

Media-Morphosis. Intermediality, (Re-)Animation and the Medial Uncanny in Tsukamoto Shinya's *Tetsuo: The Iron Man* (1989)

Mark Player

University of Reading (UK)
E-mail: markdplayer@gmail.com

Abstract. Operating self-sufficiently on the fringes of the Japanese film industry for almost his entire career, the work of independent filmmaker Tsukamoto Shinya¹ is perhaps best-known for its uncompromising, musical freneticism, as well as its corporeal spectacle. However, Tsukamoto's dynamic clashing of visual media signifiers, such as those of theatre and television (industries within which he also operated prior to his film career during the 1980s), and how these impact upon his reflexive cinematic style, has yet to be fully considered. Drawing on Laura Mulvey's conception of the 'uncanny' in response to cinema's potential to confuse animate and inanimate, as well as Tsukamoto's own under-discussed background in experimental street theatre and television advertising production, this essay seeks to examine Tsukamoto's unique method of stop motion photography within his signature, self-produced feature *Tetsuo: The Iron Man* (1989). The intention is to show that these hyperbolic sequences instil not only an uncanniness in their live-action subjects, who are rendered inanimate then reanimated to form staccato, cyborg characters, but also a 'medial uncanny' that simultaneously emulates and subverts the qualities of a vast range of visual media, particularly television and its associated post-medial peripherals and artefacts.

Keywords: intermediality, Japanese cinema, uncanny, animation, pixilation, post-media.

Through his adoption of multiple production roles, as well as his insistence on working largely outside of Japan's studio system, fiercely self-sufficient writer, director, actor, editor, cinematographer and production designer Tsukamoto Shinya has cultivated a tactile filmmaking sensibility that is both reflexive and wrought, corporeal and textural; and one that frequently blurs the definition

¹ This essay adheres to the native ordering of Japanese names: family name first, given name second. Thus in this particular instance, Tsukamoto is the family name and Shinya is the given name.

between form and content. It is a sensibility that, according to Steven T. Brown: “pushes the boundaries of contemporary Japanese film, not only transgressing the conventions of genre and investigating the limits of cinematic form, but also offering biting social commentary on some of the most pressing issues confronting Japan” (2010, 55).

Although his filmmaking career spans nearly 30 years, the international reputation of Tsukamoto (born in 1960) still largely rests on his professional feature debut *Tetsuo: The Iron Man* (1989). A feverish nightmare cocktail that is equal parts lo-fi, cyberpunk delirium and Cronenbergian body horror, *Tetsuo* was widely embraced at film festivals overseas, establishing Tsukamoto as a figure of cult status, and perhaps remains his most stylistically instinctive and playful film.

Set in a sparsely populated, post-industrial Tokyo that appears to stand on the precipice of ruin,² *Tetsuo* features two characters that find themselves transforming into mechanized humanoid monsters who are barely in control of their own bodies. We are first introduced to a character known as *yatsu*, meaning “guy” (but is generally credited as the “metal fetishist” [played by Tsukamoto himself]), who looks to enhance his body by inserting pieces of metal inside it. Following a crude surgical insertion of a metal rod into his leg, the Fetishist panics after the incision becomes suddenly infested with maggots. Fleeing down the street, he is knocked down by a car driven by a Salaryman (Taguchi Tomorrowo). With the help of his girlfriend (Fujiwara Kei), the Salaryman decides to hide the evidence of the collision by dumping the body in the woods. Time passes, and after finding a small shard of metal from his electric shaver protruding from his cheek, the Salaryman starts to undergo a fantastical metamorphosis whereby organic scrap metal erupts from the flesh and appendages mutate into various power tools and cybernetic weaponry. He slowly mutates into the “Tetsuo” of the film’s title,³ much to both the repulsion and perverse fascination of his girlfriend. Meanwhile the Fetishist, who has not only survived the accident but is also experiencing similar metallic changes to his body, returns to Tokyo to exact revenge by laying siege on the Salaryman’s apartment, prompting further transformations and an extended, super-powered battle through the streets.

2 Coincidentally, *Tetsuo* was released immediately before the collapse of the Japanese asset price bubble, which saw mass inflation of Japanese stock market prices throughout the 1980s. The bubble began to waver towards the end of 1989 and had burst altogether by 1991, precipitating a national economic collapse colloquially referred to as the “lost decade” that would persist throughout the 1990s and 2000s.

3 *Tetsuo* is derived from the Japanese word *tetsu* (鉄) meaning “iron.” It can be translated as “iron man,” “iron husband” or “clear (thinking) man” depending on the kanji characters used.

In a parallel most appropriate for a story about metal breaking through the surface of the flesh, the stylistic execution of *Tetsuo* is one where the mechanized process of the filmic image is also made visible. This is most apparent during the film's many sequences of juddering live-action, stop-motion photography, which are used to instigate (and, from a production standpoint, facilitate) transformation, and allow the Fetishist and Salaryman characters to engage in superhuman travel and hyperbolic combat.

Steeped in multifaceted, transnational science fiction and horror genre iconographies, many Western film journalists and scholars have previously chosen to unravel the audio-visual complexities of *Tetsuo* via the citational mode of intertextuality, where they revel in diagnosing the various artefacts that Tsukamoto appears to be quoting. Ian Conrich has pointed out how films such as James Cameron's *The Terminator* (1984) and Paul Verhoeven's *RoboCop* (1987), as well as the work of filmmakers David Cronenberg, Alejandro Jodorowsky, Norman McLaren and Sam Raimi, among others, were a prominent aspect of the reviews of *Tetsuo* upon its release outside Japan (Conrich 2005, 97). Tsukamoto himself has not exactly been shy when talking about the films that have inspired him, stating that he considers Ridley Scott's *Blade Runner* (1982) and Cronenberg's *Videodrome* (1983) as the "parents of *Tetsuo*" (Mes 2005, 40).

However, this intertextual approach can only take us so far in our understanding of the dynamic practice on display in *Tetsuo*, as, to borrow the terminology of Jay David Bolter and Richard Grusin (1999), Tsukamoto's style frequently generates friction between the "immediate" (the eradication of mediation) and the "hypermediate" (the multiplication of mediation), which is realized via heightened acting and blocking, corybantic camerawork, rigorous editing and propulsive music. This awareness of mediation, both in terms of erasure and amplification, naturally lends itself toward a more expansive awareness of the relationships between different media and their points of intersection. As has been previously suggested by Werner Wolf, an intermedial framework serves as a logical continuation to the intertextual (1999, 1–2), exploring more broadly the relationship between the signifiers of varying types of media and how their usage can challenge what could be described as "medium specificity." Intermediality has become an especially potent praxis in film studies due to the argument that cinema functions as a "mixed" or "inter"-medium that fuses the signifiers of a malleable panoply of other media. Thus cinema, as noted by Jürgen Heinrichs and Yvonne Spielmann, "highlights the transformative quality of intermediality that can be found in the varying interrelationships between two or more media forms" (2002, 6–7).

Along similar lines to Bolter and Grusin, Ágnes Pethő has suggested two possible templates for reading cinematic intermediality. The first is a “sensual mode” that invites the viewer to be involved at “the proximity of entangled synesthetic sensations,” where one intuitively absorbs the kaleidoscopic impressions generated through media signifiers, resulting in “a cinema that can be perceived in the terms of music, painting, architectural forms and haptic textures” (2011, 5). Pethő likens this model to that of a wandering stroller or driver who naturally take in their surroundings.

The second template is a more hands-on “structural mode,” whereby the cinematic flow of images is broken down into its medial components. Pethő summates that: “The *structural mode* thus involves either a fragmentation, a shattering of the world into pieces of media representations or the experience of some kind of juxtapositions, jumps, loops or foldings between the media representations and what we perceive as cinematic reality. This kind of intermedialization may take the form of diegetic reflexivity, or it may result in the world appearing as a media collage” (2011, 5–6). This in turn has the potential to lead to “metaleptic contrasts between the ‘natural,’ the seemingly ‘unmediated’ and the ‘artificial’ within the image” (2011, 6).

Through his use of stop motion animation, as well as frequent engagement with the post-medial superset of television (both its cathode ray tube technology and its associated disseminative peripherals), I would like to propose that Tsukamoto’s distinctive filmmaking approach with *Tetsuo* is just as potent a site for both “sensual” and “structural” intermedial cross-pollination as it is for intertextual comparison. By demonstrating the potential ramifications of such fusions, we shall see how Tsukamoto’s melding of live action and animation can create tension between conceptions of what could be termed as the “rational” and the “uncanny” within media. I would also like to propose that this notion of “medial uncanny” may be a more appropriate paradigm when observing the resultant subversions of these media fusions; more so than other established theories of the uncanny within technology. The most famous of these is perhaps the “uncanny valley,” as proposed by Japanese robotics engineer Mori Masahiro (2012).

Before this however, it is worth expounding upon Tsukamoto’s seldom discussed creative development prior to *Tetsuo*, which took place in the arenas of underground self-produced 8 mm filmmaking (*jishu seisaku eiga*), experimental street theatre and professional television advertising production. In doing so, the potential for intermedial discussion concerning Tsukamoto’s film work becomes all the more palpable.

Primitive Tsukamoto: 8 mm Films, Street Theatre and TV Advertising

As a teenager, Tsukamoto self-produced a number of 8 mm films throughout the 1970s, using his younger brother Kōji and school friends as cast and crew. The first was *Genshi-san* (which can be translated as *Mr. Primitive* or *Mr. Primeval* [1974]), a short film featuring an oversized caveman stomping on a (model) city, which was effectively a 14-year old Tsukamoto's love letter to the *daikaijū eiga* (or "giant monster movies") that had featured so strongly in his upbringing – particularly Daiei's *Gamera* films from the 1960s (Mes 2005, 17). He would go on to self-produce six more 8 mm film projects of varying ambition; one of these – *Jigokumachi shōben geshuku nite tonda yo* (translation: *Flying in a Helltown Piss Lodge*⁴ [1977]) – was over two hours in length. However, towards the end of the decade, Tsukamoto soon became disenfranchised with filmmaking as his attention drew increasingly towards the stage after acting in various school plays. He would go on to form two theatre troupes of his own. The first was *Yumemaru* – meaning "dream circle," which was established during Tsukamoto's final year of secondary school in 1977 and continued to operate throughout his attendance at Nihon University (where he studied art), disbanding in 1984. The troupe would perform continually revised iterations of three plays written by Tsukamoto. In 1985 Tsukamoto founded *Kaijū Shiatā* – or "sea monster" theatre, that would stage another updated version of each of Tsukamoto's plays and was typically devised within a small, purpose-built tent adorned with a large papier-mâché sea creature, which was fashioned by the troupe members themselves (Mes 2005, 31–37).

Meanwhile, Tsukamoto's work for the advertising company Ide Production in the early 80s saw him produce commercials for items such as Casio keyboards, fur coats and Nikon cameras. His interest in filmmaking subsequently rekindled and, with the help of his *Kaijū Shiatā* troupe, produced two 8 mm films in quick succession. The first was *The Phantom of Regular Size* (*Futsū saizu no kaijin*, 1986), an 18-minute short filmed in and around the Ide Production offices that was ostensibly a prototype for *Tetsuo*, featuring the same basic conceit of two characters (played by Taguchi and Tsukamoto) undergoing bizarre, and primitively realized, metallic metamorphoses. The second was the 45-minute project *The Adventure of Electric Rod Boy* (*Denchū kozō no bōken*, 1987), a cinematic remediation of one of Tsukamoto's own stage productions concerning a

4 The English translation of this film title is credited to Mes (2005, 25).

time-travelling high school student who finds himself in a dystopian future world where a trio of vampires conspire to have the sky cloaked in eternal darkness.

These two films that followed his activity in *Kaijū Shiatā* and *Ide Production* are markedly different from those 8 mm films produced before, most notably due to their experimentations with live action, stop-motion hybridity; liberating Tsukamoto from the temporal and spatial constraints of intimate stage performance, as well as from the self-described “one scene with one cut” approach of his earlier filmmaking attempts. In *Basic Tsukamoto* (Muramatsu Masahiro, 2003), a television documentary about his work, Tsukamoto explains that: “Until now I was making films focus on the story almost like a stage, one scene with one cut, a pretty still film like that. From *Denchū kozo*, [there are] many cuts on a scene... like riding a rollercoaster.”⁵

These innovations would continue to be utilized in *Tetsuo*, which was, once again, produced by the same core group of personnel from Tsukamoto’s former theatre troupe. As such, *Tetsuo*’s production was also characterized by a strong degree of spontaneity. Speaking with Dan Persons for an interview with *Cinefantastique*, when *Tetsuo* and its sequel/companion piece *Tetsuo II: Body Hammer* (1992) were starting to see circulation in North America, Tsukamoto talks about how limited production resources led to decisions over how certain elements of the film were realized, stating that: “Originally, we thought [*Tetsuo*] would be a parody. Because it had to be one take, we ended up doing a more exaggerated, overacted style, which is easier” (Persons 1993, 52). As a result of a very tight shooting ratio of around 1:1 (i.e. as few takes as possible), a less subtle style of performance commensurate with the more in-the-moment qualities of street theatre was favoured. However, from a cinematic standpoint, Tsukamoto’s main concern for *Tetsuo* was creating what he referred to in the same interview as a “sensuous image [...] showing the relationship between the metal – the materiality and the flesh – and the body” (Persons 1993, 52). Moving forward, let us consider Tsukamoto’s usage of crude stop-motion photography in more detail, as its introduction into his filmmaking is essential when discussing the existence of what I had termed earlier as the “medial uncanny.”

5 See: *Basic Tsukamoto*. DVD. Directed by Muramatsu Masahiro. 2003; Japan: Kaijyu Theater/There’s Enterprise, 2004.

Pixilation and Uncanny Bodies

Tsukamoto's method of live action, stop-motion hybridization instantly aligns itself with the animation technique known as "pixilation," where live actors are used as the subject for animation, as though living puppets. Rudimentary use of pixilation can be traced all the way back to the earliest years of cinema and animation. One example being the short Spanish silent comedy *The Electric Hotel* (*El hotel eléctrico*; Segundo de Chomón, 1908), where guests are seen being pampered by automated grooming appliances. But perhaps the permutation of pixilation that resembles Tsukamoto's work the closest lies in the films of the aforementioned Normal McLaren. McLaren's most famous work, the Academy Award-winning short *Neighbours* (1952), uses pixilation techniques to reanimate two men who fight over the ownership of a flower that sprouts between their houses. Being reanimated by pixilation allows them to skid, levitate and glide across their lawns [Figs. 1–2]. As a result, the film prefigures the mechanized human locomotions and sound effects that would be amplified considerably in *Tetsuo*. Tsukamoto's iteration, however, differs from that of McLaren in that many of his pixilation sequences are executed with a non-fixed camera. In *Tetsuo*, an actor strikes a pose on the street; a single still frame is taken of them. They move forward a little and re-pose, and, crucially, the camera position is also moved and another single frame is then taken. The process is repeated over and over, resulting in the visual effect where the character appears to glide along the surface of the road, with both the camera and audience along for the ride.

It should be acknowledged that this method of animation, much like the theatrical style of performance used throughout the film, would have just as likely been born from logistical necessity as it was from creative experimentation, as the filmmaking technologies required to achieve these effects "professionally" would have been way beyond Tsukamoto's initial investment of 5 million Yen (Persons 1993, 52), which is around 50,000 Euros in today's money. In the Japanese film industry of the 1980s, filmmaking technology such as motion control was reserved only for high-profile, mega-budget studio productions. A notable example being Toho's *Sayonara Jupiter* (Hashimoto Kōji, 1984), an ambitious, multi-lingual space opera that utilized the same Dykstraflex computer-controlled camera system first developed during the production of *Star Wars* (George Lucas, 1977).

However, Tsukamoto's more punk-inspired, do-it-yourself approach – the taking of still photographic frames and arranging them sequentially as a means of reanimating their subjects – yields an important side-effect. Brown has noted that

Tsukamoto's method of live-action, stop-motion hybridity "produces an effect of the uncanny by blurring the boundaries between the animate and inanimate" (2010, 93). In *Death 24x a Second*, Laura Mulvey ruminates on the photograph's role both as mechanized imprint that preserves life after death and its innate ability to conflate the two. She states that: "Uncanny feelings are aroused by confusion between the animate and the inanimate, most particularly again associated with death and the return of the dead. The photograph's suspension of time, its conflation between life and death, the animate and the inanimate, raises not superstition so much as a sense of disquiet that is aggravated rather than calmed by the photograph's mechanical, chemical and indifferent nature" (2006, 60–61). It is at this moment, according to Mulvey, that a sense of the uncanny presents itself. Mulvey describes the phenomena as "often experienced as a collapse of rationality" and as "a property of the human mind and its uncertainties" (2006, 55). (I shall return to this notion of "collapsed rationality" later on.)

Unlike the more expressive movements in McLaren's animations, Tsukamoto's method of pixilation, in many instances, results in the actors barely moving beyond set poses, appearing stilted and tableau-like. Minor fluctuations of said positions notwithstanding, these sequences are orchestrated so that their live, animate subjects appear as inanimate as possible. This effect can be viewed in the scene where Tsukamoto's Fetishist character traverses the city to the Salaryman's apartment. He flies along the abandoned urban streets holding a bouquet of flowers in an outstretched hand. Scrubbing through the sequence frame-by-frame, the inanimate poses of Tsukamoto become even more apparent as the temporal constitution of cinematic illusion gives way to the sequential stasis of a photographic slide show [Figs. 3–8]. As such, this sequence, among many others, represents a tactile, production-centric extension to the film's central theme of flesh merging with metal. Specificity between animate and inanimate, organic and inorganic, living and non-living, and perhaps even form and content, are continually challenged and blurred as human bodies are turned rigid and metal materials are rendered pliant and flexible. In the same sequence, a road sign and a bicycle buckle, crumple and collapse into balls of twisted alloy through the pervasive power of stop motion. Furthermore, the rapidly changing non-fixed camera of these particular sequences also creates a further subversion between subject and environment, as the actors often find themselves confined, or perhaps "anchored," to a particular spot within the frame while the surrounding urban and industrial space – consisting of buildings, lamp posts, fences etc. – competes for the eye's attention as it appears more visually "alive" than the human subjects

of a given shot. This stands in sharp contrast to mainstream usage of stop-motion animation, which, during the 1980s, was still the preferred method for filmmakers intending to bring non-living or fantastical characters to life. Their chief concern was to, firstly, animate their inanimate subject(s) and then integrate said subject(s) into live action settings as seamlessly as possible, all the while maintaining what we commonly refer to as “suspension of disbelief.” Let us take, for example, Paul Verhoeven’s *RoboCop*, a modestly budgeted Hollywood film produced just before *Tetsuo*, that also features cyborgian characters and was cited earlier by Conrich as a point of comparison in critics’ reviews for *Tetsuo*. *RoboCop* uses fluid stop-motion techniques to animate the imposing body of ED-209, the malfunctioning enforcement drone, which were supervised by veteran visual effects artist Phil Tippett. Tippett had previously pioneered a stop-motion technique referred to as “Go Motion” while working with Jon Berg during the production of *Star Wars* sequel *The Empire Strikes Back* (Irvin Kershner, 1980), which involved “connecting rods from a puppet to computer-controlled stepper motors as a means of partially executing character movements” (Duncan 2010, 69). Interviewing Tippett for the fan magazine *Star Wars Insider*, Jamie Painter elaborates on the benefits of the process, stating that it is “a technique to reduce the problem of strobing, a common problem inherent in stop-motion animation. By using computer-controlled motors to blur the motion of the manually-animated models during photography of individual frames of film, [Tippett and Berg] brought stop-motion animation to a new level of realism” (1997).

Realistic motion has been a longstanding concern for animators and, like pixilation, rudimentary precursors of the “Go Motion” concept can be traced back to the earliest years of the stop-motion animation process. This can be seen as early as the 1920s in the puppet animations of Russian animator Władysław Starewicz (perhaps better-known by his Francocized name Ladislav Starevich). Famous for entomological stop-motion vignettes of embalmed insect corpses turned anthropomorphized puppets such as *The Cameraman’s Revenge* (*Mest kinematograficheskogo operatora*, 1911) [Figs. 9–10], Starevich pioneered a style of stop-motion that was unusually fluid for the time period, shooting more than 500 frames per 30 seconds of film (Bendazzi 1994, 35).⁶ Starevich continued to develop techniques that were, in principle, similar to “Go Motion” in many of the films that he subsequently produced upon relocating to France, including *Love*

6 Another of Starevich’s insect animations, *The Beautiful Leukanida* (*Prekrasnaya Lyukanida*, 1911), was seen as being so realistic that “London newspapers wrote that the insects were alive, trained by an unidentified Russian scientist” (Bendazzi 1994, 36).

in *Black and White* (*Amour noir et blanc*, 1923) and the live-action, stop-motion hybrid *The Voice of the Nightingale* (*La voix du rossignoi*, 1923).

Throughout the history of animation, the purpose – or rationale – of creating motion blur during the photographing of a frame was to generate the appearance of natural fluidity by effectively creating movement between movement, which minimizes the staccato effect inherent in the process of placing continuous still images next to one another. Animation scholar Richard Neupert has noted that “for many historians, ‘breathing life’ into the inanimate is the ontological core of animation, if not all cinema” (2014, 61). *Tetsuo*, by contrast, makes absolutely no attempt to create believable motion. As previously mentioned, the film perhaps “breathes” more “life” into the urban and industrial environments that surround its rigid, dehumanized characters, which in its own way subverts the intent of Neupert’s notion of the “ontological core of animation.” Tsukamoto’s conflation of the animate and inanimate image advocates the inverse of this statement by “sucking life” from the “animate,” rendering his human characters into uncanny automata.

Robot Humans and Human Robots: A Brief Sojourn into the “Uncanny Valley”

Tsukamoto’s fictional robots – humans engineered to appear mechanistic through the heavy mediation of photographic form – also yields a further inversion to that of the actual robots – mechanisms engineered to appear humanistic through the careful design of person-like features – being developed by Japanese robotics engineers during the country’s high technology boom of the 1970s and 1980s. Bruce Grenville makes the case that the emerging figure of the cyborg in post-war Japanese culture did not form “in a binary of fear and fascination, good and evil, human and machine,” but instead as “the product of a culture that successfully integrated a history of handcrafted production into the process of industrialization.” As such, Grenville asserts that the object of the cyborg “retained its animistic⁷ spirit” and was seen as an “entity in its own right, worthy of respect and admiration” (2001, 44). Finally, he notes, by way of an observation from cultural anthropologist Oda Masanori, that it was the Osaka Expo 70 that

7 Animism is the attribution of a living soul or spiritual essence to non-human entities and inanimate objects. It is a recurring theme in many artefacts of Japanese visual culture that feature cyborgian characters; perhaps the most famous examples being the anime features *Ghost in the Shell* (Oshii Mamoru, 1995) and its sequel *Ghost in the Shell 2: Innocence* (Oshii, 2004) (cf. Brown 2010, 13–53).

“reawakened a national interest in animism,” particularly amongst the younger generation (Greenville 2001, 44). This “reawakening” can be attributed to the high number of advanced robotics on display throughout the six month-long exposition – the first of such scale to be hosted in Japan. The aforementioned robotics engineer Mori Masahiro notes that: “Plans for the event had prompted the construction of robots with some highly sophisticated designs. For example, one robot had 29 pairs of artificial muscles in the face (the same number as a human being) to make it smile in a humanlike fashion” (2012, 100).

Mori’s observations concerning his colleagues’ quest to instil affinity in their robots through human emulation lead to the publication of his 1970 article *Bukimi no tani*, which literally translates as “Eerie Valley,” but is better known as the “Uncanny Valley.” The “valley” of the title corresponds to the sudden drop in a graph that plots a person’s increasing affinity towards a particular entity the more humanlike it appears. The “valley” appears shortly before the entity in question reaches a level of affinity typically ascribed to a “healthy person” [Fig. 11]. The suggestion is that if an object, a robot in this case, is a compelling replica of a human being but features minor deficiencies in appearance, movement or behaviour, the result brings forth a psychological aversion; an “eerie sensation” galvanized upon the viewer realizing that the perceived robot, although appears incredibly humanlike, is ultimately an imitation of life (Mori 2012, 99). Mori’s observation also applies to still effigies of the human form – a child’s doll, a *bunraku* puppet⁸ etc. – and has more recently been applied to the realm of virtual human characters, such as those created by motion capture technology and those that are found in computer animation and modern video games (cf. Geller 2008; Tinwell 2011), where once again, minor faults in appearance, movement and behaviour (among other factors) reveal their uncanny artifice.

Movement is perhaps the most important determining factor however, as, according to Mori, movement “changes the shape of the uncanny valley by amplifying the peaks and valleys” (2012, 99). To emphasize this importance, Mori produced a second graph featuring two “valleys:” a “still” valley for inanimate objects (represented by a solid line), and a “moving” valley for animate objects (represented by a perforated line) [Fig. 12]. Both valleys are overlaid together on the same continuum, peppered with a range of examples – an “industrial robot,” a “stuffed animal,” a “prosthetic hand” and so on. Lurking at the bottom of the

8 *Bunraku* is a traditional form of Japanese puppet theatre dating back to the 17th century. Resembling human proportions, these flexible puppets range in size and are generally operated by a trio of puppeteers, who are often plainly visible on stage but wear black robes to minimize their presence.

relatively shallow, “still” valley is the corpse, which appears human but lacks the minutia of a living being; at the bottom of the deeper, “moving” valley is the “zombie” – i.e. a reanimated corpse of something that was once alive and “healthy.”

The conflation of life and death and its perpetuating of the uncanny plays into Mulvey’s observations on the uncanny in cinema. Although Mori chooses to filter those entities that are moving (“animate”) and those that are still (“inanimate”) into separate uncanny valleys of varying severity, Mulvey points out how the uncanny in cinema stems from the “photographic index” that underpins the illusion of the moving image: “The mechanical, even banal, presence of the photographic image as index takes on a new kind of resonance, touched perhaps by nostalgia [...]. As a trace of the past that persists into present, and one in which, in the case of the cinema appears to animate the inanimate human body, the photographic index reaches out towards the uncanny as an effect of confusion between living and dead” (2006, 31).

This takes us back to the inversion of terms at the beginning of this section: The “robot humans” that Mori observed at Osaka Expo 70 and the “human robots”⁹ of Tsukamoto’s *Tetsuo*. The robot humans start their journey before the valley, climbing the slope of affinity towards the ultimate summit of complete human likeness. Tsukamoto’s human robots, on the other hand, undergo a process of being reverse engineered on account of them being portrayed by human actors; they begin at the summit by default. However, the use of non-fixed pixilation, paradoxically rendering subjects into both moving and static entities, chips away at their affinity, resulting in them slipping down the ravine of the uncanny valley; but which valley? Although the ultimate effect yields motion, the pixilation in *Tetsuo* elicits confusion between the “moving” and “still.” Placing the roboticized humans of *Tetsuo* on Mori’s graph, then, becomes problematic as their perpetual oscillation between “moving” and “still” leaves little recourse but to either exile them to the hinterland between the deep “moving” valley and the shallow “still” valley, or place them at one of two points where the “moving” and the “still” intersect. These intersections occur a little over half way down either side of each valley, as per Mori’s graph, and also happen to occur on the borderline between positive and negative “affinity.”

9 Grammatically speaking, I am aware that one could make the case that the terms “robot humans” and “human robots” could be swapped in this instance depending on whether one chooses to regard the first word of either expression as an adjective. Indeed, such interchangeability of terms only emphasizes the confusion and potential for uncanny between the human-like robots as observed by Mori and the robot-like humans as created by Tsukamoto. I myself switched these parallax terms around several times before (reluctantly) settling on the present order.

Furthermore, this conflation of “moving” and “still” facilitates another medium-specific rupture between the material of film and the illusion of cinema, effecting the opposition between what Mulvey refers to as “film time” – “the inscription of an image onto the still frames of celluloid” – and “cinema time” – “the structure of significance and flow that constitutes the temporal aesthetic of any movie” (2006, 30). By calling attention to “film time,” the illusion of cinema is brought into question, as is the veracity of filmed human movement. Thus, the corruption of this illusion also brings with it a corruption of the human forms depicted within it. The deliberately staccato results of Tsukamoto’s reanimations affirm an interest, if only latently, in playing with cinema’s mechanistic division of human movement into hidden micro-gestures lasting a 24th of a second each, by making said gestures plainly visible to the viewer.

If we now return briefly to the mode of intertextual citation favoured by scholars’ previous analyses of *Tetsuo* with these developments in mind, new and perhaps better-positioned citations present themselves. Rather than the North American genre films mentioned by Conrich, perhaps *Tetsuo*’s intentions are better compared to like-minded avant-garde film experiments taking place in Europe during the latter half of the 1980s. For instance, *Piccolo film decomposto* (1986), by the Italian filmmaker and photographer Paolo Gioli, reanimates the human subjects from the chronophotography of Eadweard Muybridge, whose work originally set out to break down complex locomotion and arrange them in sequential cells for scientific study. Another Gioli experiment, *Quando l’occhio trema* (1989), reworks material from Luis Buñuel’s *Un chien andalou* (1929) to manipulate cinematic human movement, in this case, the fluttering eye. Similar film manipulations were also performed by Viennese artist Martin Arnold, whose very first work, *Pièce touchée* (1989), takes a short excerpt from the Hollywood film *The Human Jungle* (Joseph M. Newman, 1954) and elongates, reverses and repeats it to obsessively scrutinize the hidden robotization of the human form as it is caught on camera. Mulvey has observed that: “In *Pièce touchée* [Arnold] draws out a man’s entrance into a room, in which a woman is waiting, by repeating frames in series similar to the effect of flicker films. [...] a couple of seconds are stretched out over minutes. At the same time, the rhythm of the repeated gestures begins to resemble mechanical movements” (2006, 171–172).

Arnold’s scrutinizing of movement not only yields a sense of mechanism in the broken gestures of the characters but also within the medium as a whole, as Mulvey continues to observe that “subject to repetition to the point of absurdity, they lose their protective film worlds. Furthermore, the repeated frames that

elongate each movement and gesture assert the presence of filmstrip” (2006, 172). “Film time” and “cinema time,” then, ebb, flow and cross-fertilize in ways that defy their original logic.

So it could be said that the work of both Gioli and Arnold during this period not only instils a sense of the uncanny in the human figures depicted in these intensively remediated, pre-existing works, but that such remediation also instils a sense of the uncanny in the medium itself, as the methods employed by these artists severely corrupt their original context, both physical and temporal, as well as what could be referred to as the “rationale” of the media in question. Can, for example, the stuttering discontinuity of *Pièce touchée* or the freshly reanimated continuity of *Piccolo film decomposto* be considered artefacts of cinema and chronophotography respectively? Or, to paraphrase an earlier quote from Mulvey, could it be said that a “collapse of rationality” galvanized by such manipulation is in effect – creating an artefact that at once emulates or embraces certain fundamental media signifiers, while at the same time eluding or subverting others? As we are now dealing with the deficient minutia of the media itself, rather than the human and humanlike figures it depicts, Mori’s widely accepted proposition of the “uncanny valley” is no longer a viable tool to contextualize these discrepancies of form. Instead, could these phenomena be better described as instances of “medial uncanniness”?

Media Mimesis: Towards a Sense of the “Medial Uncanny”

Although Tsukamoto’s *Tetsuo* is unique to these previously mentioned examples in that it is not a direct manipulation of a pre-existing text, it could be said that a medial uncanniness is generated in the way that its sequences of non-fixed pixilation are executed, playfully oscillating between the rationale that respectively characterizes cinema, animation and photography. Tsukamoto arranges photographic frames in a manner that resembles continuous motion. The truth, however, is that this sense of continuity is merely an uncanny emulation, even though cinema by its very mechanical nature is made up of a rapid succession of still images. Film editor Walter Murch offers an interesting distinction concerning moving image continuity and the context that we, as viewers, subconsciously place upon it: “Each frame [in cinema] is a displacement from the previous one – it is just that in a continuous shot, the space/time displacement from frame to frame is small enough for the audience to see it as motion within context rather than as twenty-four different contexts a second” (2001, 6).

Murch then goes on to say: “On the other hand, when the visual displacement is great enough (as at the moment of the cut), we are forced to re-evaluate the new image as a different context” (2001, 6). Tsukamoto’s do-it-yourself pixilation method, where motion is created through rigorous cutting, exists between these states, constituting motion *resembling* context, as the displacement between his similar yet autonomous snapshot images is perhaps too great to be considered *within* context but not so much that it qualifies as a *different* context. Again, Tsukamoto’s limited resources, coupled with the fact that he was working predominantly in urban Tokyo streets, as opposed to a dedicated studio space, did not afford him the opportunity to create sufficiently discrete motion displacements, or to create movement between movement as was the case with Phil Tippett and Go Motion. In animation terms, Tsukamoto’s sequences seem to be made up exclusively of “key frames” – i.e. the defining moments animators use to map out a particular movement – and without the “in-betweens” that fill the gaps in space and time to seamlessly join them together. The results, then, are sequences that appear so successive that they corrupt the frozen temporality of photography, but so staccato that they challenge the continuous fluidity of motion that sets cinema apart from its ancestor medium.

This fixation with medial heritage chimes not only with Mulvey’s early observation of the tendency for frame-by-frame manipulation to “assert the presence of filmstrip,” but with another observation made by Steven T. Brown concerning the live action, animation hybridity of *Tetsuo*, where he notes that Tsukamoto’s stop-motion technique “exposes the very origins of cinema in the stillness of a single frame,” in addition to its confusing of the animate with the inanimate (2010, 93). Tsukamoto’s self-described “sensuous” approach with *Tetsuo* resonates across the entire spectrum of moving image evolution by liberally picking the signifiers and by-products of its technologies and contorting their conventions to accentuate his narrative.

The film’s progressively arranged yet ultimately independent images channel the intentions and broken physicality of chronophotographic cells, flicker films and the illusions conjured while peering into a spinning Zoetrope. Its monochromatic film stock, 1.33:1 aspect ratio and its use of overriding music yield uncanny impressions of silent cinematic aesthetics and conventions. Tom Mes has drawn further comparisons between *Tetsuo* and silent cinema, noting that “image composition, lighting patterns, performances and make-up are strongly expressionistic in nature,” further citing “high contrast light, over-accentuating face paint, [and] exaggerated body movements” as key visual components (2005, 63).

The film also plays with the stroboscopic textures of cathode ray tube television screens, mimicking in extremis the telecine process of transferring film to video. Such an extreme representation of CRT, achievable through adjusting a film camera's shutter speed so that it is disharmonious with the scanline refresh rate of the TV it films, modifies, melds and corrupts the visual textures of both mediums [Figs. 13–14]. The film also comingles more broadly with the post-medial signifiers of television's disseminative peripherals such as VHS and Betamax recorders, as well as associated commercial outputs that saw massive proliferation during the 1980s, such as the music video, video games and, particularly within Japan, anime. Additionally, the rapid cutting of many of the film's sequences reflects the increasingly excessive editing techniques being popularized by certain strands of television programming such as MTV¹⁰ and also fashions an aesthetic comparable to "channel hopping." While the percussive and somewhat ancillary music of industrial musician Ishikawa Chū¹¹ can be likened to the behaviour of silent film scores, it can also provide uncanny links to the music video as Ishikawa's collaboration with Tsukamoto involved him producing a batch of tracks of differing styles and tempos. Tsukamoto would then select his favourites (Mes 2005, 55), leading to scenes being recut to better compliment these choices, instead of the music being specially composed to accompany specific narrative beats.

Although there are certainly similarities between *Tetsuo* and the aesthetics and themes of technology-obsessed anime texts of the period (Ōtomo Katsuhiro's feature-length anime *Akira* (1988) has always been a popular comparison with critics and fans alike [cf. Conrich 2005; Mes 2005, 60]), Tsukamoto's brand of pixilation also tries to mimic some of their formal conventions. This is especially the case with the ways in which animators of the era choose to depict the increasingly hyperbolic brawls of their characters in anime series such as *Fist of the North Star* (1984–1987) and *Dragon Ball Z* (1989–1996). These shows often feature sequences, or even isolated shots, where hyper-masculine characters are placed against a background of abstract, stylized lines that strobe past to emphasize their building, directional rage. In *Fist of the North Star*, Kenshirō,

10 In Japan, MTV originally featured as a programming block on the Tokyo Broadcasting System, starting in 1989. Tsukamoto was subsequently hired to produce a TV Ident for its permanent successor, MTV Japan, which launched in 1992. The ident features the same uncanny pixilation techniques that were used throughout *Tetsuo*, as a man is consumed by sentient metal cabling before hurtling down a busy city street.

11 Founder of the industrial groups Der Eisenrost and Zeitlich Vergelter, Ishikawa has composed soundtracks for almost all of Tsukamoto's films. *Tetsuo* marks their first collaboration together.

the series' protagonist, is seen in compositions like this before facing off against numerous opponents. In *Tetsuo*, there is a composition where Tsukamoto's tormented Fetishist character is situated in a similar abstract space where the white noise of a scrambled television broadcast serves as a backdrop [Figs. 15–16]. And the characters of the Salaryman and the Fetishist hurtling along city streets is comparable to innumerable physical confrontations in *Dragon Ball Z* where its characters behave likewise.

And finally, the way in which characters are often anchored to a particular point in the frame during these fast-travelling sequences is redolent of the “third person” perspective of video game syntax (which places the viewer/player outside of the game character's point of view). Also, the strobing nature of Tsukamoto's stop-motion and the rapidly scrolling background environments can be likened to any number of arcade racing games available on the market at the time. One such game being Sega's *Out Run* from 1986, whose repetitious music and repeated sound effect samples of roaring engines and skidding tyres also bear resemblance to the hyper-mechanical music and over-dubbed Foley effects of *Tetsuo* [Fig. 17–18]. Although the film obviously lacks the interactive qualities of a video game, it can be said to emulate certain visual qualities and even some of the rhetoric associated with the medium. The most apparent in the latter instance being the use of the expression “GAME OVER” after the film's end credits [Figs. 19–20], a playful substitute to the more traditional cinematic signoff “The End,” often expressed in Japanese films with the kanji character 終 (*tsui*) or 完 (*kan*), meaning “end” or “complete.” Returning briefly to Pethő's conception of “sensual” and “structural” modes of intermedial recognition, *Tetsuo*'s scrolling third-person sequences could be classified as “sensual,” as they offer a mere impression of video gaming mechanics without necessarily conforming to its rationale, leaving it open for the viewer to make or reject that connection independently. Tsukamoto's use of the term “Game Over,” however, could be described as “structural” as it represents a clear indexical borrowing of a component that is demonstrably associated with another medium.

Tsukamoto Shinya's *Tetsuo: The Iron Man* represents a melting pot of medial mimesis, simultaneously borrowing, eluding and subverting the signifiers of several image-based media. Through its sequences of live action–stop-motion hybridity, it offers a fused non-linear “historiography” of the animate and inanimate image. And through its hyper-mediate use of post-medial signifiers, such as television broadcast and video gaming, it offers a vibrant nexus of intermedial collaboration that not only builds further upon this “historiography” but also creates a dynamic

pallet of synesthetic reflexivity commensurate both with Pethő's intuitive "sensual mode" and the more explicit media collage of the "structural mode." *Tetsuo* takes the animate and inanimate, the filmic and the televisual, the medial and post-medial, and collapses their respective rationalities to construct new uncanny ones. The so-called "medial uncanny," then, cannot exist without a prior sense of "medial rationality" and this binary in itself is perhaps worthy of further investigation. But as a result of Tsukamoto's sensuous desire to explore the relationship between metal and the body, his spontaneous reflexivity also invites exploration between media and the body, as well as in-between media, and in doing so, unexpectedly corrupts the rationale that we expectantly place upon them. *Tetsuo*, then, allows us to reflect without preconceived restraint on the fundamental nature of media signification in a way that feels both implicit and explicit, immediate and hyper-mediate, sensual and structural.

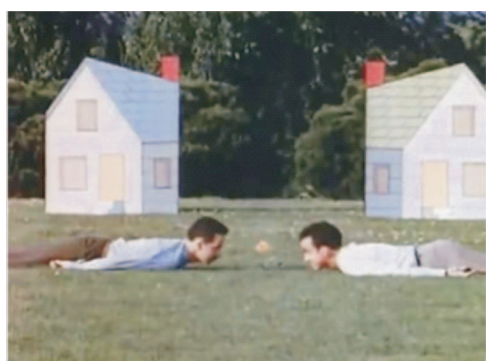
References

- Bendazzi, Giannalberto. 1994. *Cartoons: One Hundred Years of Cinema Animation*. Bloomington: Indiana University Press.
- Bolter, Richard and J. David Grusin. 1999. *Remediation: Understanding New Media*. Cambridge, MA: The MIT Press.
- Brown, Steven T. 2010. *Tokyo Cyberpunk: Posthumanism in Japanese Visual Culture*. New York: Palgrave Macmillan.
- Conrich, Ian. 2005. Metal-Morphosis: Post-Industrial Crisis and the Tormented Body in the *Tetsuo* Films. In *Japanese Horror Cinema*, ed. Jay McRoy, 95–106. Edinburgh: Edinburgh University Press.
- Duncan, Jody. 2010. The Tippet Touch. *Cinefex*, no. 121. (April): 58–97.
- Geller, Tom. 2008. Overcoming the Uncanny Valley. *IEEE Computer Graphics and Applications*, vol. 28 no. 4 (July/August): 11–17.
- Grenville, Bruce. 2001. The Uncanny: Experiments in Cyborg Culture. In *The Uncanny: Experiments in Cyborg Culture*, ed. Bruce Grenville, 13–58. Vancouver: Arsenal Pulp Press.
- Heinrichs, Jürgen and Yvonne Spielmann. 2002. Editorial: "What is Intermedia?" *Convergence* vol. 8 no. 4: 5–10.
- Mes, Tom. 2005. *Iron Man: The Cinema of Shinya Tsukamoto*. Surrey: FAB Press.
- Mori, Masahiro. 2012 [1970]. The Uncanny Valley. *IEEE Robotics & Automation Magazine*, June: 98–100.

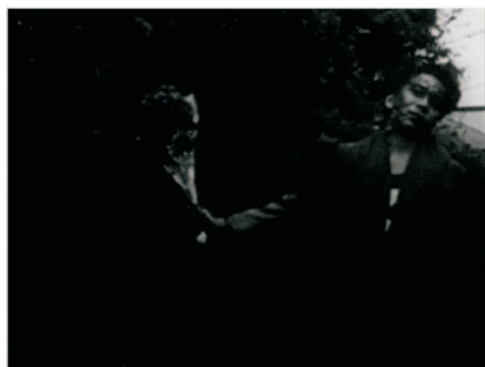
- Mulvey, Laura. 2006. *Death 24x a Second: Stillness and the Moving Image*. London: Reaktion Books.
- Murch, Walter. 2001. *In the Blink of an Eye: A Perspective on Film Editing*. Los Angeles, CA: Silman-James Press.
- Neupert, Richard. 2014 [2011]. *French Animation History*. Oxford; Malden: Wiley-Blackwell.
- Painter, Jamie. 1997. An Insider Interview with Phil Tippett. *Star Wars Insider*, issue 33. Aurora, CO: Fan Club. Archived online at: <http://www.angelfire.com/film/philtippett/articles/motion-control.html>. Last accessed 13. 06. 2016.
- Persons, Dan. 1993. *Tetsuo: The Iron Man*. *Cinefantastique* vol. 23 no. 5: 50–52.
- Pethő, Ágnes. 2011. *Cinema and Intermediality: The Passion for the In-Between*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- Tinwell, Angela. 2011. Facial Expressions of Emotion and Perception of the Uncanny Valley in Virtual Characters. *Computers in Human Behavior* vol. 27 no. 2: 741–749.
- Wolf, Werner. 1999. *The Musicalization of Literature: A Study in the Theory and History of Intermediality*. Atlanta: Rodopi.

List of Figures

Figures 1–2. Norman McLaren uses “pixilation” techniques to reanimate his human subjects in *Neighbours* (1952).



Figures 3–8. Frame-by-frame scrubbing emphasizes the statuesque tableaux of Tsukamoto during a pixilation sequence in *Tetsuo: The Iron Man* (1989).



Figures 9–10. The use of embalmed insect corpses results in a literal (and uncanny) reanimating of the dead in *The Cameraman's Revenge* (Starewicz, 1911).



Figures 11–12. Mori Masahiro's *Uncanny Valley* (1970) plots “affinity” versus “human likeness.” “Affinity” plummets as “human likeness” nears 100%. Meanwhile, while likening “moving” entities to “still” ones, the trajectory of the valley changes dramatically. However, a pronounced drop in “affinity” remains in both cases. (These graphs were sourced from: Mori 2012.)

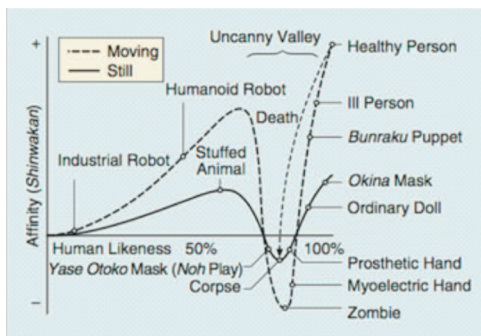
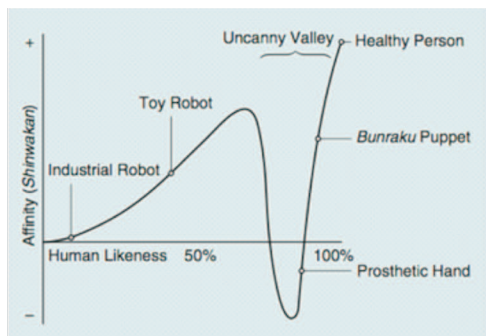


Figure 13–14. Flickering cathode ray tube textures corrupt the filmic image in *Tetsuo*.



Figures 15–16. An aggressive Kenshirō is placed in an abstract background in anime series *Fist of the North Star* (1984-86). Meanwhile, a tormented Metal Fetishist is seen in a similar, stylized limbo of angst in *Tetsuo: The Iron Man*.



Figures 17–18. Scrolling backgrounds, and repetitive music and sound effects, are common features of 1980s' arcade racing games such as *Out Run* (Sega, 1986). Meanwhile, pixilation techniques in *Tetsuo* allow human characters to behave like motor vehicles, as the streets and other vehicles “scroll” past them.



Figures 19–20. *Tetsuo* ends with the expression GAME OVER, which is atypical for cinema but common practice for video games of the era. See, for instance, the GAME OVER screen from *Super Mario Bros.* (Nintendo, 1985), one of the most famous and commercially successful video games of the 1980s.

