwide.⁸ Ironically, the 'progress' package, which resonates with the larger cultural theme of technological progress and mastery over nature, en-

7 Pluto-kun refers here to Monju, the Tsuruga, Fukui Prefecture power plant, which will suffer accidents in 1995 and 2010.

8 See environmentalist George Monbiot's statement that the Fukushima disaster changed his mind and turned him into a supporter of nuclear technology.

gulfed an issue more unique to the ‘counter-theme’ (Gamson, Modigliani 1989, p. 5) of ecological sustainability. Smart sponsors («usually organizations, employing professionals specialists whose daily jobs bring them into contact with journalists» [Gamson, Modigliani 1989, p. 7]) managed this considerable feat, which exemplifies the complexity of the nuclear discourse at a time when the simple dualism between atoms for war vs. atoms for peace is no longer viable.

The leaflet *Consensus*,⁹ produced by Japan’s Federation of Electric Power Companies (Denki jigyō rengōkai 2012) offers a notable example of the continuity of the progress package. Let us look at the cluster of various semiotic signs, at levels of both text (the message’s content) and layout (the design) conveying the federation’s message.



Figure 3. Front and back cover of the 2011 issue of the leaflet *Consensus*

Before we get to the content, the leaflet’s design itself strikes us as accessible and captivating, far removed from the ‘dry’ layout of scientific publishing material; the logos at the back of the leaflet index the company’s environmental concerns (left-hand side in Fig. 3), ‘certifying’ that the leaflet is printed with 100% recycled paper, vegetable oil ink, and a ‘waterless technique’. This symbolic reference to environmental concern is reinforced by the inclusion, in the *Questions & Answers* that organise

9 The earliest publication I could trace was from 2009, the latest from 2012, downloadable at http://www.fepc.or.jp/about_us/pr/sonota/1215332_1511.html. Apart from the opening – an apology for the inconvenience caused to the local communities and to the Japanese public, reassurances about the industry’s commitment to the restoration of secure facilities and public trust – the latest edition is predictably filled with sobering information about the Fukushima events and the subsequent (current) measures of containment, but shows little variation in content and style. It still maintains the ‘user friendly’ tone of previous editions in its use of questions posed in child-talk plain forms such as «*genshiryoku hatsudensho tte doko ni aru no?*» (where are the nuclear plants?).

the content, of the theme of cleanness, and the presentation of nuclear power as the ‘clean’ alternative to fossil fuel, for it arguably «reduces CO₂ emissions». This is arguably a myth consistently contested by many anti-nuclear scientists like Koide who notes that the government has recently begun to qualify this statement – as do the *Consensus* leaflets – by saying that nuclear plants «do not generate CO₂ at the time of energy production (*hatsudenji*)» (2011, pp. 114 ff. [italics by author], cf. Fig. 3). In fact a great amount of CO₂ is generated in the extraction, transportation and transformation of uranium, and by the plants’ maintenance.¹⁰



Figure 4. *Consensus*: nuclear energy helps reduce CO₂

The other themes of arguable concern – energy security, safety – are also still present: security-wise, the leaflet explains that Japan, being a resource-poor country, needs to be as self-reliant as possible. With regards to safety (again the word *safe* is a mantra repeated 50 times in the 16-page leaflet), it explains that the amount of radiation that can leak from reprocessing plants is far lower than the levels of radiation that we receive from natural sources.

While the emphasis on the willingness to engage in a dialogue with the public (see Fig. 5, or the publication’s very title) or undergo democratic processes of public scrutiny (for example, by means of regular meetings with local communities) appears to conform to traditional Japanese forms of decision-making, and, moreover, to respond to a very contemporary

10 This has become a powerful argument also in the debate in other countries: Bickerstaff et al. talk of «a new strand of political debate around energy policy, which re-frames nuclear power as part of the solution to the need for low-carbon energy options» (2008, p. 145). And as noted above, some environmentalists were the first to defend nuclear power after the Fukushima disaster, in the spirit of the Green Nukes movement (cf. Lisa Lynch 2012).

demand for transparency and accountability, the underlying discourse regarding knowledge has hardly changed at all: the public needs to be ‘educated’ by scientists and governments, and once ‘correct’ information has been disseminated, their misplaced mistrust will be overcome. Once again, not only does this view uniquely legitimise scientific knowledge, disqualifying as ignorance any argument based on concerns other than those of a positivist science (e.g. security issues such as the militarisation required by technology, political issues surrounding the relations between the beneficiaries of energy production and the communities in the plants’ backyards, environmental issues around the disposal of nuclear waste, etc.), it also deceptively presents the scientist’s stance as monolithic, uncontroversial, and unquestioned.



Figure 5. *Consensus*: «You said, we did»

But what of this concern with transparency and accountability when the Fukushima crisis hit Japan? The demand for detailed information from domestic and international audiences in the immediate aftermath of the accident encountered two competing hurdles: an intrinsic one, to do with the subject matter – the specialised language of nuclear science, cryptic to lay audiences – and a political and social one – the need to maintain public order.

2.3 TEPCO (Tokyo Electric Power Company)

At the time of the conference, seven months after the disaster, uncertainty still reigned about what really happened at the nuclear plant; the official versions fed to the public were questioned, and many openly criticised the government and TEPCO (Tokyo denryoku kabushiki kaisha) for failing to provide transparent and reliable information. Many of TEPCO's early statements later appeared to be utterly false (such as the denial of explosions) while others appeared to be subtle semantic exercises. For example, early releases on TEPCO's official website (no longer available) reported that the amount of nuclear fallout posed «no immediate danger for (human) health» (*tadachini kenkō ni eikyō o oyobasu ryō dewa arimasen*), as if the delayed harm to human beings typical of nuclear radiation were not equally concerning. No particularly strong conclusion could, of course, be drawn from this, if cracks in proper communication were merely a feature of the first, confusing, days. But time and again over the following months, the public was exposed to contradictions and ambiguities, and telling euphemisms, which added to the sense of confusion and uncertainty, and to the populace's fear and anxiety.

Together with communiqués on TV channels and press conferences, TEPCO responds to the public demand for information by regularly updating - and adjusting - its website. Ironically, among the webpages suspended until further notice (*kurashi to sorushon*, 'life solutions', and *saiyō jōhō* 'employment opportunities'), is the page labelled '*manabu/shiru/tanoshimu*' (learning, knowing, enjoying). To this day in December 2012 the page has not been reinstated (although it carries an apology note for the inconvenience and concern [*gomeiwaku to goshinpai*] caused to society following the accident) clearly betraying the uncertain status of what could be learned, known, or enjoyed when something goes wrong.

The site starts by accumulating multimedial information, including PDF file archives, press conference videos, minute illustrations of the current site set-up, functional descriptions of pieces of equipment, real-time reports of single operations, and a live camera on the four reactors. The press releases are dry, concise and purportedly fact-based (disputable as the facts may be), but within a few weeks, conceivably in order to deflect accusations of cynicism and self-interest, the website begins to include interactional texts such as apologies or condolences. On its homepage, and extensively elsewhere, TEPCO announces *wakariyasui setsumei* (comprehensible explanations), a reminder of the schism between those who know and those who do not, and, as the most cynical view would have it, a convenient pretext for bending notions of transparency. However, the exceptional amount of information suddenly reverberating out of a TEPCO under increasing pressure actually served to throw up a kind of smoke screen, and, important as it all was, still failed to convince the public - or

the media and some monitoring agencies – that such accounts were either reliable or relevant. For example, an article on 18 October in the *Mainichi Shinbun* reporting on the roadmap unveiled by the government and TEPCO in order to contain the crippled reactors at the Fukushima No. 1 Nuclear Power Plant called that roadmap unconvincing, as «the criteria used to thrash out the work schedule are *vague and ambiguous*», and «*failed to show any direction* on the timing of lifting of evacuation advisories [author's italics]». Moreover, the paper notes that self-assured assessments by TEPCO officials («*there is no problem* because the melted fuel is sufficiently cooled down by water injection from above» [italics by the Author]) once again were contradicted by Nuclear and Industrial Safety Agency (NISA) officials, who more cautiously stated «we will discuss [the roadmap's] validity from now on». Anti-nuclear scientists pointed out that rigorous assessments of these claims were impossible, because TEPCO simply did not release raw data.

Some social scientists contend that «against the common view that risk perception is largely an artifact of media attention or relatively uninformed or emotional public reactions, the social science literature consistently shows that knowledge – such as scientific information or industry information – has no consistent effect on risk perceptions» (Parkins, Haluza-DeLay 2011, p. 6), which is instead a function of the interplay of psychological, social, historical, political and cultural factors. They also maintain that «perhaps even more importantly, social trust is consistently observed to be influential. [...] Where citizens judge the regulators and actors involved in nuclear power to be trustworthy, risk perception is likely to be lower. Conversely, where trusting relationships have been compromised, either by a history of regulatory failure, a sketchy industrial track record or by other challenges to trustworthiness, then the public is likely to judge nuclear power to be a more risky endeavor» (Parkins, Haluza-DeLay 2011, p. 7). This seems to be precisely the stage we are observing Japan to be in; the institutional response to the Fukushima incident has irrevocably eroded the trustworthiness of the Japanese government and energy regulators, and with it the hegemonic authority of the whole discourse of safety, cleanliness and economy. Koide Hiroaki, a prominent anti-nuclear engineer, titles his June 2011 book *Genpatsu no uso* (The nuclear lie[s]).

3 Discourse in the Anti-nuclear Camp

How does all this compare with the discourse of anti-nuclear institutions? How do antagonist movements conceptualise nuclear power, how do they speak to their audiences, what narratives do they invoke? Let's start with a long-established anti-nuclear organisation, the Citizens' Nuclear Information Centre (CNIC, <http://www.cnic.jp/>).

The CNIC is an anti-nuclear public interest organisation born in Tokyo in 1975, and certified as a Non-Profit Organisation (NPO) in 1999. The centre gathers information from both government and industry publications but also mass media and the Internet, and disseminates this information through newsletters in Japanese (fee-based) and in English (free and available online, cf. Fig. 6).

NUKE INFO TOKYO
 Sep./Oct. 2011
 No. 144
 Citizens' Nuclear Information Center
 Akibonobashi Co-op 2F-B, 9-5 Shariyoshi-cho, Shinjuku-ku,
 Tokyo 162-0665, JAPAN Phone: +81 3 3357 3800 Fax: +81 3 3357 3801
 URL: <http://www.jp/eng/inf/> e-mail: enic@cnicy.com

The rally, organized by the Executive Committee for 10 Million People's Action to say Goodbye to Nuclear Power Plants, was a very successful and epoch-making event with 60,000 people from all over Japan taking part at the Meiji Park, Tokyo. Sendagaya station, near the park, and the access ways to the park were also filled with people going to take part in the rally. This is the first time the anti-nuclear movement has been able to gather such large numbers of people at one time. Thinking about the past, when we had a gathering two years after the Chernobyl accident, in 1988, it was attended by 20,000 people. That was biggest gathering at the time, but we have now been able to change the situation.

The opening remark was made by Kenzaburo Oe, a Nobel Prize winner. He said we Japanese are as yet unshakable and we must convince people in the nuclear industry that another nuclear accident is possible by making our voices heard at today's demonstration.

Women and men, younger and elder must increase united in their mind and shout with one voice "No Nukes!" The people who participated in this event must have had full confidence that they could change Japan's nuclear policy and bring about a nuclear power phase-out in this country. The Executive Committee is also calling for 10 million signatures by next March.

Rallies were also held in many other locations, such as Nagasaki City, Sapporo City, Nagoya City, Osaka City, Kyoto City, and so on.

Hidetoshi Ban (CNIC's Co-Director)

Contents	
"Goodbye to Nuclear Power Plants" Rally	1
The No Nukes Asia Forum 2011	2, 3
Renewed Agriculture in Chernobyl	3-6
Fukushima: Cleanup Operations	7, 8
REC: Inspector of the Chubu-OKA	7, 8
Earthquake not Applied	9, 10
Group Item: CRMS	11
News Watch	12

Figure 6. CNIC's bimonthly newsletter *Nuke info Tokyo*, September-October 2011 issue

The discourse of an NPO must cater not only to the needs of those among its constituents who already have a clear anti-nuclear ideological stance, but also of those who have yet to be convinced. This requires a particular effort not only to get access to the means of mass communication, but also to achieve 'credibility' in the face of the decades of hegemony of pro-nuclear discourse, and to overcome the constant threat of marginalisation (Allan 1989). As we noted before, where the dominant discourse has been that of positivist 'science', a humanistic discourse attributing primacy to human needs, subjective experience, moral and ethical issues is not necessarily effective. Where the socially acceptable discourse is that of rationality, emotionality can become a liability. While rejecting a purely 'scientific', rationalist, efficiency-driven logic, institutions like the CNIC have to strike a balance. They must alternate sharp scientific analyses and commentaries with the more intimate, personal histories of common

citizens. Interestingly, the CNIC too construes its activities as the provision of public education, which turns the dominant discourse on its head and claims authority over information.

Scientific analyses (often authored by former pro-nuclear scientists) frequently challenge the very frames regulating nuclear discourse, and the subtle semantic exercises that seamlessly maintain it. For example, in the July-August 2011 issue, the cover piece titled: *TEPCO will do anything to maintain the 'unforeseeable' theory* argues (based on an alternative reading of technical data released by TEPCO) that TEPCO's entire communication strategy is oriented to covering up damage possibly caused by the earthquake – a rather foreseeable event in Japan – by attributing it to the exceptional and 'unforeseeable' tsunami that followed, conscious that the possibility of 'foreseeableness' would shake «the very foundations of the safety of nuclear power in 'earthquake country Japan'» («Nuke Info Tokyo» 2011, p. 1).

The same 143 issue juxtaposes this piece with an article on Ogasawara Atsuko, the owner of several plots of land near the town of Ōma (northern Honshū) on the very spot where a nuclear power plant is under construction, and the last resident still determined to oppose it. Atsuko is presented as bright and cheerful but «often filled with emotions and moved to tears when talking in public», a common individual, segregated by the construction plans and reduced to a lonely struggle. Pieces like this, along with many others on the website describing the daily experiences of ordinary citizens, together with video-accounts of families of evacuees, and updates on the workers at the damaged plants not only provide an anchoring point for the wider population to relate to the nuclear debate, but also demonstrate the struggle over the discursive construction of 'nuclear power', and challenge it by construing it not only as a scientific issue but as one with vast human implications. In fact, it is these accounts, feeding the debate themes related to personal experiences, which are important to the construction of alternative 'packages' such as the costliness, at an individual level, of the nuclear choice, juxtaposed with the 'package' of global cost-effectiveness that drives the pro-nuclear discourse.

Atsuko's case also highlights another important issue, which I will return to later: the unequal distribution of the power to communicate (Allan 1989; Van Dijk 1995, p. 12). Atsuko's plot is accessible only via a one-kilometre-long pathway, unpaved and fenced on both sides by the nuclear company, and her log-house is not visible to the neighbours. Atsuko's anti-nuclear action consists in requesting supporters to make her visible, by writing her postcards and forcing a postman to walk along the path to her home.

Like the language of CNIC's newsletter, the language used by anti-nuclear activists and demonstrators has often deployed terminology with powerful emotional resonance. The term *hibakusha* was reportedly used at public rallies, and by the chair of the Hiroshima Prefecture Atomic Bomb

Victims' Organization (広島県原爆被害者団体協議会 Hiroshima-ken genbaku higaisha dantai kyōgikai) Tsuboi Hirao (reader's letter to *The Asahi Shinbun* 27 August 2011). The latter provocatively stated that the Fukushima *hibakusha* (被曝者, victims of radiation exposure) were just the same as the Hiroshima and Nagasaki *hibakusha* (被爆者, victims of atomic bombs). Such play on the homophone, in the context of the successful narrative that disassociated military and civil uses of the atom, and of the long-term struggle over a political, rather than physical, definition of the term (Hook 1987, p. 39), is clearly subversive. The term, predictably, never appeared in TEPCO's announcements, which opted for far less iconic designations, such as *hisai sareta minasama* (被災された皆様 disaster-struck populace), *higaisha* (被害者 sufferers, victims) or the even more circumlocutory *hinan sarete iru katagata* (避難されている方々 evacuees). Likewise, novelist Murakami Haruki's use of the term *kaku no* (核の) to refer to *genshiryoku* (nuclear power) in his prize acceptance speech in Barcelona on 9 June 2011 was noted by a *Japan Times*' correspondent (*Murakami Puts a Bomb under His Compatriots' Atomic Complacency*, Pulvers 2011) for its deliberate evocation of war-time lingo.

What struck observers both inside and outside Japan in the months following the disaster was the increased dynamism of civil society and the increased visibility of social actors far more critical of the establishment's line than commonly granted by the mainstream Japanese political scene. I argue that the increasingly anti-nuclear stance of these movements (for it would be questionable to call it 'a' movement) was at least reinforced by social media and Internet resources such as Twitter, Facebook, YouTube, social blogging websites such as Tumblr, etc. These new channels offered anti-nuclear voices an opportunity to overcome the deafening media silence on the grassroots anti-nuclear discourse. I will return to these in section 5, after a brief foray into the media discourse.

4 The Media

A review of the media coverage provided by four major national newspapers and a regional newspaper between March and November 2011 (Satō 2012, p. 37) records the total number of words devoted to the demonstrations in Tokyo as follows: *Mainichi*: 12,066; *Tokyo Shinbun*: 11,955; *Asahi*: 4,517; *Yomiuri* 686; *Nikkei* 670. Tellingly, *Mainichi* and *Asahi* devoted more space to the March demonstration in Germany than the one in Tokyo. Of course, it is not the case that the traditional news media only showcased pro-nuclear discourse. However, they were far from providing a fair or neutral playing field. Gamson and Modigliani describe similar circumstances when they note that «in some cases, official assumptions are taken for granted [by media], but even when they are challenged by

sponsors of alternative packages [i.e. anti-nuclear supporters], it is these competitors that bear the burden of proof. A weaker form of this argument is that journalists make official packages the starting point for discussing an issue» (1989, p. 7).

News media appeared keen to exercise censorship, for example, by blatantly ignoring the new movements and their messages; by listing anti-nuclear NGO organisations such as the CNIC only as a contact for tracking down missing persons, and refraining from reporting their activities (it took the *Yomiuri Shinbun* two months to feature the CNIC in a 'hard news' piece on a panel discussion); by providing, as noted above, remarkably poor coverage of protest demonstrations which international observers have found, on the contrary, to be very newsworthy; by skipping uncomfortable details about the role of the police at such demonstrations; or simply by failing to exercise criticism and to press interviewees to answer hard questions. This selection of 'worthy' topics and the devoicing of non-institutional (non-legitimised) sources in turn construe the events as insignificant and the audience as uninterested in positions outside those of the dominant discourse.

The *Yomiuri Shinbun* offered another example of this subtle conformism in an editorial of 29 September 2011 in which it first reported the results of a survey by the Japan Atomic Energy Commission - presumably a body with no revolutionary agenda - showing that 98% of the responses called for the abolishment of nuclear power plants, but then concluding, with no additional comment, that this figure could not reflect public opinion. The editorial then juxtaposes this with the paper's own surveys, showing the decline of support for the abolition of nuclear plants from 65% in July to 56% in September, and concludes that «there is much confusion regarding public opinion». Besides the questionable method involved in presenting statistics in this fashion (with no indication of the sampling method, the exact questions, etc.) and the deceiving oversimplification of responses, likely to be complex outcomes of possibly ambivalent stances (Gamson, Modigliani 1989, p. 35), it is unclear how such unqualified statements may dispel such confusion.

In an article purportedly aimed at producing a self-assessment of the paper's performance in the seven months since the incident, on 15 October 2011 *The Asahi Shinbun* publishes an interview with Shiseido honorary Chair Fukuhara Yoshiharu, presented as a qualified authority for his being a 'long-term fan' of the paper, having also served on the paper's editorial monitoring commission (*Asahi Shinbun* shimen shingikai iin) until March 2011. The article is a good example of the tame and inconclusive argumentation style (and 'critiques') of Japanese media, consistent as they are with

a dominant rhetorical strategy¹¹ of balanced consideration of all parties' positions. On one hand, Fukuhara appears to criticise the paper for not offering a more complex picture of the effects of the earthquake on wider segments of the population: those whose work was affected perhaps to a lesser degree by debris which was not being cleared, or having to work in appalling conditions, but then concludes by wondering philosophically about the paper's right to judge: how can one assess whether the impact on individual lives was permanent or just transitory? A paper's mission is indeed to aid the reconstruction, but – he counters – after all some resent being perpetually represented as victims. With regards to the accusation of running only pieces based on the government or TEPCO's communiqués, which recalled war-time reports by the Imperial General Headquarters, Fukuhara acknowledges that the public may have felt betrayed by TEPCO's censorship of the meltdown but then defends the paper's predicament: if data were not available otherwise, what could you do? Finally, with regards to the view that, in spite of its commitment to showcase pro and anti-nuclear voices, the paper was excessively timid in its analyses and forecasts, Fukuhara candidly states that it was impossible to find a trustworthy (*shin-rai dekiru*) scientist to speak on the matter, that the extreme slogans of the nuclear supporters' «it's all fine» or the anti-nuclear supporters' «it's dangerous» are problematic, and the paper has a duty to show a broader variety of voices – a statement with which few could disagree, but was hardly demonstrated in the paper's line, as shown by the figures quoted at the beginning of this section on public rallies in the capital. It was here that the biggest variety of voices became audible, including intellectuals, artists, scientists, political activists and ordinary citizens from all walks of life.

The constraints on journalistic freedom that the Japanese press agency system, with the unavoidable partisanship that the dedicated press rooms entail, has been long criticised. Not only the traditional news media do play a crucial role in determining which events are newsworthy; the close proximity of journalists and institutional sources also hinders fairness of access, and simply reproduces the same hierarchies of social voices. To reclaim such a voice, the philosopher Karatani Kōjin (who, having lost trust in the Japanese press, notably chose to speak at the Foreign Press Club, 29th September 2011) urged his fellow citizens to become a society «which can demonstrate»,¹² putting his finger on the crucial and rather broad issues of a culture of engagement, scrutiny of the authorities, and human rights in Japanese society.

11 Cf. Pizziconi 2009 on the cooperative (as opposed to competitive) frame that appears to regulate ethnographic interview discussions in Japanese.

12 See the video of the demonstration on <http://peacemedia.jp/topics/110911speech.html>.

5 New Voices and New Themes: the Internet and Social Media

Stating that media discourse produced a unanimous voice is, of course, an unacceptable oversimplification, but the wide availability of Internet and mobile phones (which far exceeds that in Europe) now ensures that the bottleneck effect of official news media can be bypassed, making top-down control of news and knowledge increasingly difficult. Anti-nuclear scientists (and other social commentators) like Koide Hiroaki have published material on the nuclear issue for decades, but their public appearances can now achieve a wider and almost limitless circulation by simply uploading a YouTube clip to a blog. Twitter or Facebook were instrumental (where electricity and Internet connections were still available) in providing minute-by-minute updates of missing people's whereabouts, latest transport news, etc. but also in mobilising protest, generating new alliances, and eventually boosting the circulation of less time-bound themes, as we will see below. This digital communication enables communities of interest to emerge independently from other forms of association (geographical, professional, etc.) which rely on more conventional channels of communication (face-to-face encounters, professional literature, etc.), give access to different actors, and can, in a bottom-up fashion, challenge the dominant narrative.

Not all agree however on their transformative potential: Karatani Kōjin, commenting on the role of Twitter in mobilising participation,¹³ disregards it as a merely virtual experience that can be, for that reason, easily dismissed by authorities, one that has little in common with the real, shared experience of a public demonstration. Twitter communication is quantitatively poor, being limited to 140 characters. Knowledge formation requires more than sound bites; it requires scope as well as depth, which is why the traditional news media still have an important role to play. However, to the extent that new technologies overcome some of the constraints posed by the traditional power relations, they are potentially subversive and more democratic. Networking through Twitter, blogs, Facebook - and the boundless reproduction and circulation of information that these allow - provides a lifeline to grassroots movements and a previously unthinkable visibility.

For example, a group of citizens based in Kōenji, Tokyo, known as Amateur protest (*Shirōto no ran*) was credited with organising the main demonstration in Tokyo on 6 June 2011,¹⁴ allegedly attended by 15,000-20,000 protesters. The spirit of the group can be evinced by the profusion of graphic material posted for circulation on their website, much of which plays on the theme of utter distrust for official institutions (cf. Fig. 7). The language is

13 «Karatani Kōjin, Amamiya Karin» 2011, available at http://www.cyzo.com/2011/10/post_8675.html.

14 6.11 Shinjuku, <http://611shinjuku.tumblr.com/>; Tan 2011-2012.

plain, and ‘emotional’ (cf. the evaluative adjectives *abunee!* [dangerous!] *osoroshii!* [dreadful!]), and their visual strategies, exceptional for not drawing on the usual trope of cuteness, have an all the more dramatic effect.



Figure 7. Posters graphics from *Shirōto no ran* website

The theme of distrust recurs endlessly in the discourse of anti-nuclear movements, as does the open accusation against the establishment for the spreading of *uso* (lies) or *shinwa* (myths).



Figure 8. «Safe? Green? We won't be fooled again» (from *Shirōto no ran* website)

This distrust, far from being an irrational and groundless emotional response, is fuelled by a claim to the legitimacy of concern for human values – a concern neglected by scientific discourse. Returning for a moment to the studies in risk theory, these show that while indeed lay and expert assessments of risks (including those posed by nuclear power) generally differ, contrary to common belief, lay assessments are equally consistent and rational, and in fact more ‘textured’ than those of the experts. Parkins and Haluza-DeLay note that «whereas technical experts base their judgements on probabilities of harm or estimates of annual fatalities, lay people base their judgements on a sense that the risks threaten things they value, such as future generations, stability, or the capacity to control technology» (2011, p. 5). Crucially, if the notion of risk involves an assessment of human values,¹⁵ a science that ignores the human values at the core of these judgements is seriously misguided. The Fukushima disaster catalysed experiences that affected people’s lives and to which people were able to relate in an unmediated way: the mass evacuations, the danger of food contamination, the dilemma of parents about how to protect their children¹⁶ in the face of the invisible nuclear threat. This all made public opinion less reliant on media or corporate discourses, evidenced by the circulation of alternative metaphors on the nuclear such as the ‘*toire no nai manshion*’ (a building whose waste products cannot be disposed of),¹⁷ and various other war-time images, countering the old disassociation of military and civil uses of the nuclear. Murakami Haruki, for example, speaking at a public rally, condemned his country’s failure to say no to nuclear in 1945, when Japan experienced the «scars» left by radiation «on the world and human well-being» («Novelist Murakami» 2011). Quite explicitly he attacked the government and utility companies for prioritising «efficiency» and «convenience», which marginalised opponents as «unrealistic dreamers», and he reclaimed human beings’ «right to dream».

15 They quote a definition by Rohrmann and Renn (2000), where risk is «understood as the possibility that human actions, situations or events might lead to consequences that affect aspects of what humans value» (Parkins, Haluza-DeLay 2011, p. 14).

16 The *Mainichi Shinbun* of 16 October 2011 carried an interview with novelist Kanehara Hitomi, in which she admitted having fled Tokyo and moved to Okayama the day after the disaster, and spoke of parents’ distress for being caught between an expectation of loyalty to their communities and the wish to protect their children (cf. Kanehara 2011, available at <http://ratio.sakura.ne.jp/archives/2011/10/17214029/>).

17 Nobuo Ikeda (2012) and see a blogger’s environmentalist (and patriotic) reflection on the meaning of the metaphor: (s)he suggests that nuclear plants are like a foreign building which cannot withstand the tremors of Japanese earthquakes. The nuclear *manshion* does not suit Japan and its earthquakes, so «let’s enjoy old-fashioned relaxing Japanese wooden homes, and chill out with a fan in your hand that is suitable to our climate. The story of three little pigs does not suit the Japanese» («Toire no nai manshon» 2011, <http://ameblo.jp/aonoshinbrain2/entry-10954063171.html>).

The climate of uncertainty and huge anxiety that the country had to endure could not leave the children unaffected. How could Japan explain the terrifying prospective scenarios to its children, inevitably exposed to the relentless drumming of bulletins on the crippled reactor? Once again a reaction came through digital media. The artist Hachiya Kazuhiko (known for his works marrying art and science) began to issue a number of tweets, later collected and edited in a short anime which appeared on YouTube less than a week after the incident, explaining the still unfolding events through the light-hearted humour of a scatological metaphor. The power plant is once again personified by cute character Genpatsu-kun.



Figure 9. Genpatsu-kun has a stomachache

Following the incident, Genpatsu-kun has developed a stomachache, and now needs to relieve himself. His poo is very smelly, and if it leaked everyone would be in trouble! An explosion is heard, but no worries, it was just a little wind. Doctors (the rescue teams at the plant) keep on giving him medicine: a bit more wind is coming out but this smell soon disappears so people who live far away «won't even notice». Palliative as the video's intent may be, it is difficult not to spot the limits of the metaphor. Some worry that the smell might remain forever, but this is not true: «it will go in one week». The narrative even includes some reference to the fact that doctors treating Genpatsu-kun's dangerous poo are actually at risk (*inochi ga abunakunaru*), that nobody knows how to dispose of that poo, and that disposal is very costly, but all these messages are packaged in a constellation of reassuring semiotic signs: apart from the sedate anthropomorphism of the anime, there is an up-tempo soundtrack, 'cute' characters, the intermixing of plain-style utterances and modal particles, which characterise down-to-earth, informal speech.

Anime are a quite common pedagogical tool in Japanese visual culture, and certainly do not exclusively target young children. The need to assuage

children’s anguish undoubtedly justifies the patent fallaciousness of some statements, but the package does bring to mind the corporate pro-nuclear videos, as the considerate sanitisation of the message eventually excuses the plant, which has «given us a lot of electricity until now». That reassuring manga-like characters were exploited against the angst of the time is perhaps not surprising.

In spite of the dismissive comments by many observers about the role of Twitter in the formation of a new public consciousness, and the virtual volatility of public opinion channelled through it, it is notable that this channel generated a somewhat more persistent phenomenon, such as the character Monju-kun. Monju is the name of a fast breeder reactor in Fukui Prefecture famous for a plethora of accidents, which have seen it produce electricity for a single hour since the beginning of tests in 1986. Monju-kun presents himself as a reformed nuclear worker: after the Fukushima incident, he became aware of his own riskiness and deceit, and he now wants «to quit working». This fictional character now writes books, gives interviews, and even has his very own idiolect – the cute «*desudayo*».



Figure 10. Monju-kun on the pages of *Gendai yōgo no kiso chishiki 2013 special edition*

In the special issue of *Gendai yōgo no kiso chishiki 2013* (現代用語の基礎知識2013号外版) Monju-kun presents his ‘educational’ objectives. He argues that speaking on Twitter was necessary in order to spread «information» that could become «food for thought», because people were afraid, but also afraid to admit they were afraid, and needed to start talking about it. Monju-kun draws his ‘knowledge’ from publicly available sources such as the *Fukui Shinbun* (福井新聞), *Kahoku Shinpō* (河北新報) or others, but ‘he’ makes an effort to explain them simply for the general public. He distrusts institutional media, and recommends an exercise: comparing various newspapers (*Mainichi*, *Asahi*, *Yomiuri*, *Tokyo Shinbun*) to spot the bias inherent in every account. He admits that one cannot change the world by tweeting in 140 characters, but because he wants to offer his simple and positive vision to grown-ups and children alike, he has now released three publications, with graphs and illustrations.

Monju-kun clearly apes his predecessor Pluto-kun (of the pro-nuclear

campaign), and, like Pluto-kun, features reassuring, familiarly cute looks, but the subversive nature of this ‘cute’ reference in the context of the disaster did not go unnoticed,¹⁸ and far from just mollifying the message, sarcastically challenged the narrative of unlimited progress.

The magnitude of the catastrophe and the articulate multiplicity of discourses, metaphors, and imagery that have been mobilised in response to it, and that I have described in the sections above have stirred up, and no doubt will continue to stir up very big questions about the values that Japanese society will pursue in the future. In my closing remarks, I offer a brief reflection on this.

6 Japanese Culture and Concluding Remarks

On 5 July 2012 a parliamentary report¹⁹ by the Fukushima Nuclear Accident Independent Committee’s was submitted to both houses of the Japanese Diet. The executive summary by chairman Kurokawa Kiyoshi opened with the statement that «the [...] accident at the Fukushima Daiichi Nuclear Power Plant cannot be regarded as a natural disaster. It was a profoundly man-made disaster – that could and should have been foreseen and prevented». More critically however, it goes on to qualify the nature of this human responsibility with the following statement, **not** included in the Japanese version:

For all the extensive detail it provides, what this report cannot fully convey – especially to a global audience – is the mindset that supported the negligence behind this disaster.

What must be admitted – very painfully – is that this was a disaster ‘Made in Japan’. Its fundamental causes are to be found *in the ingrained conventions of Japanese culture: our reflexive obedience; our reluctance to question authority; our devotion to ‘sticking with the program’; our groupism; and our insularity.*

Had other *Japanese* been in the shoes of those who bear responsibility for this accident, the result may well have been the same [*italics by the Author*].

While the Japanese version made reference to «50 years of one-party rule, mass employment for new graduates, the seniority system, life-time employ-

18 Cf. Hirabayashi 2012 on the appearance of Monju-kun’s mascot at a demonstration in Harajuku, Tokyo.

19 Downloadable at <http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naiic.go.jp/en/index.html>. Some extracts are available from the *BBC Post* «Fukushima Report» 2012.

ment» (*ittōshihai to, shinsotsu ikkatsu saiyo, nenkōjoretsu, shūshinkoyō*) and a Japanese «mindset» which «took all of that for granted», the English version, arguably striving to contextualise the accident for the global audience, refers, surprisingly candidly, if not brutally, to the collective conceit of a powerful financial elite and bureaucracy, and the lack of public accountability, the prioritisation of organisational interest at the expense of public interest, and a cover-up culture. But the reference to the «cultural causes» of the catastrophe (as well as the explicit declaration that the report did not seek to «lay blame», but to «learn from the disaster») literally enraged the protesters. Among these, Nobel Prize winner Ōe Kenzaburō called the report's reference to the Japanese culture a «cop-out» (cf. Kageyama 2012) that left individual responsibility unquestioned.

Lack of public scrutiny and accountability, a cosy relationship between government agencies and nuclear industry, lax regulation that does not put citizens' interests first, are not unique features of the Japanese system. But the discourses that support pro- or anti-nuclear stances and policies are nevertheless liable to broader cultural conventions, including notions of deference or challenge to power, the importance of and the modalities of consensus-building, the scope of acceptable topics of conversation, and so on. Social media and other forms of bottom-up communication (the production and circulation of information) have a huge subversive potential, but this potential is subordinated to citizens' willingness to become more engaged, to openly challenge the dominant discourse, and reshape the terms of the debate. Culture, including energy culture and life-style, is not created directly by institutions, but indirectly by discourses. This is because images, texts, information and their sources do not carry meaning independently, but are interpreted against the backdrop of the ideological stances assumed by viewers, which are in an interdependent relationship with the social context, affecting it (as public opinion) and being affected by it (through, for example, exposure to media discourses, active political engagement, etc.). It is because of this that images of demonstrators may be received as merely fatalist, touchy-feely attacks on the rigour of scientific discourse, or as a legitimate demand for human rights and mass empowerment. Japan's future policies will be profoundly affected by the nature of the discourse on the nuclear that ordinary Japanese citizens will be able to create and sustain, or their ability to marshal different values against those of the industry. The crucial buzz-words of **safe** or **green** have begun to take on bitter sarcastic nuances provoking their disassociation from the interpretive packages of the pro-nuclear discourse. Others, like *hibaku*, evoke associations with a past that Japan had hoped to forget.

What we have witnessed since March 2011 is a battle for the power over knowledge and information, a re-conquering, by ordinary citizens, of the semiotic fields surrounding the nuclear. Whether this new discursive context - the new voices emerging in the wake of the disaster through

the levelling networks of digital communication, the new narratives on human experience, human rights, public accountability, distrust in the authority – will lead to more enduring predispositions and a demise of the belief in the inevitability of nuclear power for social progress, only time will tell. Spontaneous, small-scale, often non-ideological grassroots movements have existed throughout Japanese post-war history, but have often had only a local resonance. The magnitude of the Fukushima disaster gave the themes of these movements a national – and global – relevance, and its critical, alternative narratives a more powerful significance. The psychological conflict between multiple narratives never has predictable outcomes: a general support for the discourse of progress and development may conflict with local concerns about cleanness and safety, and generate the ambivalent stance called ‘not-in-my-back-yard’. But a discursive field with the potential for restructuring a political space tainted with corruption, corporate interests and an utter disregard for human experience has been created in the wake of the Fukushima disaster, and this, at least, can only be a positive step forward for Japan’s democracy.

Acknowledgments

I wish to thank my old *Tokyo Gaidai* friend Oshiba Yasuji for providing some extremely useful pointers when I was preparing my presentation, and also for sharing some precious personal comments as the concerned father of two young girls, which gave me a tangible appreciation of the oppressive dilemma faced by millions of ordinary people.

A big thanks also goes to the conference organisers for their kind invitation to join the international symposium that prompted this investigation.

Bibliography

- Allan, Stuart (1989). «Talking Our Existence to Death» [online]. *Canadian Journal of Communication*, 14 (1), pp. 17-36. Available at <http://www.cjc-online.ca/index.php/journal/issue/view/51/showToc> (retrieved: 2015-05-13).
- Bickerstaff, Karen et al. (2008). «Reframing Nuclear Power in the UK Energy Debate: Nuclear Power, Climate Change Mitigation and Radioactive Waste». *Public Understanding of Science*, 17 (2), pp. 145-168.
- Chilton, Paul (1987). «Metaphor, Euphemism and the Militarization of Language». *Current Research on Peace and Violence*, 10 (1), pp. 7-19.
- «Cute *Pluto-kun* cartoon» (2011). *Pink tentacle*. Available at <http://pink-tentacle.com/2011/03/cute-pluto-kun-cartoon-dispels-plutonium-fears/> (retrieved: 2015-05-13).

- Denki jigyō rengōkai (The Federation of Electric Power Companies in Japan) (2012). «Sono ta ririsu jōhō» [online]. Available at http://www.fepc.or.jp/about_us/pr/sonota/1215332_1511.html (retrieved: 2015-07-02).
- «FILM: Fukushima Nuclear Power Plant» (2011). «FILM: Fukushima Nuclear Power Plant Promotional Documentary (1985)» [online]. *Teach 3.11*, 19 September. Available at <http://teach311.wordpress.com/author/remmid/> (retrieved: 2015-05-13).
- «Fukushima Report» (2012). «Fukushima Report: Key Points In Nuclear Disaster Report» [online]. *BBC News Asia*, 5 July. Available at <http://www.bbc.com/news/world-asia-18718486> (retrieved: 2015-05-13).
- Gamson, William A.; Modigliani, Andre (1989). «Media Discourse and Public Opinion on Nuclear Power: A Constructionist Approach». *American Journal of Sociology*, 95 (1), pp. 1-37.
- «Gendai yōgo no kiso chishiki 2013 gōgaiban» (2013) (Fundamental Knowledge of Current Terms 2013 Special Edition) [online]. *Jiyukokuminsha*. Available at <http://gendaiyogo.jp/gougai/index.html#page=1> (retrieved: 2015-05-13).
- Hirabayashi, Keito (2012). «Pluto-kun vs. Monju-kun, Science and the Mayors» [online]. *DiaNuke.org*, 1 May. Available at <http://www.dianuke.org/pluto-kun-vs-monju-kun-science-and-the-mayors/> (retrieved: 2015-05-13).
- Hook, Glenn (1984). «The Nuclearization of Language: Nuclear Allergy as Political Metaphor». *Journal of Peace Research*, 21 (3), pp. 259-275.
- Hook, Glenn (1987). «Evolution of the Anti-Nuclear Discourse in Japan». *Current Research on Peace and Violence*, 10 (1).
- Ikeda Nobuo (2012). «Genpatsu wa toire naki manso ka» (Is Nuclear Power Like an Apartment with No Toilet?) [online]. *Newsweek*, 19 October. Available at <http://www.newsweekjapan.jp/column/ikeda/2012/10/post-575.php> (retrieved: 2015-05-13).
- Jasanoff, Sheila; Kim, Sang-Hyun (2009). «Containing the Atom: Sociotechnical Imaginaries and Nuclear Power in the United States and South Korea» [online]. *Minerva*, 47, pp. 119-146. Available at <http://www.springerlink.com/content/y2738665782223l6/> (retrieved: 2015-05-13).
- «Karatani Kōjin, Amamiya Karin» (2011) «Karatani Kōjin, Amamiya Karin» [online]. *Nikkan saizō*. Available at http://www.cyzo.com/2011/10/post_8675.html (retrieved: 2012-12-20).
- «Karatani Kōjin, Shinjuku 'Aruta' mae» (2011) [online]. *Peace Media*. Available at <http://peacemedia.jp/topics/110911speech.html> (retrieved: 2015-05-13).
- Kageyama, Yuri (2012). «Japan Nuclear Protest: Crowds Rally in Tokyo for End to Nuclear Power» [online]. *The Huffington Post*, 16 July. Available at http://www.huffingtonpost.com/2012/07/16/japan-nuclear-protest-tokyo_n_1675709.html (retrieved: 2015-05-13).
- Kanehara Hitomi (2011). «Kodomo no tame, genpatsusake Okayama e» [online]. *Internet Zone: Word Press de Blog seikatsu*. Available at

- <http://ratio.sakura.ne.jp/archives/2011/10/17214029/> (retrieved: 2015-05-13).
- Kawamoto Hiroshi (2011) «Minna o ugokasu teian mo shinbun no yakume» (Newspapers' Role Is also to Move Everyone). *The Asahi Shinbun*, 15 October, p. 13.
- Koide Hiroaki (2011). «Genpatsu no uso» (The Lies of Nuclear Plants). Tōkyō: Fusōsha shinsho.
- Lynch, Lisa (2012). «“We Don't Wanna Be Radiated”: Documentary Film and the Evolving Rhetoric of Nuclear Energy Activism» [online]. *American Literature Ecocritic Issue*. Available at <http://spectrum.library.concordia.ca/974944/1/BeRadiatedFINAL.pdf> (retrieved: 2015-05-13).
- Monbiot, George (2011). «Why Fukushima Made Me Stop Worrying and Love Nuclear Power» [online]. *The Guardian*, 21 March. Available at <http://www.theguardian.com/commentisfree/2011/mar/21/pro-nuclear-japan-fukushima> (retrieved: 2015-05-13).
- Nakayama, Shigeru (2005). «The Scientist-Led Peace Movement». In: Nakayama, Shigeru (ed.), *A Social History of Science and Technology in Contemporary Japan*, vol. 2. Melbourne: Transpacific Press, pp. 334-344.
- «Novelist Murakami» (2011). «Novelist Murakami Slams Nuclear Policy» [online]. *The Japan Times*, 11 June. Available at http://www.japantimes.co.jp/news/2011/06/11/news/novelist-murakami-slams-nuclear-policy/#.VCw0Mmd_uSo (retrieved: 2015-05-13).
- «Nuke Info Tokyo» (2011). «Nuke Info Tokyo» [online]. *CNIC*, 143, July-August. Available at <http://www.cnic.jp/english/newsletter/index.html#2011> (retrieved: 2015-05-13).
- Parkins, John Russell; Haluza-DeLay, Randolph (2011). «Social and Ethical Considerations of Nuclear Power Development» [online]. *Staff paper*, 11 (1). Available at <http://ageconsearch.umn.edu/bitstream/103237/2/StaffPaper11-01.pdf> (retrieved: 2015-05-13).
- Pizziconi, Barbara (2009). «Stereotyping Communicative Style In and Out of the Language and Culture Classroom: Japanese Indirectness, Ambiguity and Vagueness». In: Morón, Gómez et al. (eds.), *Pragmatics Applied to Language Teaching and Learning*. Cambridge: Cambridge Scholars Publishing, pp. 221-254.
- Pulvers, Roger (2011). «Murakami Puts a Bomb under His Compatriots' Atomic Complacency» [online]. *The Japan Times*, 3 July. Available at http://www.japantimes.co.jp/opinion/2011/07/03/opinion/murakami-puts-a-bomb-under-his-compatriots-atomic-complacency/#.VCviDwd_uSo (retrieved: 2015-05-13).
- Rohrmann, Bernd; Renn, Ortwin (2000). «Risk Perception Research: An Introduction». In: Renn, Ortwin; Rohrmann, Bernd (eds.), *Cross-Cultural Risk Perception: A Survey of Empirical*. Boston (MA): Kluwer Academic Publishers, pp. 11-44.
- Sasamoto, Yukuo (1999). «Investigations of the Effects of the Atomic Bomb».

- In: Nakayama, Shigeru (ed.), *A Social History of Science and Technology in Contemporary Japan*, vol. 1. Melbourne: Transpacific Press, pp. 73-107.
- Satō, Keichi (2012) «What Should the Public Know?: Japanese Media Coverage on the Antinuclear Movement in Tokyo between March 11 and November 30, 2011» [online]. *Saigai, kiban, shakai – Higashi Nihon daishinsai kara kangaeru* (Disaster, Infrastructure and Society: Learning from the 2011 Earthquake in Japan), 2, pp. 35-39. Available at <http://hdl.handle.net/10086/23123> (retrieved: 2015-05-13).
- Tan, Uichi (2011-2012). «The 6/11 “Amateurs’ Revolt” Demonstration against Nuclear Power: A New Movement Style?» [online]. *Saigai, kiban, shakai – Higashi Nihon daishinsai kara kangaeru* (Disaster, Infrastructure and Society: Learning from the 2011 Earthquake in Japan), 1, pp. 299-304. Available at <http://hdl.handle.net/10086/22086> (retrieved: 2015-05-13).
- «Toire no nai manshon» (2011). «Toire no nai manshon» [online]. *Ameba*. Available at <http://ameblo.jp/aonoshinbrain2/entry-10954063171.html> (retrieved: 2015-05-13).
- Van Dijk, Teun A. (1995). «Power and the News Media». In: Paletz, David L. (ed.), *Political Communication and Action: States, Institutions, Movements, Audiences*. Cresskill (NJ): Hampton Press, pp. 9-36.
- Vivoda, Vlado (2012). «Japan’s Energy Security Predicament Post-Fukushima». *Energy Policy*, 46, pp. 135-143.
- Yoshioka, Hitoshi (2005a). «Forming a Nuclear Regime and Introducing Commercial Reactors». In: Nakayama, Shigeru (ed.), *A Social History of Science and Technology in Contemporary Japan*, vol. 2. Melbourne: Transpacific Press, pp. 80-105.
- Yoshioka, Hitoshi (2005b). «Nuclear Power Research and the Scientists’ Role». In: Nakayama, Shigeru (ed.), *A Social History of Science and Technology in Contemporary Japan*, vol. 2. Melbourne: Transpacific Press, pp. 104-124.
- Yoshioka, Hitoshi (2011). *Genshiryoku no shakaishi – Sono nihonteki tenkai* (A Social History of Nuclear Power: Its Development in Japan). Tōkyō: Asahi Shinbun Shuppan.

Sitography

- 6.11 Shinjuku, available at <http://611shinjuku.tumblr.com/> (retrieved: 2015-05-13).
- CNIC, *Citizens’ Nuclear Information Center*, available at <http://www.cnic.jp/> (retrieved: 2015-05-13).
- NAIIC, *The National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission*, available at <http://warp.da.ndl.go.jp/info:ndljp/pid/3856371/naaic.go.jp/en/> (retrieved: 2015-05-13).