

AUTHOR BIO

Warwick Mules is Adjunct Associate Professor in the School of Arts and Social Sciences at Southern Cross University, Lismore, NSW, Australia. He is author of *With Nature: Nature Philosophy as Poetics through Schelling, Heidegger, Benjamin and Nancy* (Intellect 2014) and co-author of *Introducing Cultural and Media Studies: A Semiotic Approach* (Palgrave 2002).

An Ecocritical Revaluation of the Cinematic Time-Image: Tarkovsky's *Solaris*

Warwick Mules

ABSTRACT

This article undertakes an ecocritical revaluation of the cinematic time-image through a consideration of Andrei Tarkovsky's concept of time-pressure developed in his book *Sculpting in Time*. Responding to Adrian Ivakhov's proposal for a film theory capable of redeeming the perceptual continuum of the human and the other-than-human threatened by ecological catastrophe, the article proposes a revaluation of the material reality of the film-world of Tarkovsky's film *Solaris* insofar as it makes real connections with nature as a complex whole, through the dissipating potentials of entropy. Drawing on Tarkovsky's ideas and filmic practice, I define time-pressure as an image of time traversing its own becoming, forming a naturalistic time-image in a becoming-whole that includes an image of the whole opening to the Beyond: the absolute otherness beyond the frame. In contrast to Gilles Deleuze's a-synthetic time-image (*Cinema 1, Cinema 2*), which remains cut off from real connections, Tarkovsky's naturalistic time-image is able to account for real connections as a revaluation of cinematic perception shifting from anthropocinematic to ecocinematic seeing.

KEYWORDS

connectivity; death drive; Deleuze; ecocinema; film-worlds; the inhuman; negentropy; suture; Tarkovsky; time-image

The aim of this article is to undertake a revaluation of the cinematic time-image through an exploration of the Russian film director Alexei Tarkovsky's concept of time-pressure, set forth in his book *Sculpting in Time* (1986) and as employed in all of his films. Time-pressure is an intensified time-image traversing its own becoming by means of the trace effects of natural forces recorded by a camera as "an impression of time" (62). [1] My claim is that Tarkovsky's time-pressure/time-image lends itself to an ecocritical revaluation of film as potential for reconnecting cinematic perception to the "real connections" (Marx 163) of nature – the connectivity that enjoins human and other-than-human life – through cinematic trace effects as part of an opening-becoming of nature as a complex whole.

[1] By *effect* I mean an "experiential effect" (Massumi 149); that is, an effect in the absence of its cause. A cinematic trace effect is the effect caused by the trace of an absent cause. On the other hand, affects are quasi-autonomous force nodes (Brinkema 24). Naturalistic-cinematic affects, for instance the accumulating dynamism of the wind blowing through the field in the opening scene of Tarkovsky's *Mirror*, give rise to an experiential effect, in this case, the felt presence of the force of nature – its entropic dissipation – in the absence of any localised cause.

For Tarkovsky, film is predicated on naturalistic time-images from its beginnings – in the actuality footage shot by the Lumière brothers in *L'Arrivée D'un Train en Gare de la Ciotat* (1896) – a film composed of a single shot of a train arriving at a station – as the recording of a "matrix of *actual time*" (Tarkovsky 62, emphasis in original). This matrix of actual time is a memory trace traversing its own becoming as an image of time opening into the infinity of an open whole. For Tarkovsky, the Lumières' primitive shot "was the moment cinema was born ... [as] ... the seed of a new aesthetic principle" (62). His project is to rescue this aesthetic "seed" from the "wrong turn" (63) taken in shifting the naturalistic image of the primitive shot into theatrical performance through montage editing that transforms film into an "illustration" of human perception, in order to access the matrix of actual time as trace effects for the shaping of naturalistic time-images. I propose to read Tarkovsky's *Solaris* (1972) as a film composed of naturalistic time-images opening into eco-, as opposed to anthro-, cinematic becoming.

Although sympathetic to Tarkovsky's project of a time-image cinema (*Cinema 2* 43), Gilles Deleuze rejects the naturalism of primitive cinema as pre-cinematic (*Cinema 1* 3), and instead proposes the time-image coming after the development of movement-images through montage editing. Movement-images are indirect images of time synthesised into perceptions within a film-world as a "world which becomes its own image" (57). For Deleuze, time-images begin to appear in the mid-twentieth century through a crisis of the movement-image as a "break between man and the world" (*Cinema 2* 169), where the synthesising logic of suturing is desutured by the interruption of direct images of time subtracting themselves from the sensorimotor schema of the movement-image. [2] For Deleuze, the time-image is not naturalistic but a-synthetic in that it breaks the synthesising logic of the movement-image, which sutures human perception into self-enclosed film-worlds. Ultimately, Deleuze's project is motivated by a search for pure images – images freed from the restraints of a naturalistic vision of the world – as part of a semiotic classicism (Rancière 109).

[2] For a brief summary of the logic of suturing, see Žižek, *Fright* (31–33).

Unlike Deleuze's a-synthetic time-images, which are reactive to, and subtractive from, movement-images, Tarkovsky's naturalistic time-images open his films to the potential for real connections in the persistent force of nature running through them as "time-pressure" (Tarkovsky 117). Time-pressure is manifested in an inundation of the "elemental" (Sallis 138), the counterforce of nature sweeping through shots and across cuts as direct images

of time traversing their own becoming. It is here that we find Tarkovsky parting company with Deleuze. For Deleuze, naturalism is the expression of an “originary world ... of impulses and fragments ... [that] ... converge in an immense rubbish-dump or swamp, and all the impulses in a great death wish” (*Cinema 1* 124). Deleuze is here describing “time conceived as entropy” (127) – its dissolution into indifferent nothingness – but from an anthropocentric perspective where nature’s entropy is seen as human degradation. For Deleuze, naturalism cannot lead to a positive vision of the world since it expresses the state of an originary world exhausted in its own becoming as “both radical beginning and absolute end” (124).

However, an ecocritical perspective following Tarkovsky would see naturalism differently, not as human degradation but as negentropic resistance to the entropy of nature, as potential for both human and other-than-human affirmation of life against the death drive. From an ecocritical perspective, the naturalism of Tarkovsky’s time-images affirms life as negentropic becoming against the death drive. While Deleuze’s a-synthetic time-image inevitably leads to a dead-end at the limits of the movement-image in pursuit of pure images of time, Tarkovsky’s naturalistic time-image cuts across the movement-image in a direct image of time as a countervailing ecological (i.e., negentropic) becoming. In the rest of this article, I will examine how Tarkovsky’s time-images work in terms of what I call “ecocinematic seeing:” a resistive mode of seeing that sees with the naturalistic tendency of his time-images running counter-wise to the anthropo-cinematic seeing of movement-images, opening to “inhuman” time on a cosmic scale.

The Inhuman

Film philosopher Adrian Ivakhiv has proposed that “an ecocritical study of film should in part be aimed at [the] goal of redeeming the material and interperceptual reality of the world, a world that is shared and shaped by humans and nonhumans at a time of precarious relationship between them” (“Anthropobiogeomorphic Machine” 134). Ivakhiv’s proposal is a welcome addition to ecocritical film studies in that it responds to the slide of the world into environmental degradation with a restorative project initiated through critical analysis of film texts. The proposal also appears in the introduction to his book *Ecologies of the Moving Image: Cinema, Affect, Nature* (23), together with brief readings of Andrei Tarkovsky’s films *Solaris* and *Stalker* (1979), both of which:

suggest that nature ... may be an active and even sentient agent, one that precedes us and that in some sense gives rise to us, but also one that follows us and covers us over, as earth covers earth in its sedimentation of memories, meanings, and elemental cycles.
(*Ecologies* 21)

Nature is characterised by both films as an inhuman force indifferent and even hostile to human existence. The inhuman (a term not employed by Ivakhiv) is the indifference of the force of entropy to human existence felt negentropically as a limit beyond which human knowing and reason cannot go. The inhuman

is not the irrationality of an absolute outside, but an *archē* at work within the world of humans, whose principles we do not yet know but must seek in practical engagement with problems and challenges without resort to a stabilising ground (Negarestani).

The inhuman is something that withdraws the closer we get to it. In *Stalker*, we feel the force of the inhuman in a mysterious Zone whose rationality draws questers into its incomprehensible mode of being. In *Solaris*, the inhuman is the force felt on the planet Solaris in the form of a cosmic consciousness enticing astronauts into its power. The inhuman can also be felt in sudden disturbances of nature such as a gust of wind coursing through a field of wheat, seen for instance in the opening sequence of *Mirror* (discussed later), an effect repeated by Terrence Malick in *The Thin Red Line* (1998) where we see wind sweeping through grass on a hill slope just prior to a battle. These naturalistic affects are signs of the inhuman in its withdrawn, incomprehensible state, the effect of which we can nevertheless feel. The inhuman is the force that “gives rise to us” (Ivakhiv, *Ecologies* 21), immersing us in its cosmic becoming as a fate whose face we never see.

As the force of entropy, the inhuman needs to be distinguished from what Ivakhiv calls the “nonhuman:” a category of being other than the human. To avoid confusion, I propose to call the category of being that is other than human the “other-than-human,” to differentiate it from the inhuman. Both the human and the other-than-human owe their difference from one another to the inhuman as the entropic force of nature – in its “dissipating potentials” (Swenson 212) – that runs through all life.

Real Connections

Tarkovsky’s films suggest that the environmental degradation we now see all around us as a product of our own desires has itself become part of the becoming of nature in its indifference to human existence, a condition now known as the Anthropocene. His films capture the entropic slide of the world into anthropogenic degradation through the power of their images. The question raised by Ivakhiv’s proposal is this: how can films contribute to a remedy for the entropy of the world – its dissolution into degraded and dead matter – when, as products of human desire, they are already part of it? The answer I propose is by showing how Tarkovsky’s films are able to *revalue* material reality by forming a film-world through “real connections” (Marx 163) of cinematic perception, thereby resisting nature’s immersive “covering over” of things – its entropic force – with the restorative power of cinematic time-images as negentropic life: life lived as part of, yet resistive to, the dissipating potentials of entropy.

The phrase “real connections” can be found in Marx’s invocation of a connected world of potentially free human being and nature – a common “wealth” – embedded practically in a resistant relation to the “world market” of capital:

From the above it is clear that the real intellectual wealth of the individual depends entirely on the wealth of his *real connections*. Only then will the separate individuals be liberated from the various national and local barriers, be brought into practical connection with the material and intellectual production of the whole world and be put in a position to acquire the capacity to enjoy this all-sided production of the whole earth ... (“The German Ideology” 163, emphasis added)

In bringing Marx’s vision of a separately individualised free life grounded in the practicality of “real connections” into line with ecological thinking in the current age, real connections would be the connections needed to transform technologically engendered virtualised material (e.g., cinematic images) into a praxis of care lived out knowingly in a commonwealth of human and other-than-human life. Tarkovsky’s comments on time in his book *Sculpting in Time* can throw light on this possibility:

Time is a condition for the existence of our ‘I’. It is like a kind of cultural medium that is destroyed when it is no longer needed, once the links have been severed between individual personality and the conditions of existence. (57)

Here Tarkovsky proposes a definition of time in terms of an experience of a personal “I” shaped by “links” – linkages in a continuum of memory shared by a collective “we” – as a cosmic event where all times become possible in what we have already encountered as a “matrix of actual time” (62) formed through an interconnecting sequence of retroactivating moments. For Tarkovsky, lived time is not *chronos* – the linear time governed by causality – but *kairos*, the momentous time “where time and memory merge into each other” through eventual links, the severance of which threatens forgetfulness (“when it is no longer needed”), and where “bereft of memory, a person becomes a prisoner of an illusory existence; falling out of time he is unable to seize his own link with the outside world – in other words he is doomed to madness” (57–58). Tarkovsky’s idea of a continuum of memory predicated on an “I” whose links with a “we” are threatened with forgetfulness is similar to Bernard Stiegler’s idea of “epiphylogenetic” memory – the transitivity through time of a collective I-We relation – threatened with forgetful oblivion by the accelerating power of “algorithmic governmentality” that now controls all forms of cultural memory (*Neganthropocene* 156, 46). [3]

[3] Stiegler’s account of the I-We relation can be found in *Technics and Time 3* (94–95). Algorithmic governmentality is an automated form of non-knowledge, or knowledge without reason, as opposed to noetic knowledge applied to “the technical form of life that takes care of its own conditions of possibility” (*Neganthropocene* 140).

Tarkovsky’s vision of a threatened I-We relation is based on the task of re-awakening human memory to its real connections with historical life relived in moments of *kairotic* time. This vision is enacted in his films through a cinematic practice of *bricolage* that employs actual sites, reproductions and memory traces as “time, printed in its factual form and manifestations” (Tarkovsky 63). A case in point is Tarkovsky’s meticulous crafting of medieval artefacts and machines (a hot air balloon, a massive brass bell) in his film *Andrei Rublev* (1966). Through this reproduced technology (made on site as part of the film’s diegesis), the camera is able to take aerial shots of the earth, and the microphone able to pick up the sound of a ringing bell as real connections with the past, thereby extending an I-We relation with the Russian people into

modernity using “factual forms and manifestations.” This concern for facticity leads to a certain hermeneutic reality in his films in which the traces of the past are lived through their present manifestations in the films as possibilities for future experience.

A countervailing vision apparent in Tarkovsky’s films is one of the negentropic becoming of natural life enfolding the real connections of historical time into the *oikeios* as “the creative, historical, and dialectical relation between, and also within, human and extra-human natures” (Moore 35). By forming film-worlds through a cinematic perception revalued to see real connections of the negentropic becoming of nature (the film-worlds’ productive resistance to entropic decay), Tarkovsky’s films enable a reconnection of the *I* to a *We* grounded in real connections with potential to include both human and other-than-human life.

Revaluation of perception concerns a fluctuation in Tarkovsky’s films between anthropo-cinematic seeing (seeing as the human sees) and ecocinematic seeing (seeing with the real connections of nature), through the movement of time-images – images of time traversing their own becoming – that resist narrative drive and expose the film to inhuman nature (nature in its indifference to human existence) already at work inside the film, opening to the outside. Roland Barthes has identified the kind of resistance I am thinking of here as “negative momentum” in modernist literature as well as in classical cinema: an a-signifying trait detectable in the literary or filmic work as a countervailing tendency towards degree zero “and an inability to maintain it in time’s flow” (*Writing Degree Zero* 5). Picking up on Barthes’s idea, I analyse negative momentum in Tarkovsky’s film *Solaris* (with supporting analysis of a time-image sequence from *Mirror*) in terms of negentropic potentials as cinematic life affirming itself against “time’s flow,” or, in terms of my argument, against the exhaustion of the film in seeking resolutions to conflicts and struggles through narrative closure.

Negentropy refers to the counter-movement of life in resistance to entropy following the second law of thermodynamics (Schrödinger, *What is Life?* 71). All things are conditioned by negentropy as the “potential for change” (Swenson 212), including films and their worlds. In its negentropic resistance, cinematic life affirms the film’s potentials against the “death drive” of narrative towards exhaustion in the auto-efficiency of ends by opening the film to inhuman nature waiting “beyond the frame” (Tarkovsky 117). Beyond the frame is the Beyond – the nothing or void of inhuman nature in its withdrawal from human presence. For Tarkovsky – whose aim is to counter Eisenstein’s montage editing and its dialectical logic of self-negating perceptions – what lies beyond the frame is not the negation of what lies in it, but the Beyond: a void full of potential otherness.

Film-Worlds

In cinematic space a world arises in the experience of immaterial flux becoming images through exchanges of perceptions that assign meaning to actions perceived. The arising of a film-world is a “becoming image” of the world:

“With the cinema, it is the world which becomes its own image” (Deleuze, *Cinema 1* 57). Film-worlds are open to their own becoming through a gap in the suturing process (the process whereby perception is stitched into the logic of the diegesis) made by the presence of the camera shifting into an abyssal outside (Žižek, *Fright* 31–54). Suturing (closure) is simultaneously desuturing (openness). It follows that, in its “becoming image,” a film-world is a world continually desutured by the movement of its own appearing: a movement initiated by the absent presence of a camera always remaining outside the appearance revealed as “the one working now” (Cavell 126). Tarkovskian film-worlds are worlds desutured by the absent presence of the camera, whose look interfaces speculatively (tentatively, cautiously, testingly) with “what comes next” – the thing beyond the frame. Because the camera is located *in medias res*, what comes next cannot be projected from a place already known as the source of perception, but must be brought into view by the camera shifting into an abyssal outside. In the absence of a prior look by which to identify where the next look is coming from, what comes next must be attributable to the camera operating as a “quasi-cause” of perception. [4] The camera becomes a sentient agent of the look-from-nowhere as “the spectre of a free-floating Gaze without a determining subject to whom it belongs” (Žižek, *Fright* 33).

[4] A quasi-cause is a cause indexed through a “bond of effects” (Deleuze, *Logic of Sense* 6). The cause is quasi in the sense that the bonding of effects invokes its cause retroactively.

In Tarkovsky’s films, the look-from-nowhere heralds seeing in inhuman ways. For instance, in *Solaris*, the camera follows the astronaut Kris Kelvin as he explores a space station orbiting the planet Solaris, warily moving around the space station through passageways and doorways. This sequence begins with a desuturing gesture, where the camera, initially located beside Kris and offering a view looking down a passageway side-by-side with Kris’s view of it (fig. 1), suddenly switches position to the other end of the passageway looking back at Kris (fig. 2). Here the camera’s look makes two distinct shifts: the first when it shifts from looking at Kris looking down the passageway across to its own looking down the passageway; the second when it looks back at where it was. At a stroke, the camera liberates itself from Kris’s perception and becomes immersed in its own seeing, where everything becomes visible to its sentient eye. The camera now starts to move around the space station independently of Kris’s perception as if it were stalking him. As it moves past Kris, he flinches as if affected by its invisible presence. At one point, the camera moves past Kris towards a portal window looking out into empty space – the Black Void seen only by the camera in the absence of what comes next (fig. 3).

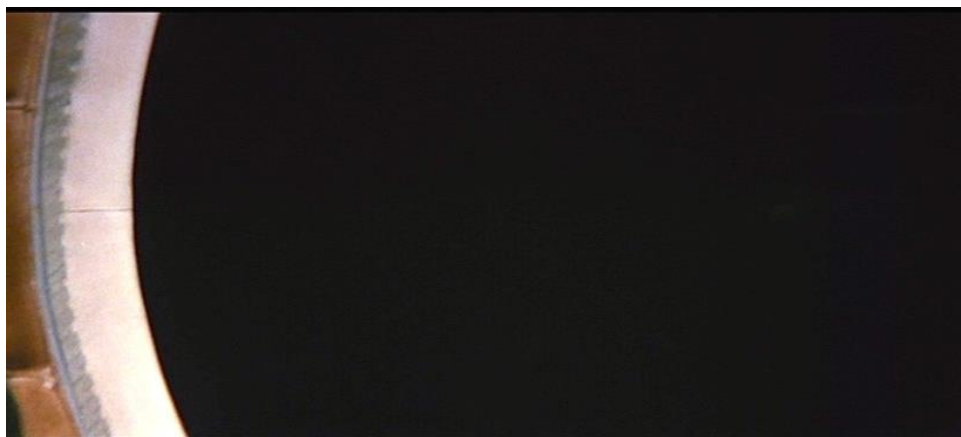


Fig. 1 A View Side-by-Side with Kris’s View Down a Narrow Passageway on the Space Station. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.

Fig. 2 The Reverse View
Looking Back at Kris. *Solaris*. Dir.
Andrei Tarkovsky. DVD. The
Criterion Collection. Janus Films,
2011.



Fig. 3 The Camera Looks into
the Black Void. *Solaris*. Dir.
Andrei Tarkovsky. DVD. The
Criterion Collection. Janus Films,
2011.



The sentient camera is everywhere at work in *Solaris*, seeking ways to go on by “looking awry” (Žižek, *Looking Awry* 11) in excess of characters’ perceptions through desuturing gestures that cause the film to fluctuate between anthropocinematic and ecocinematic seeing. The camera always sees the “more” that the characters fail to see: the real connections of nature in its negentropic movement taking hold of the film as an overflowing excess, seen for instance in torrents of rain inundating Kris’s family home prior to his journey to the planet Solaris. In figure 4, we see Kris momentarily standing in the pouring rain waiting for something to happen: a time-image built up from previous shots of running water now transformed into torrential rain slowed to degree zero in the negative momentum of the film. Like the cup and saucer and half eaten apple on the table beside him, he too is nothing but a simple thing – a resistive node of existence – exposed to an inundation of the elemental rain. Like the leaf we see floating with the current of the stream at the beginning of the film, he too will be swept away, dissipated into earth by entropic force felt directly as “time-pressure” (Tarkovsky 117) in the persistence of the rain pouring from the sky. Tarkovsky’s sentient camera sees nature awry in its negentropic becoming: an ecocinematic seeing that sees humans not through their desires, but in their exposed relation to the inhuman, the invisible entropy of nature as dissipating potential shaping the film-world into its excessive becoming.



Fig. 4 Kris “Frozen” in the Rain.
Solaris. Dir. Andrei Tarkovsky.
DVD. The Criterion Collection.
Janus Films, 2011.

[5] Tarkovsky’s other futuristic film *Stalker* also invokes the presence of the inhuman in a mysterious Zone, characterised as an empty system devoid of human control and operating on inscrutable principles.

The choice of films for this article has been guided by the ecological orientation of the analysis. Although all of Tarkovsky’s films demonstrate the work of time-images, *Solaris* lends itself to an ecocritique through its futuristic orientation that places values at risk by the presence of the inhuman felt as a mysterious force active in all things, while *Mirror* provides an instance of a Tarkovskian time-image in which human memory is refashioned from an *I* into a *We* through cinematic images, an issue that also arises in the death drive that grips the Solarian film-world. [5] *Solaris* presents the inhuman as entropic force indifferent to human existence, silently bearing all things towards dissolution. In order to be, the human must disavow the inhuman – the entropic force indifferent to human existence – thereby affirming itself as anthropogenic life.

In my reading of *Solaris*, I show how the film’s narrative drive is gripped in a vicious circle of negentropic becoming in the form of a romantic deadlock between the hero and his dead wife. But in a departure from Slavoj Žižek’s psychoanalytical reading of the film that focuses on the annihilation of the psychic drives within the closed world of the diegesis (“The Thing”), I show how the time-images of nature working in the negative momentum of the film – in its appearing against narrative drive – absorb the psychic drives in persistent negentropic becoming that breaks the deadlock of desire in a moment of exposure to real connections and envelops the entire film-world in a frozen image in which the Earth is seen in diminished form from the perspective of an inhuman cosmic vision. While Žižek dismisses images of nature in *Solaris* as “a couple of shots of green weeds in water” (225), my analysis takes these insignificant weeds to be part of the immaterial substance of time-images that, together with images of other things of nature, become an ecocinematic vision of an evolving temporality in which the human is rendered insignificant in relation to the inhuman gaze.

Time-Images

Tarkovsky has supplied us with a phrase in the title of his book, *Sculpting in Time*, to describe the way his films produce time-images. By sculpting in time he means the shaping of the flow of time drawn from nature by the camera

into a rhythm perceivable as “the pressure of the time” running through the shots:

The distinctive time running through the shots makes the rhythm of the picture; and the rhythm is determined not by the length of the edited pieces, but by the pressure of the time that runs through them ... The consistency of the time that runs through the shot, its intensity or ‘sloppiness’, could be called time-pressure. (117)

and:

Rhythm in cinema is conveyed by the life of the object visibly recorded in the frame. Just as from the quivering of a reed you can tell what sort of current, what pressure there is in a river, in the same way we know the movement of time from the flow of life of the life-process reproduced in the shot. (120)

Time-pressure is in nature and in the shot as an insistence of the sense of nature – its “quivering” affectivity – traversing the film. Although internal to shots, time-pressure runs across shots via cuts that breach the suturing of perception – its stitching into the film’s logical mode of seeing – in an overflow of sense that desutures the film into a Beyond that is felt right there in the images themselves. Images extend indexically through the shots and into other shots in a transversal flow held together by the time-pressure that runs through them (e.g., the pouring rain in the shot of Kris discussed previously, shifting across from other shots, and holding the entire sequence together through its insistent intensity that inundates and overflows each frame). The key to Tarkovsky’s time-images is their indexicality: their “pointing” to life beyond the frame:

How does time make itself felt in the shot? It becomes tangible when you sense something significant, truthful, going on beyond the events on the screen; when you realise, quite consciously, that what you see in the frame is not limited to its visual depiction, but is a pointer to something stretching out beyond the frame to infinity; a pointer to life. Like the infinity of the image which we talked of earlier, a film is bigger than it is – at least, if it is a real film. And it always turns out to have more thought, more ideas than were consciously put there by its author. Just as life, constantly moving and changing, allows everyone to interpret and feel each separate moment in his own way, so too a real picture, faithfully recording on film the time which flows on beyond the edges of the frame, lives within time if time lives within it; this two-way process is a determining factor of cinema. (117–18)

What Tarkovsky is driving at here is the way the shot summons forth otherness through the rhythm of the real connections of the natural world – their quivering affectivity – as indexical traces of movement and change, appearing as “real picture[s]” drawn into the film by the camera. Tendencies are phase-shifted from material residues into the cinematic substance of the film-world through indexical correspondences felt as time-pressure. A Tarkovskian film-

world is one opened to the otherness of this world in the immanence of time flowing “beyond the edges of the frame,” carrying the affectivity of nature with it. Otherness is “point[ed] to” and brought about by the time-pressure running through the shots, transforming natural movement into cinematic life.

Tarkovskian time-images are indexes: they point “to something stretching out beyond the frame to infinity; a pointer to life.” As indexes, they share something of the reality to which they point. Like a finger pointing to an object, the index partakes of the reality invoked through its very gesture. Unlike the voice, which withdraws into the innerness of psychic expression, the pointing finger reaches out to what it draws attention to. In Tarkovsky’s films, indexical pointing is achieved by the camera’s looking at things – its mobile “stretching out” through the view opening in the shot, pointing to life “beyond the frame to infinity.” For Tarkovsky, infinity refers to the momentous opening into the time Beyond which is also right there in the images themselves thanks to cinematographic art and film-making praxis. In his praise of Tarkovsky’s time-image cinema, Gilles Deleuze comments:

It is only when the sign [i.e. the index] opens directly on to time, when time provides the signaletic material itself, that the type, which has become temporal, coincides with the feature of singularity separated from its motor associations. It is here that Tarkovsky’s wish [for a free and direct relation to time as becoming] comes true: that ‘the cinematographer succeeds in fixing time in its indices perceptible by the senses’. (*Cinema 2* 43)

In its stretching out to infinity beyond the frame, the index does not point to its cause through an object in the manner of a Peircean index, but “opens directly on to time” (43) while fixing time in the image as movement perceptible to the senses. The Tarkovskian index carries perception directly through the moving-appearing of images tending beyond the frame. Perception is stretched through the finitude of the time-image towards infinite possibilities not yet perceivable – possibilities immanent to the image in its finite appearing. For example, in the opening scenes of *Mirror* (1975), a long take presents us with a field stretching into the distance from a view high on a hill; a view we share with a woman who sits on a fence in the foreground (fig. 5).

In the distance we see a man wending his way up the hill, where he stops and talks to the woman. The initial view of the shot – looking out over the field – indexes the “more” beyond the frame, invoking infinite possibilities, while the figure moving from the background towards us returns the look to the finitude of its source – the woman’s desire. It turns out that the woman is waiting for her husband who has gone away; his longed-for return replaced by the visit of the stranger who flirts with her. In its insistence through time, the shot traverses its own appearance in a time-image of unfulfilled desire.

In their stretching to the infinite, Tarkovsky’s time-images turn back on themselves to their finite beginnings, in what Seung-hoon Jeong calls a para-index: an index “that indicates its cause as absent but immanent in visual reality” (17). Para-indexes do not reach out to secure their signification in a

prior cause beyond the frame; rather, they turn back to reach out in order to find correspondences across the frames as they come into view, thereby anticipating their cause retroactively in the future anteriority of what comes next. They traverse their own becoming in a chiasmic appearing as time-images. In conventional film praxis, para-indexicality occurs through the process of suturing whereby the absent cause of any given shot is delivered in the counter-shot, for instance, in an eyeline match where a character's look is immediately followed by a shot of something, implying that this "something" is what has caused the character to look in just that way. Para-indexes have the capacity to link shots into a closed loop circuit, or what Jeong calls a "montage of amalgam" (188), suturing perception into the inner workings of a character able to make sense of the sequence as causally motivated. But the para-index can also work as an open interface (186), or "montage of ricochet" (189), desuturing the film-world through time-images within the shot itself, carrying perception directly into the other side of what comes next.

Fig. 5 Looking Towards the Beyond. *Mirror*. Dir. Andrei Tarkovsky. DVD. Kino Video, 2000

[6] See Martin (121). As noted by McSweeney, the dacha in the background is the actual house in which Tarkovsky spent much of his childhood (32). The sequence is thus linked biogenetically to the Tarkovsky family and is a good example of Tarkovsky's concern for the facticity of images as real historical time-images (previously noted with respect to *Andrei Rublev*).

[7] The distinction between primary (perception), secondary (imagination) and tertiary (recorded) retentions can be found in Stiegler's critique of Husserl's theory of time consciousness. Stiegler argues that Husserl's model is inadequate because it fails to account for the technical prostheticisation of human memory in recorded technology, which he calls tertiary retentions – the memory traces of the "We" short-circuiting the primary/secondary process, leading to "consciousness of image" (Stiegler, *Technics and Time* 3 17) but at the expense of a primary relation of the "I" with itself as an actor in the world.



For instance, in the scene just described in *Mirror*, the camera slowly moves past the woman sitting on the fence, desuturing itself from her gaze to move around her as she converses with the stranger. Behind her are her two sleeping children kept out of view. Throughout this sequence, the adult voice of a narrator can be heard, spoken by the director's own father – the poet Arseny Tarkovsky – as lines from one of his poems. [6] This is Alexei – one of the sleeping children – recalling his childhood, thereby opening a gap between the present and the past of the events depicted. In a moment of time – the time that it takes for the long take to run its course – the gap is elided by a ricocheting montage of para-indexes drawing the past and the present together through sensory links between voice and image interfaced into one another's appearing – an appearing that exceeds personal memory. Alexei sees his life through images of an event happening in his childhood, but one that he could not have consciously experienced. Alexei's remembering is not presented to us through his primary and secondary retentions but through the tertiary retentions of the image flux unfolding on the screen. [7] Alexei's memory is thus shifted from the personal *I* to the impersonal *We* where it becomes the substance of an *I-We* relation remembering itself into the future by restoring

severed links with the past to the continuum of real connections of historical life. In the very momentum of the long take, a transindividual future is called forth by a desuturing camera eliding itself in and out of frames, invoking “absent causes” – the past of Alexei’s life that he did not experience – whose effects are already part of the images as para-indexical anticipations. In the analysis of *Solaris* that follows, we will see how para-indexes traverse their own becoming in order to unfreeze images locked in an entropic death drive, opening the film to eco-becoming in a transindividual vision of a future through restored connections, not with historical life (as is the case in *Mirror*), but with natural life looking back on the human from the cosmic perspective of inhuman nature.

Cryogenic Life

Whatever else it might be, *Solaris* is a film that tells a story. It exhibits narrative drive: a force that “draws us forward as if to satisfy a lack that can only be filled when the last question has been answered, a point at which we will arrive by the end of the film” (Ivakhiv, *Ecologies* 59–60). However, in drawing us forward, what narrative drive promises is not life but death when “the last question has been answered” – where all values are exhausted in its ending. Narrative drive is a death drive – a drive towards ends – that denies the life of the film in its capacity to go on. A death drive occurs when open interactivity in a free environment is short-circuited by self-enclosing links that eliminate chance, thereby securing life as fated for death. In Freudian terms, the death drive is the negentropic principle operating at the psychic level of the ego at work to survive and maintain itself against entropic force – a drive that includes the negentropic counter-drive affirming itself through “complicated détours” against the inevitability of death (“Beyond the Pleasure Principle” 311). In the psychic life of individuals, the death drive manifests itself in fantasy that acts out its mortal consequences in images substituting for the reality of the death drive itself. Film narratives are death drive fantasies: they act out the struggle to “go on” as negentropic life in its being-towards-death. The narrativised death drive includes a counter-force that gives life through the work that fantasy does.

In her work on the Freudian death drive, Tracy McNulty has shown how Freud came to the conclusion that, in the psychic defences against the death drive, its full reality could not be made manifest. Rather, the death drive, like entropy itself, could be “known only by its effects” (87). Freud concluded (so McNulty contends) that that the death drive must be “immaterial, not given, and therefore presentable or knowable only as a formal or mythical construction.” Following this line of thought, Tarkovskian film-worlds can be seen as mythical presentations (allegories) of the death drive in which the drive cannot be shown directly but only in its effects as the entropic tendency of life toward disorganised matter. Following Deleuze’s analysis of the fetish in *Coldness and Cruelty* as disavowal of death in obsession with the frozen image, McNulty argues that resistance to the death drive can only be presented as a frozen image of life waiting to be unfrozen (98). [8] Picking up on McNulty’s Freudian/Deleuzian insights, I suggest that Tarkovsky’s films tell their stories as allegorical renderings of the death drive’s after-effects presented directly

[8] The prime example of a frozen death image is the photograph: an instant of cryogenically preserved time.

onto the surface of the film as para-indexical interfaces working negentropically to unfreeze images. As allegories, they carry the conditions of human life in its disavowal of the death drive: by unfreezing the images, they give life.

In *Solaris*, the planet Solaris is the frozen world that planet Earth is becoming – a world more advanced in entropic dissolution and, hence, more intelligent insofar as its negentropic counter-force has developed beyond human intelligence as an inhuman cosmic consciousness immanent in all things. On Solaris, life has become immortalised in a state of cryogenic frozenness enlivened by memory shards of the humans who have been sent there to discover its secrets. The humans have extreme difficulty freeing themselves from the inhuman consciousness that controls the planet (depicted as amoebic flux), which draws on their unconscious desires, feeding them back in the form of unsettling simulacra.

Kris Kelvin, a man of science and reason, is sent to Solaris to find out what has happened to an earlier expedition. Kris's life on Earth has already become frozen in time, seen, for instance, in the scene discussed previously where he stands motionless in the pouring rain, while his technical knowledge of the world – shown to us in the blueprints he keeps close at hand – has become sterile “non-knowledge” cut off from real connections. [9] His obsession with work has made him neglect his wife Hari, causing her to commit suicide, a significant death event not shown at this stage but revealed to us later in the film. Kris' lack of awareness of the real cause of Hari's death – his refusal to love her – is shown in the scene immediately prior to his trip to Solaris, where we see him burning work documents and personal papers including a photograph of Hari, which he looks at briefly before throwing it into the fire along with everything else. In his attempt to destroy all memory traces of his life, Kris exemplifies the melancholic attitude to life, cut off from the world and full of self-loathing (Freud, “Mourning and Melancholia” 254). Kris's melancholia is symptomatic of his failure to mourn the death of Hari, freezing him in a state of self-denial that must be unblocked if he is to become whole again.

On arriving on Solaris and having fallen asleep in the space station, he awakens to see Hari standing beside his bed. This other Hari is a simulacra controlled by the connection between Kris and the cosmic consciousness that has gained access to his unconscious memory. In Lacanian terms, Hari has become an *objet a* – the substitute figure of unattainable desire – whose presence he initially resists as a threat to his life, but which he finally accepts in a romantic embrace, thereby atoning for his previous rejection of her love, but at a terrible price. In his reawakened desire, Kris has substituted the earthly Hari for her immortal image: an image that comes to life as image, suspending both Kris and Hari in a cryogenic state of lifedeath through the direct experience of loss. Kris now risks becoming frozen into the image itself – in the death drive triggered by Hari's imagistic appearance. Like the painted figures in Breughel's *Hunters in the Snow* seen later in film, Kris and Hari become frozen into a simulation of life without its real connections to the earth.

[9] For non-knowledge as lacking real connectedness to negentropic life, see Stiegler, *Neganthropocene* (140).

[10] This is a debatable scientific proposition, but acceptable as cultural doxa and used by Tarkovsky as fact.

[11] Hari and Kris' attempt to create a new collective memory is an allegorical rendering of the instauration of what Stiegler calls tertiary retentions (technically archived traces) as exosomatic-epiphylogenetic memory: memory external to the organism necessary for the individuation of human-technical life (Stiegler, *Neganthropocene* 216).

Through the power of reawakened love, Hari begins to unfreeze and become mortal again: she starts to feel pain – physical pain, emotional torment and a sense of immortal loss as she fights the Solarian consciousness's control over her. In her frozen state, Hari has no need of sleep and so cannot store memory in her unconscious – all memory is stored elsewhere, in the consciousness of the amoebic flux. [10] Memory of any real connections to the Earth is consequently wiped away, only to be restored artificially when Hari and Kris watch home movies of Kris' family life – a life she could not have lived (invoking a transindividual *I-We* similar to the opening scene of *Mirror* previously discussed, but lacking its real connections). An artificial *We* is created when Hari inserts herself into Kris' own memories recorded in the memory traces carried by the home movie apparatus. In this way, she starts to learn how to become human as part of Kris' memory of family life. [11] Sourced directly from the simulacra, Hari's memory has no roots in a personal *I* and is thus parasitic on recorded memory traces of others' lives as an impersonal *We*. Lacking the self-reflexivity of a personal *I*, Hari's memory cannot resist entropic force and is immediately wiped on her return to frozen life, only to be restored again in a series of resurrections oscillating between phases of remembering and forgetting as Hari tries but repeatedly fails to become reunited with Kris in a vicious circle of unfulfilled desire. Hari's actual death is repeated virtually – over and over again – in a spiralling death drive as living death.



Fig. 6 Hari in Her Frozen State after Drinking Liquid Oxygen. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.

[12] In narrative film, a quantum event is an allegorical rendering of an event “smeared” across multiple ontological registers. For quantum smearing see Schrödinger’s famous paradox of the hypothetical cat that exists in a state of chance between life and death (“The Present Situation”). Quantum events are metaleptical breaches of the ontological consistency of the film-world.

In an act of self-sacrifice to save Kris from immortal freezing, Hari tries to kill herself by drinking liquid oxygen (a virtual suicide entangled in her actual suicide on Earth) (fig. 6), but is immediately restored to her frozen lifedead state. Now fully locked into the vicious circle – its deathly auto-efficiency – Kris and Hari exhaust their love in repeated failures of its consummation. Realising the hopelessness of their situation, but that love conquers all, Kris finally accepts Hari as image, committing himself to loving her no matter the cost. At this point, the deadlock is broken in a punctum – a deadly cut – when the time on Earth momentarily breaks through to the time on Solaris. Here, we need to return to an earlier scene – the one we’ve already seen where the melancholic Kris briefly looks at Hari’s photograph before throwing it into the fire – as a *quantum event*: an event “smeared out in equal parts” (Schrödinger, “The Present Situation”) across the actuality of Earth and the virtuality of Solaris. [12] In the same way that Barthes describes his experience of looking at a photograph of his once alive but now dead mother or of a once alive but now deceased condemned man in *Camera Lucida* as a punctum or deadly cut in

a chiasm of time – where the past crosses over the present in an “an anterior future of which death is the stake” (96) – so Kris experiences the deadly cut of a punctum in looking at the photograph of Hari on Earth just prior to his journey to Solaris/ A chiasmic rupture “smears” the event in equal proportions across the two planets (representing actual and virtual phases of Kris’s being). Like Barthes’s punctum that “destroys [my mother’s memory] for the sake of my own history” (65), Kris’s punctum annihilates the virtual life (i.e., memory) of Hari and frees Kris to return to his actual life on Earth where he reunites with his father in a reestablishment of filial love and patrilineal memory.

In ecological terms, *Solaris* reminds us of the inescapable entropy affecting the *I-We* relation. To live an individuated life – a life knowingly connected to the other-than-human through real connections – the *I* must avoid the lure of synthetic phantasms that trap the *We* in a deadly cycle of auto-efficiency – the exhaustion of life in self-fulfilling desire, where the *I-We* is “doomed to madness” (Tarkovsky 58) – and instead affirm life by grounding itself in natural connectivity. The challenge to be faced is not how do I fulfil my desire in pursuit of auto-efficient ends, but how to “go on” – how to continue to be – in the being-towards-death that confronts me as the “petrified, primordial landscape” of the globalised phantasmagoria of contemporary life (Benjamin, *Origin* 166). [13] For Tarkovsky, this challenge to “go on” means working with the materiality of film in order to unfreeze the frozen images of time captured by the camera in their negative momentum as bearers of cinematic life; by working against narrative drive in its movement toward an end “when the last question has been answered” (Ivakhiv, *Ecologies* 60). By undertaking this work, Tarkovsky’s film releases another vision – a vision of nature in its power to connect. How does Tarkovsky achieve this fundamentally ecological task in *Solaris*?

[13] For the phantasmagoria, see Walter Benjamin’s *Arcades Project*, a catalogue of the projections of the phantasmagoria of commodity capitalism in nineteenth-century France.

Negative Momentum

Solaris opens with an image of a leaf floating along a running stream with mossy vegetation clearly visible just beneath the surface (fig. 7). The camera then pans to the right to reveal a man – the psychologist Kris Kelvin – standing with a silver canister in his hand, a figure of silent contemplation, possibly thinking about the journey to the planet Solaris he will undertake the following day, but perhaps also thinking of the death of his wife Hari and his melancholic existence without her. The man looks down to the right, in the opposite direction of the floating leaf, followed by a cut to beneath the surface of the stream where we see reeds waving with the current but following the direction of the man’s look (fig. 8). Unlike the leaf which disappears left of frame, the reeds flow out to the right while remaining in-frame rooted to the earth. In a para-indexical shifting of the camera motivated by the man’s sideways look, the cut joins the two shots in such a way that the current is made to move in opposite directions at the same time.

Here we see many of the issues of Tarkovsky’s time-pressure theory coming to light. The leaf carried by the flow of the stream is a piece of dead matter subject to the entropy silently working its way through things. Unlike the dead leaf, the reeds live on in resistance to the flow of the stream as the water makes

its way to some distant sea, mirrored by the larval flow of the Solarian amoebic flux as cosmic life force seen in later images (fig. 9). Rooted in the earth, the reeds continue to be – their waving movement testifying to the negentropic counter-force of life that affirms them as living things. In some future time these reeds too will be swept away by the current of time – the entropic tendency that moves through all things. But the flowing stream and the things affected by it are also part of the image flux of the film – the appearing and disappearing of images on the screen. The leaf and the reeds live on in the film as moving images frozen in cinematic time. They come to life not through a living connection with other things, but through the para-indexical connectivity of the film – its ability to bring frozen images to life by traversing their own appearing. An ecological analysis would need to account for this coming to life as cinematic life – the affirmation of film as film – in the negative momentum in which the images are frozen. Tarkovsky's films are cryogenic time machines: they unfreeze images frozen in cinematic time by exposing them in their negative momentum – in their negentropic life – against the death drive fantasy of auto-affecting life exhausting itself in ends.



Fig. 7 Floating Leaf. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.

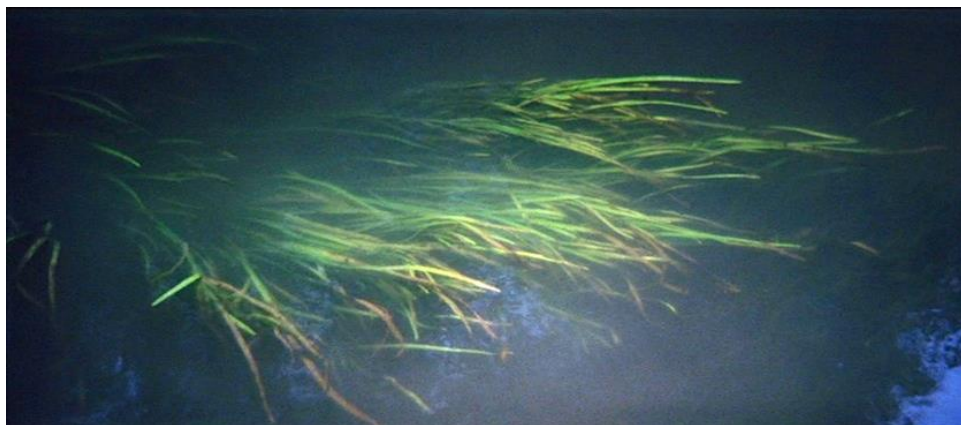
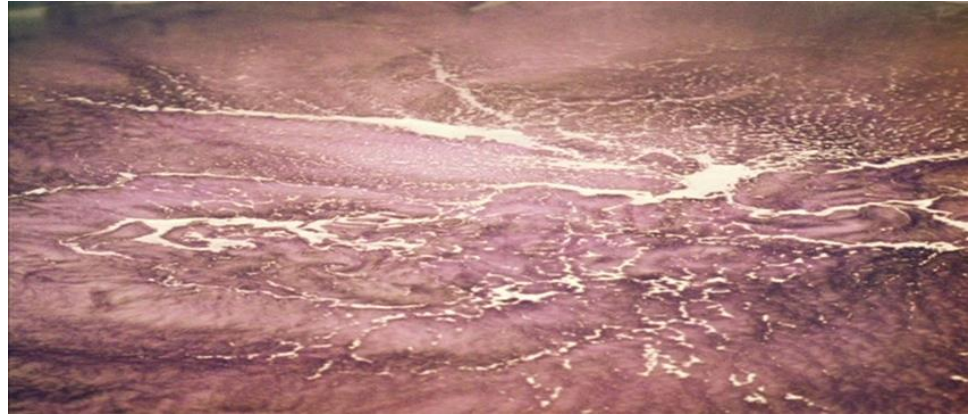


Fig. 8 Underwater Reeds. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.

Fig. 9 Larval Flow of the Cosmic Life Force. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.



In what precise way does Tarkovsky's film achieve this ecocritical task? It works by unfreezing the images of nature as negentropic affirmations of life through the camera's sideways glance: its looking awry from the human concerns of the story being told; its tendency to become drawn away by nature's indifference to human life. The dead leaf carried along by the current and the waving reeds rooted to the earth, as captured by Tarkovsky's camera, become indexes of nature's entropy but reversed in the film – in the cut that joins two images of the same flowing stream in opposite directions – as the negentropic counter-force of the film affirming itself in the very movement of the images themselves. The waving reeds live on in the synthetic spaces of the film as indexical correlates to other reed-like plants appearing in the space station on the planet Solaris (fig. 10). Their earthly plant life becomes smeared across the life of Solaris as Earth's virtual other, as para-indexes reaching across frames, across shots and across the Earth, eventually taking over the entire film-world in an inhuman cosmic vision of Earth surrounded by amoebic flux (fig. 11).

As we have already seen, the breaking of the deadlock of the death spiral that draws Kris and Hari into the living death of cryogenic images occurs in the annihilating cut of a quantum event between Earth and Solaris. Kris is suddenly freed from the deadly simulacrum, but only to be engulfed in inhuman nature that threatens not just personal but total annihilation in its indifference to human life. In this sudden and dramatic reversal of perspective, we can now see that Kris's personal struggle with his own torments is merely a negentropic moment of resistance in the inescapable entropic force of nature that gives life as it takes it away. This final, apocalyptic image is not seen by Kris, who remains in an embrace with his father in a restored continuum of patrilineal memory. Rather, it is seen by us – the viewers of Tarkovsky's film – as an inhuman vision from the future looking down on the human, diminished in space and time as a vulnerable and insignificant figure. The film thus poses questions to *us*, the receivers of Tarkovsky's vision, in the possible future that might arise in revaluing our own humanity from this inhuman perspective.

Fig. 10 Reeds on Solaris. Note the silver canister. This is the same canister Kris holds in his hand beside the lake and running stream at the beginning of the film, when we first encountered reeds. The reeds have been transported via Kris's canister from Earth to Solaris. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.



Fig. 11 Home Engulfed by the Amoebic Flux. *Solaris*. Dir. Andrei Tarkovsky. DVD. The Criterion Collection. Janus Films, 2011.



Conclusion

What message is Tarkovsky sending in these final images? Is he sending the nostalgic message that patriarchal traditions should be preserved from the dangers of modernity and its violent upheavals of life? Or, could Kris' reconciliation with his father be something else: a refusal that refuses a commitment to affirming life otherwise? Having taken us to the brink of an inhuman future, has Tarkovsky retreated from it in the end, shrinking back into an anthropocentric desire to preserve human being from entropic engulfment by shoring up real connections limited to familial continuity and filial love? Is there another way that Tarkovsky's film points, but does not follow? Does it point to a possible future in which the human and the other-than-human might live together as part of the negentropic counter-force that gives life, and where real connections between them are things to be made, to be worked on, to be brought about? What I am suggesting here is that by reading *Solaris* against its anthropo-cinematic mode of seeing by following the time-pressure of its images, we release Tarkovsky's film from its human ends and place it in its inhuman ecocinematic beginnings.

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