How does the radiation make you feel? The emotional criticism of nuclear power in the science fiction manga *Coppelion*

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This article examines the methods by which the manga *Coppelion* by Inoue Tomonori (2008–2016) criticises nuclear power through highly emotional characterisation, as well as visual and narrative techniques common to manga. A series about radiation-immune teenagers rescuing the survivors of a post-meltdown Tokyo, this article argues that *Coppelion* presents three different strategies for addressing the subject of radiation that utilise either directly or indirectly characters’ emotions and their role within a science fictional environment.

**Keywords:** manga; science fiction; comics; political fiction; radiation; nuclear power; emotions

**Introduction**

At first glance, the manga *Coppelion* (2008–2016) by Inoue Tomonori\(^1\) appears almost prescient. The story of genetically engineered clones traversing a Tokyo contaminated by radiation after a nuclear meltdown, *Coppelion* describes the origin of this disaster as an earthquake that damages the (fictional) Daiba Nuclear Power Plant in Odaiba and subsequently draws global attention to nuclear power. Bearing similarities to the Tohoku triple disaster that damaged the Fukushima Daiichi Power Plant on 11 March 2011 (hereafter 3.11), *Coppelion* is actually not a response to 3.11 but a work that arguably anticipated it. First serialised in *Shūkan yangu magajin* [*Weekly Young Magazine*], *Coppelion* debuted 3 years prior to 3.11. In light of 3.11, *Coppelion* encountered difficulties on television given its subject matter. While an animated version was originally announced before 3.11 (Anime News Network 2010), this adaptation was placed on indefinite hiatus after the disaster, while a renewed production 2 years later removed all direct references to radiation (*Coppelion* 2013).

However, another significant aspect of *Coppelion* is how it acts as a crossroads between various uses of nuclear power in manga. Works such as Nakazawa Keiji’s *Barefoot Gen* (2004, originally published 1973–1985), Kouno Fumiyo’s *Town of Evening Calm, Country of Cherry Blossoms* (2007, originally published 2003–2004), and *Kono sekai no katasumi ni* [In this Corner of the World]\(^2\) (2009, originally published 2007–2009) address, directly or otherwise, the physical and psychological damage caused by nuclear weapons – a common theme in Japanese fiction since the Second World War. Hara Tetsuo and Buronson’s *Hokuto no ken* [*Fist of the North Star*] (1983–88) and Miyazaki Hayao’s *Nausicaä of the Valley of the Wind* (2004, originally published 1982–

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1994), among others, feature the effects of weapons of mass destruction on futuristic, action-packed environments. Titles including *Cherunoburi no shōnen-tachi* [The Children of Chernobyl] from 1991 (Saegusa 1992) and 2011's *Ano hi kara no manga* [Manga after 3.11] utilise direct or metaphorical contexts to address the dangers of nuclear power (Berndt 2013, Manga after 3/11). *Coppelion* initially references Chernobyl far more than Hiroshima or Nagasaki but later brings up the subject of nuclear warfare at the same time that its young heroines continue to fight in a post-apocalyptic environment. Thus, it occupies a middle point between manga about nuclear weapons, manga that criticise nuclear power, and manga that depict post-apocalyptic backdrops for action-oriented narratives, becoming a direct site of both incorporation and conflict between these different values.

This article analyses *Coppelion* as a ‘science fiction (SF) manga’. It looks at the work’s science fictional potential to reflect the desire for alternative worlds that nevertheless address problems of contemporary society (Suvin 1979, 4, Roberts 2006, ‘New wave’3) while also showing how *Coppelion* employs various common stylistic tendencies generally found in manga to engender a response to the subject of nuclear power through both direct and indirect means. More specifically, this article focuses on how the methods by which the manga addresses nuclear power change according to visual and narrative shifts in the depiction and use of emotions, particularly those of the titular Coppelions. In doing so, this article shows how *Coppelion* presents different strategies to connect its ideas with manga readers, who normally ‘concentrate on characters’ tangible emotional states and relations rather than on ideological interpretations’ (Berndt 2013, Manga after 3/11), utilising the former to communicate the latter.

When looking at the stylistic tendencies of manga found in *Coppelion*, this article concentrates on the following ideas. First, manga typically regards the page or panel sequence as the base unit of progression, with the panel acting as a component of the page. This results in *nagare*, a term used to describe the ‘flow’ of panels and pages that is prevalent in the manga industry itself (Chavez 2011).4 Popularised by the ‘god of manga’ Tezuka Osamu in *Shin takarajima*, when an entire double-page spread was used to depict only the movement of a car (Natsume 2006, 34), panels are often ‘superfluous from a strictly narrative point of view, their precise function is elsewhere: decorative, documentary, rhythmic, or poetic…’ (Groensteen 2007, 116). Second, manga is known for emphasising character emotions, which extends not only to the characters themselves but also to the use of abstract backgrounds that externalise their internal emotions. This is most evident in *shōjo* (girls) manga, which aesthetically emphasises atmosphere and mood through double-page spreads (Fujimoto 2012, 47–48) but can also be seen elsewhere. *Barefoot Gen*, for instance, ‘unveils a variety of emotions in a relatively monotonous arrangement of frames’ (Kajiya 2010, 259–260). Third, teenage characters are extremely common in manga, particularly as protagonists. This includes the genre and demographic of *seinen* manga, of which *Coppelion* is a part – titles geared towards a male teen to adult readership.

This article also takes into account ‘affect’ as being loosely related to emotion, although not in the sense of a detailed analysis of its scientific mechanic. This is especially because discussion of emotion in this article is mainly concerning those of fictional characters within a certain aesthetic, and not so much the emotions of real individuals or groups. In manga, what could be considered a depiction of emotion and/ or affect generally ends up blurring the distinction between the two. Outer expressions and inner sensations are often portrayed simultaneously and through seemingly contradictory relationships: simple yet complex, performed yet ‘unseen’, emotional yet affective. Rather, the fact that *Coppelion* contains such ambiguity relates to how ‘affect’ resists
definition (Seigworth and Gregg 2010, An inventory of shimmers). The manner in which Coppelion utilises its characters’ displays of emotional/affective responses to a world clearly structured around the implication of empiricism (the science in SF) positions its characters’ emotional and affective presence as ‘a different kind of intelligence’ that is neither inherently ‘irrational’ nor ‘sublime’ (Thrift 2008, 175), rendering Coppelion as arguably a form of ‘affective SF’.

This article uses two sets of general terms to categorise the narrative content of Coppelion. First, the labels Part 1, Part 2, and Part 3 reference the manga’s own self-assigned story arc designations (ichibu, nibu, sanbu). Although there is a Part 4, it will not be examined here. The second set of terms refers to general shifts in expression in the manga, which are labelled as the ‘early’ chapters (covering Part 1), the ‘middle’ chapters (Part 2 up to the beginning of Part 3 before 3.11), and the ‘later’ chapters (post-3.11 up to the end of Part 3). Coppelion also does not include page numbers and frequently resets its chapter numbering, so chapter names are used instead.

Before proceeding, it is worth noting that Coppelion takes its name from the 1870 ballet Coppélia by Saint-Leon, if only to explain why this connection will not be the focus of this article. The manga indeed makes references both direct and indirect to the ballet – in one chapter a character recounts the story of Coppélia (Inoue 2008, vol. 1, ‘Coppelion #7’), while the creator of the Coppelions is a man who goes by the name ‘Dr. Coppelius’). However, Coppelion is for the most part only broadly connected to Saint-Leon’s version and its emphasis on romance (American Ballet Theatre), as opposed to the very specific SF setting present in Coppelion. Although this manga also explores the concept of whether something artificially created is human or not, Coppelion confronts this topic through the confrontation between the Coppelions’ functions as tools for the benefit of humanity and their own sense of self. Thus, while comparison is possible and even intriguing, it would detract from the main thrust of this article, which is the analysis of Coppelion and how its presentation can engender criticism of nuclear power.

### Coppelions as wandering eyes

Suvin (1979, 63) argues that the ‘novum’, or scientific novelty that defines the stark contrast between the contemporary and SF worlds, is the basis of all science fiction. For Coppelion, its novum comes from how the world has transformed 20 years after the meltdown and the contamination of Tokyo. Changes include the decision by every nation on Earth to abandon nuclear energy and the effect this has on the global economy, but most important is the formation of a programme under the Japan Self-Defence Forces to genetically engineer radiation-immune teenage clones known as ‘Coppelions’. Three female Coppelions – Naruse Ibara, Nomura Taeko, and Fukasaku Aoi, collectively known as the ‘medical group’ [hoken gakari] – are tasked in 2036 with a search and rescue mission to find any survivors remaining in Tokyo.

The early chapters of Coppelion hold a directly critical view of nuclear power. When the Coppelions’ commanding officer appears on television to show the Daiba Nuclear Power Plant, he reminds the people of Japan about the effects of the disaster and the irresponsibility that led to it (Inoue 2008, vol. 1, ‘Coppelion #3’). However, the narrative also gives a more speculative quality to post-disaster Tokyo by utilising three related visual motifs that work alongside the flow of panels. First, it uses realistically rendered environments as backgrounds that act as persistent reminders of the world the characters occupy, especially in terms of the visible ruin of Tokyo. Second, it places its characters against these physical environments as a way to view the characters’ emotions relative to
their physical, social, and psychological conditions. Third, it uses familiar Japanese imagery that, within the context of a post-meltdown Tokyo, appear inappropriate or out of place. This can include famous landmarks such as shrines or a symbol of youthful fashion like the Shibuya 109 department store, but most frequently it is the Coppelions themselves and their physical appearances as Japanese schoolgirls, uniforms and all, that emphasise the condition of Tokyo. The characters, the realistically rendered backgrounds, and the cultural symbols all inform each other, drawing attention to how the characters and their emotions occupy their world.

These motifs can be seen in the Coppelions’ initial arrival at Tokyo and their first encounter with a survivor. Upon seeing Tokyo, the Coppelions treat the city’s condition almost casually, as if it were little more than a school trip, creating a visual incongruity that hints at the idea that something is unusual about both them and their environment. At this point, the manga has not yet revealed that the cause of Tokyo’s condition is radiation. When the first survivor appears, the fact that he is wearing a bulky protective suit encourages a comparison between Ibara and the survivor within their surrounding environment. The Coppelions’ outfits, which would otherwise be typical in a contemporary Japanese setting, become uncanny, reflecting a loss of normality within Tokyo. When it is revealed that the survivors in Tokyo are forced to wear special radiation suits in order to avoid death, the Coppelions’ image as ‘typical high school girls’ becomes the basis for showing how a visual dehumanisation through the obscuring qualities of their suits reflects an actual dehumanisation of the survivors by radiation.

The manga depicts their first meeting with a survivor and directs attention towards the survivor’s psychological state through a complex interaction of visual motifs and emphases on both flow and page composition (Inoue 2008, vol. 1, ‘Coppelion #1’). When the survivor is lying on the ground looking up at Ibara, an arrangement of panels placed diagonally, created through the repeated depiction of the survivor’s protective mask, unites the contents of the page. At the same time, these panels also alternate with the survivor’s point-of-view perspective of Ibara in her school uniform, which highlight the survivor’s panic over his impending death and his utter disbelief over seeing someone without a protective suit calmly approach him. In describing the elements of Barefoot Gen that communicate the horror of both war and the atomic bomb, Kajiya (2010, 256) explains that this is achieved by having the protagonist Gen witness the melted and disfigured corpses (Nakazawa 2004, 253) created through performative point-of-view shots and physical expressions by the characters. In Coppelion, the manga portrays this survivor’s actions in a similar light, using both point-of-view shots and facial reactions to Ibara to position her seemingly normal appearance as something inhumanly terrifying.

In the early chapters, one of the narrative purposes of the Coppelions is to act as wandering eyes to witness the state of Tokyo. By using the Coppelions to focus on the survivors, the manga highlights those left in Tokyo as more than simply victims in need of rescue. In one story, a couple living together are actually escaped murder convicts who feel that they cannot re-join society because they would be thrown back in prison and separated from the man’s beloved daughter, Miku (written with the same Japanese characters as mirai, or ‘future’). These characters are shown as being condemned by Japanese society before the nuclear disaster occurred, raising the question of how the fringes of society, such as criminals and the elderly, must treat Tokyo as an ‘island’ separate from society. Another survivor is Shiba Denjirō, who has the opposite motivation. As the original designer of the Daiba Nuclear Power Plant, he voluntarily ‘becomes’ a survivor because he feels personally responsible for the administrative negligence that led to the disaster, using his knowledge to help the other inhabitants. By foregrounding
the survivors against a devastated Tokyo, the manga presents the idea that their emotions cannot be separated from their immediate environment, and uses that emotion to explore their circumstances.

In these early chapters, the Coppelions’ emotions primarily highlight the condition of the survivors. This is clear from the fact that, even when no survivors are visible, the manga often evokes their presence through the Coppelions. During their survey of Tokyo, the Coppelions discover a makeshift mass grave and proceed to discuss how bones can absorb Strontium-90, transforming the gravesite into a source of tremendously dangerous radiation (Inoue 2008, vol. 1, ‘Coppelion #7’). Much of the space on these pages is devoted to showing how the Coppelions react with grief over the irony that an attempt to honour the deceased has become itself a source of death. Their horrified reactions, along with the prominence of the gravesite itself, direct attention towards how the grave reflects the emotions, sentiments, and cultural actions of the survivors and away from the Coppelions.

By emphasising their unique positions, early Coppelion creates a complex image of the survivors as more than simply a mass of people waiting to be rescued. To support this, the Coppelions act as more emotional versions of ‘formal “registering apparatuses”’ (Wegner 2002, 13), characters whose primary function is to take in the worlds of science and utopian fictions. The narrative extends these survivors’ contexts beyond just radiation to show their anger over being abandoned (the prisoners) and their guilt over the disaster (Shiba), encouraging a criticism of nuclear power that is also directed at the very socio-political structure that makes the mishandling of nuclear power likely. Although Coppelion was not meant to predict 3.11, the Fukushima disaster has since been found to be ‘the result of collusion between the government, the regulators and TEPCO, and the lack of governance by said parties’ (Kurokawa, et al. 2012). The government in Coppelion is similarly shown ignoring undesirable elements, including warnings about the Daiba Nuclear Power Plant, suggesting a dangerous over-valuing of the image of safety over actual safety.

**Coppelions as emotional centres**

The use of the Coppelions as formal registering apparatuses, combined with their ostensible image as out-of-place high school girls, emphasises Tokyo as the focal point of the survivors’ psychological and social concerns in relation to radiation. However, in the middle chapters, the manga concentrates more heavily on the Coppelions themselves, shifting the focus away from the survivors’ relationship with their environment towards the inner emotional struggles with the Coppelions as they grapple with the circumstances of their existence. This has the effect of obfuscating the subject of radiation even as the Coppelions continue to rescue survivors, but this also transitions Coppelion towards being a manga capable of encouraging criticism of nuclear power through more indirect methods.

The greater focus on the Coppelions can be seen most readily in the introduction of three new Coppelion characters. Two of these Coppelions, Ozu sisters Kanon and Shion, actually act as antagonists for the entirety of Part 2, transforming its primary conflicts into physical combat between super-powered Coppelions. This marks a significant change in the narrative in the middle chapters. Veering away from the individual survivor-centric stories seen earlier, Coppelion takes on the traits of battle manga, where characters typically wield supernatural abilities against each other. This comes across even in the artwork. Kanon can emit electricity, and the visualisation of this ability becomes so
abstract that her electricity appears on the page as white tendrils streaking out in all
directions against a black background, removing any sense of physical environment and
focusing mainly on Kanon as a figure unto herself (Inoue 2009, vol. 5, ‘Ozu shimai o
yattsukero!’ [Let’s get the Ozu sisters]).

Although the manga had already presented the Coppelions to some extent as ‘beautiful
fighting girls’ (Saitō 2011, 3–8) whose superhuman feats are juxtaposed with their
appearances and feelings of vulnerability, these new powers are significantly different
because the abilities of the medical group are much less violence-oriented. When com-
pared with the spectacle of Kanon’s electricity and Shion’s ability to effortlessly punch
through solid brick walls, the increased athleticism of Ibara and the enhanced eyesight of
Taeko are much more subdued and fit better their roles as explorers. When the manga
subsequently introduces additional Coppelions in Ichikawa Meisa and Tsuburaya Mana –
who possess even more fantastic abilities – the Coppelions are further emphasised through
battle. Later in the manga, a fight between these two characters and the Ozu Sisters (who
become allies of the medical group) reduces the presence of realistic physical environ-
ments such that they become mere backdrops that serve to highlight the Coppelions
(Inoue 2012, vol. 13, ‘Phase.39 “Dengeki! Genkai batoru” [Electricity! Battle to the
limit]’).

The significance of this change between the characters and backgrounds, in terms of
the use and expression of emotion, becomes clear when comparing these battles to a
conflict from Part 1. In one scene, Ibara confronts the female convict in a dilapidated hotel
(Inoue 2009, vol. 2, ‘Coppelion #9’), who has been hiding Miku for fear that she might be
taken away. In contrast to the Coppelion vs. Coppelion battles, the panel sequences show
the characters in relation to their physical environment and, by extension, the condition of
Tokyo. Although a brief glimpse of the stepmother’s face through her mask on the double-
page spread is without background, it is both preceded and followed by panels that
realistically depict the hotel and its poor condition, giving context to her emotional pain.

Another factor that continuously brings the presence of the Coppelions to the forefront
is that the designs of each subsequent group of Coppelions takes the overall visual
aesthetics of the Coppelions progressively further from the use of ‘high school girls in
uniform’ as symbolic of an out-of-place normality. In the process, the manga also puts
greater emphasis on kyara – a character’s visual sense of being that potentially allows
them to exist outside of the context of their specific narrative, differentiated from
kyarakutā in that narrative is vital to the presence of the latter (Ito 2005, 263). For
example, whereas the medical group’s clothes consist of common school uniforms that
relay on the manga’s setting, Kanon wears a large coat and scarf that hide her uniform, and
Meisa’s design features both a distinct artificial left eye with a radiation symbol and an
overall dishevelled appearance. Along with the Coppelions’ increase in number from six
to eight, this draws even more attention to the Coppelions as cute girls with unique and
striking appearances. While Coppelion generally relies on its narrative, these changes
potentially indicate an attempt to appeal to readers on a more immediate, purely visual
level.

The overall result of these changes is that, when the manga does focus on their
emotions, or their emotions against their environment, the radiation-immune Coppelions
cannot encourage the same questions that would come from the survivors and their
mortality in the face of a contaminated Tokyo. In these instances, the manga instead
shows how the Coppelions are creations of science in and of themselves, and how their
emotions reflect an awareness of their position as lab experiments, as well as a fear that
they might not even be human. For example, Kanon and Taeko at different points express
Concerns over their own bodies that are tied to their origins as clones. Kanon originally rebels upon finding out that Coppelions possess volatile lifespans that can end abruptly (Inoue 2011, vol. 5, ‘Mission.20 “Ningyo” [Dolls]’). Taeko is afraid to deliver the twins of a survivor because, as is later revealed, Coppelions are biologically incapable of having children (Inoue 2011, vol. 11, ‘Mission.60 “Asahi no naka de hohoende” [Smiling underneath the morning sun]’). This not only prevents their immunity to radiation from being passed down, but also causes Taeko to doubt her own humanity (Inoue 2009, vol. 5, ‘Mission.24 “Taeko no ketsui” [Taeko’s determination]’). The characters’ feelings are depicted through repetition of their faces across double-page spreads, shifting back and forth between fear, anger, and frustration over their powerlessness, bringing attention to the lack of choice the Coppelions possess over their own futures (Inoue 2009, vol. 5, ‘Mission.20 “Ningyō” [Dolls]’ and ‘Mission.24 “Taeko no ketsui” [Taeko’s determination]’). When nuclear power is presented with greater nuance, it is in relation to the Coppelions, for whom it provides a basis for their emotional struggles. Mana and Meisa are failed experiments who involuntarily emit deadly gamma radiation, but the focus is less on the effects of gamma radiation and more on how these two cannot fulfil the very purpose they were meant for – helping survivors – because of a mistake in their own creation beyond their control. Here, the issue of genetic engineering, rather than focusing on simply the extension or enhancement of life, is much more about the Coppelions dealing with the questions of humanity and mortality in a different light. Not so much a question of trans-humanism, the Coppelions are forced to confront the view of themselves as tools.

However, as will become evident in the next section, the middle chapters of *Coppelion* leave open the possibility of encouraging a critical view of nuclear power. The Coppelions, as actively emotional and affective characters that engage with the world of the SF narrative, provide the potential for a more ‘reader-friendly’ approach capable of drawing attention to the misuse of and negligence towards technology in Japanese society. In particular, this is seen through the Coppelions as creations of science and their contentious relationships with their own bodies.

The science fiction of *Coppelion* emotions

The difference between the early and middle chapters of *Coppelion* appears to suggest the influence of 3.11, especially given the self-censorship of its animated adaptation. However, the transition from the early to middle chapters happens well before 3.11, and as such Fukushima cannot be held responsible. Although there are no official reasons for this change, Chavez (2013) – a former manga editor at Kodansha (the same company that publishes *Coppelion*) and current marketing director at Vertical, Inc. (a US manga publisher that once considered bringing *Coppelion* over in English) – suggested that it might have been for commercial and demographic reasons. Summarising the magazine in which *Coppelion* has run for most of its serialisation, *Shūkan yangu magajin*, as focusing mainly on relatively realistic forms of wish fulfilment for teenage boys, Chavez remarked that the aggressively political nature of the early chapters, though popular with critics, likely did not hold much appeal for the existing readership. This is indeed a common concern of the manga industry. In reference to an instance of editorial censorship over radiation in the title *Hakuryū-LEGEND*, Berndt writes that ‘the series’ regular readers cannot easily be presumed to open themselves to explosive political topics in a sociocritical way…’ (Berndt 2013, Manga after 3/11). If this were true, it might have prompted a change to include the
middle chapters’ more generic ‘battle manga’ features. ‘Due to not only the magazine’s
generic profile as such but also the need to keep a long-running series attractive for the
regular (assumed young male) reader, the narrative increasingly makes room for
catfights, so to speak’ (Berndt 2013, Manga after 3/11).

Although this remains unproven, it is useful to consider the possibility, if only because
it speaks to a likely interpretation of this change in Coppelian as suffering a compromise
that all but removes its social criticism, similar to how Adorno criticises mass culture as a
compromised imitation of culture that inevitably reinforces the status quo (Adorno 2004,
139). Indeed, one argument against a great portion of contemporary English-language
young adult SF, which employs settings and characters often similar to those found in
Coppelian, is that they are ‘far more interested in the way in which the future shapes the
emotional lives of the protagonists than the way in which the future develops’
(Mendlesohn 2009, 75). However, the ‘personal issues’ of the Coppelions, rather than
being seen only as a return to the genre-standard action-oriented manga, can also be
viewed as providing a space that creates the opportunity for a continued critical view, even
as the manga shifts its emotional focus.

By concentrating on the Coppelions’ emotions, the manga establishes them as emo-
tional individuals who interact with their SF environment. Unlike the survivors’ relation-
ships with radiation, this is not predicated upon the necessity of a visual interaction
between character and realistic environment. The action-heavy style of the middle chap-
ters simplifies the narrative in many ways but also creates situations where the
Coppelions’ emotions, in reaction to their circumstances, can be readily expressed through
the use of more abstract, expressive backgrounds, somewhat akin to shōjo manga. Comparing early and middle Coppelian, the difference is that the former concentrates
on how the survivors cope with the various difficulties caused by radiation, while the
latter focuses on the Coppelions confronting their own potential alienation from regular
humans as a result of their genetically engineered origins. In terms of out-of-place cultural
imagery, the image of teenage girls struggling with their own senses of identity and
belonging in the middle chapters takes on a more science fictional context. The
Coppelions’ bodies, much like nuclear power, are products of science and technology.
In having these introspective and existential worries, the Coppelions can be seen as acting
as both the primary source of emotion and the novum simultaneously, unlike the survivors
who are affected but not internally connected to nuclear power.

While the early chapters explicitly focus on the effects of radiation, to characterise the
middle chapters as devolving purely into an action-oriented work would be an over-
simplification. Coppelian, by increasing the prominence of genetic engineering and
concentrating more on the Coppelions’ emotions relative to their SF origins, leaves
open the possibility for continued critique of nuclear power, albeit in a less direct fashion.
Using narrative and visual conventions familiar to manga readers, namely the repetition
of facial expressions, the positioning of the Coppelions as more than wandering eyes, and the
image of a ‘battle manga’, Coppelian presents a subject different enough from nuclear
energy yet shares enough similarities such that readers can potentially make the connec-
tion between manipulations of the biological and nuclear. Coppelian in the middle
chapters thus utilises character affect/emotions in ways assumed more familiar to a
readership accustomed to characters as larger-than-life actors, implying a representational
significance to their actions that is nevertheless partly rooted in the sense of a non-
representational ‘everyday’ through glimpses of the burden carried by the Coppelions
through their never-ending connection with science.
It should be noted that this strategy in the middle chapters appears to have had limited success. Online reviews and comments after the anime adaptation’s 2013 debut from sites such as Amazon.co.jp (2015) and 2channeru (Owata sokuho 2013) repeatedly lament the dominance of nôryoku batoru or battles utilising special powers, as a primary theme. Coppelion appears to have had trouble maintaining its appeal to the readers that were more specifically interested in its criticism of nuclear power, while an eventual move to Gekkan yangu magajin [Monthly Young Magazine] in 2013 (Komikku Natari 2013) possibly indicates that the manga’s popularity with the magazine’s core audience had been waning. This does not mean that the readers of Coppelion had ‘incorrect’ interpretations. Rather, this is a result of the manga’s attempt to navigate various values – saleability, intended readerships, Inoue’s own beliefs, and more – in the commercial manga industry. Following the middle chapters, Coppelion would return to a much more direct and explicit criticism of nuclear power, but with some key adjustments.

A hybridised criticism of nuclear power

Although there is no direct evidence of causation between Fukushima and Coppelion, after 3.11 the manga begins to criticise nuclear power much more actively, thus signalling the later chapters of Coppelion. Once again focusing on the subject of radiation more directly, the survivors regain a greater level of importance, but rather than simply revert back to the style of those earlier chapters, Coppelion can be seen as attempting to merge the narrative and visual approach of both previous sections of Coppelion. This, in turn, highlights the strategies used previously, showing with hindsight the intention of the manga to criticise nuclear power and the social structure that surrounds it. In particular, while the survivors once again come to the forefront of the narrative, the Coppelions do not return to their roles as registering apparatuses. As a result, the manga reaches a hybrid approach to its visual and narrative presentation where the Coppelions are directly referenced as analogues for nuclear power, and the emotions of both Coppelions and survivors are emphasised on roughly equal levels.

The later chapters explicitly position the Coppelions in terms of their use as emotional characters to convey a criticism of nuclear power. First, the chapters overtly present the Coppelions as both out-of-place symbols of contemporary Japanese culture and as ‘beautiful fighting girls’, exaggerating the battle manga aspect of the middle chapters to the point that they are deliberately reminiscent of a stereotypical anime or manga scenario. In one instance, Aoi is broadcast on television fighting a large robot while under the belief that she is a character from a (fictional) Japanese animated television series, Guardian Angel Izanami (Inoue 2012, vol. 15). Using Tokyo as a backdrop to showcase Aoi, the manga-like qualities of this conflict are emphasised by its visual presentation as she flies through the air and fires mysterious blasts of energy, exceeding prior fantastic displays such as Kanon’s electricity. During the broadcast, an otaku viewing it describes Aoi as a ‘beautiful girl’ [bishôjo], thus making clear her role as a character on the screen. Here, the manga explicitly shows how the images and narratives (or kyara and kyarakutâ) of Coppelions as fictional characters can be manipulated for the purpose of communicating specific ideas.

The second way in which the manga reveals a critical role for the Coppelions as sources of science fictional elaboration and emotion is by tying them even more directly to nuclear radiation. Notably, Coppelion makes apparent a thematic relationship between nuclear power and genetic engineering by revealing that the Coppelions were originally developed as weapons. This revised origin instead explains that the Coppelions were
initially created to control dark matter and then funded by the government as an insurance policy against nuclear warfare, directly intersecting their origins as clones with nuclear power. The broadcast of Aoi’s battle is even used by Dr. Coppelius in order to entice the leaders of the world with the idea that the Coppelions would allow them to resume the use of nuclear energy (Inoue 2012, vol. 15, ‘Phase.63 “Ningyō vs. robotto” [Doll vs. robot’]). Further removing any ambiguity is the fact that Dr. Coppelius later outright states that his actions (including giving birth to the Coppelions) are no different from man trying to harness nuclear power (Inoue 2012, vol. 16, ‘Phase.79 “Dāku matā” [Dark matter’]).

In terms of emphasising both the survivors and the Coppelions equally, the manga sets up a scenario where the values of the Coppelions, as emotional characters who are connected to nuclear power in multiple ways, are forced to directly clash with those of the survivors. Focusing on the depictions of both groups as they are set against each other due to manipulation by the government, Coppelion highlights how the survivors’ emotions are in response to their physical environment while the Coppelions’ emotions come from the existentialism that arises from their direct connection with science. After the Coppelions defect from the government (Inoue 2012, vol. 15, ‘Phase.69 “Hangyakushatachi” [Rebels’]), the survivors are given an enticing offer by antagonist and Japanese chief cabinet secretary Ōgai, an influential figure in Coppelion research and development who wishes to take advantage of them in the current political climate: they would be allowed safe exit from Tokyo, provided they hand over Aoi (Inoue 2012, vol. 16, ‘Phase.77 “Jintai jikken” [Human experiments’]). To the Coppelions, Ōgai argues that the purpose of the Coppelions is to rescue humans and that sacrificing Aoi helps them accomplish this, implicitly categorising the Coppelions as distinctly non-human, and placing their humanity in direct conflict with the futures of the survivors. One scene depicting the survivors attempting to break down a door to get to Aoi continuously switches between images of the survivors desperately on the verge of mob violence and the Coppelions emotionally conflicted between their sense of duty to the survivors and their loyalty to Aoi (Inoue 2012, vol. 16, ‘Phase.77 “Jintai jikken’ [Human experiments’]). This emphasises the fact that Ōgai’s ultimatum attempts to force both the survivors and the Coppelions to choose their own humanity at the expense of the other. Such a grand gesture highlights the ease by which false distinctions of ‘human’ and ‘non-human’, or self and other, can be made and manipulated, including when powerful technologies such as nuclear power are concerned.

In bringing the subject of nuclear power back to the forefront through the use of both the survivors and the Coppelions, however, the manga sacrifices to some extent both the more exploratory aspects of the early chapters and the room for interpretation provided by the middle chapters, as well as any sense of a non-representational everyday. Instead, the characters’ emotions, though still using visual and narrative motifs from the previous parts, become ways to hammer in the manga’s critical stance on nuclear power and its misuse in Japanese society.

Conclusion

Coppelion is a science fiction manga that, while initially clear and obvious in its concerns over nuclear power, is later altered significantly by changes in how it utilises its characters’ emotions. Originally, the manga visualises and contextualises emotions through visual connections between the survivors as characters and realistically rendered backgrounds that show the ruinous state of Tokyo in great detail, giving attention to how the survivors cope with their environment. This encourages a view that does not simply
question the physical dangers of nuclear power but also a political structure that encourages its use despite deep-seated flaws that heighten the risk of misuse. However, *Coppelion* eventually shifts from using the survivors as the primary source of emotion within this science fictional setting towards a focus on the genetically engineered Coppelions, who cannot foster the same questions by virtue of their immunity to radiation. Instead of having stories devoted to the abnormal conditions of the survivors and their emotional condition, the Coppelions become the emotional centre of the manga, as opposed to acting as the eyes through which readers can view the state of Tokyo, and as out-of-place Japanese imagery that makes the mundane aspects of the past (the assumed world of the readers) seem uncanny in the world of *Coppelion*. The narrative significantly emphasises their feelings in response to the circumstances of their creation, which minimises the direct criticisms of nuclear power in the SF narrative. Likely a move to make the manga more widely appealing to its magazine’s core audience of teenage male readers, the ways in which genetic engineering are used by *Coppelion* create the potential for encouraging a continued critical view of nuclear power by using the commonality between genetic engineering and nuclear power as scientific and technological developments. When *Coppelion* returns to being much more overtly critical of nuclear power, it brings together the two differing sets of ideas and visual techniques from the early and middle chapters. Together, they make explicit the idea that the Coppelions as products of science are even more directly tied to nuclear power and radiation than initially thought, while also bringing attention to both the survivors and the Coppelions as emotional characters. In doing this, however, *Coppelion* sacrifices much of the subtlety and non-representational elements of its presentation and limits the range of possible interpretations, as the middle chapters in particular could be seen as a more general, or perhaps generic, criticism of broader abuses of power.

*Coppelion* thus presents three different, yet related, methods by which it utilises emotion to express its ideas, in each case making them a vital part of the science fictional environment of the narrative. The early chapters use different levels of emotional connection to the nuclear environment of Tokyo to provide two layers of perspective between the survivors and the Coppelions. The middle chapters focus on the Coppelions and how they feel about their origins as clones, which opens up the potential for indirectly engendering criticism of nuclear power in readers. The later chapters attempt to utilise both of these techniques together, with mixed results.

*Coppelion* shows three different methods by which emotion can influence how criticism is presented through the lens of science fiction manga, and how each can result in differing nuances when it comes to the criticisms themselves. These changes and their conflicting approaches result in a work that does not present a perfectly consistent political examination of its world, but instead provides a visual narrative eminently capable of generating dialogue because of those contradictions. Through them, *Coppelion* potentially draws attention to the connection between nuclear power and the emotional wellbeing of the people affected by it.

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Notes

1. All Japanese names are written family name first.
2. This title goes by many translations, including To All Corners of the World. This article uses the translation In this Corner of the World because it is the official one given by the production staff of its anime adaptation at the convention Otakon 2014 (Maruyama 2014).
3. This article uses electronic versions of some books, thus page numbers are unreliable. Instead, the section name is used.
4. A former manga editor for Kodansha who worked on the magazines Morning, Morning 2, and Manga Box from 2007 to 2009 who would go on to work as marketing director for the American manga publisher Vertical, Inc., I have chosen to use Chavez’s words because of how it shows nagare as a concept being important not only to critical discussion but is regarded as a practical and marketable skill in the industry.
5. Part 1 includes chapters from Volumes 1–3, Part 2 includes Volumes 3–9, and Part 3 includes Volumes 9–18.
6. Their designation as hoken gakari also references students assigned to medical duty in Japanese classrooms.
7. See Agar (2010), especially pages 83–132, for further debate over this subject.
8. The site referenced is not the bulletin board 2channel itself, but a site that summarises threads from 2channel. As such, there is some bias in terms of curation that should be noted, but there is also ample evidence of ‘battle manga’ being a criticism of Coppelian.

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