Popularising the nuclear
Mangaesque convergence in post-war Japan

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Abstract   In the aftermath of the Fukushima Daiichi nuclear disaster of 3/11, one disputed issue has been the acceptance of precedent nuclear energy policies among the wider population, despite Japan being a country of high seismic risk and a nation that experienced atomic bombing on its population during World War II. This paper investigates how the transmedia constellation of the *mangaesque* intersecting manga, anime, pop-art, governmental educational characters and youth subcultures has been strategic in domesticating contested meanings of nuclear related issues, as well as being deeply informed itself in its ground-breaking stages (*Astroboy*-Tezuka Osamu, *Barefoot Gen*-Nakazawa Keiji, *Little Boy*-Murakami Takashi) by these issues, contributing ultimately to their naturalisation and hegemonic reproduction from 'below'.

1 (Post)nuclear Japan: nation, hegemony from 'below' and media mix

3/11 marks a date of no return for post-war Japan, not dissimilar to 9/11 for the USA. It is a numerical symbol that has united the nation through the shared experience of such a catastrophic and tragic event – to the extent that the term '3/11 Generation' has been coined – but has also divided it due to the many critical voices regarding the founding assumptions of its politics, society, and culture.[1] In particular, the devastating incident at the Fukushima nuclear power plant highlighted an apparent paradox. How was it possible to reach hegemonic consensus on nuclear energy policies in Japan in the post-war period, when it was the only country in the world to have suffered from atomic bombings on its cities? How was it possible to build 54 nuclear reactors in a densely populated and small archipelago

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[1] See Anais Ginori's interview with Azuma Hiroki «La guerra contro la natura della 'Generazione 11 marzo'» (3.11 Generation's War against Nature), *la Repubblica*, 14 March 2011. For an overview of critical voices and initiatives regarding the Fukushima accident in Japan (translated into German and partially into English), see the website *Textinitiative Fukushima* (`http://www.textinitiative-fukushima.de/pages/die-initiative.php`). While for the official report on the incident that points to responsibilities in the Government and TEPCO (the operator of the Fukushima nuclear power plant), extending its accusation to 'Japanese culture', see The National Diet of Japan (2012), *The Official Report of the Fukushima Nuclear Accident Independent Investigation Commission*.

with such a high seismic risk? And lastly, how was it possible that even local residents living close to the nuclear power plants would perceive them as bright and friendly places?[2]

Until now, the investigation had mainly focused on how nuclear policies were institutionalised in different spheres, from the geo-political (USA-Japan relations), political (energy policies), economical (industrial lobbies) to the social (civil society, press) and geographical (marginalisation of non-urban areas) spheres.[3] However, as Antonio Gramsci reminds us, hegemony is not reducible to power imposed from 'above' in a unilateral way (Gramsci 1975). In order to be effective as a *historical bloc* of heterogenous social forces, hegemony requires a fluid and polyphonic process where both convergent and divergent discursive practices concur jointly to articulate each other.[4] In other words, the effectiveness of a historically constituted hegemony sustaining a given nation-state and its collective identity is proportional to its capacity to mobilise an active consent that is as diffused as possible among the wider population, intersecting cumulatively different levels of experience, from rational to more emotional ones. Hence, the utmost relevance of hegemony from 'below' in the modern age, and particularly of popular cultures as a strategic site for the (re)production and negotiation of any established order.

As convincingly put forward by Utsumi Hirofumi (2012) and Yoshimi Shun'ya (2012), discourses on the nuclear in post-war Japan have been extensively connected to national issues, popular self-images and dreams, making it possible to structure and domesticate most of the divergent perceptions. If in the immediate post-war period the prevailing image of Japan was that of the tragic victim of the Nuclear Age, symbolised by the atomic mushrooms of Hiroshima and Nagasaki, after the end of the USA-led occupation in 1952, and at the dawn of its first economic 'miracle', a shift occurred towards a more optimistic representation of the nation as a champion of peace, science, and technology. Under the hegemony of the US Cold War «Atoms for Peace» programme, Japan renounced, at least officially, the detention, production, and employment of nuclear weapons, which led to the declaration of the Three Non-Nuclear Principles (1971),

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2 The initial research questions for this study are inspired by a personal communication from a former resident of the Fukushima area, who defined pre-3/11 perceptions among locals about the nuclear power plant as *akarui* (bright, friendly, cheerful). According to the informant, this was due not only to the economic benefits and job opportunities, but in particular for the visitors centre, festivals, concerts and other events organized by the Fukushima Daiichi and Daini nuclear power plant operator TEPCO (see also Sumihara 2002).

3 For a first overview of investigations in English after 3/11, see *The Asian-Pacific Journal: Japan Focus* (`http://www.japanfocus.org/`).

4 For an interpretation of the so-called 'nuclear villages' (*genshiryoku mura*) as a historical bloc, as a system of converging interests including the Government, bureaucracy, energy and construction industry, mass media, university, etc., refer to Itō 2011.
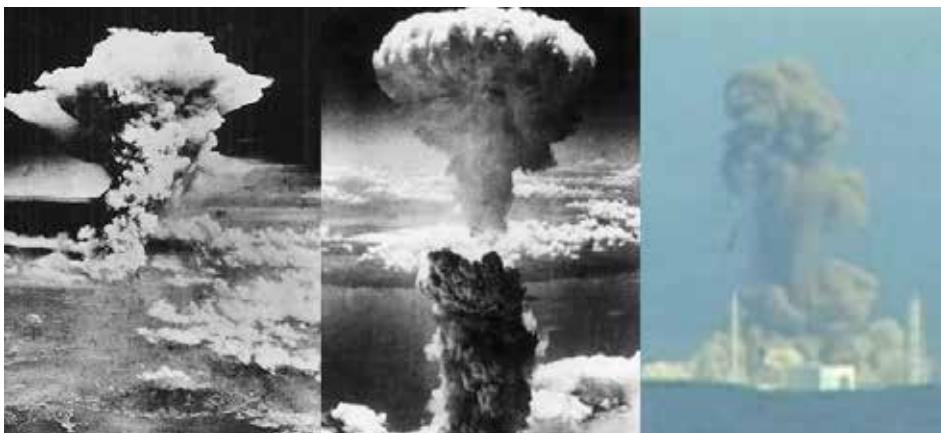
Figures 1a-c. Nuclear nation Japan: Hiroshima, Nagasaki, Fukushima

as well as the enactment of the Law on Atomic Energy (1955) inaugurating the nation's ambitious programme that would enable its most brilliant scientists to carry out nuclear research, and lead to the construction of the country's first nuclear energy reactors (figs. 1a-c).

This radical change of direction was also accomplished thanks to the strict separation of the two institutionalised discourses on the nuclear (Utsumi 2012). The first discourse is the nuclear as Alterity, as a dangerous, devastating and evil *weapon*, the source of mass destruction and lethal contamination. This alterity has been largely removed and exorcised by projecting it into the past (World War II) or into the Outside, or into something of foreign, monstrous or alien origin (the USA, the USSR, or Godzilla-like monsters in SF). The second discourse is the nuclear as Identity, as a pacific, safe, clean and good *energy*, directly projected onto present-day Japan, and expressing the hope for a bright, technological and wealthy future.

In pre-3/11 Japan, it was possible to be against the nuclear as a *weapon* for historical or ideological reasons (Hiroshima and Nagasaki municipalities, *hibakusha* or victims of the bombings, pacifist movements, labour unions, left-wing parties, intellectuals, students, etc.); or, on the contrary, to be against the nuclear as an *energy* for more contingent and local reasons (residents' associations, farmers, fishermen, mothers' associations, environmentalists, etc.). These two discursive worlds have tended to remain largely separate, even in the immediate post-3/11 scenario, to avoid risking the revival of the deep-rooted historical contradictions that have led post-war Japan towards its economic miracle and social stability, under the shadow of the US nuclear umbrella.

However, Japan also holds other, fortunately less tragic records in addition to the holocaust of Hiroshima and Nagasaki; they include the extraordinary development of its visual and consumer cultures, at least in quantitative terms. The film industry in the 'golden age' of the late 1950s produced more films than the USA, while, in the following decades, the baton would be passed to the manga, anime, and videogame industries (Desser 2006, p. 25; Storper 1994, p. 209). Since the 1970s, the manga market has consistently outperformed the European and North-American comics markets put together, and Japan has enjoyed primacy in both its videogame industry (ca 50% of world market in 2001) and anime industry, with an estimated production of ca. 60% TV series broadcast in the world (JETRO 2005). The Japanese films with record attendance are not live-action movies but anime films; in fact, the most successful films in Japanese box office history are all films by Miyazaki Hayao (*Spirited Away, Howl's Moving Castle, Princess Mononoke*).[5]

Concurrently, the globalised success of Japanese popular cultures in the 1990s has drawn attention to what may be called 'J-culture' in relation to the wider constellation of multiple media platforms, including manga, anime, videogames, graphic design, character goods, pop music, youth subcultures, etc. (Berndt, Richter 2008). It is no surprise that in the past decade the Government itself has appropriated the cultural contents industry as a cornerstone for the *Cool Japan* strategy in order to brand a new image of Japan in the 21st century, and to implement the nation's soft power on the international stage (Daliot-Bul 2009). In other words, popular cultures in post-war Japan have developed cumulatively into a transmedial universe where the trajectories of hegemony from 'above' and from 'below' are disseminated and intertwined along the circuits of its increasing *media mix*:

> The 'media mix' is a popular and industry term [in Japan] that refers to the practice of releasing interconnected products for a wide range of media 'platforms' (animation, comics, video games, theatrical films, soundtracks) and commodity types (cell phone straps, T-shirts, bags, figurines, and so on). It is a state of what we might call the 'serial interconnection of media-commodities' – wherein commodities and media types do not stand alone as products, but interrelate and communicate, generally through the existence of a principal character and narrative world. (Steinberg 2009, p. 4)

Thus in order to investigate the hegemonic range of collective discourses on the nuclear, this study relies on the basic assumption about the strategic relevance of the mutual relationality between prevailing representations

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5 See http://movie.goo.ne.jp/ranking/boxoffice/20080902.html (2008-10-04).

of the nuclear, and the increasing transmedial environment of Japanese popular cultures. This perspective has been largely unnoticed or limited to the examination of single manga or anime works, with particular reference to the immediate post-war period. Firstly, attention will be paid to the specific *mangaesque* or *manga-related* media convergence of visual cultures in post-war Japan, from the 1950s to the 2000s.[6] It is revealing that the three works addressed in the following chapter do not only rely completely on nuclear related themes, but also mark the relevant stages of the *mangaesque* convergence.

However, *media mix* in its extended version as media convergence (Jenkins 2006) not only involves cross-cutting old and new media, high art and popular cultures, but also blurs the division between producers and consumers, generating new intersections between nation-state ideology, capitalistic production, ludic entertainment, and participatory appropriation. Accordingly, this paper will explore more recent and less well-known developments of the *mangaesque* convergence related to the cute personification of the nuclear: from governmental-didactic spheres addressing children to the more or less amateur spheres of *otaku* cultures (hardcore appreciators of manga, anime, videogames, figurines, etc.).

2 *Mangaesque* convergence of the nuclear: *Tetsuwan Atomu*, *Hadashi no Gen*, *Little Boy*

Manga played a historic paradigmatic role in the formation of media convergence in post-war Japan, transforming it into the so-called 'paradise of comics'. In the 1990s, the period of its greatest diffusion as a printed media, manga sales accounted for almost 40% of all items published in Japan (Schodt 1996; JETRO 2005). Manga has for decades been the main cultural hypotext in Japanese popular cultures, providing the original reference (narratives, characters, styles, settings, etc.) for an infinite chain of adaptations in the form of TV anime series and films, videogames, live action films, light novels, character goods, etc.; since its further transformation in recent decades, this role has been increasingly shared by anime and videogames.

The *mangaesque*, as well as contributing to some of the distinctive graphic styles displayed by Japanese popular cultures, provides other aspects, which are functional to the convergent development of 'J-culture': interconnection potential (intermedial grammar of comics in terms of reading-viewing temporality, and specific connection between images, texts, and

6 I owe the term *mangaesque* and the definition of its features to Jaqueline Berndt (Berndt 2007, 2012). It is used here in a wider sense as 'manga-like' or 'manga-related', focusing on its mutual connection with media convergence.
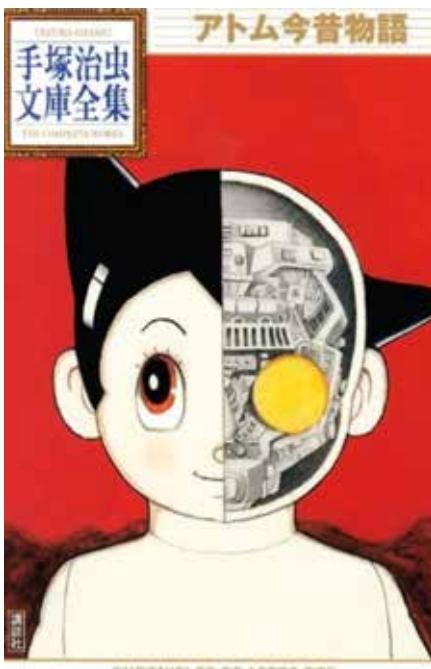
Figures 2a-b. Japan as nation of Peace, Science, Progress: cute nuclear superhero *Tetsuwan Atomu* (or *Astroboy*, 1951-1958; 1963-1966) by Tezuka Osamu

readers), post-critical ascertainment (preference for what is already known and emotional identification, such as the case of cute icons), extreme codification of signs and readers' conventions (for instance, high level of character artificiality/virtualisation), aesthetic hybridity (intertextual references to Euro-American, Asian and Japanese sources) (Berndt 2007, 2012).

Cute superhero Atom is a Pinocchio-like nuclear energy-driven flying robot of the 21st century, with superhuman strength and abilities, perpetually engaged in saving the earth and humankind from alien invasions, giant monsters, natural catastrophes, etc. He is the main protagonist of the manga series *Tetsuwan Atomu* (lit. «Ironfist Atom», English version *Astroboy*, 1951-1958), which represents a turning point in the development of modern manga (figs. 2a-b). The birth of Atom in the 1950s is informed by the innovations introduced by his author Tezuka Osamu (1928-1989), celebrated as the 'God of manga', which would strongly affect Japanese comics in the following decades: cinematic techniques (dynamic framing, editing, tracking shots), *story manga* (long narratives unfolding through thousands of pages, with complex plots, psychological introspection, universal themes, visionary scenarios), *kawaii* or 'cute, adorable' character

style (disproportionate heads, huge eyes, rounded limbs). They all jointly contributed to a kind of 'visualised narrative', to the fluid, dynamic and visually focussed aspects of mainstream manga, distinguishing it from the more static and text ridden 'illustrated narrative' informing the majority of Euro-American comics (Schodt 1996, p. 26).

Moreover, *Tetsuwan Atomu* was the first manga to be adapted to a TV anime series format (1963-1966). The concurring transmedial transposition on an industrial scale marks the pioneering stage of the media mix in Japan, inaugurating the local version of media convergence of multiple media platforms and serial interconnection of media-commodities (Steinberg 2009). More importantly, the series' 1963 broadcast not only marked the entrance of television into children's hearts, but also promoted Atom as the most popular manga/anime character in post-war Japan, as well as the cutest imaginable icon capable of exorcising the still vivid memory of the nuclear holocaust. In other words, Atom contributed to popularising the official post-war representation of the nuclear as Identity, as a symbol of the new Japan, as a pacific energy in the nation's service for a techno-scientific and wealthy future.

A further turning point in the following decade is the manga series *Hadashi no Gen* (1973-1987, Engl. *Barefoot Gen*) by Nakazawa Keiji (figs. 3a-b). Together with its full-length anime adaptations in 1983 (dir. Mori Masaki) and 1986 (dir. Hirata Toshio), it arguably represents the most read, viewed, or listened-to narrative in Japan on the atomic bombing of Hiroshima. The manga is inspired by the author Nakazawa's childhood experience in Hiroshima, and describes the sufferings of the protagonist Gen, a boy who, together with his family, endures incommensurable pain in order to survive within a completely devastated and nuclear-contaminated city. Notwithstanding initial difficulties in guaranteeing continuous publication, due to the crude graphic realism, the widespread critical acclaim, especially by peace movements, both national and international, marked the entrance of manga as didactic material in school libraries. In other words, *Hadashi no Gen* contributed to the institutionalised legitimation of manga to the status of 'culture' or 'serious culture' in the early 1980s, as a medium not necessarily reducible to commercialised or evasive entertainment (Yoshimura, Fukuma 2006, Berndt 2012).

But more importantly, this extensive approval contributed to further popularising the other official discourse of the nuclear in post-war Japan. If Atom became the national popular symbol of the nuclear as Identity (energy, peace, technology, progress), then *Hadashi no Gen* had a similar role for the complementary representation: that of the nuclear as Alterity (weapon, war, holocaust). Thanks to the projection of collective fears induced by the nuclear toward an external origin, both real (the USA) or imagined (monsters, aliens), or toward the past, the nation can be evoked as a passive victim of some foreign, mysterious or supernatural catastro-

Figures 3a-b. Japan as nuclear victim: *Hadashi no Gen* (or *Barefoot Gen*, 1973-1987) by Nakazawa Keiji

phe, not as an active and imperialist agent of World War II. Thus, all attention and affective investment can be retrospectively channelled towards internal and individual sufferings, as well to the heroic efforts made by the protagonist in order to survive unimaginable hardships and human losses.

Eventually, a third and more recent post-modern turning point emerged regarding the *mangaesque* convergence of the nuclear. *Little Boy*, the name given by the American pilots to the atomic bomb dropped on Hiroshima, is the title chosen by neo-pop artist and curator Murakami Takashi (1962-) for his huge multimedia exhibition *Little Boy: The arts of Japan's exploding subculture* (Murakami 2005; fig. 4). The show, which was inaugurated in 2005 in New York, definitively consecrated Murakami to international stardom status, making him the most acclaimed living Japanese artist worldwide. Murakami, together with other Japanese neo-pop artists, is accredited with the elaboration in the early 2000s of the so-called *superflat* aesthetics, a deliberate and ironic crossover between traditional fine arts, and more or less commercialised youth subcultures (related to manga, anime, videogames, monster toys, figurines).

For the *Little Boy* exhibition, Murakami and art theorist Sawaragi Noi, argue that in post-war Japan, the Pacific War, or World War II, was most-
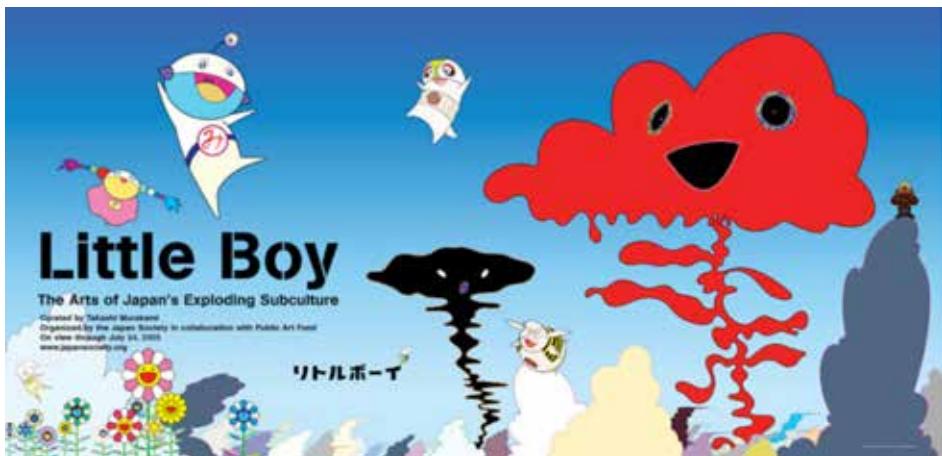
Figure 4. Japan as post-modern simulacrum: *Little Boy: The arts of Japan's exploding subculture* (2005) by Murakami Takashi

ly visible and elaborated in urban youth cultures, like the male-oriented *otaku* cultures (Sawaragi 2005). They acknowledge the gradual removal or repression of public discussion about the Pacific War, especially after the defeat of Left-wing radical politics in the early 1970s, in favour of an ideology of peace, economic growth, and social stability. According to Murakami and Sawaragi, the removal of issues related to Japan's military invasion of Asia, the contradictions of the Peace Constitution and the role of the Emperor, and the atomic bombing by the USA have all caused a kind of distorted historic condition: a non-historical void capsule called 'Japan'. After the 1970s, all the unsettling anxiety, fears, trauma, and sense of guilt triggered by the Pacific War were removed from the public field, and were shifted and then liberated in the less controlled fields of subcultures instead. That is why popular cultures have developed a visual style so full of excesses, exaggerations, distortions: hyper-infantilism, hyper-sexuallity, hyper-violence. An exploding visual culture nurtured by its suspension from historic and empirical reality. In other words, the unresolved issue of the Hiroshima and Nagasaki atomic bombings has become an ambivalent energy, crosscutting aesthetic conventions and media platforms of Japanese popular cultures.

Apart from Murakami's own works (paintings, sculptures, installations), the exhibition includes a wide range of the most popular icons of postwar Japan, displaying monstrous, *kawaii*, SF, cyberpunk, post-apocalyptic versions of the nuclear: from the radioactive giant dinosaur Godzilla to the cute nuclear-robot Doraemon, from the *Battleship Yamato* to the giant mushroom cloud over Tokyo in *Akira*. Despite the parodic and critical

intentions of the curator, it may be argued that this exhibition addressing a Euro-American audience has further contributed to aestheticising and spectacularising not only the transmedial constellation of Japanese popular cultures, but also the experience of the atomic holocaust. Representations of the nuclear are like post-modern simulacra, becoming light, melting and being reconfigured within the increasingly globalised interconnections of *mangaesque* media convergence. In the end, these dispersed images paradoxically appear to be everywhere and nowhere, almost devoid of concrete referentiality and explicit ideologies, and consequently, of critical potential.

3 Nuclear anthropomorphism: from institutional *kawaii* to *moe* parody personification

The ubiquity of the nuclear as a simulacrum may become even more apparent if we turn our attention to the less mainstream and aestheticised spheres of the *mangaesque* convergence. The following examples relating to cute character-fication or personification illustrate how hegemony exercised from above by institutional agents of nuclear energy policies has been extended to a wider range of transmedial experience, addressing the bottom dimension of consent, in particular the younger part of the population.

Following the Chernobyl nuclear incident of 1986, which stimulated increasingly anti-nuclear media reportage, there was a dramatic shift in the approach adopted by ministries and commercial energy producers in order to reassure public opinion, and invoke sympathetic responses among local residents near nuclear power plants (Aldrich 2008). For instance, in 1987, the Tokyo Electronic Power Company (TEPCO) commissioned manga and novel author Uchida Shungiku to draw the character Denko Girl (Denko-chan), who has since become the official face of the company, together with her slogan «Be careful with electricity!» (figs. 5a-c). But more relevantly, from the early 1990s onwards, most nuclear power plants began to be equipped with futuristic multi-store visitor facilities offering a wide range of recreational opportunities: from science museums, exhibitions, and laboratories to cinemas, videogame centres, local product shops, swimming pools, baseball courts, etc. While past visitors facilities tended to be serious, dark and overtly didactic about the functioning of the reactor, and the usefulness and safety of nuclear power, the new ones articulate the same rhetoric in a much more engaging way, creating a friendly and bright atmosphere (Sumihara 2003).

A major attraction of the info-tainment tours provided by the new facilities are multi-media, high-tech, interactive installations, mediated by a wide range of *mangaesque* personifications of the nuclear. These cute characters function as official guides and protagonists of the installations, offering a multi-modal and transmedial experience, both as virtual

Figures 5a-c. Corporate character branding: Denko Girl by Tokyo Electronic Power Company (TEPCO)

manga/anime/videogame characters and as material mascots or costumed performers (*kigurumi*) during exhibitions or festivals at the power plant. The Japan Atomic Energy Agency (JAEA) has been among the most active in designing and employing characters such as Pluto Boy (Pluto-kun), Uran Boy (Uran-boya), Natrium Girl (Natrium-chan), displayed at the Atom World nuclear exhibition hall at the Tōkaimura nuclear power plant (figs. 6a-c).[7] And until March 2011, even the Agency of Energy (Ministry of Education, Culture, Sports, Science and Technology) had an entire website on nuclear energy called Atomin dedicated to children from kindergarten to high school. Atomin is a cute teacher character, who uses videos and guidebooks to explain what nuclear power and reactors are, and why Japan needs nuclear power to contribute to national and international wealth (fig. 7).[8]

Currently, the proliferation of character/mascot-based corporate or

7 For an investigation on nuclear narratives through cute characters, see Occhi 2011.

8 See http://atomin.go.jp (2011-04-24). At present an image of the homepage is available at http://techpr.cocolog-nifty.com/nakamura/images/radioactive/20120210-atomin-top.png (2014-03-01).
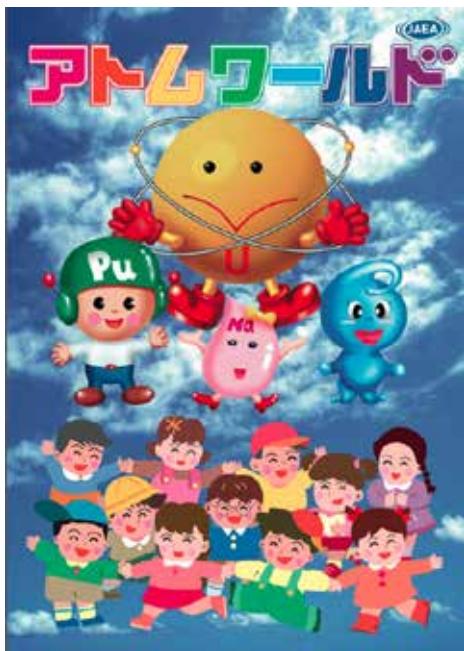
Figures 6a-c. Pluto Boy, Uran Boy, Natrium Girl by Japan Atomic Energy Agency (JAEA) for the exhibition hall *Atom World* at the nuclear power plant of Tōkaimura

power plant branding, and cute personification of single atomic elements for PR or didactic uses point to a greater shift towards 'superficial' de-narrativisation of the *mangaesque* media scape that has taken place in recent decades. Since Tezuka's classic elaboration, the cute, or so-called *kawaii* style framed by complex narratives has been a defining paradigm of manga and anime in post-war Japan. But since the 1970s, together with growing intermedial adaptation, franchising and merchandising of manga characters, *kawaii* characters have become more and more independent of their original manga character. The most famous commercialised example is Sanrio's Hello Kitty, the white cat originally designed as a character without a story, manga or anime that has since become a globalised icon of Japanese cuteness.

This kind of character-fication of the Japanese media scape has intensified in the last two decades, and has now entered a new stage. The change was pointed out by cultural critic Itō Gō, who declared in a recent book that «Tezuka is dead» (Itō 2005). Itō builds on the distinction between '*kyarakutā*' and '*kyara*'. *Kyarakutā*, best symbolised by Tezuka's manga and anime protagonists like Atom, are characters with a context and complex

Figure 7. Institutional character branding of the nuclear: Atomin for the educational website on nuclear energy by the Ministry of Education, Culture, Sports, Science and Technology

personality that are firmly grounded in a narrative; *kyara,* on the other hand, are independent of any particular context or narrative, thereby becoming available for infinite uses beyond their context. A *kyara* is created purely as an icon, without necessarily having a narrative development or linkage to an original story. His or her 'personality' is revealed through the representation of form. This design-driven and visually-led icon has no back-story or overarching narrative, so it can be used just like a sticker, attached to almost any object, attracting purely on the basis of its appearance (figs. 8a-c).

Urban youth cultures such as male-oriented *otaku*, have been indicated as one of the main social actors contributing to the shift from *kyarakutā* to *kyara*. Cultural theorist Azuma Hiroki (Azuma 2001) has focused on the generational break introduced by anime and SF fans born in the 1980s, whose main activity has moved to the Internet and web surfing. His core argument is that these pro-sumers of the digital age employ a new postmodern mode of reading, consuming, and producing media texts that he terms «data base consumption». Instead of relying on modernist grand narratives controlling texts through 'deep' or hierarchical meanings, these

Figures 8a-c. From *kyarakutā* to *kyara*: Tezuka's Atom, Sanrio's Hello Kitty, *otaku* oriented *moe* icons

users «read up texts» by accessing a heterogeneous database of settings and character elements, which can be freely dissected and reassembled. For instance, some recurrent elements of the resulting new icons are giant, pupil-less eyes, glossy skin, small (or no) breasts, maid outfits, cat ears, a sweet voice, and an innocent and pure personality.

The combination of these apparently bizarre elements, including ironic adaptation or parody of known mainstream characters, work together to inspire among *otaku* the ambivalent and complex affect of *moe*: an intense sensation of mingled protectiveness, empathy or yearning («sprouting») towards a fictional image or *kyara* (Galbraith 2009). *Moe* elements are the appealing, codified, recurrent aspects of *mangaesque* characters, plots and settings that evoke such feelings. At first glance, these *kyara* may appear to be shaped by conventional cute or *kawaii* style. But while *kawaii* still refers mostly to a desexualised, pure innocence-inspiring image, *moe* style is more sexualised or eroticised. *Moe* affect can be considered as a conflation of child-like innocence and adult desire, an ambivalent and poly-morphous stimulation of pure, protecting and nurturing feelings for cute and helpless characters (*rorikon* or Lolita Complex), as well as stimulation

Figures 9a-c. *Moe kyara* as polymorphous and sexualised cuteness

of desire for eroticised young girls (*bishōjo* or «beautiful girls» genre) (figs. 9a-c).[9]

Moe-inspired fans developed an even purer expression of sexualised cuteness known as *moe* anthropomorphism (*moe gijinka*): the personification of inanimate objects or concepts as girls (Thompson 2009). Operating systems (Os-tan), voice generating softwares (Hatsunemikku), war machines (*mechamusume*), trains, food, convenience stores, history, nation-states, everything imaginable has been rearticulated as *moe* and transfigured into cute and beautiful girls among *otaku*.[10] And this process eventually incorporated nuclear-related issues and elements.

An illustrated guide to the Constitution of Japan, jointly authored by a lawyer and an illustrator, is characterised by the *mangaesque* anthropomorphism of all articles as *moe*-inspiring *Constitution Girls* (Morita; Hōgaku Future Labo 2011; figs. 10a-b). A double page is dedicated to each article, personified by a *kyara* on the left page and quotation of the article with textual comments on the right page. For instance, Art. 9 Girl (Kyūjo-chan) personifies the core article of Japan's peace constitution, which states that the nation will renounce use of military force to resolve international conflicts, and will, therefore, not maintain its own army (pp. 26-27). Art. 9 Girl stands against the background of a destroyed cityscape (recall-

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9 *Moe* has been widely appropriated also among female-oriented subcultures, like the *fujoshi* (lit. «rotten women»), by combining cute *shōnen* and preadolescent characters (*shotakon* or Shōtaro Complex)*,* as well as emphasising their intimate male-to-male relationality (Galbratih 2011).

10 For an investigation into female-oriented nation anthropomorphism in the manga *Axis Powers Hetalia*, see Miyake (2013).

Figures 10a-b. *Moe* anthropomorphism: cover of *Constitution Girls* (2011) and Article 9 Girl (Kyūjo-chan)

ing Hiroshima or Nagasaki), saying «I hope for eternal peace». The comment on her states that she is a very helpless and pity-inspiring creature, with weak legs and bare feet making it hard for her to walk by herself, and that like a flower-blossom she is a very gentle creature.

Element Girls is a similar illustrated guide, where all the chemical elements in the periodic table are personified as *moe* inspiring girls (Mitsuda; Studio Hard De Luxe 2008; figs. 11a-c). They include Uranium Girl, with the curious title caption «Uranium has also been used in the past in glass factories»; the only mention of military uses for atomic bombs is in the written text below (p. 190). Plutonium Girl is introduced by the title caption «Like the king of the land of the dead, a girl with outstanding destructive powers». She holds a long sickle and asks, «Who wants to be cut next?», while the text comment contains a brief mention of the fact that a plutonium bomb was dropped on Nagasaki (p. 191). Radium Girl is displayed in a cat pose saying «Listen all of you... you are all my prey». Her title caption is: «Be careful of the dark, the radiation girl may be aiming at you» (pp. 184-185).

On the one hand, a year after the Fukushima nuclear incident, most of the characters or *kyara* promoting atomic branding commissioned by governmental agencies and nuclear industry had been removed from websites, while school tours to the recreational facilities of nuclear power plants were temporarily cancelled. On the other hand, it is important to remember that *kyara*, anthropomorphism, and sexualised cuteness, such as those displayed for and by *moe* longing *otaku* cultures, are not necessarily reducible to infantile, escapist, or paedophile fetishes for post-modern consumption and entertainment. In contrast to the more unilateral didacticism or info-

Figures 11a-c. *Moe* anthropomorphism of the nuclear [from left to right]: cover of *Element Girls* (2008), Plutonium Girl, Radium Girl

tainment of the institutional nuclear *kyara* directed at children, parody has become one of the defining aspects of emergent youth cultures. Parody, including its eroticised versions of *moe* anthropomorphism examined above, always introduces a kind of ironic detachment with regard to its hypotext. Repetition, adaptation or deliberate transfiguration can refer to a specific original text, character, or style, but also to a wider range of conventional or hegemonic discourses, narratives, and meanings.

While in the immediate post-Fukushima scenario it is difficult to find *mangaesque* mainstream works critically addressing nuclear energy policies, or even addressing them at all, it is in the more amateurish and loosely controlled digital network of the Internet that nuclear related works have been visible, even in the mostly de-politicised or post-ideological circuits of *otaku* cultures. For instance, on 20 April 2011, just one month after the Fukushima incident, an illustrated poster parodying the myth of nuclear power safety was posted on the Japanese online art website pixiv, which has a total of about 4 million users (fig. 12).[11] The title caption «Poster Enlightenment of Nuclear Power Safety» rephrases the national contests organised over the past twenty years by the governmental Japan Atomic Energy Relations Organization for schools to submit posters on nuclear energy,with the best works receiving cash prizes (fig. 13).

The National Poster Contests are the main hypotext of the parody, which is interlinked throughout the illustration to many other parodies, like the

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11 See Inono: http://www.pixiv.net/member_illust.php?mode=medium&illust_id=18273983 (2011-06-24).

Figure 12. Post-Fukushima subcultural parody of the nuclear: Pluto Girl in the *Poster Enlightenment of Nuclear Power Safety* by Inono (2011)

almost invisible phrases repeated on the background: «Japanese nuclear power is safe, Japanese nuclear power is safe». In addition, the poster is scattered with famous atomic branding mascots, like the JAEA Pluto Boy with a speech bubble containing his most controversial catchphrase from a 1993 didactic video: «Nuclear power is safe, Plutonium is safe, even if you drink it. It is even good for your health». Then the author adds, «Let us all submit our illustrations on nuclear power safety and win 5,000,000 yen».[12] On the bottom left is Denko Girl, the official mascot of the Fukushima power plant owner TEPCO, saying her most famous phrase, «Be careful with electricity!», adding «And don't complain if we raise the cost of your electricity bills». And on the bottom right, there is a white deer character saying, «I like, I love Denko Girl». But the real protagonist is the gigantic Pluto Girl (Puruko-chan) at the centre of the poster, a new entry in nuclear anthropomorphism. She is a typical *moe* kyara, a cute (pre)adolescent wearing lin-

12 The PR video *Pluto Boy, the pal you can count on* (11 min) was commissioned in 1993 by the semi-governmental Power Reactor and Nuclear Fuel Development Corporation (today JAEO). It was projected online and in nuclear power plant visitors facilities until 3/11. See: https://www.youtube.com/watch?v=Q_6yomWh05o (2012-01-10).

Figure 13. The 17th Nuclear Energy Poster Contest 2010 for schools organised by the Japan Atomic Energy Relations Organization (JAERO)

gerie and no trousers, but with a broken cement brick attached to her belt. Her only comment is an onomatopoeic «Boom!», indicating her exuberant explosion though the cement bricks of the Fukushima nuclear power plant.

4 Conclusions: towards new frontiers of nuclear desires through *mangaesque* media convergence?

In this study, the mutually constitutive process between institutionalised representations and the growing transmedial environment of Japanese popular cultures was the starting point for an investigation of the hegemonic effectiveness of collective discourses on the nuclear in post-war Japan. The specific focus on the *mangaesque* aspect of Japanese media convergence has shown how some of its most significant stages are deeply inspired by nuclear-related issues: the pioneering media mix introduced by Tezuka Osamu's manga series *Tetsuwan Atomu* (1951-1958), the cultural legitimacy acquired by manga as a medium thanks to Nakazawa Keiji's manga series *Hadashi no Gen* (1973-1987), and the popart appropriation of the *mangaesque* and its international branding by Murakami Takashi's art exhibition *Little Boy* (2005). In other words, from the 1950s to the 2000s, discourses on the nuclear have been constantly reproduced through intersecting trajectories, both from 'above' and 'below'.

On the one hand, this has contributed to the popularising effect of hegemonic consent on the nuclear in relation to the nation, in terms of identity (peaceful and good energy, scientific progress = the nation as champion of the nuclear), alterity (dangerous and evil weapon, the past = the nation as victim of the nuclear), or post-modern parody (ambiguous, aestheticised = the nation as simulacrum of the nuclear); on the other hand, this study suggests that it is the very *mangaesque* convergence of nuclear-related issues, cross-cutting different media and modes of production, representation and consumption that cumulatively affects how the nuclear itself is perceived and experienced. *Mangaesque* convergence has activated a wide range of signifying practices and emotional mobilisation, which still remain unexplored by academic investigation, especially in relation to its most recent transformations and implications.

Thus, this study has addressed new forms of common sense among younger generations of the digital age, such as the increasing cutification, character-fication, and anthropomorphism of the nuclear. This process is arguably functional to the further dissemination of multiple media platforms, and the serial interconnection of media-commodities, and has been examined both in the institutional-didactic configuration from 'above', as well in the more subcultural and amateur pro-sumption from 'below'. It is, in particular, among the latter, such as the *otaku* cultures, that it is possible to observe emergent forms of *mangaesque* media convergence, which are

intertwined with the re-negotiation of prevailing meanings of the nuclear. *Otaku*-like pro-sumers are on the frontline in exploring new technologies of desire as well as the protagonists of the wider paradigm shift «from medium-specific content toward content that flows across multiple media channels, toward the increased interdependence of communications systems, toward multiple ways of accessing media content, and toward ever more complex relations between top-down corporate media and bottom-up participatory culture» (Jenkins 2006, p. 243).

Nevertheless, it is the very parodic intermingling of cute anthropomorphism and sexualised info-tainment displayed by these subcultures with regard to the nuclear that requires more in-depth examination. Against an overreading of single texts, images, and practices, it may be useful to remember that parodies can be characterised by a paradoxical relation to their founding hypotext: imitative confirmation in terms of pastiche as well as satirical impulse or critical inversion (Jameson 1991, pp. 16-19). And this refers, in general, also to the ambivalent relationship between youth subcultures and their hegemonic society of belonging.

Finally, one open question in the post-Fukushima scenario is whether emergent forms of *mangaesque* media convergence related to the nuclear will move towards conformity and passive reproduction of an established order, or, on the contrary, activate more divergent and critical readings and practices.

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