

## When the Ocean Strikes Back

Frank Schätzing's Eco-thriller *The Swarm* and the Pop-cultural Imagination of Global Environmental Disaster

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### Abstract

The disaster scenario is one of the predominant settings we find unfold in the pop-cultural imagination, namely in films and novels. In recent years, as increased awareness of environmental issues affect the agendas of public debate, we also see local and increasingly global environmental disasters depicted in fiction. The most outstanding example of this tendency in German literature is Frank Schätzing's internationally bestselling eco-thriller *The Swarm* from 2004, published in English in 2006 and planned as a Hollywood production in 2015. In Schätzing's book, a global environmental disaster is evolving caused by an intelligent life form of the deep sea striking back at mankind. This article aims at discussing in what ways *The Swarm* uses elements and patterns of the pop-cultural disaster imagination, specifically the disaster and science fiction movie of the 1990s. Furthermore, it investigates how the 'alienness' depicted in the book differs from representations in pop-cultural tradition, challenges the position of the human species in the order of nature, and questions the capacity of humankind to prevent self-extinction. In concluding, a parallel to contemporary cultural theory (Dominic Pettman) problematizing the concept of humanity is drawn.

*Keywords* Frank Schätzing, global environmental disaster, eco-thriller, science fiction, German literature.

### A literary Roland Emmerich

With Frank Schätzing's voluminous page-turner *Der Schwarm* from 2004, published in English as *The Swarm* (2006), and planned as a Hollywood production in 2015, the genre of the global eco-disaster thriller entered the arena of German literature. *The Swarm* offers a catastrophic scenario and a pending apocalypse emanating from the deep sea. When Schätzing's book was published in 2004, its fictitious scenario of nature striking back at mankind still appeared mainly as the scientifically informed fantasy of a gifted bestseller writer. Also, at the time, a tsunami, a natural phenomenon depicted in the book, was unfamiliar to most people. Only months later, as is well-known, a devastating tsunami struck Southeast Asia, and thus in terrible ways converting a part of Schätzing's fictitious scenario into reality.<sup>1</sup> For some scientists, this tsunami already prefigured what could await mankind as a consequence of climate change. In the following years, climate change came, more than ever, on the public agendas. The Copenhagen climate summit failed to accomplish what it set out to do and was followed by disillusion and pessimism, somehow anticipated and mirrored in apocalyptic films such as Roland Emmerich's *2012*, John Hillcoat's *The Road* based on Cormac McCarthy's novel (both 2009), and Lars von Trier's *Melancholia* (2011).

Following the publication of *The Swarm* and the raised awareness on climate change, Schätzing has been treated as an environmental expert in the German debate. However, by emphasizing that he writes to entertain people, and that he writes books which he wishes to see on screen (see among others, Körte, 2009), the author is positioning his work explicitly in the bestseller and blockbuster culture. Due to the lack of similar examples in German literature, Schätzing has been compared to authors such as Michael Crichton and Dan Brown and has even been called a literary Roland Emmerich (Körte, 2004). However, when Schätzing's texts are discussed in the German Feuilleton, a dignified cultural institution traditionally confined to "highbrow literature," often the lack of adequate categories becomes visible as the author's books are measured in regard to traditional literary criteria, once even called "surrogate lit-

erature for technocrats" (Detje, 2004, my translation). Nevertheless, in recent years, as in the humanities and cultural studies environmental and eco-critical perspectives have gained interest *The Swarm* has been treated increasingly by literary and cultural scholars (see for instance, Horn, 2009; Dürbeck, 2010; Otto, 2012).

In this article, I would like to follow the path which the author, both outside and inside his book, has laid out, by highlighting the influence of the pop-cultural disaster and science fiction imagination on *The Swarm*. Specifically, disaster and science fiction movies, mainly from the nineties, are name-dropped and partly discussed critically in the *The Swarm*. It seems worthwhile to ask to what extent this book uses elements and patterns of the genre which it, on a meta-level, refers to. Also, I discuss the problems attached to the use of the blockbuster genre as a platform on which to discuss environmental issues. Here, the main issues are the framing of environmental issues as disaster and the representation of "alienness."

### **Popularizing environmental issues: (Natural) science as thriller**

If one takes a closer look at *The Swarm*, the impression given to the reader might be one of elaborated, popular scientific essays in the disguise of a suspense-packed, but in many regards conventional thriller: "The real strength of *The Swarm* is its science. The author spent four years researching his material, and it shows" (Spencer, 2006). The action within the novel is often interrupted by lengthy digressions providing the reader with detailed knowledge from different domains. These digressions are so predominant that Schätzing's writing has been called "explain-telling" (Matzig, 2009, my translation) and even "Wikipedia in 3D" (Rosenfelder, 2009). In the acknowledgements of his book, a long list of names refer to the experts of many and manifold knowledge fields, mainly of natural science and technology, who provided the author with background information.

Among other fields, the reader is exposed to specific and detailed knowledge on marine biology, offshore oil drilling, microbiology, and geophysics. Only on this background will the reader be able to follow the plot, in which a tsunami destroying Northern Europe is caused by the dissociation of methane hydrate layers in the underwater continental slope near the Norwegian coast. The dissociation

of methane hydrate is caused by numerous methane-eating, mutated worm-like archaeobacteria. Altogether, the protagonists in the book are often non-human and even non-multicellular organisms, protozoa, like the intelligent species from the deep sea. The mysterious antagonist in the thriller, called the yrr, forms well-organized swarms of single-cellular organisms. But *The Swarm* is also populated by many other marine species used by the yrr as killer machines, such as mutated zebra mussels, deadly crabs contaminated by a highly poisoning form of *Pfiesteria*, and aggressively acting orcas. In this way, it is fair to say that Schätzing “achieves the unlikely task of converting geophysics and microbiology into blockbuster material” (Spencer, 2006).

Schätzing’s novel can be subsumed under “hard science fiction,” a genre which widely abstains from fantasy elements, as all the killing sea animals and plants are based on reality, only slightly changed by mutations or occurring more numerous than usually. Clearly, the ambition of the novel is to represent risks and dangers which in some ways could become reality. Apparently, one of Schätzing’s main goals is to inform and maybe even to enlighten readers, and he does so in a, for most of his readers, entertaining way. The author’s narrative technique of “explain-telling” seems to meet the knowledge needs produced by the current climate change debate, also called a “new age of enlightenment” (Hastrup, 2009). One of those needs is to make expert knowledge accessible to the mainstream.

While some find it “hard to think how a calculated blockbuster might intervene in eco-politics” (Branston, 2007, p. 218), for Schätzing, the bestseller and blockbuster culture seems an excellent platform on which to popularize scientific knowledge and to raise the public’s awareness on environmental issues. At least, this is suggested in a non-fiction book which followed *The Swarm* in 2006, *Nachrichten aus einem unbekanntem Universum. Eine Zeitreise durch die Meere* (“News from an Unknown Universe. A Time Travel through the Oceans”). Here, the author expands on the science used in *The Swarm* nearly relating the entire history of life on the planet, although mainly focusing on water life. In the beginning of the book, the author explicitly refers to the thriller, the preferred genre of blockbuster culture:

This is no teaching book. No manifesto. It does not mean to impose messages on anybody. This is a thriller, because the history of this planet is nothing else than an enormously exciting story full of unexpected turns and surprises. Nothing in this story is really complicated, let alone boring. [...] *News from an Unknown Universe* only wants one thing: to entertain and to whet the reader's appetite for more (Schätzing, 2006, p. 19, my translation).

In Schätzing's pleading for the democratization of knowledge, the readers are called on to take possession of knowledge, and they are enabled to do so by usurping this knowledge in the framework of popular culture, namely the genre of the thriller. While in postmodernity, there has been much talk of the end of grand narratives, apparently, Schätzing suggests that we again are in need of such a narrative. Many environmentalists would probably agree with this view given recent developments in global efforts to deal with climate change. However, inherent to bestselling thrillers and ever more spectacular "event cinema" (Branston, 2007, p. 211) are rules and conventions that might influence the perception of the represented issues in problematic ways.

### **The aesthetics of the disaster**

Environmental problems have been represented for many years in popular genres, namely in science fiction and disaster literature and movies. In contrast, "realistic" art has been slow to deal with these issues. In his enlightening study on eco-thrillers and environmentalism from 2000, Richard Kerridge explained this absence by the vagueness of environmental issues which "poses problems of representation":

For readers in the West, environmental issues are much more the stuff of potentiality than of actuality: tomorrow rather than now, elsewhere rather than here, a crisis building rather than a crisis reached. Because of their intangibility, such matters can always be postponed; set aside, for now, in the face of more pressingly immediate and familiar demands. Their very reality is constantly in question. (Kerridge 2000: 244).

Looking at popular cultural representations one could argue that the problem of “representability” (Branston, 2007, p. 215) of environmental issues and climate change here is solved by framing these issues as disasters such as in Emmerich’s blockbuster *The Day after Tomorrow* (2004). Sometimes these disasters are depicted in a dystopic future where former eventualities have become realities such as in Kevin Reynolds’ movie *Waterworld* (1995).

These films can be subsumed under the genre of the disaster movie, which in Hollywood had its most formative years in the seventies and the late nineties where the depiction of disaster was “given a spectacular new sheen by recent advances in computer-generated special effects” (Keane, 2001, p. 74). The eco-disaster movie is thus part of a genre where the focus on the aesthetics of the disaster potentially overrides the real background or phenomenon. In the extreme, it might be seen as an interchangeable requisite, be it pollution of the environment, earthquakes, meteorites, volcanos, or an alien invasion in the sci-fi-branch of the genre. As Susan Sontag has stated in her famous essay “The Imagination of Disaster”: “Science fiction films are not about science. They are about disaster” (Sontag, 1965, p. 213).

In the most predominant pop-cultural disaster narrative, the world before the disaster is not identical with the world after it, “things are different,” and the characters exposed to the disaster often have learnt from the experience (Roddick, 1980, p. 259). Kerridge draws attention to this teleology of the crisis represented in eco-thrillers in a clearly criticizing way, in which it is as if “some sort of providence is controlling the experiment and will not permit the wrong ending” (Kerridge, 2000, p. 245). Also Roddick notes, that the catastrophe in the disaster movie functions as “an elemental endurance test imposed on a group of people” (Roddick, 1980, p. 253). In this way, the disaster brings out the best qualities in man providing “an opportunity for heroism and Edenic rebirth” (Kerridge, 2000, p. 245).

As already touched upon, the fictitious disaster does not only do good things for (some of) the characters dealing with it, but also functions as a source of pleasure for the spectator or reader. This ambivalent meaning of the disaster, according to Kerridge, may set “a pattern for our responses to real ecological crisis.” It already does so in terms of the means of representation insofar as news broadcast-

ing often makes use of the same narrative devices and similar “spectacular images” (Bransons, 2007, p. 215) as fiction: “Styles and structures continually cross from fiction to non-fiction” (Kerridge, 2000, p. 246) – and this crossing, one might add, includes the inverse movement as well since the representation of disaster media coverage is an obligatory element in disaster fiction. The very notion of the disaster, meaning an event which suddenly and unexpectedly erupts upon man, is deceptive, as Schätzing points out in *Nachrichten aus einem unbekanntem Universum*: Many disasters of today are avoidable considering the level of knowledge and the means humankind has reached, but often it is neglected to make necessary provisions out of ignorance and short-sighted thinking (Schätzing, 2006, p. 285ff.). Thus, disaster fiction in popular culture comes with the underlying ambivalence that what looks very good on screen is in reality often based on severe human failure.

Still, literature provides examples which in many ways deviate from the problematized features of the pop-cultural genre. Looking, for instance, at recent eco-thrillers such as the French author Jean-Marc Ligny’s *Aqua TM* (2006) or British Stephen Baxter’s *Flood* (2008), and its sequel *Ark* (2009), the environmental crisis represented in the books is no temporarily limited incident, but develops over a longer period of time. In these eco-thrillers the experiment is out of control and the pop-cultural “flirting with catastrophe” (Kerridge, 2000, p. 246) turns into a serious relationship. The author of *The Swarm*, as shown in the following, tries to both capture much of the glamor of blockbuster cinema and, at the same time, to distance himself from problematic features of this genre.

### ***The Swarm* and the pop-cultural imagination of disaster**

*The Swarm*’s affinities with the blockbuster culture, namely the disaster and science fiction movie, is not only a matter of styles and structures. Similarities and differences to the respective movies are explicitly debated in the book. A whole range of films are mentioned, and some of them are discussed by the characters, such as *Armageddon*, *Deep Impact*, *The Birds*, *Godzilla*, *Contact*, and *The Abyss* thereby establishing a meta-fictional level, which is used both to reinforce the affinities with the blockbuster genre and to point out the differences.

Book reviewers who have considered *The Swarm* along the criteria of “highbrow literature” have blamed the novel for simplicity, flat characters and an all too straightforward plot. However, if one considers the generic context to which the text itself refers, the disaster movie, the novel becomes anything but simple. Until the middle of *The Swarm*, the very nature of the disaster is unclear; and given the conjectures of terrorist attacks, the reader entertains the possibility that the book could end up as a political thriller. Also in the course of the book, the reader is actually exposed to multiple disasters. Following Roddick who roughly distinguishes between disasters in open spaces with a more or less infinite range such as earthquakes or meteorites, and disasters in closed spaces such as air planes, buses, and ships (the latter being the predominant type in the disaster movie of the seventies, as Roddick (1980, p. 249) points out), one could claim that in *The Swarm*, these two types are combined: In the first part of the book, curious and increasingly worrying incidents occur in the oceans and around coastal areas. At first, little boats disappear, transient killer orca fail to return from their seasonal wanderings as expected, later they return but attack boats and even larger ships as do mussels. Mysterious mutated worms appear on the methane hydrate layers in the underwater continental slope near Norway. Around the world, the coastal areas are being invaded by deadly crabs and jellyfishes. A first climax is reached when a major tsunami hits Northern Europe and a task force is established. In the second part of the book, the catastrophic events in the open do not stop, but the narrative focuses on the task force of scientists and military under U.S. leadership assigned to end the crisis. They are collected on an aircraft carrier floating in the Greenlandic Sea trying to establish direct contact with the maritime enemy and to end the attacks on humankind. On this “floating city” (Schätzing, 2006, p. 567) they experience their own catastrophic showdown.

With the depiction of the disaster on big scale or rather of multiple disasters, Schätzing builds on tendencies of augmentation and exaggeration present in event cinema from the late nineties where the world has been destroyed several times (Keane, 2001). Besides these tendencies of amplification, combination and genre-crossing seem central principles of *The Swarm*. Firstly, the motif of the local or global disaster and the contact with alien life forms are combined as was done in films such as James Cameron’s *The Abyss* (1989) and



Emmerich's *Independence Day* (1996) with roots going back to sci-fi literature such as – the most classical – H.G. Well's *War of the Worlds* (1898) and John Wyndham's maritime version of this theme *The Kraken Wakes* (1953). Secondly, Schätzing borrows from the monster movie, hereby picturing the ocean as a classical locality of the exotic and uncanny. Apart from whales and sharks changing behavior in an aggressive way, the book depicts monster swarms: mutated worms, crabs, deadly jellyfishes and of course the swarms of the yrr. In contrast to the monster movie, the fantasy element here is reduced, as all phenomena are thoroughly explained. Only at first glance, *The Swarm* shares the message of the monster movie, in which "we find that humans, despite the overwhelming evidence to the contrary, are the endangered species" (Alaimo, 2001, p. 279). While representations of "monstrous natures" (Alaimo, 279), as Stacy Alaimo put it, "undertake a kind of border work, dramatically distinguishing 'man' from nature" (Alaimo, 280), in *The Swarm*, humankind itself is singled out as the most monstrous of natures.

Roddick mentions in the title of his article, "Only the Stars Survive," an important generic rule of the disaster blockbuster: The teleology of the disaster is noticeable to the extent that it is not arbitrary which characters will lose their lives and in which way they do so. For instance, in Michael Bay's *Armageddon* (1998), the character of Bruce Willis dies the most meaningful death thereby saving the world and, on a more personal level, preventing his future son-in-law from dying. *The Swarm* tries to deviate from this rule with caution. Many of the most important and all dislikable characters die, but a certain few characters are spared symbolizing hope and the continuation of life. Some of the early victims, Tina Lund and later the student Alicia Delaware, are not the typical casualties of disaster fiction as they are young, likable, and about to establish relationships with other characters. Obviously, *The Swarm* tries to be somewhat more realistic than Hollywood films. Nevertheless, some of the most likable characters do not die before the end of the novel after they have "finished their job" in helping save the world. The mean characters mostly have terrible deaths, while the good ones such as the idealistic environmental activist, Jack "Greyhound," die in dignity. A young couple "in the making," the whale expert Leon Anawak and the science journalist Karen Weaver, both survive.

On the one hand, *The Swarm* stays relatively close to the genre formula with some romantic entanglements and funny, off-hand dialogues, with which we are familiar from recent self-ironical action and disaster movies. On the other hand, the scientific standard of the book is very high and the reader gains many and manifold information on how a global disaster scenario unfolds, and what it means on different levels of modern society and in different parts of the world. Another, however, crucial aspect in which *The Swarm* differs from more conventional disaster fiction is the eco-criticism inherent in the depicting of the catastrophe.

### **The disaster as mystery**

Roddick notes as fundamental phases of the disaster movie narrative “the world before the disaster, the disaster itself, and the world after the disaster” (Roddick, 1980, p. 250). By contrast, in *The Swarm* things are not at all as they should be from the beginning and a critical approach to the status quo is hard to overlook. In fact, the disaster gradually arising in the book is merely a “disaster in the disaster,” the latter disaster being normalcy: In the prologue, the reader meets a poor Peruvian fisherman, member of the indigene population, riding his little boat, his “caballito” at sea. He is presented as an example for those who lose in the process of globalization. The “environmental mess” (Schätzing, 2006, p. 4) is about to destroy the fisherman’s home and threatens his living through modern overfishing: “the nets that robbed the Pacific of its riches were wide enough to capture twelve jumbo jets at once” (Schätzing, 2006, p. 5). As the young fisherman once was told by his father: “Now we’ve got two deserts – the plains and the ocean beside them” (Schätzing, 2006, p. 8). The thorough description of how the fisherman, determined to resist the new developments, still fishes the same way as his forefathers did more than a thousand years ago shows an alternative concept to the paradigm of uncontrolled growth. However, very symbolically, he becomes one of the first victims of the incidents leading up to the global disaster scenario.

As mentioned above, the first signs of the disaster in *The Swarm* are various incidents and abnormalities. The connection between these single incidents and local catastrophes remains unclear for a long time and the suspense intensifies as the unknown global disaster evolves. Catastrophic incidents fueling the action alternate with

attempts to solve the mystery around the strange occurrences emanating from the oceans. Lengthy scientific digressions slowing the narration down enable the reader to follow the considerations of the scientist-detectives such as the Canadian Whale expert of Indian origin, Leon Anawak, or the Norwegian scientist, Sigur Johanson, who both join the task force established in response to the global crisis. In the wake of September 11, the lack of clarity, gives, of course, room to speculations about a terroristic attack and the use of biological weapons. As soon as the yrr are identified as the cause of the incidents and most answers are found, speedy action takes completely over leading to the conventional showdown.

The very analysis of the nature of the threatening total disaster – of which the tsunami in Northern Europe only gives a foretaste – is part of its prevention. It requires a perspective which reconsiders the human role on the planet Earth and acknowledges the laws of ecology. As one character, Anawak, has to make peace with his origin, humankind has to understand its own very nature and position in relation to other living beings. This positioning is elaborately discussed in *The Swarm* in relation to the intelligent species of the yrr, the mysterious antagonist of the human.

### **The earthly aliens in *The Swarm***

In science fiction, outer space is traditionally represented as the place where the aliens, the paradigmatic figure of foreignness, reside. However, in *The Swarm*, the typical sci-fi-situation of the “war of the worlds” (Schätzing, 2006, p. 493) is evolving with no interfering from outer space. Still, as this phrasing voiced by one scientist in *The Swarm* suggests, classical science fiction is evoked in the text, especially in the second part when the adversary gains contours. To establish the contact with the other species no other than SETI(‘Search for Extra Terrestrial Intelligence’)-astronomer Jill Tarter, also the role model for the character of Jodie Foster in Robert Zemeckis’s science fiction blockbuster *Contact* (1997) is headhunted to join the task force. In the book named Samantha Crowe, she states that an intelligence race “developed *in parallel* to us,” thus an alternative evolutionary model of earthly intelligence such as the yrr, threatens the positioning of humankind at the “top of terrestrial evolution” (Schätzing, 2006, p. 502).

In most pop-cultural representations, this position of humankind is never challenged by the depicted aliens, and their very alienness which would qualify them somehow as beings independent from human imagination seems questionable. In *The Swarm* considerable space is used to discuss the anthropomorphic way in which extra-terrestrial life forms are depicted in blockbuster movies. In films such as “*Close Encounters of the Third Kind*, *E.T.*, *Alien*, *Independence Day*, *The Abyss*, *Contact* and so on” (Schätzing, 2006, p. 580), the expert in extra-terrestrial intelligence, Crowe, states, aliens are depicted as “monsters or saints,” they are better than humans (for example in *The Abyss* or *Close Encounters*), or they are far more evil (*Independence Day*), but they are rarely really different. According to Crowe, no serious effort is being made to break free from humanoid navel-gazing and “science fiction never engages with the true alienness of non-human civilisations” (Schätzing, 2006, p. 580).

Schätzing has certainly a point regarding Hollywood event cinema, which is only underpinned by movies shown after the publication of *The Swarm* such as Steven Spielberg’s *War of the Worlds* (2005) or more recently Peter Berg’s *Battleship* (2012). However, a serious engagement with alienness in terms of foreign cultures can be traced back to the finest examples of science fiction literature such as Stanley G. Weinbaum’s short story “A Martian Odyssey” (1934). This is also true for other examples of sci-fi literary tradition, which, in addition, share other similarities in themes and motifs with *The Swarm*, such as Stanislaw Lem’s novels *Solaris* (1961) and *The Invinible* (1964), Isaac Asimov’s *Nemesis* (1989), Michael Crichton’s *Prey* (2002), and Alan Dean Foster’s *Cachalot* (1983) and Karel Čapek’s political parable *War with the Newts* (1936) (among others mentioned by the German Wikipedia article on Schätzing’s book).

Returning to the main focus of this article, the relation between *The Swarm* and blockbuster imagination, it becomes clear that the earthly alien protagonists, the yrr, differ from what readers are used to from the genre: In *The Swarm*, we find a “morally neutral” representation insofar as the yrr’s attempts to exterminate human race is based on the instinct of self-preservation and is not a variation of doomsday where humans are punished for their badness. Rather, in a much more “businesslike” way, the reasoning of the yrr is simply that humans have to go because they destroy the living environment of the yrr. To achieve this goal, the yrr use other animals with-

out scruples, for instance, they manipulate orcas to attack boats: “They had been subjugated by a species that was as ruthless as mankind” (Schätzing, 2006, p. 801).

While they are not considered morally superior to man, Schätzing still tries to make the case that the yrr might be the real height of evolution, thereby contradicting the common perception that the evolutionary path with necessity conducts from the simple to the more complex organism. Commonly, other intelligent life forms are imagined similar to humans, complex multicellular beings, conceiving of themselves as individuals. By contrast, the yrr are protozoa whose intelligence only is effectuated in the form of the swarm where they constitute a multicellular life form. The “hypermutating DNA” (Schätzing, 2006, p. 755) of every cell allows them to store knowledge biologically, in this way they have a “Memory via mutating DNA” (Schätzing, 2006, p. 751), and they learn speedily as the information of a certain value of every single cell is synchronized with all other cells of the collective. The sheer enormity of the yrr’s intelligence is hard to grasp for humans: “Let’s say they gained consciousness at the beginning of the Jurassic era. That’s two hundred million years ago, and they’ve been storing knowledge ever since” (Schätzing 2006: 755). The image of this flexible and highly potent life form makes the human species appear almost as clumsy and outdated as dinosaurs:

Humans aren’t endowed with genetic memory. For our culture to survive, we need words, written accounts and pictures. We can’t transmit experience directly. When our body dies, our mind goes with it. We talk about not forgetting the lessons of the past, but we’re kidding ourselves. To forget something you have to be able to remember it. None of us can remember the experience of earlier generations. We can record and refer to other people’s memories, but it doesn’t alter the fact that *we weren’t there* (Schätzing, 2006, p. 755).

While humans, based on the notion of the individual, struggle with their finiteness, “don’t have a clear view of the past and [...] don’t pay attention to the future” (Schätzing, 2006, p. 756), the yrr act and conceive of themselves as a collective and thus are in a way

immortal and not entangled in personal aims or fears. As the scientists guess, the yrr know about this human condition and that there is no point in negotiating: "Trying to get along with humans is a pipedream. The yrr have seen that" (Schätzing, 2006, p. 757).

This perspective turns common notions on the relation of nature and culture upside down. Inherent to the modern Western concept of culture is the dichotomy between culture and nature. Culture, often roughly understood as human symbolic activity and traditions based on this activity, is also commonly conceptualized in opposition to genetics. Still predominant is the notion of culture as advancement or even something completely new and different compared to "biology." Undoubtedly, one point of *The Swarm* is, that "culture is part of our evolution" (Schätzing, 2006, p. 679). But what more is, in the light of the comparison between humankind and the yrr, culture even appears as a mere prosthesis compensating for poor biological skills. The yrr outcompete humans on their very own field, culture, and in this view, one could even ask, whether human culture is even "biological enough" to supply for what is needed for survival: a reliable memory, long-term planning, and a sense of community. In contrast to man, self-preservation of the species is inscribed in the yrr genetically, so to speak. Still, the alienness of the yrr does not qualify them as real role models for humans: The existence of the collective overrules the right of the individual, and defective members of the collective are destroyed (Schätzing, 2006, p. 756). In this way, the depiction of the yrr is nuanced which only strengthens the "scientific realism" of the representation.

Despite the hopeless possibility of talking the yrr out of attacking humanity, a trick based on the newly gained knowledge on how the yrr communicate prevents total disaster. Of course, this surprising solution in a desperate situation fits well with the disaster thriller. Still, it is a somewhat open ending by granting humankind a delay in which it might, hopefully, make the necessary changes.

### **The human factor**

As my reading of *The Swarm* has shown, Schätzing achieves two very different things: On the one hand, by sticking to the genre formula of pop-cultural global disaster fiction in several regards – such as the gradual progression of the disaster scenario, the speedy action, and the "economics" of the characters saving the most likable

of them until the very end – the book might appeal to the average moviegoer. In addition, the affinity with the blockbuster genre is made clear by numerous meta-fictional references. On the other hand, representations of the blockbuster genre are criticized based on the very high scientific level which the book is based on. Also, the plot implies a fundamental criticism on the pollution of the environment and a serious challenge for anthropocentrism.

The earthly alien protagonists, the yrr, are to a much higher extent based on scientific knowledge than what the blockbuster imagination has to offer and must be considered as original also in the context of sci-fi literature. According to an influential definition of science fiction there must be a novum in every sci-fi narrative. In *The Swarm*, there is no technical innovation or the assumption that humankind is able to colonize other planets. Rather the novum is an evolutionary alternative, the invention of the yrr. This idea seems impressive in its simplicity and metaphorical truth: aliens have been there all along, they are omnipresent. There is no need to search far away to experience alienness.

By depicting the alienness of the yrr as a single-cell and yet collective existence, a swarm-intelligence, Schätzing draws attention to a field which formerly mostly attracted the interest of natural and computer scientists and only sporadically the attention of authors of science fiction. As formerly mentioned, examples are Lem's *The Invincible*, Vinge's *A Fire Upon the Deep* and Crichton's *Prey*. But differing from other swarms, the yrr are no result of technology (such as the swarms by Lem and Crichton), nor are they foreign life forms inhabiting other planets (such as by Vinge).

Recent developments, namely the internet and the kind of social action that it facilitates, such as awareness- and fund-raising or plagiarism-hunting based on a collective of mutual anonymous internet users, have drawn public attention to the swarm phenomenon. In Schätzing, the swarm appears, on the one hand, as "a threat and the other in opposite to human being, an amorphous being – still a fundament of human existence" (Horn, 2009, p. 102, my translation). On the other hand, the swarm is shown as a "superorganism" characterized by "self-organization and networking" (Dürbeck, 2010, p. 213), features which in certain regards might function as inspiration of how to organize human society.

Challenging the self-conception of humankind in this way in *The Swarm*, Schätzing also enters a debate which is more and more present in philosophy and cultural theory. Recently, Dominik Pettman has discussed human “species-making” thereby questioning the very category of humanity as something given by nature, and in contrast to this, characterizing it, by referring to Judith Butler, as actively “scripted, prompted, blocked and performed” (Pettman, 2011, p. 15). The exceptional position of humankind in the order of nature has been founded on exceptional features and abilities such as intelligence, self-consciousness, cultural production, sense of aesthetics, and so on. But, as detailed research has shown, all those traits are to some degree found in the repertoire of other creatures. In the end, self-reflection and the ability to ascribe certain features and conditions to one self – among them to conceive of oneself as human and thereby to establish a border between oneself and other animals seem to be the one exclusively human feature left: “*man is the animal that must recognize itself as human to be human*” as Giorgio Agamben has stated (qtd. in Pettman, 2011, p. 9).

Schätzing has used the platform of a highly popular genre to highlight very fundamental issues regarding human existence. To a certain extent, the criticism that has been directed at representations of environmental issues in disaster movies and eco-thrillers is also true for *The Swarm*. Still, the meta-fictional layer introduced in the book leaves no doubt about the fictional character of the depicted and the generic frame of the book. It is the high scientific level and yet the clarity with which urgent questions concerning humanity are asked which make them irrefutable.

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## Notes

- 1 It has even been claimed that tourists in the region were saved by reading Schätzing's book, because they could decode the signs of the coming natural occurrences, namely that the ocean retreats before the all destroying flood wave hits the land (Banz, 2013).