

# Catastrophic Light: Transparency, Invisibility, and Atomic Representation

*Akira Mizuta Lippit*

Today, some people think that the light of the atom bomb will change the concept of painting once and for all. The eyes that actually saw the light melted out of sheer ecstasy. For one instant, everybody was the same colour. It made angels out of everybody.

Willem de Kooning<sup>1</sup>

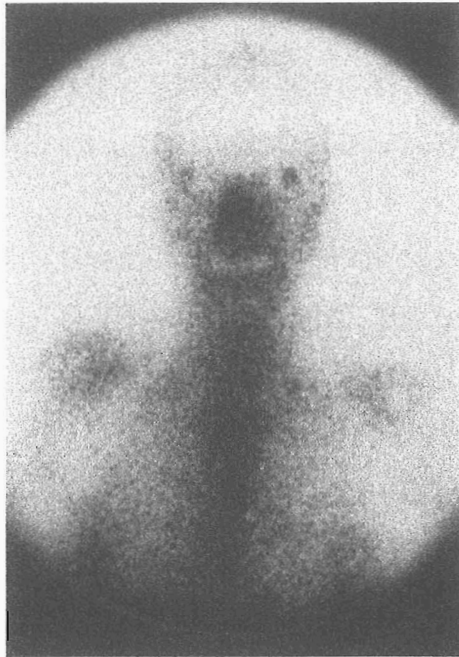
**I**n the opening sequence of *Tomei ningen arawaru* (The Transparent Human Appears, ADACHI Nobuo, Daiei), a 1949 Japanese film version of *The Invisible Man*, two young chemists enter into a scientific competition: each believes that he can affect a means of rendering the body invisible. The difference between their rival projects lies in the logic that informs each conception of invisibility. One seeks to render the density of the body opaque so that it will appear as invisible—a kind of absolute visibility—while the other seeks to reorient the cellular structure of the body so as to allow light to pass through and thus become entirely transparent. Opacity and transparency frame the dialectic of invisibility, establishing the thresholds of the visible body. The stakes of the competition are a woman's hand: the victorious scientist will earn the right to marry the daughter of their mentor, who supervises the laboratory. The eros that fuels their contest foreshadows the inevitable convergence of light, death, and jouissance. Half a century earlier, another woman's hand became an emblem for transparency. Berthe Röntgen, the wife of Wilhelm Conrad Röntgen, who discovered the x-ray on 8 November 1895, offered her hand toward the realization of a scientific experiment. The now-famous photograph of Berthe's x-rayed hand, marked by the exteriority of her wedding band, signalled the entry of light into the human body and the illicit marriage, as it were, of radiation and photographic culture.<sup>2</sup>

Shortly after the race to invisibility is announced, the senior scientist reveals that he has already developed a formula for effacing the human body. He has chosen to keep his discovery secret until he finds an antidote, to reverse the effect of invisibility. In approaching invisibility, the scientist has elected to pursue total transparency rather

than opacity and makes clear his preference for the young disciple who has chosen the similar route. The father-scientist's choice of an intellectual heir and future son-in-law tints the dialectic of invisibility with a faint but distinct metaphysics of light. In the context of the film, transparent luminosity comes to be aligned with figures of cleanliness and propriety, while opaque density comes to exemplify those of obsessive ambition. Several years after the American film industry experimented with the representation of invisible beings, and four years after the atomic bombings of Hiroshima and Nagasaki, which ended World War II, Japanese film audiences were exposed to this attempt to configure a phenomenology of the transparent.<sup>3</sup>

As the film unfolds, its narrative disrupts the contest between rival invisibilities. Members of a criminal organization kidnap the chemist researching density and opacity and force him to ingest a stolen dosage of the compound; at which point he vanishes. With his image thus held hostage to the underground organization, the transparent scientist turns to a life of crime. The forces of invisibility eventually overcome his entire existence and he returns to the visible spectrum only on the occasion of his death. Interestingly enough, it is the transparent scientist's own research—the search for a material superdensity—which might have reversed the effects of transparency by providing a means of “shading” the transparent body. The formula for invisibility is represented in the 1949 film as a liquid, which is consumed orally. By 1954, when Toho introduced its version of the subject, *Tomei ningen* (The Transparent Human, ODA Nobuyoshi, Toho), the liquid had been transformed into a ray and the allusion to World War II had moved from an allusion to a direct reference.<sup>4</sup>

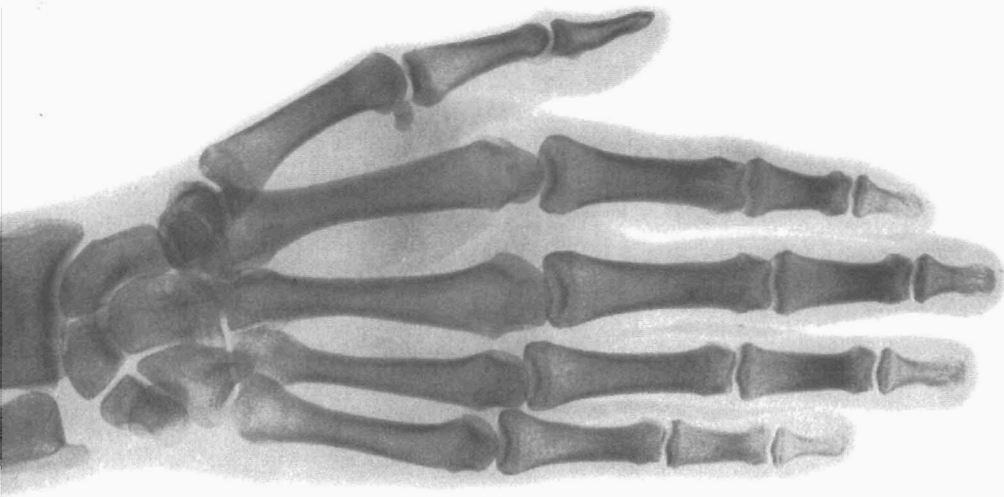
The year 1952 marked the end of Japan's occupation by Allied forces and the official end of political censorship; a new type of cinema had begun to emerge by 1954. In the space between the two films, the question of invisibility assumed two distinct forms, one political, the other phenomenological. Because direct references to the war were restricted during and after the war, first by the Japanese government and then by the occupying forces, Japanese artists and intellectuals were forced to adopt a variety of rhetorical strategies in order to address the war and its after-effects. In the case of post-war Japanese cinema, one senses an allegorical force at work, occupying a representational space that is otherwise remarkably void of references to the war.<sup>5</sup> Beyond the political restrictions that shrouded the war, however, the subject of atomic radiation and its lingering effects in Hiroshima and Nagasaki posed another layer of complexity. The bombings that ended Japan's imperialist activities had introduced a form of invisible warfare, or, rather, a form of warfare that circulated through a dense matrix of visuality, complicating any notion of a stable referent. At Hiroshima, and then Nagasaki, a blinding flash obliterated entire bodies, leaving behind only “shadow”



traces. The initial destruction was followed by waves of invisible radiation, which infiltrated survivors' bodies like a fantastic rhizome.

In the movement from the American to Japanese films, a number of significant displacements take place, including the translation of the word invisibility as transparency (*tomei*) in the Japanese version.<sup>6</sup> While both terms imply a diminished form, the nuances of each type of imperceptibility vary. Invisibility suggests a range of phenomenal states, from a transcendental dispersion to a radical absence. In the case of transparency, the body is there but traversed—violated, like Schreber's body, by a driving radiance.<sup>7</sup> The idiomatic difference is meaningful when placed against the historical backdrop that separates the film series—the war between the nations and the atomic bombings that ended it.

The sense of absolute destruction unleashed by atomic war initiated a *fort/da* effect: the closer one moved toward Hiroshima and Nagasaki, the more those topologies receded. At the hypocentre of destruction, a fundamental density left the event invisible. Only its effects, ruined buildings, vaporized bodies, frozen mechanics, and the abstract measurements of lingering radiation (along with other empirical facts—the number of deaths, the heat in degrees at ground zero, etc.) provided an archive of its having taken place



there.<sup>8</sup> It heralded a form of unimaginable devastation, in contrast to more recent forms of warfare, which, for distant observers, produce only images. (The 1991 Gulf War, for example, produced a flow of surfeit imagery that also effaced the presence of human victims.) Instead, the atomic bombings produced symbols—as opposed to images of war—which drove the representation of atomic warfare from fact to figure, toward the threshold of art. The mushroom cloud that has come to embody the uncanny organicity of atomic war functions as a displaced referent for the obliterating force of atomic weaponry.

The subject of invisibility at Hiroshima and Nagasaki has subsequently become an essential aspect of its representation in photographic media. It marks the return again of 1895 in 1945, when the discovery of x-rays introduced images of transparency and fused the function of radiation to photography. What was less apparent then was the extent to which the new rays facilitated the realization of certain drives intrinsic to photography. The photographic project had always involved more than the mere duplication of nature or the accurate representation of the visible world. At work was the desire to make the invisible visible, but also to engender the view of something that had no empirical precedent. Like the eruption of four-dimensional matter in a Lovecraft narrative, x-ray photography brought forth, from the depths of the human body, something that had not yet existed—an image of the human body as photograph. Tearing through the opaque materiality of bodies, x-rays transformed photography from a realistic enterprise—an exercise in realism—into a materially-transcendent form.

X-ray photography produced a view that exceeded the conventional frames of photography, destroying in the process the limits of the body, the integrity of its interior and

exterior dimensions. The body appeared inside-out, inside and out, simultaneously. There and not there, yet, not here either. By passing the radiation directly through the body, using it as a kind of radiant filter, x-ray photography incorporated the body and moved it from a specular object to an extension of the apparatus.

The advent of x-ray photography and its almost immediate expansion into stereoscopy affected, among other conventions, the practice of vivisection. Three-dimensionality offered the photographic surface a depth, a virtual but corporeal presence.<sup>9</sup> Aristotle (384-322 B. C.) and later Galen (A. D. 129-199) are known to have made use of animal carcasses for scientific purposes and vivisections have been documented since the sixteenth century. The use of non-living organisms, however saturated they were with “animal spirits” (to use Descartes’s phrase), never adequately fulfilled the empirical demand to observe the body as such. In the nineteenth century, Étienne-Jules Marey sought to transcribe the movements of bodies first as a kind of vital script, what François Dagognet calls “biogrammatology,” and then as an ontic imprint, chronophotography.<sup>10</sup> Of Marey’s attempts to induce an autographical text from the body in motion, Michel Frizot writes: “It is a transcription, in the domain of the visible, of that which our senses cannot perceive.”<sup>11</sup> Röntgen’s discovery of the x-ray offered another opportunity to observe the intact body without, it was thought, destroying that body.

As the radiographic craze spread across the spectrum of culture, moving through the fields of science and medicine, as well as those of art, law, commerce, and warfare, x-rays came to signify the site of a vast and fantastic repository. From alchemy and clairvoyance to miraculous cures, x-rays suggested the imminence of a true scientific revolution, a re-territorialization of the visible and physical universe.

Not only was the x-ray harmful, causing extreme forms of sunburn, it actually altered the internal structure of the body. This precursor to the metamorphic effects of atomic radiation at Hiroshima and Nagasaki exposed the destructive potential of invisible radiation, but also the violent capacities of photography. The symptoms that resulted from over-exposure to radiation revealed an uncanny resemblance to photographic processes, suggesting that the body itself could serve as a photographic surface. Thus transformed, the body became a part of the apparatus, absorbed as it were, by the glare of the photograph.

A similar pattern of absorption followed Marie Curie’s discovery of radium in 1899 and isolation of it in 1911. The same fantastic properties that were attributed to x-rays accrued to radium, which was seen as an elixir of life, as the source of life itself. A frantic effort to introduce radium into the body ensued, flooding the marketplace with radioactive commodities and services: toothpaste, cocktails, spas, as well as bug sprays, which also cleaned and polished furniture. In pure form, bottled Agua Radium allowed

the fastest means of ingestion. After the initial euphoria began to fade, the toxic but also photographic effects of radioactivity began to appear, to glow. At watch factories where women painted the hands and dials of watches with radium, a practice known as “tipping” (licking the brushes to form a point at the tip) served as a method for transporting the radium into their bodies. Like a Cheshire cat, the image of a woman’s mouth survives. Her teeth absorbed so much radium she could develop film in her mouth. Her radioactive mouth had become a camera lab, a camera dentata.

What was intimated in the radioactive culture of the late nineteenth and early twentieth centuries erupted at full force in Hiroshima and Nagasaki: the atomic blasts and blackened skies turned both arenas into massive cameras. Seared organic and non-organic matter left dark stains, opaque artifacts of once vital bodies, on the pavements and other surfaces of this grotesque theatre.<sup>12</sup> The “shadows,” as they were called, actually resemble photograms, a negative or anti-photography. There can be no photography of atomic war because, in a sense, the bombings instigated a spectacle that exceeds the economies of representation. By securing the spectator within the frames of an annihilating image, no one survives, nothing remains.

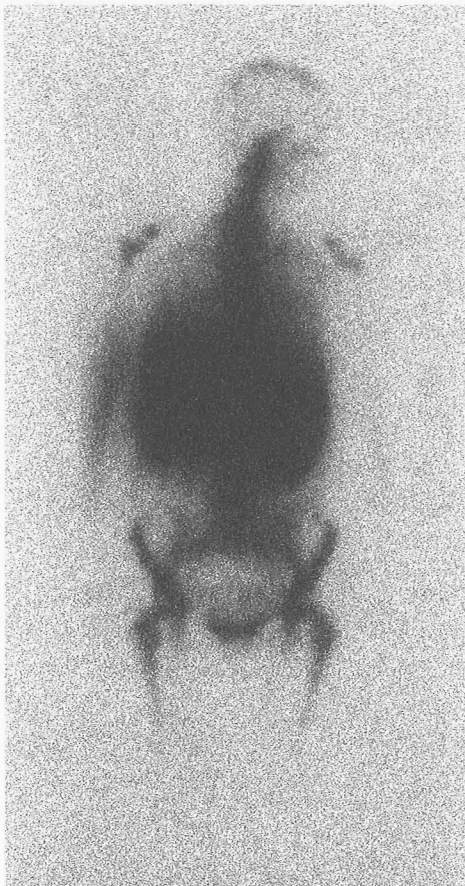
Except for the radiation. At Hiroshima and Nagasaki, two views of invisibility—absolute visibility and total transparency—unfolded under the brilliant force of the atomic blasts. Instantly penetrated by the massive force of radiation, the *hibakusha* were seared into the environment with the certainty of having been there. In the aftermath of the bombings, the remaining bodies absorbed and were absorbed by the invisible radiation. These bodies vanished slowly until there was nothing left but their negatives.

In the 1954 *Tomei ningen*, only a young girl who has been blinded in the war can sense the invisible man, who is himself a victim of medical experimentation by the Japanese Imperial Army. The figure of blindness, a recurrent motif in postwar Japanese cinema, can be seen as an allusion to the blinding flash, or *pika*, as the atomic explosions were euphemistically called.<sup>13</sup> Like the Greek oracle, the blinded girl cannot see what others see, but can perceive what others cannot.

On the eve of the fiftieth anniversary of the end of the war, two spectacles further scrambled the registers of visibility. Even as the controversy surrounding the Smithsonian Institution’s Enola Gay exhibit rendered the bombing of Hiroshima once again politically and phenomenally invisible, two catastrophes erupted onto Japan’s media airwaves. The Kobe earthquake, on 17 January 1995 and the 20 March 1995 sarin gas attack on Tokyo’s subway system by members of the Aum Shinrikyo (Supreme Truth) cult projected a shadow of the war at the epicentre of the anniversary.<sup>14</sup> Seen as a kind of return of the repressed atomic bombing, the displaced or deferred spectacles forced

the nation to revisit the primal scene of postwar Japan. The Kobe earthquake, as filmmaker SHINODA Masahiro has noted, reintroduced long dormant images of wartime Japan. The magnitude of destruction sent tremors through the historical and mnemonic archives, provoking a nervous anamnesis across Japan. The use of invisible sarin gas by ASAHARA Shoko, the cult's blind leader, evoked not only the Nazi war crimes of World War II, but also the threat of an invisible agent, released into the passages of everyday life. The two disasters seemed to force their way into the visible world, returning like memories that were simultaneously familiar and foreign, traumatic, *unheimlich*. Fifty years later, the return of these displaced catastrophic images, along with the Smithsonian Institution's decision to erase Hiroshima, rendered the atomic arena still invisible.

The radiated body is at once a body made photograph and a photograph made corporeal. By submitting the body to enhanced forms of the photographic process, radiation enters the body and illuminates it from the inside. From x-rays to atomic radiation, 1895 to 1945, the radioactive body marks the fusion of images and bodies in a unique photopography. Here, in this place which is inside and outside, transparent and invisible, the spectacle of the imperceptible war remains, radiantly inaccessible.



An earlier version of this paper, "Radiant Images, Radioactive Bodies," was delivered at the 44th Annual International Short Film Festival Oberhausen in 1998, as part of the "Useful Images" symposium organized by Jutta Doberstein, Herbert Schwarze, and Fred Truniger. The abridged text was published in the festival catalogue in English and German. I am indebted to those organizers and to Janine Marchessault and Catherine Waldby for their criticisms of the text in its initial stages. Donald Richie pointed me toward the Japanese "invisible man" films, Catherine Waldby suggested the phrase "catastrophic light," and Hervé Vanel alerted me to de Kooning's passage on atomic radiance, which serves as the text's epigraph. This text has benefited from their contributions.

1. Willem de Kooning, "What Abstract Art Means to Me" (1951), in *Collected Writings*, ed. George Scrivani (New York: Hanuman, 1988), 60. De Kooning continues his description of the atomic flash: "A truly Christian light, painful but forgiving."
2. See in this connection, Lisa Cartwright, *Screening the Body: Tracing Medicine's Visual Culture* (Minneapolis: U. of Minnesota, 1995). Also, Akira Mizuta Lippit, "Phenomenologies of the Surface: Radiation-Body-Image," *Qui Parle* 9.2 (Spring/Summer 1996 [1998]): 31-50.
3. Hollywood produced several versions of the invisible man (and woman) films before and during the war, from 1933-44. The most famous of these is James Whale's adaptation of H. G. Wells's tale *The Invisible Man* (1933), which features Claude Rains. Others include *The Invisible Man Returns* (1940), *Invisible Agent* (1942), *The Invisible Woman* (1941), and *The Invisible Man's Revenge* (1944).
4. The invisible or transparent man in *Tomei ningen* has been thus rendered as a result of experiments conducted by the Imperial Japanese Army upon its own soldiers. His rage against militarism in general and Japanese militarism in particular signals the move toward an explicit reference to the events of World War II and a departure from the fantastic and allusive nature of the earlier *Tomei ningen arawaru*.
5. A number of films made after 1952, such as MIZOGUCHI Kenji's *Ugetsu Monogatari* (1953) and HONDA Inoshiro's *Godzilla* (1954), are frequently read as allegories of World War II, as attempts to render what otherwise defies description. It is perhaps important to remember that as a rhetorical device, allegorical structures never restore a unity to the work but rather continue to divide the work from itself, against itself, producing, in the process, a series of phantom trajectories that move away from the manifest content of a work. Thus, outside facts or stated intentions (by authors, for example) cannot always verify the presence of an allegorical subtext, ultimately. Allegories are often intimated, unconscious, or invisible, culled, as it were, from an inaccessible referent.
6. The Japanese language has a word for invisibility, *fukashi*. It is also worth noting, perhaps, that the gendered subject "man" has changed to the neutral "human being" (*ningen*), even though the invisible or transparent beings remain men in the Japanese films. This erasure of the gendered figure in the title is interesting in part because the economies of sexuality and eros continue to play an active role in the Japanese films. In a subplot of the 1949 film, a member of the all-female Takarazuka revue appears in a number of scenes, including a cabaret performance in which she portrays a masculine figure. An erotic cabaret performance also appears in the 1954 version at a nightclub named "Kurofune," or "black ship," which was the name given by the Japanese to Commodore Matthew Perry's American ships when they approached the shores of a then closed Japan in 1853. The black ships came to be seen as, among other things, symbols of an eroticized foreignness, blending a libidinal interest in and fear of the other.
7. Daniel Paul Schreber, a nineteenth century Presiding Judge to the Leipzig Court of Appeals in Germany, experienced a severe form of psychosis for which he was hospitalized. One of his symptoms involved an overwhelming fear of sunlight, which he believed was an attempt by God to impregnate him. He saw the rays as divine semen, noting in his memoirs, "Enlightenment rarely given to mortals has been given to me." D. P. Schreber, *Memoirs of My Nervous Illness*, trans. and ed. Ida MacAlpine and Richard Hunter (Cambridge, MA: Harvard UP, 1988), 167. Freud studies the



Schreber case in “Psycho-Analytic Notes on an Autobiographical Account of a Case of Paranoia (Dementia Paranoides)” Sigmund Freud, *Standard Edition of the Complete Psychological Works of Sigmund Freud*, trans. and ed. James Strachey (London: Hogarth Press and the Institute of Psycho-Analysis 1953-74), vol. 12. Of Schreber’s photophobia, Lacan suggests that the “rays, which exceed the bounds of recognized human individuality,” and which are “unlimited,” are capable of annihilating not only individual human beings but human subjectivity itself. Jacques Lacan, *The Seminar of Jacques Lacan: The Psychoses 1955-1956*, trans. Russell Grigg, ed. Jacques Alain-Miller, (New York: Norton), vol. 3, 26.

8. For more on the rhetoric of atomic and nuclear warfare and its effect on historiography, see Jacques Derrida, “No Apocalypse, Not Now (full speed ahead, seven missives, seven missiles),” trans. Catherine Porter and Philip Lewis, *Diacritics* 14, no. 2 (1984): 20-31.

9. This trajectory has been resumed with the advent of the Visible Human Project, which involves three-dimensional reanimations of two meticulously sliced and photographed human corpses. See Catherine Waldby, *Posthuman Medicine: The Visible Human Project and Informatic Bodies* (Routledge, forthcoming).

10. François Dagognet, *Étienne-Jules Marey: A Passion for the Trace*, trans. Robert Galeta with Jeanine Herman (New York: Zone Books, 1992). Marey sought, according to Dagognet, “to imagine instruments that could go beyond the thresholds of perception and transcribe phenomena by themselves (autography, the language of nature)” (39).

11. Michel Frizot, *La Chronophotographie* (Beaune: Association des Amis de Marey et Ministère de la Culture, 1984), 62 (author’s translation). “*C’est une transcription, dans le domaine du visible, de ce que nos sens ne peuvent percevoir.*”

12. The function and properties of writing as a form of staining play a critical role in the dynamic of atomic representation. Freud speaks of psychoanalysis as a kind of staining of the unconscious; a gesture that brings into relief its invisible contours. In a similar manner, one finds “scenes of writing,” as Derrida might call them, in a number of postwar Japanese films. In many such instances, the act of writing brings the invisible form to light, while the act of erasing, which frequently accompanies it, thrusts the body back into the recesses of darkness. In *Tomei ningen*, the transparent person “passes” his days as a circus clown. This form of body writing or painting allows him to participate in the visible world as invisible. When he decides to reveal his true form to a journalist, he wipes the makeup from his face, in effect, erasing himself from sight.

13. The insufficiencies of language are etched into the very appellation of the atomic moment. The authors of *The Day Man Lost: Hiroshima, 6 August 1945* explain: “Those who did not hear the bomb called it pika—‘the flash’; those who did hear it called it the pikadon—‘the flash-boom’” (The Pacific War Research Society, *The Day Man Lost: Hiroshima, 6 August 1945* [Tokyo: Kodansha International, 1972], 238). The recourse to a mimetic, onomatopoeic language underscores the radically photographic effects of the atomic explosions—they have left their imprints on a language that is unable to describe them.

14. Partially-blind cult leader ASAHARA Shoko predicted that the world would be destroyed by nuclear weapons in 1999.