

Radioactive Aesthetics and Celluloid's Body: How can radioactive aesthetics shape a sense of place and time?

This essay discusses the works of three artists – Shimpei Takeda, Yoi Kawakubo, and Tomonari Nishikawa – who engage with toxic matter of radioactive contamination during their photographic and filmmaking practices. While this essay focuses on works illuminating radioactive pollution caused by the nuclear disaster in March 2011, at the Fukushima Daiichi Nuclear Plant, the nature of radioactive contamination not only globalises the scope of this essay, but it also expands its temporal scope given the almost ungraspable duration of radioactive decay. As the artists discussed here produce cameraless records, they invite non-human agencies into the image-making process. As such, they prompt to be read through the lens of new materialism that accounts for the hybrid agency of both human and non-human forces creating the images.¹ Furthermore, new materialist perspective sees non-human agency as having ‘properties and affordances that powerfully shape human subjectivity’.² Hence the aim of this essay to trace how can radioactive aesthetics shape the sense of place and time governed by forces exceeding human comprehension.

As Barbara Bolt writes, new materialism seeks to de-centre the human to undermine the dominant views of the non-human world as a ‘resource’ for anthropocentric ‘endeavours’.³ However, this essay discusses artistic processes during which the non-human, in this case, radioactive particles together with film materials, becomes a source for an aesthetic enquiry. Although the new materialist perspective shifts focus from the surface of the image to its materials and processes of making, the cameraless practices discussed here result in seductive

¹ Jennifer L. Roberts, “Things: Material Turn, Transnational Turn,” *American Art* 31, no. 2 (2017): 66.

² Roberts, “Things,” 65.

³ Barbara Bolt, “Introduction: Toward A “New Materialism” through the Arts,” in *Carnal Knowledge: Towards a ‘New Materialism’ through the Arts*, eds. Estelle Barrett and Barbara Bolt (London: I. B. Tauris, 2016), 2.

images of both the toxic and the spectacular. To discuss such a tension, the essay analyses the works with a reference to the aesthetic category of the 'atomic sublime'.⁴

In Takeda's work, sharp points of light pierce through a silky black surface of the image. (Figure 1) These images are created by placing samples of irradiated soil on photographic paper. Takeda collected these samples at various locations in the Fukushima prefecture at the beginning of 2012.⁵ Significantly, the locations were not selected at random as Takeda targeted historically poignant places which, as he states, 'contain a strong memory of life and death, such as temples, shrines, war sites, and ruins and castles'.⁶ (Figure 2) His cameraless records are thus a result of an intimate contact between multiple material histories and temporalities. In this way, they show the history of environmental degradation as inseparable from human history. Having travelled through Fukushima with a Geiger counter, Takeda realised how easy it is to not acknowledge the toxicity of the place. As he says, it was often that he found himself struck by 'the beautiful country's landscape' erasing any sense of radioactive contamination.⁷ Motivated to confront the insufficiency of representational photography to capture Fukushima, Takeda hopes to grasp the sense of a place contaminated with radioactivity through letting the contamination speak for itself. In his artistic statement, Takeda frames himself more as a bystander of the artistic process, having 'developed the film to find out how the Fukushima disaster has created the *Trace*'.⁸

While Takeda deliberately undermined the anthropocentric monopoly over his image making, Kawakubo's exploration of radioactivity and its aesthetics began as an accident. At first, Kawakubo engaged with the exclusion areas of Fukushima through documentary,

⁴ Peter B. Hales, "The Atomic Sublime," *American Studies* 32, no. 1 (Spring 1991): 10.

⁵ Shimpei Takeda, "Trace – Cameraless Records of Radioactive Contamination," *Making the Geologic Now: Responses to Material Conditions of Contemporary Life*, ed. Elizabeth Ellsworth and Jamie Kruse (New York: Punctum Books, 2013), 210.

⁶ Takeda, "Trace," 210.

⁷ Takeda, "Trace," 213.

⁸ Takeda, "Trace," 213.

descriptive photographic records taken with a camera.⁹ After having finished the roll of film, he left the film embedded under the ground in the same area he photographed for almost a quarter of a year.¹⁰ During its subsequent stages of darkroom development, Kawakubo discovered that the film was exposed to light rays of radioactive matter that almost completely erased the former image.¹¹ Kawakubo's photographic records of the Fukushima landscape, thus, became overwritten by the radioactive pollutants as if they sought to assert their presence and history. It was after Kawakubo's finding that the radioactive energies still lingering in Fukushima yield compelling visuals that he began to bury unexposed films into the ground.¹²

Interestingly, during his photographic experiments, Kawakubo found that various radioactive rays cause a wide spectrum of colours depending on their wavelengths, levels of photosensitivity, and the chemical composites of the film emulsion.¹³ As a result, his work presents colourful abstract images of toxicity. In one of his photographs titled *If the radiance of a thousand suns were to burst at once into the sky I* (2014), the surface of the print strikes with the red colour radiating from the centre of the image and spilling towards the edges of the frame where it meets with a bright yellow. (Figure 3) Ultimately, Kawakubo's work is co-authored by a complex intermingling of photochemical processes reacting with radioactive particles present in the soil where the film was buried. In this way, the works draw the toxicity of the place to the surface of the photographic image.

Thomas Pringle argues for celluloid media to be the receptors and material witnesses of radioactive pollution which would otherwise stay buried as it escapes the human sensorium.¹⁴ What is more, Pringle asserts that these 'toxic' or 'dirty media' re-define 'how

⁹ Amandine Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," *Trans Asia Photography* 10, no. 1 (Fall 2019): n.p.

¹⁰ Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

¹¹ Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

¹² Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

¹³ Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

¹⁴ Thomas Pringle, "Photographed by the Earth: War and media in light of nuclear events," *NECSUS. European Journal of Media Studies* 3, no. 2 (2014): 134.

environments work within the anthropocentric frame'.¹⁵ Instead of standing as passive objects of representation, non-human environments become image-makers themselves. As either striking light bursts in *Trace* or mesmerising plays of colour in *If the radiance of a thousand suns were to burst at once into the sky I*, the irradiated soil makes a record of itself once having met with the photosensitive film. These earthly expressions exemplify what Pringle frames as the 'Earth's autonomous aesthetics practices'.¹⁶ Pringle's suggestion finds an echo in Kate Brown's description of photographic records of Chernobyl containing glitches or faults caused by radioactive pollution, which she re-frames as 'none other than caesium, plutonium, and uranium self-portraits'.¹⁷ While not undermining the revelatory aspects of these works illuminating radioactive pollution, the captivating and seductive images call for a further discussion of what radioactive aesthetics may achieve.

If, as Pringle argues, 'toxicity can surface in film as an aesthetic', the negative effects of seeing environmental decay turn into an image of beauty escapes the scope of his discussion.¹⁸ Nishikawa's film titled *Sound of a million insects, light of a thousand stars* (Tomonari Nishikawa, Japan, 2014) presents its audience with a show of radiating blues and greens. (Figure 5) As the intertitles at the end of the film state, Nishikawa buried the 100-foot 35mm negative twenty-five kilometres away from the Fukushima Daiichi Nuclear Power Plant. The film was left there to react with possibly irradiated matter for the night before being retrieved on June 25 in 2014. Significantly, Gregory Zinman claims that the 'celluloid was beautifully transformed by its interaction – its fusion – with a 'natural' world corrupted by humanity'.¹⁹ Although Zinman does read into Nishikawa's film and asserts its significance in

¹⁵ Pringle, "Photographed by the Earth," 137.

¹⁶ Pringle, "Photographed by the Earth," 149.

¹⁷ Kate Brown, "Marie Curie's Fingerprint: Nuclear Spelunking in the Chernobyl Zone," in *Arts of living on a damaged planet, Ghosts of the Anthropocene*, eds. Anna Tsing, Heather Swanson, Elaine Gan, Nils Bubandt (Minnesota: University of Minnesota Press, 2017), 41.

¹⁸ Pringle, "Photographed by the Earth," 137.

¹⁹ Gregory Zinman, "Echoes of the Earth: Handmade Film Ecologies," in *Process Cinema: Handmade Film in the Digital Age*, eds. Scott MacKenzie and Janine Marchessault (Montreal & Kingston: McGill's Queen's University Press, 2019), 119.

revealing degraded living conditions in Tamura City, he maintains his framing of the film as ‘undoubtedly beautiful’.²⁰ As Zinman points out, Nishikawa perceived the making of his film more as an aesthetic experimentation not intended as an open political critique or activism.²¹ In Nishikawa’s case, thus, the radioactive decay and toxicity damaging the environment become a prompt for an aesthetic enquiry, raising ethical questions about the process of beautifying places of destruction. While Nishikawa’s artistic process attends to the intelligence of the film materials and light forces emitted from the radioactive particles, his subsequent editing and modification of the colour palette diminish the level of non-human agency he lets surface in the final image.²²

With Nishikawa’s strong investment in the aesthetic outcome of his artistic experimentation, the film presents an instance of an uncanny presentation of both toxicity and beauty. As such, it recalls the vision of ‘terrible beauty’ which Peter B. Hales explores in his discussion of the ‘atomic sublime’.²³ Hales describes the sublime aesthetics of the visual records of atomic explosions as turning ‘terror’ and ‘panic’ into ‘awe’ and ‘admiration’.²⁴ In this way, the sublimity of the atomic explosions in visual records veils negative fallouts of nuclear power with aesthetic delight. ‘Rather than devastating the landscape,’ as Hales writes, ‘rather than proving itself an agent of hell, the Nevada bomb would remain pristine, awesome, natural and divine’.²⁵ Hales further illuminates the conflict some spectators felt in response to atomic explosions. Although one ‘*should* feel responsibility and horror,’ there is, instead, ‘only awe and pleasure’.²⁶ The radiating blues and greens animated during projection of Nishikawa’s film present the audience with a two-minute-long seductive colour play. Together with the

²⁰ Zinman, “Echoes of the Earth,” 120.

²¹ Zinman, “Echoes of the Earth,” 120.

²² Zinman, “Echoes of the Earth,” 120.

²³ Hales, “The Atomic Sublime,” 10.

²⁴ Hales, “The Atomic Sublime,” 25.

²⁵ Hales, “The Atomic Sublime,” 20.

²⁶ Hales, “The Atomic Sublime,” 24.

artist's motivation behind the cameraless record of irradiated soil being an aesthetic one stated above and his modification of the colour contrast, Nishikawa's film may be framed as turning the fallout of nuclear power into a compelling aesthetic experience.

Similarly, Kawakubo's large, almost life-size prints overwhelm with chromatic chaos and present a sublime image of toxicity and decay. (Figure 4) Amandine Davre, frames Kawakubo's work as a key representation of 'post-Fukushima art', providing its audiences with a chance to 'transform their vision on the Fukushima accident and on nuclear power in general'.²⁷ Kawakubo's title of the work itself, *If the Radiance of a Thousand Suns Were to Burst At Once Into the Sky*, is a direct reference to Robert Oppenheimer's glorification of the atomic bomb and the thrill he felt during its detonation.²⁸ In her essay, Davre interprets the title as Kawakubo's call for not overlooking the negative fallouts of nuclear testing and power.²⁹ However, presenting such images of colour spectacle risks masking the environmental degradation underpinning Kawakubo's work. Although occurring at different set of circumstances, such a show of colours recalls descriptions of the Trinity Test on July 16 in 1945. As Bryan M. Wilson writes, the detonation of the atomic bomb or "The Gadget" was described as a blinding light of golden, purple, violet, grey, and blue, lighting up the early desert morning as if it were high noon'.³⁰ The explosions of colour in Kawakubo's large photographic prints suddenly become uncanny echoes of the past visions of nuclear power. Ultimately, both Nishikawa's film and Kawakubo's prints risk turning their audiences away from the fallout of nuclear power by displaying images of glamorous and sensuous colour.

Nevertheless, the intertitles at the end of Nishikawa's film serve as a chilling reminder of the polluted earth that gave rise to its horrific beauty. Despite the spectacle of Kawakubo's

²⁷ Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

²⁸ Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

²⁹ Davre, "Revealing the Radioactive Contamination after Fukushima in Japanese Photography," n.p.

³⁰ Bryan M. Wilson, "The Nuclear Present," in *Making the Geologic Now: Responses to Material Conditions of Contemporary Life*, ed. Elizabeth Ellsworth and Jamie Kruse (New York: Punctum Books, 2013), 222.

prints and Nishikawa's film having the potential to aestheticize radioactive contamination, it remains a challenge to overlook the degradation of the filmic surface. The scratches on Nishikawa's film call attention to its process of making while toxic and corrosive materials eat away the emulsion of Kawakubo's prints, blackening the edges of the photographic frame. Here, the destructive nature of the non-human forces come into visibility through their contact with the photosensitive materials and the celluloid's body. Kim Knowles interprets Nishikawa's film as seeking 'to connect with matter and to use the film as a metaphor for our own bodies'.³¹ Read in this way, Nishikawa's film speaks not only to the health risks nuclear disasters cause to human population but also to the insidious pollution harmful to the non-human environment. Moreover, with the radioactive forces embedded in the film materials, the record of nuclear power and its fallout is no longer observed from a safe distance. Instead, the overwhelming formlessness and instability of the abstract colour fields painted by radioactive rays may elicit a sense of insecurity and vulnerability.

As Anna Lowenhaupt Tsing suggests, 'precarity *is* the condition of our time'.³² The radioactive particles revealing themselves through spectacular aesthetics in Nishikawa's film are rendered by the ending intertitles as eerily mundane. The intertitles spell out the process of making the film by burying the film stock under fallen leaves alongside a country road. Suddenly, Nishikawa's work becomes imbued with a sense of everydayness. Further, the intertitles state that the area is now perceived as hospitable again. Despite the safety measures being lifted by the Japanese government, however, Tamura City continues to accommodate radioactive pollution. As Zinman points out, many former inhabitants have refused to return as the complete decontamination of the area could exceed two hundred years.³³

³¹ Kim Knowles, *Experimental Film and Photochemical Practices* (Cham: Palgrave Macmillan, 2020), 49.

³² Anna Lowenhaupt Tsing, *The Mushroom at the end of the World: On the Possibility of Life in Capitalist Ruins* (Princeton: Princeton University Press, 2015), 20.

³³ Zinman, "Echoes of the Earth," 118.

The governmental intentions above the ground seeking to erase or normalise the presence of radioactive contamination recall what Jennifer Fay describes in her discussion of film records of the first detonations of the atomic bomb at the Nevada test site. She analyses the ‘aesthetic’ aspects of the films underpinned by the ‘anesthetic’ intentions to erase the fallout of nuclear power from collective consciousness, arguing for a safety in numbness.³⁴ Further, she points out how these films speak to the ‘experience of becoming conditioned on an increasingly unnatural planet’.³⁵ Although the works discussed here stand as the earth’s expressions, they are expressions of a toxic earth manifested in sickly hues of neon greens in Nishikawa’s film and neon pink and purple in Kawakubo’s prints or in the alien-like, inhospitable whites and greys in Takeda’s autoradiographs.

While the works discussed in this essay aim to gain a physical imprint of the radioactive contamination, as Davre points out, ‘only part of the iceberg is uncovered’ with every film strip or photographic paper.³⁶ In this way, even Kawakubo’s large prints or Nishikawa’s two-minute film prove insufficient to capture the magnitude of the non-human forces existing independently and beyond human comprehension on both spatial and temporal level. To attempt to grasp the non-human time and agency, Takeda engaged in a month-long process of letting irradiated soil picture itself on the photographic paper.³⁷ While Nishikawa film stands as another quest for non-human temporalities, its two minutes capture only a fragment of the duration of the radioactive decay. Ultimately, by inviting non-human agency and temporality into their photographic and filmmaking practices, the artists seek to expand their understanding of the contaminated areas of Fukushima by negating its representation that privileges immediacy over attunement to the non-human.

³⁴ Jennifer Fay, *Inhospitable World: Cinema in the Time of the Anthropocene* (New York: Oxford University Press, 2018), 63.

³⁵ Fay, *Inhospitable World*, 63.

³⁶ Davre, “Revealing the Radioactive Contamination after Fukushima in Japanese Photography,” n.p.

³⁷ Takeda, “Trace,” 213.

To conclude, through de-centering themselves from the artistic process, although to various extents, the artists discussed here signpost a new way of relating between the human and the environment. Given the outcome of the cameraless records discussed here being a visual spectacle, the essay discussed what is at stake when displaying mesmerising prints of charismatic tonal plays and film radiating with attractive colours. Significantly, the tensions these works present with their sublime aesthetics illuminated the importance of acknowledging their materials, non-human agencies and processes involved in their making. By focusing on the process of Nishikawa's film, thus, the abstract image of spectacle becomes inseparable from the environmental degradation. It is through the scratches, degradation, and direct physical imprint that the radioactive particles can reveal themselves in a more tangible form to the human eye.



Figure 1 Shimpei Takeda, *Trace #7 Nihomatsu Castle* (Nihomatsu, Fukushima), 2012.



Figure 2 Shimpei Takeda, *Trace #9, Asaka Kuni-tsuko Shrine* (Fukushima), 2012.

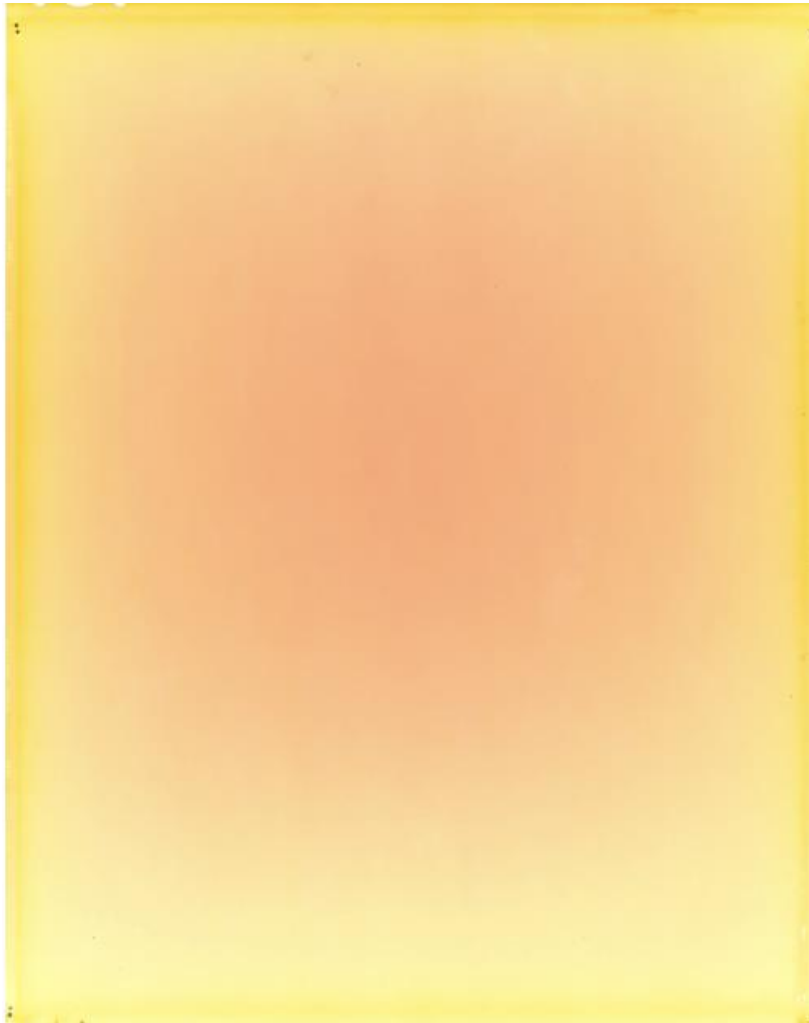


Figure 3 Yoi Kawakubo, *If the radiance of a thousand suns were to burst at once into the sky I*, 2014, 90 x 150 cm.

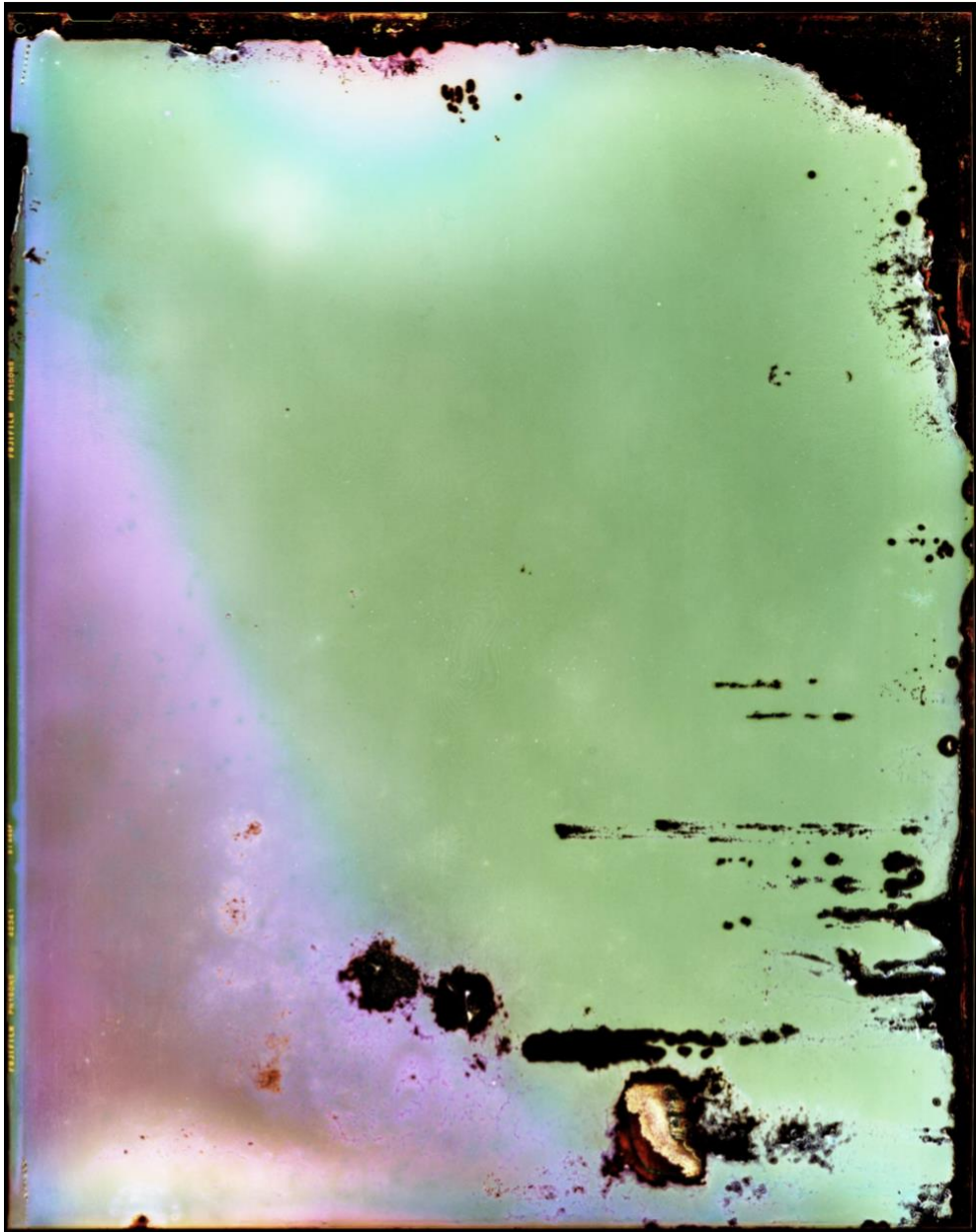


Figure 4 Yoi Kawakubo, *If the radiance of a thousand suns were to burst at once into the sky V*, 2019, 190 x 150 cm.

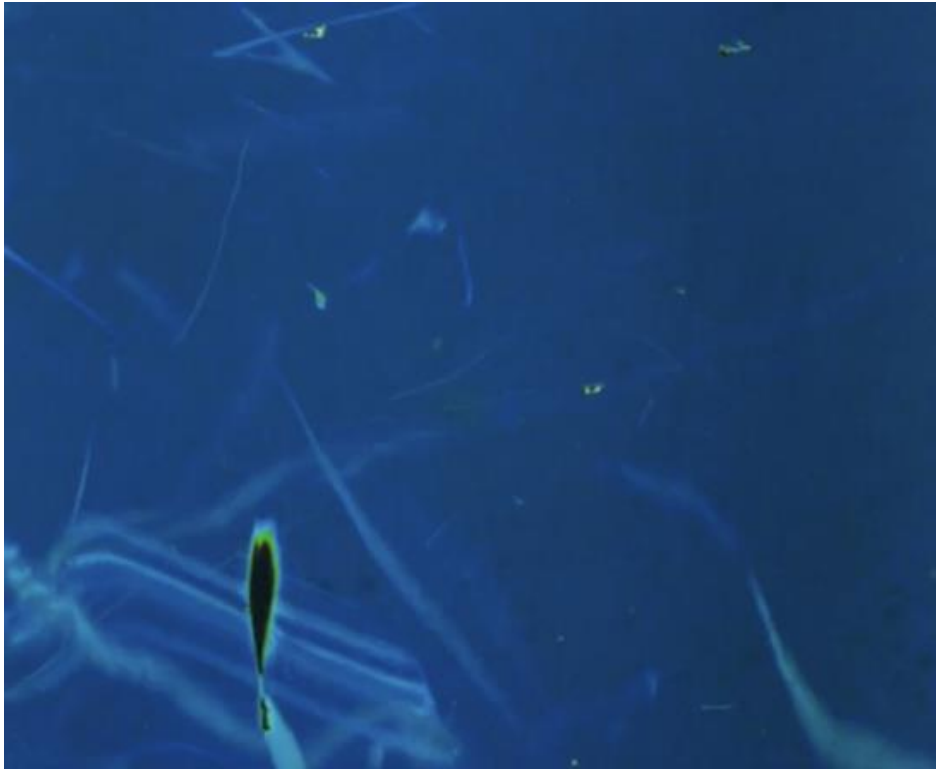


Figure 5 A still taken from *sound of a million insects, light of a thousand stars* (Tomonari Nishikawa, Japan, 2014).

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[andrews.ac.uk/doi/10.1086/694067](https://www-journals-uchicago-edu.ezproxy.st-andrews.ac.uk/doi/10.1086/694067)

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Sound of a million insects, light of a thousand stars. VIMEO. Produced by Tomonari Nishikawa. 2014. <https://vimeo.com/117525500>