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Film. Geography: stirring still remains

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Abstract Inspired by the distinction that Gilles Deleuze drew between the 'movement-image' and the 'time-image,' the paper considers the 'film'—the 'skin'—of 'film geography,' not in terms of the customary geography *of* film, the geography *in* film, or the geography *from* film, but rather in terms of geography *as* film, a literal 'film' geography or 'filmic' geography. To get under the skin of film geography, the paper proceeds in three parts. The first part shatters the conception of film as a re-presentation. The second touches a raw nerve by channelling the power of the false. The third splits open and unfolds the two faces of film, namely the 'movement-image' and the 'time-image.' By way of conclusion, the paper ends its flaying of film geography with a 'stirring still' taken from Michael Madsen's (2010) *Into Eternity: A Film for the Future*, which documents the construction of Onkalo, the world's first deep-geological nuclear-waste disposal facility that must remain undisturbed for at least 100,000 years once the tomb is sealed in the early twenty-second century.

Keywords Film geography · Movement-image · Time-image · Gilles Deleuze · Michael Madsen · *Into eternity: a film for the future*

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…we never know and never have known how to *cut up* a subject. Today less than ever. (Derrida 1991: 285 Original italics)

Intermission…

A film operates through what it withdraws from the visible. The image is cut from the visible. (Badiou, 2005: 78)

In the June 1897 issue of *The Optical Magic Lantern Journal and Photographic Enlarger*, less than two years after the legendary public debut of the Lumière brothers' *Cinématographe* in Paris in December 1895, an article entitled "Animated photographs and projecting machines" by 'the Showman' noted that public interest in the novelty of 'animated photographs' (a.k.a. living pictures, motion pictures, movies, films, and the flicks) had "already begun to flag" (The Showman, 1897: 103). As well as lambasting shoddy equipment, incompetent operators, and inept exhibitors, whose collective failure to use cameras, tripods, projectors, and screens correctly was bringing 'animated photography' into disrepute, the Showman also claimed that "films too are equally at fault" (The Showman, 1897: 103). In this paper I want to use the Showman's passing mention of 'faulty films' as a way into a consideration of the 'film' of 'film geography,' of the 'film' covered by 'film geography,' and of the 'film' that covers 'film

geography.' As this slightly peculiar coverall phrasing implies, my concern is with neither the geography *of* film, nor the geography *in* film, nor the geography *from* film (whether from the side of production and pre/post-production, or from the side of consumption and reception, or else from the side of circulation and distribution, or even from behind the fourth wall of simulation and simulacra), but rather with geography *as* film, a literal 'film' geography or 'filmic' geography: the film *of* geography, the film *in* geography, and the film *from* geography. Depending on one's perspective this reverse shot may seem like a long shot. Nevertheless, I would argue that since geography is primarily concerned with *earth-surface processes*—terrestrial, oceanic, and atmospheric; biochemical and geophysical; biopolitical and geopolitical; human and nonhuman; etcetera—then focusing on geography *as* film is actually an extreme close-up of its laminated structure, and its folding and unfolding. Indeed, the surface of the Earth, as ground and dwelling-place of humanity, was once known as the 'fold' (Old English, *folde*), and one need only scratch the surface of contemporary human geography to unearth tell-tale signs that betray its filmic basis: from the infrastructures and superstructures of yesteryear to the newfangled assemblages and multiplicities of today. "The model for the sciences of matter is the 'origami,' … or the art of folding," says Gilles Deleuze (1993: 6), and that model will come to the fore as we pass from the *cutting* of the moving image to the *hinging* of movement-images, time-images, and crystal-images (Deleuze, 1986, 1989).

Although the Showman's article was penned in 1897, barely 18 months after the *Cinématographe* snatched the limelight from many decades' worth of experimentation and innovation in the art and science of conjuring 'moving pictures' and 'animated photographs,' its passing reference to 'films' speaks to an unresolved ambiguity that continues to disturb this issue of *GeoJournal*, which is devoted to 'film geography'—a well-established field of geographical research whose fortunes, I suspect, are far from flagging (Cresswell & Dixon, 2002; Ernwein, 2020; Escher, 2006; Lukinbeal & Zimmermann, 2006, 2008; Sharp & Lukinbeal, 2015). Both the Showman and this issue of *GeoJournal* beg the same question: in what sense 'film'? No doubt 'film geography' will keep us entertained for aeons to come, but I wager that few will have given much thought to this enigmatic

word—'film'—which the Oxford English Dictionary (OED) traces back to the Old English *filmen*, membrane, which is of Germanic origin, cognate with the Old Frisian *filmene*, that referred to a part of the human body, probably skin; ultimately cognate with *fell*, the skin or hide of an animal. The OED adds that the English word 'film' in senses relating to photography and cinematography passed into many other languages, such as French and Italian (1889), German and Swedish (1896), and Hindi (undated), gradually covering the fold of the Earth with so many synthetic skins: silvered, electromagnetic, and, most recently, liquid crystal. This rich etymology is surely worth tapping, if not flaying, especially given the renewed interest in Human Geography and cognate disciplines for a greater attentiveness to materials, materiality, and materialism (Dolphijn, 2021; Forman, 2020; Goldgaber, 2020; Pfeifer, 2015).

Now, the OED reminds us that in senses relating to photography and cinematography, 'film' originally referred to a thin layer of light-sensitive material that was applied to paper or glass and used to capture a fleeting image. 'Films' were literally films. 'Film' also quickly came to refer to a thin, flexible strip of celluloid or plastic coated with various layers of light-sensitive emulsions that was able to capture a series of fleeting images. As a synecdoche, the light-sensitive layers of 'film' (typically silver halide crystals suspended in gelatin, with colour sensitizers and dye couplers) gradually came to stand in for both the whole material ensemble (sometimes called 'film stock') and also its alchemical transmogrification through exposure to light and subsequent processing in the laboratory: developing and fixing visible images from latent images, which will be positive or negative depending on the chemical process, and monochrome or polychrome depending on the composition of the emulsions. As well as becoming a synecdoche, 'film' also became a metonym: "a representation of a story or event recorded on film or, in later use, in digital form, and shown as moving images in a cinema or (latterly) on television, video, the internet, etc.; a motion picture, a movie," as the OED puts it. Finally, as a mass noun, 'film'—like 'the movies' and 'the flicks'—has taken on the sense of what the OED calls "the making of films considered as an art form, genre, or industry." However, neither the passage from synecdoche to metonym, nor the passage

from analogue to digital via videotape and image sensors, has meant that 'film' has shed its light-sensitive and photo-receptive skin, let alone its capacity to accomplish an alchemical transmogrification of light into 'moving pictures.'

Since this issue of *GeoJournal* is taking stock of 'film geography' I want to use this occasion to 'flesh out' and 'flay' film geography, so to speak, by taking its 'skin'—its 'films'—seriously. There are precedents for this in *film studies*—ranging from an appreciation of film's sensuous materiality, whose light-sensitive materials express distinct sensibilities (e.g. grain, noise, and static), to an appreciation of film's haptic vision (to touch and be touched, to feel and be felt, to see feelingly, by way of light; a lightness of touch, that is collectively relayed through shared skins)*,* which underpins both the seduction and the obscenity, and the violence and the cruelty, of cinematic imagery (Laine, 2006; Lant, 1995; Lyotard, 1989; Marks, 2000; Shaviro, 1993)—but not in *film geography*. To get under the skin of 'film geography' and flay it, the paper proceeds in three parts, or rather, through three cuts. The first cut shatters the conception of film as a re-presentation, partly by stating the blindingly obvious: *a film is not a mirror*. The second cut touches a raw nerve by channelling the power of the false: *a film is a fabrication and a falsification*. Finally, the third cut splits open and unfolds the two faces or facets of film, namely the 'movement-image' and the 'time-image,' to reveal a 'crystal-image:' *a film remains splayed open*. By way of conclusion, the paper ends with the display—or better still: the 'di-*splay'* or '*dis*-play' (Doel, 2020)—of a 'stirring still' that crystalizes the previous three cuts and intercuts them with a film for geography: Michael Madsen's (2010) *Into Eternity: A Film for the Future*. Madsen's film documents the fabrication of Onkalo in Finland, the world's first deep-geological facility for the permanent disposal of highly radioactive spent nuclear fuel that must—*must*⁹—remain undisturbed for at least 100,000 years once the tomb is sealed in a century or so from now, and it deconstructs the audacity of this demand in both theory and practice: "(It) must be done (*Faut le faire*)" (Derrida, 2019: 1). Why *must* this tomb remain undisturbed into eternity? Because Death will have been entombed there; because the living dead will have been buried alive there—and as they slowly decay, dying a living death, these radioactive corpses will remain lethal.

Make. Believe.

The postulate of 'the image in the present' is one of the most destructive for any understanding of the cinema. (Deleuze, 1989: 39)

Jean-Luc Godard, the French New Wave film director, once quipped that a film should have a beginning, a middle, and an end, but not necessarily in that order. I mention this cinematic shuffle as a convenient way into film as a force for *falsification* rather than reproduction, which it accomplishes through *fabrication* rather than representation, *excision* rather than duplication, and *laceration* rather than reflection. Films are essentially cuttings and clippings, snapshots, the work of *découpage* rather than representation. "[T]he various types of image don't already exist, they have to be created" (Deleuze, 1995: 49). The notion of something being 'non-representational' is now very well-established in Human Geography, although often in the ill-fitting garb of what is 'more-than' representational (Anderson & Harrison, 2010; Thrift, 2007; Williams, 2020), but this notion of the 'non-representational' may appear oxymoronic and nonsensical in the context of all-things visible and audible. How can something that renders visible and audible avoid representation? How can a play of light and sound not re-present? To begin to foil such rhetorical questions, suffice to say that a film is not a mirror. It does not *reflect* reality in any straightforward sense. No, a film is not a mirror, although both media share a penchant for light-sensitive silver screens that *render* visible: one composed of silver halide crystals that absorb light, the other of silver foil that reflects light (the *tain* of the mirror). It would be a mistake, however, to equate film with falsehoods and mirrors with truths, as if mirror images were inherently faithful, diligently duplicating the originals from which they derive, even if that fidelity may be subject to inversion and distortion. Mirrors falsify no less than films, not only through the play of catoptrics (e.g. inversion, distortion, anamorphosis), but through the *tain* of the mirror itself, which renders visible without itself being visible and mediates the apparent self-presence of the present (Gasché, 1986; Lyotard, 1990). What appears in a mirror is far from present. Mirrors re-*flect* (bend back) rather than re-*present* (come again).

'What is called present'—that which erects itself freely before me, upright, close at hand,

that which is appearing—can be given as such, as a pure upsurge owing to nothing, only in a mythical discourse in which difference would be erased. If account be taken of what divides it, cuts it up, and folds it back in its very triggering, then the present is no longer simply the present. … It can only go out into language by a sort of ricochet. Transformed here into a regular device, this ricochet confers a quality of indirection, a detour or angle upon every so-called simple, natural, obvious evidence of presence in itself. (Derrida, 1981: 303).

Now, I stress film as a force for falsification to disabuse readers who remain wedded to the belief that images should be dutiful copies of reality, slavishly repeating the original in a more or less degraded form. This was the position of those English trade journals of the 1900s that fretted over "how best to avoid giving false effect upon the screen" (*The Optical Lantern and Cinematograph Journal*, November 1904: 11), that deplored the use of lenses whose focal lengths gave "false perspective" and therefore "false motion" (*The Kinematograph and Lantern Weekly*, 9th January 1908: 141–143), and that denounced comic films whose trickery flouted the laws of nature (e.g. double exposure, slow motion, and topsy-turvy filming). To cut a long story short, the problem that cinematography created for itself in the 1900s was not capturing and conveying 'true motion,' least of all through re-*flection* or re-*presentation*, but rather *exploding* everyday life with "the dynamite of the tenth of a second" (Benjamin, 1968: 236), and *re-engineering* the shards through editing. Editing allowed film "to splice open a moment and insert a number of simultaneous activities" (Kern, 1983: 70) thereby expanding "the sense of the present" (Kern, 1983: 117), and it also allowed film to express "vernacular relativity" (Christie, 1994: 33). In so doing, film threatened to become a probing, quizzical, critical, and perhaps even revolutionary medium that burst open "the homogeneity of the epoch, interspersing it with ruins" (Benjamin, 1999: 474). The advent of 'continuity editing' and the formation of 'narrative space' effectively muffled this explosive potential (Clarke & Doel, 2005; Doel, 2008; Doel & Clarke, 2002). So-called 'continuity errors' inadvertently betray this counter-revolutionary machination yet fortuitously relay the promise that 'any-instant-whatever' may nevertheless trigger the crystallization of another world, even in our own 'pornographic age' (Badiou, 2020).

As if as such…

> Doesn't cinema always … transform the real into the possible and the possible into the real? (Agamben, 2002: 316)

Films are brought to life—animated—through countless cuts that are pieced together through a form of spatial and temporal mutilation and manipulation that is commonly referred to as editing. Whatever else a film does—such as show and tell, take elsewhere and elsewhen, move and affect, or make believe, whether in the guise of 'fiction' or garb of 'non-fiction,' so called—it is first and foremost a morcellated assembly that holds together by being held together, originally on celluloid film stock and more recently on electromagnetic videotape and digital memory cards. It has taken just over a century for filmmakers to fashion the myriad techniques that have enabled them to accomplish the Frankensteinian geoengineering of space and time, of the real and the imaginary, of the possible and the impossible, of the past, present, and future, and of the actual and the virtual. The essential elements for this accomplishment were already sketched out within the first decade or so of the medium's emergence, in the 1890s and 1900s, long before cinema's 'golden age' in the City of Angels and the advent of the so-called 'talkies,' which did not so much unmute 'silent film' (not least because 'silent film' was anything but silent, and it certainly did not lack either a voice or a vocation) as transpose its centre of gravity from gestures to lips (Pearson, 1992). These essential elements ranged from simple camera trickery, such as time-lapse, multiple exposures, and physical compositing, to complex continuity editing, such as match cuts, cross-cuts, and reverse-shots. Even framing, focusing, and exposing are sleights of hand that fabricate what they make appear; they are 'dangerous supplements' in Jacques Derrida's (1976) deconstructive sense: their belated *addition* reveals and conceals an original *deficiency*.

Photography and cinematography exemplify what Deleuze (1989: 126) called the "powers of the false," a phrase that he attributes to Alain Bergala, which Flaxman (2012: xiv) glosses as "the powers to create

(*faire faux*)." This is not to say that what they render visible and audible is untrue, but rather that their truths are given over to fabrication and falsification (Latour & Weibel, 2002; Wiese, 2014). "There's no truth that doesn't 'falsify' established ideas," writes Deleuze (1995: 126). "To say that 'truth is created' implies that the production of truth involves a series of operations that amount to working on a material—strictly speaking, a series of falsifications." Films are manufactured and produced, fabricated and assembled, engineered and crafted. Marvel at the means of production, relations of production, and social and technical division of labour that sustain their realization, from pre-production, shooting, and post-production to distribution, exhibition, and consumption. Film geographers will not get very far if they lumber themselves with the 'form of the true,' and approach film on the basis of representation, verisimilitude, and the shackles of identity, opposition, analogy, and resemblance (Deleuze, 1994).

The power of the false "replaces and supersedes the form of the true, because it poses the simultanity of incompossible presents, or the coexistence of not-necessarily true pasts" (Deleuze, 1989: 131). Flaxman (2012) likens this simulacral fasification to science fiction, which poses the problem '*What if …?*' rather than the question '*What is …?*,' and thereby deterritorializes actuality along so many transversal lines of flight. It is counterfactual, but not in the *conditional* sense of what *might* have been in *different* circumstances, which would shield the actual from the interference of the counterfactual, and so spare the true from the ravages of contingency. Rather, counterfactual should be understood in the sense of supplementarity, undecidability, and iterability, which opens the actual to the "labyrinth of time, … passing through *incompossible presents*, returning to *not-necessarily true pasts*" (Deleuze, 1989: 131, original italics). The 'counter' (*contra*) factual, like the counter-signature, both affirms and opposes, and in so doing *betrays* its fidelity and infidelity, and its ambivalence (Derrida, 2004). By "rebuffing the pretense of reality, the 'if' affirms the reality of pretense, the powers of the false, as the intrinsic element of thinking" (Flaxman, 2012: 296). Photographs—whether animated or still—open onto other worlds. Each one acts *as if* it were otherwise; *as if* it were elsewhere and elsewhen *as such*. Indeed, I am tempted to dub film '*as if as such*' (Johnson, 2015). Each photograph—whether

animated or still—opens onto a labyrinth of space and time, and the vexed problem of 'contingent futures,' which splinters and shatters *the* past and *the* present as much as *the* future (Lampert, 2018; Todd, 2020). "This is Borges's reply to Leibniz: the straight line as force of time, as labyrinth of time, is also the line which forks and keeps on forking, passing through *incompossible presents*, returning to *not-necessarily true pasts*" (Deleuze, 1989: 130–131, original italics. See: Borges, 1999). Such is the 'crystal-image' to which I now turn.

Meanwhile…

> [I]f the whole is not giveable, it is because it is the Open, and because its nature is to change constantly, or to give rise to something new, in short, to endure. (Deleuze, 1986: 9)

In his 2 *Cinema* books, Deleuze (1986, 1989) famously distinguished between the 'movement-image' and the 'time-image,' neither of which aspires to re-present 'true motion.' They *make* movement and *make* time, respectively, through a process of *fabrication* and *machination* rather than representation: "not a theatre, but a factory" (Deleuze, in Guattari, 2009: 53). Images are machines engaged in the one and only "kind of production, the production of the real" (Deleuze & Guattari, 1984: 32). Film not only produces *real* movement and *real* duration, but in so doing it affects and is affected by other reality-producing processes. "It is at work everywhere, functioning smoothly at times, at other times in fits and starts … Everywhere *it* is machines—real ones, not figurative ones: machines driving other machines, machines being driven by other machines, with all the necessary couplings and connections," as Deleuze and Guattari (1984: 1, original italics) put it at the outset of *Anti-Oedipus*. Indeed, Deleuze's coupling of 'image,' 'movement,' and 'time' foregrounds this machinic composition: 'movement-image' and 'time-image,' and not 'image *of* movement' and 'image *of* time.' Movement and time are "not added or appended" to an otherwise immobile series of images but belong "to the immediate image as immediate given" (Deleuze, 1986: 2). Photographic and film stills lack neither movement not time. Every still stirs. Moreover, an image is not a second-rate *copy*

(derivative, duplicative, and so duplicitous and suspect), but a *real process* (i.e. an imaging). "There are no images *of* reality: images *are* reality" (Rushton, 2010: 133, original italics). There is nothing outside the image, just as there is nothing outside the text or the context (Derrida, 1988). There is no backlot for the fabrication of reality. Just imaging.

Now, Henri Bergson warned against the *spatialization of time*, whether in terms of regarding it as a (fourth) dimension to be added to the three dimensions of space (x, y, z, t), or else in terms of dividing it up into instants (t_0, t_1, t_2, … t_n): "when we try to cut it, it is as if we suddenly passed a blade through a flame," says Bergson (1999: 34); "we are dividing the unfolded, not the unfolding." Deleuze explains Bergson's warning in the following terms:

> You cannot reconstitute movement with positions in space or instants in time: that is, with immobile sections [*coupes*]. You can only achieve this reconstitution by adding to the positions, or to the instants, the abstract idea of a succession, of a time which is mechanical, homogeneous, universal and copied from space, identical for all movements. And thus you miss the movement in two ways. On the one hand, you can bring two instants together or two positions together to infinity; but movement will always occur between the two. … On the other hand, however much you divide and subdivide time, movement will always occur in a concrete duration [*durée*]. … Hence we oppose two irreducible formulas: 'real movement $\longrightarrow$ concrete duration,' and 'immobile sections $+$ abstract time.' (Deleuze, 1986: 1)

Whilst subscribing to Bergson's argument and formulae, Deleuze nevertheless objects to Bergson's dubbing of the incorrect formula—which "infuses living duration into a time dried up as space" (Bergson, 1999: 42) and "make[s] differences in kind melt into the homogeneity of the space which subtends them" (Bergson, quoted in Deleuze, 1991: 33)—as the '*cinematographic illusion*.' Rather, Deleuze argues that film comes to exemplify the correct formula:

> The essence of a thing never appears at the outset, but in the middle, in the course of its development, when its strength is assured. …
> The evolution of the cinema, the conquest of

its own essence or novelty, was to take place through montage, the mobile camera and the emancipation of the viewpoint, which became separate from projection. The shot would then stop being a spatial category and become a temporal one, and the section would no longer be immobile, but mobile. The cinema would rediscover [the] movement-image. (Deleuze, 1986: 3).

Indeed, it is not only animated photography but also stills photography that rediscovers how "every duration is thick; real time has no instants" (Bergson, 1999: 36). Every image opens onto 'stirrings still' (Beckett, 2009). Even the simplest operations take time: framing, focusing, exposing, processing, developing, fixing, etcetera. Grain, noise, and static all betray duration.

Now, when Deleuze deploys a pair of concepts, such as 'movement-image' and 'time-image,' 'actual' and 'virtual,' 'deterritorialization' and 'reterritorialization,' or 'smooth' and 'striated,' they are deployed not as static concepts to which motion is added, thereby replicating the "false movement" (Deleuze, 1991: 44) characterized by immobile sections and abstract time, but as a block of becoming composed of real movement and concrete duration. Movement-images and time-images are the two facets or faces of film, like the two asymmetrical profiles that compose the Caduveo split masks analysed by Claude Lévi-Strauss and Jacques Lacan: "the figure joins together two profiles whose unity is tenable only if the mask remains closed, its discordance nevertheless instructing us to open it" (Lacan, 2006: 671. See Fink, 2014). Both faces of film hinge on the emergence of what Deleuze refers to as the 'whatever' (a.k.a. 'any-whatever'—'any-instant-whatever,' 'any-position-whatever,' 'any-location-whatever,' etcetera), which is one way of expressing 'difference in itself' and its 'differential repetition.' As with the '*dx*' of differential calculus, the 'whatever' is simultaneously undetermined (i.e. dx in relation to x), reciprocally determinable (i.e. dx/dy), and effectively determined (i.e. particular values of dx/dy) (see Deleuze, 1994). As undetermined the 'whatever' is virtual. As determined the 'whatever' is actual. And the reciprocal determination of the 'whatever' is what allows the passage between the one and the other, between the

actualization of the virtual and the virtualization of the actual: 'transversality,' 'becoming.' In *Cinema 1*, Deleuze explains it thus:

> The modern scientific revolution has consisted in relating movement not to privileged instants, but to any-instant-whatever. Although movement was still recomposed, *it was no longer recomposed from formal transcendental elements (poses), but from immanent material elements (sections).* … Everywhere the mechanical succession of instants replaced the dialectical order of poses. (Deleuze, 1986: 4, original italics)

Deleuze gives the examples of cartoon films: "the drawing no longer constitutes a pose or a completed figure, but the description of a figure which is always in the process of being formed or dissolving through movement lines and points taken at any-instant-whatevers of their course. …It does not give us a figure described in a unique moment, but the continuity of the movement which describes the figure" (Deleuze, 1986: 5); and Eadweard Muybridge's remarkable "equidistant snapshots" of human and animal locomotion, such as a galloping horse, taken in the 1870s: "this production of singularities (the qualitative leap) is achieved by the accumulation of banalities (quantitative process), so that the singular is taken from the any-whatever, and is itself an any-whatever" (Deleuze, 1986: 6). Marcel Duchamp's (1912) *Nude Descending a Staircase* is another fine expression of real movement and concrete duration, as is Giacomo Balla's (1913) *Abstract Speed: The Car has Passed*.

So, the 'any-instant-whatever' is the hinge or fold between the movement-image and the time-image that opens up *perception*, *affection*, *action*, and *relation*, each of which has its own way of fabricating images, and all of which are interrelated through movement: the movement of matter and the movement of thought (Deamer, 2016; Rodowick, 1997; Rushton, 2012). Roughly speaking, '*perception-images*' make visible and audible (exemplified by the long shot and the mobile camera), '*affection-images*' register the affects that arise as a consequence (exemplified by the close-up, especially of the face), and '*action-images*' express what happens as a result (exemplified by solving problems and resolving situations). Meanwhile, '*relation-images*' introduce a 'dangerous supplement' into the '*perception–affection–action*' structure: a

more or less tangled web of relations and disturbing exchanges of position that force the spectator as much as the protagonist to pursue a line of reasoning (exemplified by the films of Alfred Hitchcock). Indeed, film has always delivered 'a shock to thought' (Massumi, 2002), not only through the celebrated jolts of montage (e.g. Sergei Eisenstein's 'kino fist'), but from the moment something is framed and shot (e.g. Dziga Vertov's 'kino eye'). "It is as if cinema were telling us: with me, with the movement-image, you can't escape the shock that arouses the thinker in you" (Deleuze, 1989: 156). Or again: "I can no longer think what I want to think. My thoughts have been replaced by moving images" (Georges Duhamel, quoted in Deleuze, 1989: 166).

In the guise of the movement-image, the 'any-instant-whatever' hinges on an orderly arrangement of *perception*, *affection*, and *action*, and the *relations* that traverse them: the causal chains that link percepts, affects, and actions together are bound up with thoughts, ideas, and memories, with dreams, fantasies, and hallucinations, with what will have been, should have been, and may have been, etcetera. But these relations are 'dangerous supplements' since they open up the orderly arrangement of the movement-image to an 'outside' that ruins the arrangement in advance. The movement-image *strives* to put everything in its place, especially the past, present, and future. It forges a clear distinction and strong separation between what is actual (present) and what remains virtual (past and future). The real and the imaginary, the actual and the virtual, the present and the past, the present and the future, are often *subjectively* indiscernible (mixed up), but *in fact* they are clear and distinct (straightened out).

Films employing the movement-image invariably seek to straighten everything out through discrimination and partition: between here and there, now and then, true and false, good and bad, right and wrong, real and unreal, actual and virtual, etcetera. However, that effort is destined to come unstuck since the 'any-instance-whatever' not only hinges on movement, but also on duration. This is where the time-image comes into play, opening up everything that the movement-image sought to put in its place. Hereinafter, perceptions, affections, actions, and relations splay out; past, present, and future remain in the making and cease to be composed of discrete points to become layers, levels, and planes forming a labyrinth of time and

a labyrinth of space. (The 'clear and distinct' split into the 'clear but confused' and the 'distinct but obscure.') "This opening up of the virtual past, a virtual that is in a state of 'becoming,' is what is utterly essential for the time-image," notes Rushton (2012: 99), "for it is an image of time in which the past can be rediscovered, reinvented, opened up and discovered anew. What this in turn means is that the future too can be opened up and subject to change." Adolfo Bioy Casares's (2003) *The Invention of Morel* is a wonderful example: a fugitive from a certain reality interpolates himself into an ostensibly self-enclosed virtual reality, layering image upon image so that each affects and is affected by the other, so that the images interlace in a new virtual reality (cf. Coover, 1989). Every 'any-instance-whatever' remains open, then, to *both* the out-of-frame, out-of-shot, and out-of-field, *and also* to the opening that traverses the frame, the shot, and the field, to the opening that is 'inside' what would try in vain to close it off and shut it out: duration.

> Bergson is always saying that Time is the Open, is what changes—is constantly changing in nature—each moment. It's the whole, which isn't any set of things but the ceaseless passage from one set to another, the transformation of one set of things into another. It's very difficult to think about, this relation between time, the whole, and openness. But it's precisely cinema that makes it easier for us to do this. There are, as it were, three coexisting levels in cinematography: framing, which defines a provisional artificially limited set of things; cutting, which defines the distribution of movement or movements among the elements of the set; and then this movement reflects a change or variation in the whole, which is the realm of *montage*. The whole ranges over all sets and is precisely what stops them becoming 'wholly' closed. (Deleuze, 1995: 55)

While movement-images struggle in vain to keep the actual and the virtual in their respective places (one here, the other not; one present, the other not; one real, the other not; etcetera), time-images open each onto the other, and allow each to pass by way of the other, like the two directions that circumnavigate the single edge of a Möbius strip.

The two modes of existence are now combined in a circuit where the real and the imaginary, the actual and the virtual, chase after each other, exchange their roles and become indiscernible. It is here that we may speak the most precisely of crystal-image: the coalescence of an actual image and *its* virtual image, the indiscernibility of two distinct images. (Deleuze, 1989: 127, original italics)

> The actual image and its virtual image crystallize, so to speak. It's a crystal image, always double or duplicated. … There are many ways images can crystallize, and many crystalline signs. But you always see something in the crystal. In the first place, you see Time, layers of time, a direct time-image. Not that movement [has] ceased, but the relation between movement and time [has] been inverted. Time no longer derives from the combination of movement-images (from *montage*), it's the other way round, movement now follows from time. (Deleuze, 1995: 52)

Such is the 'crystal-image' that forms between the folds of the movement-image and the time-image, crystal-images that grow, fracture, and shatter: "The crystal-image is, then, the point of indiscernibility of the two distinct images, the actual and the virtual, while what we see in the crystal is time itself, a bit of time in the pure state" (Deleuze, 1989: 82). By way of example Deleuze (1989) offers the 'growing' crystal-images of Federico Fellini's films, the 'perfect' crystal-images of Max Ophüls's films, the 'flawed' crystal-images of Jean Renoir's films, and the 'decaying' crystal-images of Luchino Visconti's films.

> What constitutes the crystal-image is the most fundamental operation of time: since the past is constituted not after the present that it was but at the same time, time has to split itself in two at each moment as present and past. … Time has to split at the same time as it sets itself out or unrolls itself: it splits in two dissymmetrical jets, one of which makes all the present pass on, while the other preserves all the past. Time consists of this split, and it is this … that we *see in the crystal*. (Deleuze, 1989: 88, original italics)

Stirring still remains…

…A stream of snapshots or stills [*clichés*] … (Derrida, 2010: 3)

At the outset of this paper I said that I wanted to 'flesh out' film geography by taking its 'skin'—its 'film'—seriously, and I have done so by cutting into the presence, reality, and movement of film. By way of conclusion, I want to consider a 'stirring still' that crystalizes this threefold cutting and intercut it with the film—the 'skin'—of geography itself: the Earth's surface. The film that I have in mind is Michael Madsen's (2010) *Into Eternity: A Film for the Future*, which documents the Onkalo deep-geological nuclear-waste disposal facility currently under construction near the Olkiluoto nuclear power station in Finland. The facility is humanity's first attempt to accomplish the 'final disposal' of a small fraction of the world's stockpile of several hundred-thousand tonnes of highly radioactive spent nuclear fuel, all of which currently languishes temporarily and precariously in cooling pools scattered across the face of the Earth, vulnerable to everything from earthquakes and tsunami to accidents and terrorism. Onkalo can mean cavity, cave, chamber, pothole, pit or hollow in Finnish, but the film translates it as 'hiding place.' Over the next century, up to 6,500 tonnes of highly radioactive spent nuclear fuel (uranium) from Finland's two nuclear power stations will be placed in boron steel canisters, encased in copper capsules, and embedded in clay within a 50-km tunnel complex excavated into the almost two-billion-year-old granite bedrock at a depth of 400–500 m below the forested surface. Once the facility is finally sealed in the early twenty-second century this burial site must remain undisturbed for at least 100,000 years as the encapsulated radioactive material gradually decays. Hence the title of the film—*Into Eternity: A Film for the Future*—and its strapline: "This hiding place should never be disturbed." The film intercuts imagery of the present-day fabrication of the facility with an interview-based narrative punctuated by rhetorical questions addressed to the distant future that dwells on the hubris and absurdity of attempting to ensure that the tomb will remain undisturbed for 100,000 years—a time-span that will include periods of glaciation and deglaciation, the disintegration of civilizations, and perhaps even the end of humanity itself, at least in the guise of *Homo sapiens*; a time-span that is similar to the one that separates us from the Neanderthals; and a time-span that is twenty-times that of the Egyptian pyramids, which were also intended to remain eternally undisturbed. The film explores the labyrinth of time and space being excavated beneath the skin of the Earth, and the aporias that appear at every turn of its many forking paths, such as the vain attempt to convey sense and sensations to those in the far future, perhaps via cautionary marker systems (reminiscent of NASA's Pioneer plaques hurled into outer space to beguile alien species) or built environments that would instinctively repel any sentient lifeform (e.g. a brutalist and gargantuan 'Landscape of Thorns' or 'Spike Field,' as first conceived by the US Department of Energy for its Waste Isolation Pilot Plant in New Mexico), and the oxymoronic imperative for every future generation "to remember forever to forget" this hiding place. What is most troubling about this burial site is that the entombed corpse, although spent, will not be entirely dead. Still highly radioactive, it will have been buried alive, and will endure a living death as it decays into eternity. It will live on—*sur-vive*—by dying a living death, by being living dead (Derrida, 2011, 2020).

The 'stirring still' that crystallizes everything that I have covered in this paper occurs 48 minutes and 22 seconds into the film, when an underground blast abruptly terminates an inconclusive discussion about whether it would be better for future generations to remember or forget Onkalo. The film cuts to the surface for 7 seconds, during which time two reindeer on the edge of a snowy forest look directly into the camera, before cutting to a construction-office wall-clock, whose pendulum comes to a stop, and then, in slow motion, several construction workers glance distractedly at their wrist watches, culminating with one worker gently wiping away the trickles of sweat running down the cheek of another worker, as if they were tears. The exchange of glances in this crystal-image obviously begs the question of shame, not only as to whether present-day humanity should be ashamed, but also whether non-humans, such as animals and rocks, should feel our shame, share our shame, and be ashamed in their turn for their complicity in "raising, domesticating, and 'disciplining' … this animal that promises" (Derrida, 2008: 3); ashamed of what this "promising animal" will have promised in vain—*(It) must be done!* But this

shameful exchange of glances that ricochets off clock faces and rock faces suddenly reminds me of a *Sudden Story* by Robert Coover:

> Once upon a time, suddenly, while it still could, the story began. For the hero, setting forth, there was of course nothing sudden about it, neither about the setting forth, which he'd spent his entire lifetime anticipating, nor about any conceivable endings, which seemed, like the horizon, to be always somewhere else. For the dragon, however, who was stupid, everything was sudden. … The hero, coming suddenly upon the dragon …, found himself envying, as he drew his sword, the dragon's tenseless freedom. Freedom? the dragon might have asked, had he not been so stupid. (Coover, 1986: vii).

"[T]he 'sudden' is devoid of movement," says Badiou (2005: 119); "it is not a change, but a separation. It is another scene, doubling the scene that was primordially established. … It is an event creating an *afar*. It is an incalculable distancing" (original italics). Suddenly, it seems entirely fitting for 'film geography,' like the fabrication of Onkalo, to end on a cliffhanger, suspended, for example, over an abyss, or else hanging on by the skin of its teeth, or even choking on a morsel that was too much to swallow, or perhaps cast adrift in a labyrinth of time and space. Hereinafter, everything hangs by a thread. "Cut!"

Declarations

Conflict of interest　There is no conflict of interest with regard to this essay, authorship or research represented therein.

Ethical approval　The authors of the paper "Film. Geography: stirring still remains" have complied with ethical standards of research under the guidance of Swansea University.

Human or animal rights　No research involved human participation.

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