

## **Foam plague: Aphrogenic threats, extra-terrestrial and all-too-earthly**

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1969. Only four months before the first human being set foot on the moon, the earth was under serious extra-terrestrial threat. Berlin, Oslo, Hamburg, New York, Tokyo, Stockholm, London, and many other cities of the northern hemisphere were plagued by enormous amounts of toxic froth. At the peak of the space race, humankind was on the brink of being obliterated by the worldwide occurrence of lethal aphrogenic processes. While the crew of Apollo 11 prepared for its historical endeavor to conquer lunar soil, aliens sought to wipe out humanity in order to take over its earthly habitat. Their weapon of mass extermination: liquid foam. Causing a global blight of suffocating froth, the alien invaders fatally transformed the terrestrial environment by adapting its living conditions to their own Martian needs. They had left behind their natural habitat on Mars in order to find a new place to live, selecting Earth as their "planet B". At the same time as the earthlings were keen to board artificial, technologically regulated environments, i.e. the mobile life support systems of spacecraft, the extra-terrestrial beings manipulated the atmosphere as a whole, creating an environmental situation hostile to human life. Flooding the world with oxygen-consuming foam, they used a kind of air-conditioning that would eventually lead to some sort of reverse terraforming, or better: *areoforming*. While manned spaceflight was about to accomplish yet another feat of space exploration, the extra-terrestrial scum threatened to change our planet into a bleak Mars substitute, thus making spaceship Earth uninhabitable for its human crew members.

Obviously, mankind survived this asphyxiating foam attack from outer space. 1969 did not become the year of our extinction. Apollo 11 made it to the moon and found Earth still liveable when it finally returned home. This comes as no surprise, as the horror scenario described above is purely science fictional. The sudsy invasion of the so-called Ice Warriors forms the plot of the six-episode serial "Doctor Who: The Seeds of Death" (director: Michael Ferguson), which was first broadcast on British television between January and March 1969. The story not only addresses the conquest of space, the future of transportation systems, and the possible danger of extra-terrestrial life forms, but also reflects on severe ecological concerns, issues of technology-based climate control and geoengineering, and the mobility as well as mutability of fluid materials.

"The Seeds of Death" features a glimpse into the distant future of the late 21st century, a time when space travel by means of rockets is already outdated and has been superseded by the teleportation system T-MAT. The Ice Warriors, a militant race of reptilian humanoids from Mars, capture the moon

base that functions as an important relay station for T-MAT. In order to prepare their colonisation of the Earth, they send snowball-like seedpods to terminals in cities around the globe. One of these seedpods arrives at a teleportation cabin in London, bursts open like a ripe puffball, and discharges a white fog that immediately kills a technician. The cause of his sudden death is oxygen starvation, as the medical service finds out later in the episode. This is all the more alarming, since the vapour is sucked into the air-conditioning system and disseminated all over London. In one shot, we see the fog out of doors as it flows over a meadow and starts to form small heaps of foam. The contamination of the air takes its course when the apherogenic production gains momentum: more and more of the white stuff is generated; it spreads out and accumulates into bubbling streams of froth that again emit whiffs of deadly vapour. As the staff of the London T-MAT headquarters must learn, the foam is a fast-growing alien fungus that is already infesting a number of other metropolises, and due to strong winds the light substance is expected to be dispersed around the world. The foam spill consumes the atmospheric oxygen, and thus the human race faces the danger of suffocation. An acoustic reminder of this cruel fate is the heavy, rattling breathing of the Ice Warriors, an excruciating sound that foreshadows mankind's doom: gradual asphyxiation. The population of Earth runs the risk of falling victim to a large-scale act of extra-terrestrial "atmo-terrorism" (Peter Sloterdijk) that intervenes into the environment and attacks the very conditions of existence for aerobic life forms.



Fig. 1) One of the Ice Warriors is paving his way through the foam. His destination is London's weather control bureau; his goal is the destruction of the rain-producing equipment.

The froth causes a sickening "atmos-fear", and the human protagonists search for an escape from this grave situation. They are supported by the eponymous "Doctor", who belongs to an alien species of ancient "Time Lords". Together, they have to resolve two pressing questions: first, how to destroy the toxic foam; second, how to kill the evil invaders. The answer to the first question is surprisingly simple: water. The answer to the second question: heat. In a certain way, the clash between the earthlings and the Ice Warriors is staged as a conflict between different environmental and climatic needs. Accordingly, the most effective weapons against the alien aggressors are the heating system and a heat-

emitting solar energy device rather than guns. No bullet can harm the Ice Warriors, but if the temperature rises the cryophilic Martians die. In addition to depleting the terrestrial atmosphere of oxygen, they therefore seek to secure a sufficiently cold climate. In this narrative, humankind is not threatened by global warming, but by the advent of a new, breath-taking ice age.



Fig. 2) The Doctor surrounded by the alien froth, taking a sample for further examination. Due to the oxygen-consuming nature of the aphrogenic process, the protagonist almost suffocates.



Fig. 3) The Doctor and Professor Daniel Eldred in the laboratory. A specimen of the foam is studied, and water is discovered to be the remedy.



Fig. 4) Engulfed by the ever-expanding foam, the Doctor arrives at London's weather control station. Facing the threat of oxygen starvation, he desperately tries to get into the building. Finally, the door opens and the Doctor escapes the lethal stream of froth.

Fittingly, the final showdown of "The Seeds of Death" takes place at London's weather control station. After discovering water as the remedy against the lethal froth, the Doctor suggests resorting to a kind of technological fix: he proposes to use the weather control system to make it rain. However, the Ice

Warriors have anticipated this move, occupied the building, and disabled the rain-producing apparatus. Dry weather keeps the organic foam alive, and allows it to develop into a sudsy deluge that swallows scenery and people alike. Hence, the Doctor and others rush to the control station, dig their way through the bubbling mass intending to reclaim and repair the climate-engineering equipment, and manipulate the weather in their own favour. In the end, rainfall destroys the effervescent fungus, and the humans succeed in their thermal and meteorological warfare against the Ice Warriors. The serial concludes in a rather optimistic fashion. All it needed to heal the world from its foam disease and to ward off the extra-terrestrial threat was a good shower and turning up the heating. In 1969, “The Seeds of Death” offered an outlook that was already more than doubtful at that time: ecological disasters may befall the Earth through the machinations of (evil) non-human powers, yet – like the harmful froth from outer space – they can be washed off without trace.



Fig. 5) Fighting the fungus with portable water-spraying devices, a rescue party approaches the weather control station. The end of the foam plague is near, the cleansing can soon begin.

Half a century later, we are repeatedly reminded that the deluge of hazardous foam is by no means a phenomenon from a distant, science fictional future. With increasing regularity, mass occurrences of the frothing substance make the news, providing startling, albeit picturesque images of environmental pollution. The foam floods appear to be reminiscent of the extra-terrestrial scum featured in “The Seeds of Death”, yet they have become all-too-earthly. No alien invader is required to initiate the aphyrogenic process; rather, the disgusting foam is the fallout of man-made ecological calamities that threaten nature and health. Even in its hissing and fuming overabundance, the avalanche of froth the Doctor and his human companions fought in the TV series looks somewhat ridiculous; the soft and fluffy material fails as a menace, evoking associations with a foam party running out of control. When faced with the towering foam blankets that, for instance, cover large urban areas, rivers, and lakes in India, however, the laughter should stick in our throats; they are not funny at all.

Take, for example, the recent incidents in Delhi (Yamuna River), Bangalore (Bellandur Lake), Hyderabad (Musi River), or Chennai (Marina Beach). Churned up by the wind and strong rainfalls, those heavily polluted bodies of water produced enormous amounts of toxic froth that transformed the local environment into a bizarre snowy landscape. The foam piled up metres thick, suffusing the lakes or rivers, spilling over into the streets, engulfing people, cars, and buildings, being blown around like clouds, sometimes even catching fire and thus worsening the poor air quality of these cities. In contrast to “The Seeds of Death”, the foam was not a fictional alien fungus, but resulted from the actual contamination of the water with untreated sewage, industrial effluents, domestic waste, excrement, detergents, pesticides, and fertilisers. The froth had a pungent stench; it contained residues of bacteria and algae, which had proliferated due to eutrophication, chemicals such as phosphate, nitrate, ammonia, and sulphate, as well as plastics, petroleum, and heavy metals. Consequently, the loss of drinking water was not the only issue here: the foam also caused respiratory problems, and irritation of the skin and eyes; it was even considered to be carcinogenic.



Fig. 6) Foam plagues, all-to-earthly. Due to the heavy pollution of rivers and lakes, cities in India and other countries are occasionally flooded by foam spills. In these cases, the froth is an indicator of ecological disaster.

Contrary to the TV series, weather and rain did not resolve the critical situation – quite the opposite. The sun may dry out the froth; however, it only allows the fragile substance to decompose into micro-particles that become dispersed all over the place. Winds may blow away the sudsy clouds; however, they help to further disseminate the foam and its organic and chemical ingredients. Rainfalls may dissolve the froth; yet they wash its contaminants into the soil, or release the pollutants back into the water. Unfortunately, we are not as lucky as the Doctor and his human allies. We cannot get rid of the foam so easily: in one form or another, it stays with us, sticks to us. Thus, the white masses are no longer just signifiers of cleanliness, beauty, delight, and health, as movies and advertisement usually maintain. In addition, the foam bears witness to the “leakiness of the world” (Timothy Morton), highlights ecological entanglements in the “world of materials” (Tim Ingold), and shows that we are *in*

*the mix* rather than being in the midst of things and merely surrounded by our environment. To say the least, the contemporary foam plagues make us aware of the fact that in order to cope with contemporary environmental challenges we cannot wait for an extra-terrestrial saviour from the future.

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Image credits:

Figures 1–5: Stills from “Doctor Who: The Seeds of Death”, first broadcast on BBC 1 from 25 January to 1 March 1969, UK, directed by Michael Ferguson, written by Brian Hayles and Terrance Dicks.

Figure 6: Photographs of foam occurrences in Bangalore, Dehli, and Hyderabad; The Guardian, 1 October 2015, <https://www.theguardian.com/world/gallery/2015/oct/01/lake-toxic-foam-bangalore-india-in-pictures>; [www.greenworldwarriors.com/2018/11/24/india-people-pray-in-a-river-of-industrial-waste/](http://www.greenworldwarriors.com/2018/11/24/india-people-pray-in-a-river-of-industrial-waste/) (last accessed: May 4, 2020).