



Film stills from Vladimir Shevchenko's *Chronicle of difficult weeks*, 1986, 54 mins. Source: Russian Press Service

The Most Dangerous Film in the World

Susan Schuppli

“Our nuclear plants do not represent any risk. We could have built them at the Red Square. They are safer than our samovars.”

(Excerpt from a Soviet newspaper)^[1]

CHRONICLE OF DIFFICULT WEEKS

Three days after the explosion and melt-down of Chernobyl's Nuclear Reactor Unit 4 on 26 April 1986, filmmaker Vladimir Shevchenko was granted permission to fly over the 30-square km site known as the “Red Zone” in order to document the extraordinary cleanup efforts of Ukrainian workers and volunteers. (Shevchenko 1986) When Shevchenko's 35mm footage was later developed, he noticed that a portion of the film was heavily pockmarked and carried extraneous static interference and noise. Thinking initially that the film stock used had been defective, Shevchenko finally realised that what he had captured on film was the image and sound of radioactivity itself. “This is how radiation looks.”

Radiation is a fatal invisible foe. One that even penetrates steel plating. It has no odor, nor color. But it has a voice. Here it is. We thought this film was defective. But we were mistaken. This is how radiation looks. This shot was taken when we were allowed a 30-second glimpse from the armoured troop-carrier. On that April night the first men passed here – without protection or stop-watches, aware of the danger, as soldiers performing a great feat. Our camera was loaded with black-and-white film. This is why the events of the first weeks will be black and white, the colors of disaster. (Shevchenko 1986)

Upon projection, small flares of light momentarily ignite the surface of the film, sparking and crackling; they conjure a pyrotechnics of syncopated spectrality. It is an act of

radiological recording, whereby the radical imprint of the disaster was inscribed directly into the emulsion of the film as decaying particles moved through the exterior casing of the movie camera. It was not a representation of catastrophe but an actual toxic event in which a lethal dose of radiation was ingrained within the molecules of each and every silver halide particle. Shevchenko's film *Chronicle of difficult weeks* literally transformed into “the most dangerous reel of footage in the world.”^[2] Although the documentary provides us with an intimate view into the space of disaster, its pictorial mediation as filmic matter allows us to remain at a safe and objective distance from it. The sudden distortion of its sound and image-flows by the Geiger-like interference of the radiation, however, displaces our initial confidence in its representational status as a fixed historical index or media artefact and installs in its place a sense of dread that what we are witnessing on film is in fact the unholy representation of the real: an amorphous and evil contagion that continues to release its lethal discharges into the present and future yet-to-come. As a radiological interface capable of conjoining bodily matter with pictorial content the contaminated film footage hurls us, unwittingly, back into the contact zone of the event.

Conceptualising this unexpected filmic rupture as a ‘capturing of the real’, rather than an act of cinematic inscription, forces us to rethink the ontological nature of media matter itself. Contrary to film theorist André Bazin's



Film stills from Thor Heyerdal's *Kon Tiki*, 1947, 77 mins.

well-known conceptualisations of film as “time-embalmed” or “change mummified” and Laura Mulvey’s invocation of film as death (stillness) in the flickering guise of life, this particular sequence of irradiated film reminds us that the ontological moment cannot be fixed at 24 fps. (Bazin 1960, 8; Mulvey 2006) There is no ontological ground that we can return to in perpetuity, no ‘film-substance’ to rewind and playback without loss or change, but only the movement, rhythm and vibration of a topology of difference. The nature of being – mediatic matter’s ontological core as a record and index of past events – is thus converted into a dynamic ontology of becoming, as radiation exerts its modulating influences over time. Shevchenko’s film itself becomes a kind of time machine or, as Gilles Deleuze suggests in *Cinema 2: The time-image*, an artefact for machining time in which the “paralysed, frozen, petrified instance” of the 35mm film-frame becomes “embryonic”, teeming with the hallucinogenic elixir of alchemical life. (Deleuze 1989, 166)

It is as if the past surfaces in itself but in the shape of personalities which are independent, alienated, off-balance, in some sense embryonic, strangely active fossils, radioactive, inexplicable in the present where they surface, and all the more harmful and autonomous. (Deleuze 1989, 113)

Arguably, Shevchenko’s documentation of the objective material reality of Chernobyl through the apparatus of cinema (lens, camera, film stock) sets up a variant of the discussion around “the ontology of the image” if read entirely within the instrumental register

of film’s technical capacities for recording the images and sounds that stream ‘naturally’ into the camera’s receptors.^[3] However, to read his film radiologically, I argue, is to collapse the gap between representation and the real, form and content, signification and affect, so that the ontological dimensions of the film extend beyond their accepted role as indexical trace and enter into a feedback loop with the *actual* material residue of the world.

The radical nature of the recoding of the film by way of the nuclear accident requires that an analysis of Shevchenko’s film entirely within the field of representation must be set aside in favour of an engagement with the film as an actual “event”. According to Deleuze, the (filmic) event does not “trace something that came before rather it actively creates the terrain it maps.” (O’Sullivan 2006, 35) Likewise for Jacques Derrida, it is the trace of writing itself that comes before language (speech), so that what is being traced is not a discursive supplement to the materiality of the world but the movement of the world as it performs its own choreography.

“The map [says Deleuze] expresses the identity of the journey and what one journeys through. It merges with its object, when the object itself is movement.” (Deleuze 1998, 61) As such, Shevchenko’s film exceeds its objective status at an example of documentary realism because it merges the subjective trajectory of the filmmaker’s camera movements over the disaster site with the subjectivity of the terrain itself, given that radiation was imprinted directly upon all those who travelled through it; indeed, Shevchenko

himself succumbed to its lethal force in 1999. *Chronicle of difficult weeks* thus becomes a *de facto* material witness to the industrial accident, one that is ontologically inseparable from the fatal landscape that it simultaneously pictures and maps.

KILLER FOOTAGE

Bazin intuitively identifies a similar shift in representation from an ontology of depiction to an ontology of the event when he discusses Thor Heyerdal's documentary chronicle of the *Kon Tiki* expedition from 1947, in which Norwegians drifted from Peru to Polynesia on a crude wooden raft guided only by the ocean's currents. *Kon Tiki*, writes Bazin, "manages to be the most beautiful of films while not being a film at all" insofar as cinematic documentation was an activity secondary to the scientific purposes of the journey. What it managed to capture, however, were momentary glimpses of the real. (Bazin 1967, 160) While most of the footage was shot as the sailors were floating in calm waters, when something of significance did occur, the camera was quickly abandoned. Bazin focuses his discussion upon a short sequence of frames in which the camera unwittingly captured the image of a whale shark in the water as it lunged towards the raft – an almost imperceptible rupture in an otherwise extended tedium of benign footage. This disruption in the image-flow can be conceptualised as a kind of cut that transforms representation into sensation, but without the repatriating operations that have theorised the cut as a form of filmic suture. What came before is ontologically different in kind and not merely degree from that which follows. What we witness is no longer a picture of the expedition, but the "pro-filmic presence of danger."^[4] Shevchenko's damaged film footage performs a similar ontological feat, as the sudden appearance of radioactive fallout converts documentary images into energetic matter – an unleashing of spectral forces that augurs immanent peril. Instead of continuing to operate as an indexical sign,

the image is mutated, becoming itself an immanent part of the unfolding action or movement; in essence, it becomes an event.

Does the killer whale, that we can barely see refracted in the water, interest us because of the rarity of the beast and the glimpse we get of it, slight as it is?

Or rather because the shot was taken at the very moment when a capricious movement of the monster might well have annihilated the raft and sent camera and cameraman seven or eight thousand meters into the deep? The answer is clear. It is not so much the photograph of the whale that interests us as the photograph of *danger*. (Bazin 1967, 161)

Bazin's remarks here bring together several strands of this paper in ways that are useful for our purposes. Not only does the unexpected intercession of the shark's emergence within the filmic regime activate its latent virtualities affecting the body of the viewer that short-circuit the conventional channels of spectatorship organised around signification and representation, but it also foregrounds the role that chance will play in merging image with event. It is the incidental capturing of a few frames, whether the perceived menace of the shark or the five seconds of irradiated footage, which alters the equilibrium of each documentary film. Without warning, the "dangerous supplement" of affect plucks the image from its data-stream and plugs it into the connective tissue of the filmic assemblage. The sailors forget the camera in order to attend to the hazard of the shark; Shevchenko forgoes the examination of his rushes in order to scrutinize the alien markings that mysteriously appear. These disruptions in the normative workings of the cinematic apparatus shatter the distinctions between the picture-making capacities of the machine and the pure image-making capacities of the event. "Yet somehow the *Kon Tiki* is an admirable and overwhelming film. Why? Because the making of it is so totally identified with the action that it so imperfectly unfolds; because it is itself an aspect of the adventure." (Bazin 1967, 161)



Photo Credit: Tim Suess (www.timmsuess.com), Documented 27 March, 2009.

As a device for ‘crystallizing time’, the camera becomes itself a part of the temporal unfolding of the action that it initially set out to document. (Lazaratto 2007, 111) It is an amalgam between two different kinds of movement, each of which harbours its own technicity: that of the media apparatus, with its image-sound recorders calibrated at precisely 24 fps, and that of the topological terrain, with its rhythmic flows, whether as waves of seawater or pulsating radioactive emissions. Consequently, time, and not just space, must also be figured differently when the identification between the making of the film and its subject matter fuse, when the object becomes implicated in its own adventure and movement. Radiological time in particular ceases to move according to the disciplined march of the clock, as discrete units of measurement extruded through geometrical space, and instead folds back onto itself, creating anarchic feedback loops between radically non-contiguous temporalities in which the future-yet-to-come is overlaid onto the past in a process of continuous modulation. The bursts of radiant energy fixed by Shevchenko’s film are thus not the residual traces of a past that has come to haunt future recordings in the

telegraphic manner that sound and image ghosts typically appear within the analogue regime (a phenomenon in which previous recordings still cling to their magnetic substrates when errant particles escape their full ‘erasure’) but the spectral forces of the future-past archived by the continuous present.^[5] As a ‘radioactive fossil’ whose toxicity can endure millennia, the film’s indexicality is a bipolar registering of both the ‘this was’ of the past (the initial accident) as well as the ‘this still comes’ from the future (the ongoing contamination). Film is typically considered to be an intensive, archival storage medium that compresses history within each of its frames. Its content as such is understood to be *befixed* in time, even though the stability of its material substrate may be subject to deterioration over time. Radioactivity, however, with its extended lifespan of millennia, ultimately recasts Bazin’s ontological conceptualisation of film as ‘change mummified’ and posits in its place an ontology of ‘zombification’, in which the original danger of contamination is not so much mummified or preserved as it is brought back to life, tainting future handlings of the film and its screenings – a radiological insurrection into the archive, resulting in the resurrection of the dead object itself.



Photo Credit: Tim Suess (www.timmsuess.com), Documented 27 March, 2009.

THE MUMMY RETURNS

Today, Chernobyl's Nuclear Reactor Unit 4 is itself entombed within a metal-clad concrete structure that is ominously named the "Sarcophagus", both a burial chamber to the many 'volunteers' who died trying to quell the fire and seal-off escaping contaminants, as well as a form of architectural embalmment aimed at mummifying its radioactive contents. It is literally a death-trap, but a decaying one whose breach will not be the result of tomb-raiders but an act of vandalism perpetrated by the very radioactive materials that it houses. When the core melted, its uranium seeped into the sand bed below the reactor, temporarily petrifying its radioactive impulses into a silica bond. Now these solid forms have largely disintegrated, creating a subterranean terror of radioactive dust clouds that lie in wait for their next atmospheric release. Given the failing state of the Sarcophagus, the opening of the tomb and unleashing of its 'evil spirits' may happen sooner rather than later. What it guards through containment is ironically also that which it guards against – the virulent reanimation of its airborne radioactive particles. "Nuclear materials" writes Peter C. Van Wyck in *Danger signs* "stand in relation to their

containment only very imperfectly – there is always leakage." (Van Wyck 2004, 19)

MICROFICHE VS. DIGITAL DATABASE

Shevchenko's archival recording of the Chernobyl disaster only exists today, that is to say posthumously, because it was captured by analogue means. The extremely high levels of radiation within the zone would have immediately erased any digital video-data, which is stored magnetically. It is not possible to archive the nuclear with digital technology if the hard disks or tapes used for data storage come into contact with radiation. Not only does Shevchenko's film record the immediate aftermath of the Chernobyl nuclear accident and the containment efforts of workers and volunteers or biobots, but in carrying actual traces of the toxicological within its emulsive layers, it also produces an archival double, as the epistemological dimensions of the event are folded into its ontological meta-matter. Only analogue storage mediums are amenable to such ongoing acts of topological deformation. Only film's material substrates can archive multiple superimpositions while still retaining the expressive singularity of each successive layering. The digital, while not immune to interference and noise, must



Pravda newspaper front pages from April 26 and May 15 1986 respectively.

Photographed from Micro-fiche: Susan Schuppli

by definition recalculate and absorb this intruder-data into its coding chains, whereas the deviance of (radiological) interference within analogue domains sits side-by-side with its proper subjects of inscription, since there is no mechanism for reintegrating extraneous information.

Today, any search engine will return the nuclear accident at Chernobyl when the date – 26 April, 1986 – is input into its search parameters, whereas a microfiche review of Soviet (*Pravda*, *Izvestia*) and international newspapers from the period shows a time-lag of 19 days before the event registered publicly in print that a major nuclear accident had taken place. Although an orbiting American satellite took night-time images of the reactor explosion and meteorologists and scientists recorded extraordinarily high levels of radioactivity within days of the meltdown in Sweden and Germany, this information was not linked to Chernobyl for almost three weeks, since Mikhail Gorbachev and the Central Committee largely withheld news of the disaster. Only on 29 April, in response to rapidly growing rumours circulating outside of the Soviet Union that something had happened at Chernobyl, did Gorbachev deign to place a series of discrete notifications with five Soviet news agencies indicating that a minor incident had taken place. “An accident occurred at the nuclear plant in Chernobyl. One of the reactors had been damaged. Measures have been taken. A governmental commission is inquiring.”^[6] In reality, the accident at Chernobyl was massive, releasing higher levels of radioactive contaminants into the environment than any preceding radiological event: higher than the detonation of two atomic bombs over Hiroshima and Nagasaki in 1945, the fallout from atmospheric nuclear weapons testing in the years 1952–63, the blast at the Mayak plutonium production and reprocessing facility in Siberia in 1957 (which had held the previous record for greatest ecological damage by radiation) or the partial reactor core meltdown at Three Mile Island in 1979.

(Smith and Beresford 2005, 25) By severely underplaying the gravity of the situation, tragically delaying reports that a substantial nuclear explosion had taken place and downplaying the potential for contamination, a tragedy of far greater consequences ensued. For those working at the Chernobyl nuclear plant site or living in the adjacent city of Pripyat, this time lag would prove fatal, as malignant cells metastasized, seeding their defects throughout the zone and eventually airlifting their malevolence across the borders of the Ukraine into Belarus and Europe.

Only by scouring each small spool of film in the University of Western Ontario’s Weldon Library periodical and newspaper collection from 26 April, 1986 onwards to see what ‘newsworthy’ items made the front page each day did I finally come to realise that Chernobyl never happened – at least, not by any publicly reported accounts on that particular day. I might add that the library’s microfiche collection is extensive and includes Soviet as well as other non-Western newspapers. Mine was not a mediatic discovery, akin to Baudrillard’s infamous declaration that the first Gulf War never happened due to the hyper-reality of the image-world that overcodes the real to such an extent that it eventually surpasses it and in doing so annuls it. No, my microfiche findings pointed quite literally to the fact that there seemed to be no public record of the nuclear accident having ever taken place on that day. This realisation spurred me into examining each spool of film after 26 April, until I finally came across a substantial printed reference to the horrific events at Chernobyl 19 days later.

On 14 May, President Gorbachev first appeared on state television with the belated words “we have been struck by disaster” and then again as the lead story on the front pages of newspapers the following day. While the obviously tragic consequences of this delay are obvious it was the process of carefully scrutinizing each reel of microfiche that offered the conceptual breakthrough that I



Film stills from Vladimir Shevchenko's *Chronicle of Difficult Weeks*, 1986, 54 mins. Source: Russian Press Service.

was looking for, when I fully grasped the implications of this time-lag and how it could assist me in thinking through the notion of the event. This is a revelation that would have been far more difficult had I relied solely upon digital search engines, which had retroactively corrected the time-line and erased the gap. This temporal disjunction raises the crucial question as to when Chernobyl actually took place: on the day the reactor core failed or on 14 May when the event came into public consciousness? The digital would answer unequivocally 26 April, but the analogue is somewhat less certain and prone to vacillation, since it comprehends that the facticity of the date was a retroactive production. Arguably, *something* took place on 26 April, 1986, but the question is whether Chernobyl as an 'event' occurred on that date.

EVENTS AND ACCIDENTS

In *The logic of sense*, Deleuze posits a distinction between bodies concerned with their "states of affairs" located in actual geometric space and present in time, and incorporeal beings, which he regards as "pure events" constrained neither by space nor time. The kinds of bodies that manifest "tensions, physical qualities, actions and passions", that exist in space and are available in time, are also the kinds of bodies for whom other bodies are a matter of concern. (Deleuze 1990, 4) A tree being a cause for another tree in disseminating its seeds for the purposes of growing a forest, or a cause for the bird that builds its nest within its sheltering branches, or for the human that seeks its shade on a sunny day. Although each body is a causal agent for, or recipient of, the other's actions, the results

of their encounter can also create effects of a different kind that are intrinsic without being substantive.

These *effects* are not bodies, but properly speaking, 'incorporeal' entities. They are not physical qualities and properties, but rather logical or dialectical attributes. They are not things or facts, but events. We cannot say that they exist, but rather that they subsist or inhere. (Deleuze 1990, 4-5)

One of the many examples that Deleuze offers to help us conceptualise 'the event' is the seasonal changes in the pigmentation in a tree. Although we might logically be tempted to designate the status of the event to the tree's change in colour from brown to green, this is in fact contrary to Deleuze's conception, which is preoccupied with verbs (becoming) and not nouns (being). In spring, we witness the tree becoming green but this, according to Deleuze, is only a transitory surface effect, "an expression of the event's actualisation" induced by the conjunctive relations between climate, soil conditions, temperature, and the situation of its planting.^[7] Rather than designating a quality in the thing by saying that "the tree becomes green" or is "now green", which only refers to its physical state of affairs as a qualitative predicate, if we say instead "the tree greens", we invoke an attribute that performs itself as a verb. To green is "the event expressed by the verb." (Deleuze 1990, 21) It is the becoming green of the tree that constitutes the event, rather than the quality green, which is a mere actualization of the various conditions of growth that gather to express themselves as surface features.



With every event, there is indeed the present moment of its actualization, the moment in which the event is embodied in a state of affairs, an individual, or a person, the moment we designate by saying “*here*, the moment has come.” The future and the past of the event are evaluated only with respect to this definitive present, and from the point of view of that which embodies it. But on the other hand, there is the future and the past of the event considered in itself, sidestepping each present, being free of the limitations of a state of affairs, impersonal and pre-individual, neutral, neither general nor particular, *eventum tantum* ... It has no other present than that of the mobile instant which represents it, always divided into future-past. (Deleuze 1990, 21)

Unlike other philosophers for whom the event represents a radical break in historical continuities, a fresh-start or the commencement of something altogether different, the event for Deleuze is not a new occurrence or beginning that cuts its ties with the past but rather an alteration in a set of ongoing processes. Events only reveal themselves when a change takes place within such processes, whether these are naturally occurring or artificially induced. For example, within an organic system, the abnormal growth in cellular tissue that mutates into a malignant tumour becomes an event, while variations in the organisation of nonorganic entities that produce new rock formations out of shifting tectonic matter or that modulate weather patterns into tornadoes may also be termed events. It is neither possible to determine the absolute cause of an event, nor pinpoint its moment of inception, but we can discern its effects. The event moves through time (*Chronos*) but is also in contact with the time of actual occurrences (*Aiôn*). (Deleuze 1993,

76-82) Although certain events must perish in order to provoke different events into actualisation, each event is still suffused by the chromaticism and rhythms of the past, and even derives its momentum from these lingering resources. The meltdown of the core at Chernobyl was not the start of an unheralded series of nuclear reactions but rather a dramatic change in the energetic output between subatomic particles that had previously been controlled and contained: the impact of the accident rechanneling the nuclear pathways that the radiation took from self-contained micro-explosions or fission to its externalised macro-extensions as radioactive dust clouds.

Deleuze actually makes a specific distinction between the event and the accident. He regards the former – the event – as ideal having an “eternal truth” whose time, unlike that of the accident, is never simply the present that provokes it (the accident) and brings it into existence. There are no accidental events, insists Deleuze, but merely events that bear upon accidents and define their conditions. In short, the event is the *problematic* that *problematizes* the accident. But just how does the event come to trouble and ultimately induce the accident? For Deleuze, an ideal event is a singularity that recomposes itself with other singularities to produce a series. When two series come into contact with each other, they “resonate”, redistributing their collective singularities between them. In doing so, they evolve into a different event whose intertwined nature produces what could also be characterised as a kind of assemblage; an entity that is discernable only after the fact by virtue of its effects. For example,

the 'transition' between winter and spring 'communicates' with the pressure building up inside trees that eventually impels the flow of sap into creating a new assemblage called 'a sugar bush' (a Canadian expression that refers to the cold-weather phenomena of running sap and tapping trees). As Deleuze notes, however, singularities are not states of expression that can be attached to speakers in discourse, to their psychological or physical states of affairs or to designate the properties of a concept such as the centre of a curve within mathematics. They are "indifferent" to signifying distinctions that order the world and govern its percepts. (Deleuze 1990, 52) The accident (nuclear or otherwise) can never correspond directly to the event because that would take the event into the denotative domain, the domain of its actuality, of its general circumstances as an industrial accident and its particular malfeasance as Chernobyl. "If the singularities are veritable events, they communicate in one and the same Event which endlessly redistributes them, while their transformations form a *history*." (Deleuze 1990, 52) Although the event acts upon a series of mobile virtualities, transformations arise when two or more of these series communicate with each other, creating a change in their wave-like resonances that can mutate and discharge their singularities into creating a new series, a different event. It is within this surfeit expression of movement that we can discern a history that might properly be called an actual event or an historical incident. Events (like radiation) are extensive and obscure; accidents (like Chernobyl) are intensive and distinct. However, even ideal events are subject to critical thresholds that can provoke their virtualities into "precipitating" an actualisation that might eventually "crystallise" into an accident. Such transformations (histories) are generated by the incoming events of the future (by the intercession of another series) that can determine a different distribution of their effects. This redistribution manifests itself in the form of transactions that are operative in the world and visible as attributes of its material reality.

Because of the invisible and migratory nature of the fallout from the nuclear accident, the movement of its air borne contaminants travels at a much faster pace than that of most public safety dispatches or even awareness that something dangerous has happened. It is as if the accident only appears retrospectively, after the fact. The nuclear accident unsettles the telling of its history because its transmissional flows can never be entirely administered by the media apparatuses used to communicate its event-information, in that, its telematic streams are also to be found within the radiological dimensions of its technogenic matter: in irradiated environments, warped biological systems, deteriorating structures and so on. Of course, any event or disaster is never simply relegated to its delimited space-time within the archives of history but is always capable of being extracted and relinked to other signifying channels in order to produce new meanings and new narrative distributions. The nuclear event, however, produces artefacts that are of a fundamentally different nature given the very long half-life of this kind of radioactivity. Unlike other historical relics, the radiological fossil does not require the mediating gestures of the living historian, asking the right or relevant questions about the past, to exhort the testimonial from the trace. Radioactivity does its work prospectively and, though it leaves evidentiary traces of its clandestine passing, it only does so in times to come, when it is often too late to mitigate against its damaging effects. The meltdown of the reactor is not limited to the event space-time of the Ukraine in 1986, given that the radioactivity, in transgressing the boundaries of nuclear containment, has the transmissional and chemical capacity to reactivate the catastrophic event over and over again for years to come. There is no event-horizon or point of no return for a nuclear accident. There is *only the return*. In this regard, each nuclear accident is always-already pre-emptively inscribed within those event-making transmissions yet-to-come as well as those that have already perished. The future is bound to the past by way of a

radiological present, which brings the future-past into actualisation as an ongoing-effect: a nuclear accident lying in wait.

SOVIET DEFECTORS

In an uncanny premonition of things to come, *Stalker* (released in 1980), the final film shot by Andrei Tarkovsky in the Soviet Union, stakes out the apocalyptic terrain that would become the Red Zone of Chernobyl a full six years prior to the actual meltdown of the reactor core. A mysterious breakdown in the fourth bunker is advanced as the cause for the bleak landscape of *Stalker's* Zone. Tarkovsky's cinematic treatment of the Zone is drawn from the rumour of an explosion at the Mayak nuclear waste facility near Chelyabinsk in 1957, which was said to have created a vast ecological nightmare. As was the case with Chernobyl, the Soviet leadership concealed evidence of the accident and denied reports of human casualties, but unlike the 19 day time-lag that attended Chernobyl's public confirmation by the Kremlin, official corroboration of the chemical fallout at Chelyabinsk was only revealed in 1989: thirty-two years after the damaged landscape first testified to the presence of radionuclides in its water table and agricultural produce.

Stalker is thus a visual interface between two virtualities, a psychic cinematic medium channelling two historical realities: that of Chelyabinsk, as an unsubstantiated rumour, and that of Chernobyl, as an accident yet-to-come. In a rather strange alchemical *dé-tournement*, the illusory domain of film was once again transformed into the realm of the actual, in that it brought the virtual into presence as a felt-effect, whereas the two nuclear accidents that bracketed *Stalker* remained in a suspended state of latency, only to be actualised after the fact – after a time-lag of a certain duration. Although the industrial accident at Mayak had already taken place prior to the production of *Stalker* in 1979, the Soviet government's denial of its having ever happened temporarily erased it from history as an actual event. Of course, thousands could

intuit that something dangerous had happened in the vicinity, not by way of any direct or established knowledge of the incident but by means of its corporeal effects: hemical changes in bodily matter.

What is of parallel interest in playing Shevchenko's documentary back through the reels of Tarkovsky's science-fiction epic is not merely the prophetic account of nuclear disaster that arcs between the two (which certainly merits further investigation) but also the tale of defective film stock that afflicted them both. As the story goes, Tarkovsky's German producer supplied him with a new kind of Kodak stock but then "disaster struck" when the artesian well-water required for the film's processing ran dry due to a malfunction at Mosfilm. Not only is his film stock prospectively entangled with the heavy-water chronicles of Shevchenko's documentary yet-to-come, but the technical breakdown at the pre-eminent Russian film studio gestures towards the future failings of technology that would result in the accident at the Chernobyl nuclear power plant. Apparently, *Stalker's* exposed materials languished in an unprocessed state for 17 days (unbeknownst to Tarkovsky) as the film stock rapidly deteriorated. "In a word, the whole material for the first part ended up on the scrap heap." (Tyrkin 2001, Paragraph 2)

The review of the ruined footage ended in a scandal. Tarkovsky, Rerberg, the Strugatskys, and Tarkovsky's wife Larissa were all sitting in the projection room. Suddenly one of the Strugatskys turned towards Rerberg and asked naively: "Gosha, and how come I can't see anything here?" Rerberg, always considering himself beyond reproach in everything he did, turned to Strugatsky and said: "And you just be quiet, you are no Dostoevsky either!" Tarkovsky was beside himself with anger. But one can understand Rerberg. Imagine what it means for a cameraman to see the entire material turning up defective! (Tyrkin 2001, Paragraph 2)

Threading both of these films through the narrative of 'defect' exemplifies Paul

Virilio's contention that there is no "accidental catastrophe" of a technical nature, which subsequently reveals an unattended error, programming glitch or series of mishaps leading up to the 'improbable' event. Failure is pre-emptively encoded into any machinic assemblage as its virtual double – its evil twin – the accident invented simultaneously with the invention. The possibility that Shevchenko's film stock might also become 'defective' was already incriminated within the virtual archives of those of *Stalker*, prior to him having ever loaded his film canisters and flown into the Red Zone. The very existence of a cinematic assemblage (camera, film, developing solution) is a prehension that a technical malfunction of a greater or lesser degree may occur at some point, which might in turn attach itself to a localised event-transmission (e.g. *Stalker* and/or *Chronicle of Difficult Weeks*).

The accident as a possible event is always-already pre-programmed into any technical object as one of its latent capacities, even though chance still has an important role to play in creating the necessary conditions for its emergence. When circumstances conspire 'accidents' can happen, but they do not, however, happen 'accidentally'. Standard maintenance protocols are processes, not for preventing, but for minimising the magnitude of the error dimension built into the technical machine. Data backups and software recovery programmes are sold not because of the unlikelihood of a fatal incident occurring but because the accident exists as a statistical reality. The virtual is always real. Nuclear disasters don't happen by mistake; they are inadvertently manufactured as one of the many consequences of harnessing of nuclear power. This is why the powerful myth of a fail-safe system still requires a series of back-up operations and contingency plans just in case that 'unthinkable' future-event does arrive.

Although inventions are tacitly understood as coming about through processes of

experimentation, or in some cases serendipity, an invention may also come about through an act of recognition that brings some previously hidden or unobserved reality into public perception. This conceptual mode of inventing is in essence a form of paying-close-attention-to, a kind of perceptual framing device that organises diffuse or latent elements into recognisable patterns and brings them to our immediate attention. Inventions can lie in a state of prolonged dormancy (that is, indiscernible to the human ecologies for whom they are a matter of concern) until conditions arise that provoke them into retro-active presence. As Virilio suggests, it is in the very act of uncovering or covering something that the invention is constituted and thus by extension also the accident.

When English archaeologist Howard Carter discovered the only intact burial chamber in the Valley of the Kings in 1922 and unearthed Tutankhamun's tomb "he literally invented it" writes Virilio. (Virilio 2007, 9) In the case of Chernobyl, it was in the act of entombing the colossal nuclear power plant in concrete and steel, creating a latter-day Sarcophagus, that the 'major' nuclear accident was invented. Focusing awareness upon something for the first time is akin to inventing it anew. While the nuclear accident as a possible outcome was already implicated within the first controlled nuclear fission chain reaction set off by Enrico Fermi in 1942 and subsequently imprinted into the technical assemblage of the nuclear power plant, its recognition as a catastrophic nuclear accident required an act of signification (the construction of the Sarcophagus) equal in magnitude to the cataclysmic scale of the tragedy. Gorbachev understood this implicitly when he issued his first press release reporting minor damage at the Chernobyl plant site. Acknowledging the immensity of the disaster would also be to reinvent it as such, as calamitous and momentous. This, in turn, would require a reciprocal response of similarly dramatic proportions on the part of the Soviet state, which would no doubt also trigger accusations of culpability

in corresponding measure – something the Central Committee was reluctant to undertake or admit to.

The voodoo-like force that enmeshes Tarkovsky and Shevchenko's films through the cinematic space-time of the 'accident' is activated by a series of coincidences that bind the aesthetic malfeasance of chemistry with the politics of the nuclear. To suggest that the accident is always prefigured in the technical organisation of the system tends to conjure up a world of determinism where the disquieting strangeness of coincidence is diminished and rendered a *de facto* by-product of the machinic assemblage. Film is a particularly unique form of pre-emptive technology because its functional capacity for machining narratives is one of its defining elements. Although *Stalker* reactivates events that have already passed and anticipates the coming of future events, it does more than simply orient itself by pointing towards; it actually pre-narrates the plot and develops the visual lexicon that will map itself onto future representations of the nuclear accident. As Laura U. Marks has suggested, film is a fossil-like medium (a recollection-object) that "condenses cryptic histories" within each of its frames. Because it is spatially organised in terms of an encounter between a spectator and the screen, it is able to "translate" these "encoded" experiences over time. It is this space in-between that bestows onto film the power to represent and charges it with meaning.^[8] *Stalker* becomes, in effect, the encrypted virtual archive from which *Chronicle of difficult weeks* will derive many of its signifying resources. Machines for sonic and visual inscription are thus also technologies of the archive, machines for recording and retrieval, for travelling in time. While the archive narrowly conceived is likewise a pre-emptive technology, in that it organises its categories in advance of the selective entry of its artefacts and thus pre-narrates what stories can be told in the future, its archival documents can be resequenced to tell a different versions of events. Analogue film's insistent linearity, the fixed sequence of its frames,

would seem to disavow or at the very least severely limit such conceptual peregrinations. Yet, even a tenaciously programmatic narrative can be creatively reengineered to author other historical accounts and testify against its intended origins.

READING RADIOLOGICAL FILM

Arguably what is fascinating about Shevchenko's film is its transformation from a conventional documentary or benign media artefact into a radioactive fossil through the mysterious intercession of an invisible agent. Even when we are utterly aware of its horrific implications, we (as viewers) are transfixed by the strange markings and itinerant noise that suddenly emerge out of the depths of the image. The retroactive appearance of fallout on the film conjured by these radioactive ghosts still has the capacity to make us feel uneasy and anxious in their presence. If we are ultimately to re-read Shevchenko's film against the grain of representation, which is to say, to read it radiologically, it must be understood as an early warning system for monitoring the incoming signals from the future-past.^[9] Marshall McLuhan viewed the creativity of the arts not in terms of self-expression, as is often the case, but as a kind of radar installation capable of intuiting the approaching transformations signalled by developments in new media and new technology.^[10] According to McLuhan, the perceptual dynamics of art in concert with the sense-perception of the artist, who is specifically trained and attuned to the experiential and the sensate, allows art to register the incoming effects of the future without necessarily staking out a delimited terrain or identifying its operative modalities in advance of its arrival. Rather, it enables us to discern its potential 'targets' and the generalised parameters of its probable engagements. (McLuhan 1967, 33)

Shevchenko's irradiated footage operates as just such an 'early warning system', with the notable exception that its filmic antennae are oriented not exclusively towards the eruptions coming from the future, but are also

tuned into the tremors that still reverberate from the past. Radar, as the original acronym implies, is a form of radio detection and ranging. As an *ersatz* radar system, Shevchenko's film transmits its radiological emissions out into the world; if some of these are perchance detected, they are returned to us in the present where, following Deleuze, we experience them indirectly as "interference effects" or as pure events.^[11] (This is like the kind of shiver that skims almost imperceptibly over our skin each time we view Shevchenko's film.) Unlike conventional radar systems, that try and eliminate interference and noise by focusing their transmissions and range of detection upon specific 'targets of interest', this project on the radiological event (which I continue to develop through writing and art installations around nuclear history), is predicated upon welcoming 'unwanted' signals, in order to activate entanglements between unlikely and non-aligned events. Its signal-to-noise ratio is thus skewed more towards generating more interference rather than isolating and tracking particular historical signals.^[12] Consequently, each time Shevchenko's film is screened, its toxic temporalities are transmitted into the multiple space-times of history, and although some are reflected back to us, others perish in their atmospheric transmission. As radiological emissions and nuclear emissaries, they warn us of the potential hazards and risks that come with speculative research, reminding us that the breach of the Sarcophagus is always-already bound to the filmic space-time of radioactive becoming through the seepages of the virtual. *Chronicle of difficult weeks* is ultimately a long-range media machine and tracking device used for jamming linear accounts of history, modulating its frequencies and rerouting its signals in order to actualise new radiological events.

AN ACCIDENTAL POSTSCRIPT

When delivering an earlier, abbreviated version of this text at the *Ubiquitous Media: Asian Transformations* conference in Japan on 17 July, 2007, the lecture-room at the University of Tokyo suddenly began to shake. Focusing

intently upon my paper, I continued to read even though the other conference participants were becoming increasingly agitated. An earthquake of magnitude 6.8 was taking place near Niigata, which resulted in a series of malfunctions – leaks, burst pipes, and fires – at the Kashiwazaki nuclear power plant. Subsequent technical studies discovered that the nuclear plant had 'accidentally' been constructed directly on top of an active seismic fault. Experiencing the tremors of this radiological activity directly as it was unfolding, standing as I was amidst the quake, signalled the uncanny entanglement between the conceptual content of my research and the literal ontological ground upon which these ideas momentarily trembled. It was as if the actions of the future, my research yet-to-come, had colluded with the past, Chernobyl, to make the present shaky and thus a source of renewable creative energy for the future. As William Gibson has frequently remarked, "The future is already here. It's just not very evenly distributed."

NOTES

- [1] Kostin 2006, 10
- [2] This comment was made by the editors of *Discourse: Journal for Theoretical Studies in Media and Culture*, 2008 when considering an early draft of this text for potential publication.
- [3] See Philip Rosen's discussion of the misreading of Bazin's ontology of the photographic image as one of "technological finality" in Rosen 2001, 9-10.
- [4] This observation was made by the editors of *Discourse: Journal for Theoretical Studies in Media and Culture*, 2008.
- [5] Sound-ghosts are a memory effect of magnetic recording in which the imprint of a previous recording mysteriously reappears. This effect was first reported in 1947 when new kinds of tape were introduced with varying degrees of coercivity or resistance to demagnetisation that in turn permitted stray microns to gather along the outer edges of the tape and haunt through subsequent recordings. (Vanhanen 2005, Paragraph 5)
- [6] Media announcements were given to the Pravda newspaper, state television, the Novosti press agency (APN) and the Tass Agency and their correspondent in the Ukraine. Reporter Igor Kostin, who worked for

- Tass, took the first photographic image of the destroyed reactor at Chernobyl. Like Vladimir Shevchenko, his film was also riven by radioactive contaminants, most of the roll incinerated and unreadable. (Kostin 2006, 10)
- [7] See the entry on the event by Cliff Stagoll in Adrian Parr's *The Deleuze dictionary*. (Parr 2005, 87-88)
- [8] See the discussion of fetishes and fossils in Laura Marks's *The skin of film: Intercultural cinema, embodiment and the senses*. (Marks 2000, 89)
- [9] Radiological film reading is a technical term and form of diagnostic cryptography that refers to the practice of optically decoding the incandescent semiotics registered by processes of X-ray technology – a mode of radiographic literacy that is used to examine welds in reactor rods and search for signs of malignancy in flesh.
- [10] "If art is an 'early warning system' to use the phrase from World War II, when radar was new, art has the utmost relevance not only to media study but to the development of media controls ... Art as a radar environment takes on the function of indispensable perceptual training rather than the role of a privileged diet for the elite." (McLuhan 1964, xi)
- [11] The signal-to-noise ratio is a metric used in signal processing to quantify 'interference effects' in radar systems and better allocate their range of attention to specific targets of interest.
- [12] For example, one of the related incidents I have examined is the recent death of Alexander Sasha Litvinenko, Russian intelligence agent-turned-dissident who succumbed to a lethal dose of a radioactive material (specifically, Polonium 210) in London in November of 2006.
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