13 Truthfulness and truth claims as transmedial phenomena

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Emmanuel Levinas (1906–1995), a French philosopher, argued that the human face has a direct connection to the ethical dignity of individuals, thus theorizing a widespread idea. Face recognition is already evident in newborn infants; we learn, very early, to 'trust' a face. Face perception not only relates us to and communicates with friends, families and foes but plays an extraordinary role in our interpretation of our social role. Cultural practices may change how we perceive faces, which has been conspicuous in recent debates about the wearing of niqabs to the requirement to wear a face mask in certain situations. The important bond between individual assurance and face recognition can be temporarily disturbed, as evidenced by the widespread use of masks and the unsettling, distorted faces often seen in horror films.

Nevertheless, until recently, faces have been fairly stable and convincing entities in a rapidly changing and fragmented world. Human faces – which we are used to rely upon and to trust – suddenly seem to be malleable, changeable. AI and advanced image-processing techniques have radically changed this. We can no longer trust a face. Faces are altered in films: dead actors are seen acting in blockbusters, old actors become young (as in Martin Scorsese's *The Irishman*) and AI-driven face apps redesign our faces. A machine operated by artificial intelligence can create faces that we do not recognize as fake. So-called deep fakes not only create fake news but fake events, fictional events that never took place. The digital face determinedly questions what is real – what is truthful.

By way of the terminology suggested in this chapter, we advocate that these changes to a human face are so utterly disturbing because in our everyday life we perceive the human face to have very strong *truth claims*: based on earlier experiences and cultural contexts, we connect a face to a person and to their identity and intentions. If we sense that there is a risk that the nature of a human face is fake, this puts at risk the perceived *truthfulness* of several central psychosocial aspects of everyday life. The fact that we recognize people, that we trust what these particular people say, that we interpret their feelings and attitudes through facial expressions and that we can rely upon their identity, creates strong bonds that are violated through their loss of truthfulness. We realize with sudden despair the potential risk of a lacuna being created between what is being said and who, or even *what*, is stating it.

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This question of when and how we can trust a face is part of a larger problem. A general agreement on how and under which circumstances we can trust a face, a news article, a photograph, a film appears to have gone missing. Information society appears to have turned into a disinformation society, which actualizes the question of when, how and why we know that mediated information is true? This chapter addresses this sense of loss of reliability by exploring the concepts of truth claims and truthfulness across media.

We understand *truthfulness*, in the most general sense, as a reliable representation of the world around us: the social world as well as the physical world. The concept of *truth claims* refers to the reasons why we should trust a media product.

Together, these concepts enable us to describe how we perceive a particular media product to be truthful and what kind of knowledge of the world we derive from it. News or novels, poetry or scientific articles can be truthful to different aspects of the world around us and we derive different forms of knowledge from each media type. Truthfulness is a transmedial notion and when we speak of truth in different contexts, we refer to different kinds of knowledge.

Therefore, instead of speaking of 'post-truth' and 'alternative facts', and of telling facts from fiction, we use the concepts of truth claims and truthfulness to be more specific about our expectations of truth in different contexts. In the digital age, where different forms of information, narratives and ideas more easily than ever spread between different media types, we can map how different particular media products contribute to our knowledge of the world.

We begin this chapter by exploring different relations of truthfulness and discuss the truth claims of the different qualified media types. Discussing the truthfulness of fiction, we illustrate how the concept helps to get beyond troubled binaries like fact and fiction. We demonstrate how different qualified media types of popular science communication (Rachel Carson's *Silent Spring*), ecopoetry (in particular Swedish poet Jonas Gren), mainstream Hollywood film (*The Day After Tomorrow*) construct different truthful relations to scientific knowledge. Finally, we discuss how different forms of disinformation draw on the truth claims of news media and construct a perception of truthfulness that is based more on internal coherence than on events that actually have taken place.

Truth, facts, authenticity, fiction and truthfulness

In a way, truthfulness has been a perennial question throughout the history of media, whether in the form of a general media distrust (just think about Plato's discussions about whether writing could be trusted as compared to face-to-face speech), or a critical media stance that points out how media construct what they communicate. Questions of truthful media transformation have been discussed, for instance, within a discourse of authenticity (Enli 2015). Particular truth claims have been discussed in relation to specific qualified media types, like truth claims of photography (Gunning 2004), or the construction of journalistic

authority (Carlson 2017). From an intermedial perspective, however, we want to pursue truth claims and truthfulness as exemplified in a variety of media types.

Describing, analysing and comparing truthfulness as a transmedial phenomenon both broadens the field of research and at the same time makes it more specific, so let us briefly point out how a transmedial approach to truthfulness in media can be used to clarify our understanding of related concepts like truth, facts, authenticity and fiction. Truth, facts and authenticity are often used in everyday discourse as part of apparently clear-cut binaries like truth–lie, authentic–fake, fact–fiction. However, in different contexts, these concepts are used differently according to different truth claims and refer to truthful relations to different aspects of the world, to experience, to events, to emotions, or to coherence between events. With the transmedial concepts of truth claims and truthfulness we can better describe and compare which elements in a media product respond to the truth claims of a particular media type.

The concept of truth, for instance, is not only relevant in philosophy, as the inherent logical truth of a specific philosophical proposition. When we speak of truth in religious, literary, scientific, legal and news media contexts the concept is based on different aspects of truthfulness. Another term relevant in this context, objectivity, connects to the production of 'facts', of something that has an actual existence. Objectivity as a working method is often connected to the analytical methods of the natural sciences. Objectivity in that context means that similar experiments that are repeated at different times and in different spaces would produce identical, and thus 'objective', data or results. In other disciplines and professions, different working methods are used for the same aim, to gain objective results. In addition, not everything that someone speaks of as 'a fact' does have actual existence and instead is merely *presented* as having an objective reality.

Questions of truthfulness have been discussed in tandem with the concept of authenticity. However, depending on whether we speak of a historical object, a piece of art, a person, or a commodity, authenticity refers to different relations (see Box 16.3), for instance, as a truthful representation of an original, as a truthful representation of inner feelings, or the promise of the natural in a customized product. Authenticity always constructs an experience of immediacy that is constructed in communication and it often implicates an interaction between different truthful relations that need to be differentiated. Finally, truthfulness and truth claims help to describe the difference between fictive and factual narratives. Instead of trying to differentiate between the concepts of fiction and non-fiction, we can differentiate how a news article is expected to relate truthfully to an actual event, and the fictive events of a fantasy novel can be a truthful representation of causes and effects we recognize from our actual world: that might actually be one of the reasons the reason why we read fiction!

The truth claims of media

Media products give us access to what we do not know from our own direct experience. In order to gain knowledge from media products, we have to trust the sources. When we read books, journals or newspapers, watch television news or google a question, we trust the testimony of the experience of others. According to media philosopher John Durham Peters, media is 'a means by which experience is supplied to others who lack the original' (Peters 2001, p. 709). When we elicit knowledge from media products, we trust the people involved in its production. Every qualified medium is framed by a set of gatekeeping acts through which a media product gains credibility. A printed novel in a bookshop confirms that the author, the editors at the publishing house and the owners of the bookshop all consider the story in the novel relevant and important enough to be published and sold. Every professional film affirms the collective belief in the project, ranging from that of the film directors, cinematographers, editors and producers to its distributors. A scientific article confirms the relevant evaluation and critique of the findings of the study produced by the authors, peer-reviewers and editors. Implicitly, each and every media product contains a warranty, or a guarantee that specific acts have been carried out. When we respond to the truth claims of a media product, we rely on knowledge about the qualifying aspects of context and convention, and we try to confirm what kinds of acts are involved in creating this particular media product.

This means that the truth claims of media relate to our knowledge about the production process. All media convey truth claims based on their materiality (Gunning 2004). These truth claims are seldom made explicit. Implicitly they provide the reasons for what kind of truthfulness the audience can expect. For example, generally we say that a photo is an indexical sign or even proof that somebody was actually at the place where the photo was taken. This is based on the materiality of photography: by 'taking a picture' at a certain place and time, a person has opened a camera's lens and thus let light in and, if it is an analogue camera, made an imprint on camera film that can later on be developed and turned into a photo. The truth claim of photography, therefore, is that 'someone was there' and was able to see and capture something in front of the camera. The problem is that a fake media product, a photoshopped image or a deep-fake, makes this claim too. A fake photograph is produced with the aim to convince the audience of the actual existence of something or somebody at a particular time and place. The history of photography, from its beginning as analogue technology to the present digital age, has therefore constantly been haunted by the risk that its truthfulness can be undermined. Hence, one of the first lessons to learn is that the general truth claims of a qualified media type are not a guarantee that each media product is truthful.

Truth claims are not only based on the production processes but also on the material qualities of the basic media types. For instance, Tom Gunning stresses how the detailed iconicity of photographic images makes it look so similar to what is represented, that the level of detail provides a truth claim in itself

(Gunning 2004, p. 45). Similarly, the characteristic layout of text and image of newspapers provides a truth claim because we normally associate newspapers with reliable information (Carlson 2017, pp. 50–93). Fakes draw on the material characteristics of basic media types without being grounded in the actual production process.

Truth claims and qualified media types

Different media types are associated with different kinds of truth claims depending on their qualified properties, which is the historical, operational, aesthetical aspects of the medium (Elleström 2021). We ascribe greater credibility to a scientific article than to a poem when it comes to factual, scientific matters, just as we would rather trust a televised news programme than an avant-garde theatre performance to get an accurate weather report. On the other hand, we do not expect any deeper revelations about the human condition in the daily weather forecast, but that is often what we look for in avant-garde art. We do this because it is the contract we have with these types of media and their qualifying aspects. However, we constantly renegotiate our relationship with media. For example, not everything that looks like news is credible, and the privileged authority that news media has to tell truthful stories about actual events is no longer uncontested (Carlson 2017). This has caused disturbances within news communities on a global scale, and the mistrust and lack of agreement about what can be a credible source of information cause conflicts between groups as well as between individuals. For instance, during the COVID-19 pandemic, the practice of academic peer-reviewing has been at the forefront of news when discussing the eligibility of scientific publications on the virus. Some of these reports have been rejected since they have not had time to undergo the important scientific scrutiny of an academic peer-review process. Hence, the discussion of the most recent scientific publications on the virus acquainted even the non-academic public with peer-reviewing as a qualifying aspect of a scientific report that contributes to the truth claims of scientific communication.

Perception of truthfulness

Specific media characteristics convey certain truth claims that contribute to how and when we perceive communication to be truthful. The truth claims of media can be employed in communication to produce a *perception of truthfulness*. Our perception of truthfulness is the subjective evaluation of the truth claims and it can be manipulated.

This evaluation can connect to different aspects of a media product. A media product can be experienced as truthful in relation to the social and physical world. It can also be evaluated as truthful in the way it represents inner experiences, or complex connections. When we say something is ‘true’, this is in fact a short cut for saying, ‘I perceive this as being a truthful representation of something’ and thereby accepting the truth claims conveyed by the media

product. When we accept a media product as 'true', we perceive it as truthful in relation to either external perception or inner experience.

Objective and subjective truth claims

As media products can be truthful both in relation to external perception or inner experience, another way to look at truth claims is to divide them into objective and subjective truth claims. Objective truth claims relate to existing objects and events, whereas subjective truth claims are related to cognitive and affective states. And these two kinds of truth claims are not only opposed to but also dependent on each other.

Georgia Christinidis (2013) argues that subjective truth claims concern subjective responses to an exterior world. She states that 'the choice to sincerely represent one's subjective reaction to outside events can be termed "authentic"' and uses authenticity 'to designate the fictional representation of subjective responses to external events' (p. 35).

Emma Tornborg divides objective truth claims into two categories: those *in* a media product and those *with* a media product. A truth claim made *in* a media product is manifested in the specific media characteristics in the modalities of a particular media type. A truth claim made *with* a media type, as Tornborg (2019) argues, is a 'result of a negotiation between audience and media form: certain types of media have a high number of objective truth claims because we historically associate them with a high degree of factuality [...] This association is based on earlier experiences of that media type' (p. 241). A manipulated photograph or a deep-fake video rhetorically makes a truth claim with a media type to convince its audience of the existence of events that never took place.

This suggests that there are two different aspects to take into consideration when analysing truth claims from an intermedial perspective: specific media characteristics of the media product and qualifying aspects of media. Based on both media characteristics and conventions, certain kinds of media products have traditionally been believed to be more apt to communicate objective truth claims, such as a photographic image, a recorded voice or a scientific figure.

By describing the interaction between truth claims and truthfulness, we can start to understand better the clash of different and conflicting 'truths' in contemporary public (and private) debates. In the following, we map different possibilities to establish truthful relations to different aspects of communication. We discuss how truth claims connect to the conventions of qualifying media types, truth claims that relate to external perception and subjective experience, and how truth claims connect to different acts of indexical relations. What happens to truth claims in transmedial communication?

Truthfulness as a transmedial phenomenon

Media scholar Gunn Enli (2015) has stressed that the question of reliable communication must be seen as part of the 'communicative relation between

producers and audiences' (p. 1), and she argues that we must see authenticity and truthfulness as 'a social construction' which 'traffics in representations of reality' (p. 1).[1] Truthfulness, then, is part of the communicative context of senders and receivers; it relates to evaluations in its relation to reality – and it is mediated. Truthfulness can be understood as a contract between sender and receiver. When discussing truthfulness in mediation, we have to consider the specific truth claims that are in play and that are conditioned by the production process and media characteristics of each specific media type. But how are aspects of truthfulness transmediated between different qualified media where different truth claims are at work?

To transfer the objective results of a scientific journal article from the media type of a scientific journal article to a climate-fiction novel is in several ways comparable to how aspects of a Jane Austen novel are transmediated into a film. In the studies of film adaptation, the concept of 'fidelity' (as discussed in Chapter 9) is often a rather conservative and not very productive demand. In film adaptation, part of the pleasure 'comes simply from repetition with variation, from the comfort of ritual combined with the piquancy of surprise' (Hutcheon 2006, p. 4). This is different regarding media transformations where truthfulness to external perception is central: we don't want the news journalist reporting from a war zone or witnesses giving evidence in court to be too 'creative' or subjective; we are expecting them to relate what happened rather than to tell a good and creative story.

If we want to explore transmedial aspects of truthfulness, we have to keep in mind that we establish different forms of truthfulness in different media contexts. If we want to explore, for instance, how the plot of a climate-fiction (cli-fi) novel is truthful to the results of a scientific report this will be different to the way a news report is truthful to actual recent events: this is because different forms of (objective and subjective) truth claims are made in literature and news media

Truthfulness and indexicality

For a methodological investigation of how truthfulness is actually established *by* communication, Elleström (2018) discusses how what we call objective and subjective truth claims create different forms of indexical relations. The indexical sign points beyond itself, to the actual existence of something or someone, and like the footprint marks that somebody has been present. Elements in communication can point towards the existence of external objects but also to the inner experience, emotions, or beliefs and thus affirm the relevance of world views.

But indexical signs can also point towards the existence of other signs and provide coherence. As a heuristic short cut, confirmation bias makes us believe that something is true because it aligns with what we already know, or what usually tends to be true. In languages, indices like pronouns point towards names and nouns and thus provide coherence in an utterance. When we

perceive something as 'true', it is not only about facts, evidence and the perception of the world. In order to accept something as true it has to make sense to us as well, to be presented in a way to provide understanding and coherence. Relations of truthfulness in communication, cannot sufficiently be explored by trying to determine whether it is fact or fiction, authentic or fake, truth or lie. Instead, Elleström suggests, we have to describe different relations between external truthfulness and internal coherence.

The grounding of communication in the experience of the world, and the creation of understanding by coherence thus interact both when we read a cli-fi novel or a fantasy novel, a news article, a poem or a scientific report, but in different ways.

The truthfulness of fiction

The concepts we have described more generally above also help to describe the truthfulness of fiction in a more nuanced way.

The debate of the truth of fiction is a perennial question. Plato (428–348 BCE) suggests that poets cannot be truthful, since they are merely imitating or making copies of the real True ideas, which places them far from the truth of the ideal forms. Even though we do not believe in the ideal forms, the very term 'fiction', from Latin *fingere*, 'to form', refers to something that is 'put together' (*ficta est*). Fiction is constructed and thus appears opposed to objects of the social world that exist. Hence, the suspicion that poetry or fiction are not truthful remains. As philosopher Emar Maier points out:

> [T]he idea that both lying and fiction are just assertions of known falsehoods can be traced back to eminent philosophers such as Plato, who wanted to ban poets from his ideal society, David Hume who called them 'liars by profession', and Albert Camus who wrote that 'fiction is the lie through which we tell the truth'. It is apparent today in the common usage of fiction-related phrases such as 'story', 'pretend' and 'made up' to characterise lying.
>
> (Maier 2020, n.p.)

Traces of this line of thought, that fiction is not 'really true', are especially visible at the time of writing, when 'based on a true story' is a successful marketing phrase and a reason why this particular story matters and autobiographies by celebrities or people who have experienced unusual things are extremely popular. Research has shown that many high school students prefer this mix between fact and fiction – 'faction' – to regular fiction, because they do not see the point of reading about events that did not happen in real life.

Still, fiction time and again appears as a role model for real events. As already Aristotle (384–22 BCE), a pupil of Plato, pointed out in his *Poetics*, fiction should tell stories of what may happen and what is possible; we could say that fiction should relate truthfully to the law of probability or necessity. However,

the boundary between real events and fiction seems to have become blurrier than ever in the late twentieth and early twenty-first centuries. People, for example, compared the 9/11 bombings in Manhattan 2001 with images from the film *Independence Day* from 1996. New technologies in photo and video imaging and processing have undermined the conventional notion that *the camera never lies*. This is not a totally new phenomenon, of course; the infamous 1917 series of five photos of 'fairies' called the *Cottingley Fairies*, assumed to have been taken by two young cousins in England, fooled a whole generation, including the author of *Sherlock Holmes*, Conan Doyle. The fraud was finally uncovered in the 1980s when reports noted that the fairies were identical to similar creatures in *Princess Mary's Gift Book* from 1914. The reason this hoax was so convincing was because it was a truth claim made with a media type – the analogue photograph – which was considered the most trustworthy media type at the time because of its supposedly steadfast indexicality, that is, analogue photos' 'real connection' to reality.

Fiction and science

While fiction lands in between what is 'true' and 'made up', another tricky question is to position fiction in relation to science. How can one compare a novel and a scientific article? The novel tells a made-up story and a scientific article tells facts, or so it seems. Yet, both a novelist and a scientist connect events and construct a narrative. The difference is that the truth claims of a novel do not entail that the events have taken place. The truth claims of a scientific article are based on observations of real events. Nevertheless, we can productively approach the differences between fictive discourse and discourse representing scientific facts. Philosopher Paul Ricœur (1985), claims that scientific and poetic speech are different solutions to the same problem, the ambiguity of language:

> At one extremity of the possible range of solutions, we have scientific language, which can be defined as a strategy of discourse that seeks systematically to eliminate ambiguity. At the other extremity lies poetic language, which proceeds from the inverse choice, namely to preserve ambiguity in order to have it express rare, new, unique [...] experiences. (p. 63)

Although Ricœur is referring to poetic speech, a similar parallel can be drawn to formal and representational elements of fiction in all media. While scientific discourse focuses on a truthful representation of events that can be confirmed in external perception, poetic and aesthetic discourse involves truthful representations of inner experience, a truthful response to the world and its many ambiguities. Truthful representations of the ambiguity of the world, are not only restricted to poetic language in fiction, but can be found in many qualified media types, via music in film or material in sculpture. The issue of ambiguity

is thus central to Ricœur's work, as he claims that 'scientific statements have an empirically verifiable meaning. Poetry, however, is not verifiable' (p. 68). Hence, scientific truth claims, according to Ricœur are preferably connected to media types that use representations that are provable, or at least give the impression that they are provable. Scientific truth claims tend to be objective, while aesthetic truth claims often operate in both objective and subjective domains. Where science attempts to bring order in a complex world, the poetic truth of aesthetic communication in itself captures the complexities of an ambiguous reality.

Objective truth claims and internal coherence

Fact and fiction have mostly been discussed from the viewpoint of truthfulness through questions like *Is this work of art convincing*? Truthfulness then relates to the degree that plot, setting and characterization feel authentic – what we called 'internal coherence' earlier, in Aristotle's terms, the events appear probable and necessary. This kind of truthfulness in relation to coherence and probability has therefore been given precedence over facts and documentary accuracy. Some fictional aspects can be considered important for fiction's truth claims. So-called metaleptic elements, such as a pronounced awareness of the fiction's own form and fictional constructions, signal a critical and ironic approach to fiction which in turn simulates objectivity and grants fiction a sense of sincerity and critical openness. This is evident in much postmodern fiction, in film and literature alike, where the very construction of fiction is stressed for the benefit of a 'suspension of disbelief' (the poet Samuel Coleridge's definition of fictive imaging, from the early nineteenth century). In the opening sequence of Jean-Luc Godard's 1963 film *Le Mépris* (1963), we experience a long take with a movie camera on tracks coming towards us and following Brigitte Bardot, the female lead in the film. The sequence is accompanied by a voice informing us about the credits of the film, and the take ends with the camera turning towards the audience. This opening sequence clearly defines fiction as something constructed and made up, not a depiction of reality, which opens up a critical analysis of what film and fiction are. This is a critical perspective that is, paradoxically, similar to a scientific investigation.

Different genres, or qualified submedia, function as taxonomies of truth claims. Horror films, for example, are generally considered less truthful regarding the external reality than realist fiction. Unfortunately, such divisions are rather superficial, since science fiction films and horror films of the 1950s – to take two of many possible examples – were closer to scientific discourse and concerns than traditional Hollywood cinema at the time. In the end, truthfulness is all about gaining the audience's trust in terms of the audience being able to believe that the film is true; this creates a contract between producer and consumer that assures authenticity and truthfulness even if this turns out to be a highly subjective truth claim. And in the terminology of this chapter, it is about

producing a number of truth claims in each media product that add up to a conviction that there is (more or less) truthfulness in relation to certain specific questions.

The different focuses on the perception of objective or subjective truth claims are perhaps the most essential differences between a scientific and a fictive discourse. While a media product communicating the results of natural science, or historic research, predominantly strives to convince the audience of its objective, quantifiable truth, a work of fiction is about immersion and subjective affective experience. Consider, for instance, the difference between reading the entry on WWI in the *Encyclopaedia Britannica* and reading *All Quiet on the Western Front*, published in 1929, by Erich Maria Remarque. The former deals in facts, whereas the latter is all about being submerged into the interiority of events and experiences from the WWI trenches. Facts are void of experience, but experience is anchored in facts that can be perceived by many. This is one of the major appeals of fiction.

Perhaps a better approach to understanding the truthfulness of fictive narratives is how objective truth claims of actual events and internal coherence blend into either mixed media products or mixed qualified media types. Literary auto-fiction is becoming increasingly popular, since the autobiography denotes truthfulness both to an external reality and to the inner psychological life of the writer. Or, to put it another way, the connection between the author and the content is understood as direct and explicit: it feels 'honest'.

We find a comparable but not identical constellation of fiction and truthfulness in cinema. The documentary film, for instance, has long held a status as truthful and authentic, beginning with Robert Flaherty's *Nanook of the North* (1922). The cinematic truth claims consist in the apparent objectivity and in the depiction of close-up experiences of the life of Inuit people; these aspects convinced the audiences that this is a truthful account of Nanook and his family in the Canadian Arctic, almost as if they were not aware that there was a camera filming at all. However, it later became known that this film was highly staged and almost directed, not unlike a traditional drama film. So although truth claims are made in *Nanook*, the film is not based on but is emptied of real indexical relations. In fact, it is what we would call a docudrama today. Nevertheless, the aesthetics of *Nanook* – fake or not – were successful and separated it from more traditional fiction films, so it became a standard for a 'realistic' filmmaking tradition that could be seen in Italian neorealism and the French New Wave in the 1940s to the 1960s. Later on, these modernist genres in their turn inspired a tradition of documentary and fiction films that operated with truth claims that aimed at producing a truthful impression: long takes, avoidance of spectacular camera angles, framings and perspectives, diegetic sound only, use of amateurs (in fiction films), and so on. The Danish Dogma manifesto from 1995 resembles these cinematic truth claims.

Truth claims of media, truthful representation in media products and understanding the way different media products convey knowledge, are not only of theoretical interest. Urgent societal challenges like the climate crisis and

the spreading of disinformation put questions of truthful communication at centre stage. In the following, we demonstrate how intermedial analysis provides the tools to approach the complex communication crisis of the twenty-first century.

Truth claims in climate fiction

The climate crisis is the most critical encounter that humans have ever faced, and hence communication between science and global populations (including politicians) is of the utmost importance. But the overwhelming and in fact quite unusual consensus among the scientific community that the climate crisis is a fact and that it is caused by human action does not have a sufficiently wide reach. In polarized public debates, climate change is still not accepted as a fact but is contested. It is clouded by and questioned by discourses of fake news, accused of being left-wing alarmist propaganda and, perhaps most importantly, stalled by the very medial qualities of scientific documentation and reporting. The words of scientist Gus Speth (2014) went viral when he claimed:

> I used to think that top environmental problems were biodiversity loss, ecosystem collapse and climate change. I thought that thirty years of good science could address these problems. I was wrong. The top environmental problems are selfishness, greed and apathy, and to deal with these we need a cultural and spiritual transformation. And we scientists don't know how to do that.

Speth's wording echoes the analysis of environmental problems and representations that fall under the broad category of ecocriticism. Greg Garrard (2012) defines ecocriticism as 'the study of the relationship between the human and the non-human, throughout human history and entailing critical analysis of the term "human" itself' (p. 5). While originally ecocriticism focused on literary representations (Clark 2015), today it includes analyses of other aesthetic practices and media types. This 'cultural and spiritual' transformation is closely connected to concepts of agency. Ecofeminist Val Plumwood (2002) has addressed the acute situation of humanity and the need to renegotiate the traditional narratives of the Western world. This need for redemption is often referred to as 'the crisis of humanity'. 'If our species does not survive the ecological crisis', writes Plumwood, in an attempt to encourage environmental activism,

> it will probably be due to our failure to imagine and work out new ways to live with the earth, to rework ourselves and our high energy, high consumption, and hyperinstrumental societies adaptively [...] We will go onwards in a different mode of humanity or not at all.
>
> (p. 1)

Plumwood, thus, identifies the crucial importance of agency in ecological discourse, and the concept of agency becomes essential when discussing the Anthropocene through media. Scientific discourse includes high-level truth claims by way of its claim that it is based on objective perceptions, but it scores low for representations of how individual human agency may act upon the threats. Scientific truths about our climate therefore need to be transformed into a media type with better prospects when it comes to agency: literary and cinematic fiction are exactly such media types.

The usual definition of climate fiction, often called cli-fi, is fiction that represents the consequences of man-made climate change and global warming (for a broad overview, see Goodbody and Johns-Putra 2019). This definition can be seen as too limited, since there are climate phenomena that are not only man-made conditions but caused by volcanic eruptions, plate tectonics and solar radiation. We can now encounter the climate crisis in a variety of media: films, documentaries, news reports, activist happenings or protests, novels, poems, art exhibitions, games and popular science, some of which would fall into the cli-fi category. Thus, the climate crisis is a transmedial phenomenon; it is not restricted to the media of natural sciences but is transformed from the media of traditional science into many other media types. It is, however, as Tornborg (2019) writes, 'not a case of a transmediation from one specific source to one specific target. Instead, it is factual media concerning anthropogenic issues in general that constitute the source' (p. 235).

If the goal of transmediations of climate change is to keep these new forms close to a certain scientific truth, a media type conventionally connected to solid claims of truth communication should be the most suitable format: examples of this could be different genres of film and literature such as docufiction, docudrama, pure documentary or realist fiction. This idea would, however, be strongly rejected by critics such as Amitav Ghosh. Ghosh (2016) offers a harsh criticism of bourgeois literature in *The Great Derangement: Climate Change and the Unthinkable*, in which he reads the literary tradition of 'realism' as intertwined with the concept of probability and thus not a suitable candidate for representing or mediating anything out of the ordinary, such as extraterrestrials, unknown monsters or extraordinary aspects of humanity, which would destabilize relations between humans and nature. Weird climate phenomena caused by climate change would in our current historical situation, ironically, be part of such 'weird' content (pp. 16–17). 'Here, then', writes Ghosh, 'is the irony of the "realist" novel: the very gestures with which it conjured up reality are actually a concealment of the real' (p. 23). Instead, Ghosh is in favour of a literature that captures the uncanny, such as the strangeness of the familiarity of rain with a dash of toxic waste, since the images of climate change are 'too powerful, too grotesque, too dangerous, and too accusatory to be written about in a lyrical, or elegiac, or romantic vein' (pp. 32–3) – and even the conventional 'realist' model would not, Ghosh argues, be able to capture the experience of the weirdness of the environmentally deranged and changed planet. It took a partly scientific, partly literary text to be able to deal with the weird new nature: *Silent Spring* by Rachel Carson (2002).

Silent Spring*: Popularizing science by way of narrative*

The publication of *Silent Spring* in September 1962 sparked a national debate in the US on the use of chemical pesticides. When the author and marine biologist Rachel Carson died 18 months later in the spring of 1964, she had set in motion a course of events that would result in a ban of the domestic production of DDT and the creation of a grassroots movement demanding protection of the environment through state and federal regulation. The success of *Silent Spring* was due to its careful balance in communicating scientific facts in a hitherto popular way, stimulating human agency around environmental issues among the public as well as the US authorities.

Silent Spring is a work of popular science narrative, and as such a work of blended genres and a mixture of truth claims based on scientific observations from the institution of the natural sciences: these produce a specific truthfulness that is characteristic of this media type of popular science. Carson borrowed formal and generic ideas from science fiction and fairy tales and incorporated them into her book, merging discourses of science and popular communication. The term *popular science* does not suggest a particular technical or basic medium; popular science can be communicated by a textbook, a podcast, a film or, less often, a dance. The qualified aspects cannot be specified very precisely either: popular scientific narratives can be presented through fiction film, documentary, experimental film, and so on. In other words, popular science narratives constitute a rather broad genre, squashed in between journalism and literature and characterized by a certain medial homelessness. Genre definitions seem to unfold within the qualified aspects of media without being media-specific, since popular science has a well-defined aesthetic history and formal structure.

The *popular* in popular science narratives suggests a departure from the customary scientific practices and conventional claims, meaning that every scientist tends to operate on their own without necessarily needing a proper understanding of, or desire to comprehend, how their findings are situated in a larger framework. Carson, writing in the early 1960s, criticizes what she understood to be increasing compartmentalization and states that '[t]his is an era of specialists, each of whom sees his own problem and is unaware of or intolerant of the larger frame into which it fits' (p. 13). And, according to Linda Lear in her introduction to the new edition of *Silent Spring*, in Carson's view 'the postwar culture of science that arrogantly claimed domination over nature was the philosophical root of the problem. Human beings, she insisted, were not in control of nature but simply one of its parts' (p. xviii). This statement foregrounds the most essential issue in recent ecocriticism, namely human interaction with nature, and is further echoed in Carson's belief in the ecology of the human body, which was a major departure at the time in the thinking about the relationship between humans and the natural environment. Popular, diverse media such as book reviews, speeches and TV 'allowed journalists to cover the pesticide debate not as a complex scientific *issue* but as a series of *events*' (Parks 2017, p. 1218), and this pays tribute to the intermedial aspect of *Silent Spring*'s aftermath, which created a clear boundary with monomedial scientific discourse.

The popularization of the originally scientific knowledge about DDT, the first modern, mass-produced synthetic insecticide, is evident in the formal aspects of the essays collected in *Silent Spring*. First, the chapters are structured according to a dramaturgy defined in the theory of drama; we can identify the inciting incident, 'Elixirs of Death', the rising action, 'Rivers of Death', the climax, 'Nature Fights Back', and the denouement, 'The Other Road'.

Second, most of these titles imply the literary submedium rather than the scientific one; 'The Other Road', for example, alludes to the famous poem 'The Road Not Taken' (1915) by American poet Robert Frost, which discusses the choices we have as human beings. The transmediation of a literary style in a scientific work grants it something that science denounces: the improbable, the unknown and the mysterious that are involved in human interaction with scientific facts. This intertext of Frost's poem, common knowledge at least for citizens of the US at the time, opens up conceivable solutions to the threat the book discusses. Hence, it situates the book in a historical and cultural context, as well as a literary one, that goes beyond science into the very deepest emotional and individual concerns of humans. *Silent Spring* thus mixes at least three different qualified media types (scientific writing, popular fiction and science fiction) and blends them into the media type of popular science writing.

Third, *Silent Spring* is also an intermedial product in which several illustrations play an essential part in conveying the message of the book. The nature of these illustrations bolsters the blending of the genre even further, since they are not the typical illustrations we expect from a work of science, which would be diagrams, statistics, tables or detailed representations of flora and fauna. Rather, they are artistic, visionary sketches in black and white.

We certainly notice a set of different intermedial and transmedial aspects in *Silent Spring*: an illustrated book, popular science, the use of science fictive narrative and formal attributes of science fiction (such as the big-bug films of the 1950s), and elements of fairy tales. It is not far-fetched to claim that the impact and success of *Silent Spring* are owed to its intermedial and transmedial features. *Silent Spring* reveals itself to be a transitionary work between the science fiction of the atomic age and the dawn of the environmental movement in the age of countercultures. This is science fiction aesthetics in the name of scientific communication.

The very success of *Silent Spring* (it resulted in the banning of certain pesticides, the emerging environmental movement and a public awareness of toxicity) can thus be traced back to the very medial form of the book. The qualified aspect of scientific truth (Carson's scientific background, the scientific reports and references) is present in specific truth claims concerning scientific facts and a scientific discourse, comingled successfully with medial aspects with a stronger appeal to individual and collective human agency (illustrations, literary narrative strategies, allusions to fairy tales). What was lost because of a lack of conventional scientific truthfulness was gained in the insistence on human agency.

Poetic truthfulness in ecopoetry

Poetry as a literary genre, as compared with the broad field of narrative literature, occupies a unique place in the discussion of truthfulness in literature. As previously discussed, thinkers and writers have engaged with the issue of the truth of literary fiction for a really long time, so how can we approach the specific question of truthfulness in poetry from an intermedial point of view in a fruitful way?

For the most part, even if poetry does refer to verifiable facts about objects or events, poetry even more than fiction conveys a strong subjective truth claim: a 'deeper', more subjective, perhaps intuitively grasped insight about love, God or the human condition. It is perceived truthfulness of another sort. This is probably the most common understanding of the relation between truthfulness and poetry, and it is a position that in modern thinking relates to, for instance, many modernist ideas about poetry's privileged access to the meaning of existence. For the German philosopher Martin Heidegger, for example, it is even the case that an exclusive selection of poets offer privileged access to the philosophical truth about the world. Facts, not to mention hard science, seldom enter this discussion. However, there is a reason not to exclude facts from the discussion of truth or truthfulness in poetry, not least since there is a growing body of poetry, often motivated with ecological concerns, that incorporates scientific sources, references and quotes.

What poetry reveals to a reader, or what she or he regards as authentic or sincere, is – more or less – subjective experiences, or in Christinidis's (2013) words: 'the fictional representation of subjective responses to external events' (p. 35). These complex issues that concern poetry and truth claims will be addressed further in the next section, which is about ecopoetry.

Poetry can go against conventions and expectations and renegotiate the relationship between subjective and objective truth claims; it can pave the way for the development of different media types and genres. Take, for example, ecopoetry, which is often written out of a desire to affect the reader in a specific way – to make the reader understand the severity of the ecological crisis. The poet is often well informed about the subject and this knowledge is conveyed in different ways, often by means of scientific facts, either in the poems or as footnotes. Anglophone examples of this type of poetry have been written by Ted Hughes, Gary Snyder and, more recently, Adam Dickinson: some examples of Swedish poets who write in this genre are Jonas Gren, Åsa Maria Kraft and Agnes Gerner. Terry Gifford (2011) discusses ecopoetry's relationship with scientific facts: 'I have a feeling that we need to adjust our aesthetics for our times and that our criteria for the evaluation of ecopoetry does need refining' (p. 11); he continues: 'Don't we now need to know the data in our poetry? Don't we need to adjust our aesthetic to allow for the poetics to be informed' (p. 12).

The issue boils down to two questions: how do we as readers regard poetry that includes scientifically produced facts (not just facts such as water boils at

100 degrees Celsius or that a dog has four legs, but facts that belong to a more specialized scientific discourse, 'gained from scientific, academic inquiry' (Haiden 2018, 10)) – is it still aesthetically appealing? And how do we regard the scientific facts referred to in ecopoetry – are they still credible? Regarding the first question, Yvonne Reddick (2015) notes:

> The question of whether or not scientific data should be included in ecopoetry remains problematic. In the opinion of the present critic, if scientific data can be deployed in a way that adds to the aesthetic value of the poem without sounding propagandist, it can enhance the quality of the writing in a startling and unsettling way.
>
> (p. 265)

In other words, if poets use scientific facts in an overly didactic or propagandistic manner, it will affect the quality of the poem negatively. Since at least the Romantic era, a good poem is supposed to be multivalent, ambivalent and open for individual interpretation. A poem with a distinct cause that exists outside the text and the poetic context has often been regarded as less interesting from an aesthetical point of view. This does not mean that a poem cannot have a message or a cause, even a political one, but it should not be the poem's only raison d'être and must be conveyed so that it is open to many different interpretations. This, in turn, has to do with Cleanth Brooks's (1947) notion of 'the heresy of paraphrase': if we could capture the essence of a poem by paraphrasing it, it would not be a good poem. The subject matter of a poem is intimately intertwined with the poetic language, the rhythm and the imagery.

However, even if a poem incorporates scientific facts, it does not necessarily mean that the whole poem is riddled with them – they might be present in just one or two verses. Besides, regardless of how many facts a poem includes, what matters is their role in the poem. Do they emphasize the poem's theme, enhance its sensations and atmosphere and contribute to making it original and new? In that case, it is an aesthetical win.

The second question has to do with the facts and the credibility that we ascribe to them. As discussed earlier, we are accustomed to believing what we read in a scientific journal (or even if we never read such journals, we imagine them to be truthful), but we are not used to regarding poetry as a medium for conveying facts. When we come across a scientific fact, or a scientific discourse, in poetry, we might tend to look at it as something else, as Jerome J. McGann (2002) puts it: 'In poetry facts are taken to be multivalent [...] They are open to many readings and meanings, and any effort to explicate them by a historical method, it is believed, threatens to trivialize the poetic event into a unitary condition' (p. 223). The scientific fact that is transmediated from a factual source media product transforms into something else, a symbol, when it is mediated by the target media product, the poem. How can poetry overcome this situation? One way of doing so is to employ the same method as the source medium: referencing. By referencing, the poem can 'prove' its own

credibility, its own truthfulness, despite what media and genre conventions lead us to believe. The transmediation of a factual discourse combined with a reference to the source media product is the only way that poetry can be truthful in a positivistic meaning of the word and thus make objective truth claims, as well as subjective ones. If this method is successful, the objective truth claims strengthen the subjective truth claims and vice versa.

Let's look at a poem by Swedish ecopoet Jonas Gren and see how it treats facts, truth claims and truthfulness:

> Behold the human
> Hide Hollows Guts
> *Enterococcus faecalis*
> *Helicobacter pylori*
> Ninety percent of
> the cells in a human
> belong to microbes
> I'm
> in a minority
> within myself
> (Gren 2016, p. 14)[2]

This very short poem concerns the abundance of microorganisms in the body. In 'The Anthropocene Within', Johan Höglund (in press) describes the human body as an ecosystem of its own:

> What new microbiological research argues is that the human cannot be imagined as this bounded biological and psychological entity. The human body, this research argues, is an assemblage of thousands of species the members of which outnumber the cells of the human body. According to the most recent estimates, the human body is made up of roughly 3–3.7 trillion human cells, but it is also inhabited by 3–4 trillion bacterial cells belonging to 500–1000 different species.
>
> (Höglund, in press, p. 3)

In Gren's poem, these data are transmediated into poetic reflections: 'I'm/in a minority/within myself'. The poem has a lyrical tone and the data and scientific names do not change that but instead add to the overall poetic atmosphere. The binomial names *Enterococcus faecalis* and *Helicobacter pylori* are correct, and furthermore they are explained in the anthology's glossary. The fact that there is a glossary points to the scientific and factual intent of the collection. For example, the main title of the collection is *Anthropocene*, and the term Anthropocene is lengthily explained in the glossary, with references to scholars in the field.

The scientific terms and data emphasize the poem's post-humanist motif of the dissolved self (who am I if my cells belong to someone else?), which in turn makes us reconsider the invocation to 'behold the human' (*ecce homo*), which

has a long Christian tradition, originally ascribed to Pontius Pilate when he presented Jesus to the crowd. *Ecce homo* suggests that the human being is a solid unit, separated from other beings and superior to them. In Gren's poem, we are invited to see the human as an ecosystem of microbes in which the human body forms the habitat for trillions of life forms. The human body becomes a feeding ground, landscape and nature: there is a transformation from culture to nature, that is, from foreground to background.

The glossary, which provides adequate references to and explanations of scientific terms and concepts, gives the poetry collection credibility; the collection makes objective truth claims and, furthermore, proves itself objectively truthful through the glossary. Because of the new context, the reader is not solely focused on the factual content of the transmediated phenomena but on their aesthetic function as well: how they sound, their placement on the page and how they connect structurally and thematically with the rest of the verses. They have transformed into poetic units and have been placed in a poem and in a poetry collection that truthfully conveys topical scientific information without ever losing their multivalency and lyricism.

Hollywood Environmentalism in *The Day After Tomorrow*

If poetry operates on a smaller, more intimate scale, Hollywood blockbusters bang out their messages with a hammer. In the past few decades, several Hollywood ecological disaster blockbuster films have addressed the issue of the climate crisis (see *Waterworld* (1995), *The Day After Tomorrow* (2004), *Geostorm* (2017), *Interstellar* (2014), *Mad Max: Fury Road* (2015)). The modern adventure blockbuster, with its all-inclusive potential, huge budgets and advanced technology, should, it seems, be suited to communicating the need for an altered direction for humanity. As Ailise Bulfin (2017) observes,

> given that a significant number of people derive a good deal of their information on and understanding of the threat of climate change […] from popular culture works such as catastrophe films, it is important that an investigation into the nature of these popular representations is embedded in the attempt to address the issue of climate change.
>
> (p. 140)

One of the aesthetic challenges a subject matter of climate change poses, is the difficulty of representing and transmediating a scientific phenomenon of such gloomy magnitude (end of the world) and infinite temporality (deep geological time as opposed to the short time frames of human time) in art and popular cultures. Images of melting icebergs and starving polar bears infiltrate popular media since these are intelligible illustrations of the climate damage that can be comprehended in human time. The format of the blockbuster cli-fi film rearranges the sense of deep time very conveniently, a fact that has drawn a lot of criticism from scientific communities.

One of the early, trendsetting cli-fi blockbusters was Roland Emmerich's *The Day After Tomorrow* (2004).[3] The film depicts the disappearance of the Gulf stream and the following collapse of the polar icecaps, which rapidly initiates a new ice age. This resonated with a debate in the news in 2004 on human-induced short-term variation in ocean circulation and its effect on the climate. Most palaeoclimatologists (they study past climates) were highly sceptical of the melting polar icecaps theory, but many of them probably immensely enjoyed seeing a palaeoclimatologist in one of the main roles of the film. Daniel P. Schrag, a palaeoclimatologist and professor of earth and planetary science at Harvard University, said,

> On the one hand, I'm glad that there's a big-budget movie about something as critical as climate change. On the other, I'm concerned that people will see these over-the-top effects and think the whole thing is a joke […] We are indeed experimenting with the Earth in a way that hasn't been done for millions of years. But you're not going to see another ice age – at least not like that.
>
> (cited in Bowles 2004)

Likewise, the film was scientifically scrutinized by ClimateSight.org (ClimateSight 2012). Nevertheless, using scientists as characters in these films is common enough in feature films, be they cli-fi films or not: it is an economic way to grant these films a notion of truthfulness. Having scientists as film characters facilitates the presentations of the truth claims related to scientific facts presented at conferences, in political venues and within scientific communities themselves.

Even if these films incorporate media types usually associated with the scientific community as a means of framing the climate crisis in a believable scientific context, the realism of these films is more due to the suspension of disbelief mentioned earlier. However, in terms of truthfulness, these films aim less for scientific rigour and more for affective immersion. Scientific discourse can tell us how things are, but fictional discourse can make us *feel* these figures, schemes and calculations. In these films, the action sequences, as well as more contemplative and prophetic images of destruction, successfully create a physical and phenomenological experience for the viewers through the cinematic embodiment of the severe threats of climate change. Through images of the end of the world, these catastrophe films initiate a particular emotional reaction, which Salmose (2018) has termed the 'apocalyptic sublime', as a way of representing the effects of climate change (pp. 1418–24). Sublime here refers to the definition of sublime as a combination of awe and horror, or 'delightful horror'. An apocalyptic sublime, then, is a sublimity that is invested in the sense of the apocalypse of the world.

There are primarily two variants of the apocalyptic sublime in the blockbuster cli-fi as a media type. The first, and most frequent, variant is related to traditional action sequences: they are narrative and protagonist driven and work inclusively through embodiment, for example, the body's reactions to

aesthetic experiences. This is the 'action apocalyptic sublime' (pp. 1419–22). The second variant is more existential and affective (in the sense of poetic, affective qualities), and emphasizes the more universal dimensions of catastrophe. This is what Salmose (2018) calls the 'poetic apocalyptic sublime' (pp. 1422–4).

The action apocalyptic sublime is immersive, sensorial and embodied: it makes people feel and experience the climate catastrophe in an entirely different way to watching a starving polar bear. In the action apocalyptic sublime, the camera is rarely still; impatiently, it tracks the horrible experience of our heroes through a crumbling civilization. The use of advanced CGI 'places' viewers in the filmic diegetic universe very effectively. Watching films in cinemas or home cinemas especially exaggerates the bodily experience of the action. The apocalypse of the world is haunting and cool and is supported by a pompous musical score. There is a sense of awe when popular icons and emblems are part of the cinematic catastrophe; items symbolizing the coherence of the world which we take for granted are suddenly lost. In *The Day After Tomorrow*, this is evident when both the Statue of Liberty and the Hollywood Sign are demolished. The destruction of the latter by numerous tornadoes is part of the initiation of the catastrophe, and the gravity of the event is underscored by the Fox News reporter from a chopper: 'Liissaa, ah, are you getting this on camera? […] It erased the Hollywood Sign […] the Hollywood Sign is gone!' Although such an attempt at apocalyptic sublime might initiate a sense of comedy that could distance the viewers from the catastrophe rather than embody them, the result is still quite overwhelming. The truth claims here are not so theoretical or abstract; instead, the film produces a physical experience that concerns the truthfulness of the situation.

Perhaps more effectual in terms of agency is the 'poetic apocalyptic sublime'. This would include visions of rising water and magnificent waves that are the after-effects of the geological disasters these narratives represent, such as the melting of the polar ice caps due to climate change in *The Day After Tomorrow*. The use of flooding images makes the slow violence of climate change visible and felt, even if these changes occur in a less dramatic fashion in reality than in the movies. These representations reproduce a universal mythical narrative of the revenging or wrathful flood that occurs in many religions and mythologies, such as in Plato's allegorical depiction of Atlantis. Therefore, the poetic apocalyptic sublime carries a stronger intertextual and symbolic vitality than the cataclysmic images of inland earthquakes.

Scenes that can be described as the poetic apocalyptic sublime are also constructed in a very different style from the action-driven variants. Alexa Weik von Mossner (2017) describes the opening sequence showing Antarctica in *The Day After Tomorrow* in a similar fashion but without using the term sublime: 'we feel the emotional impact of both the beauty of nature […] and its destruction' (pp. 154–5). In this way, the scene targets the very sublime interplay between awe and horror. Mossner goes on to say that '[t]he evocation of a spectacularly beautiful but suddenly also threatened environment cues awe for the sheer beauty of the images and sadness in relation to a vulnerable ecological space at

risk' (p. 155). This latter reading, which parallels the experience of that scene, suggests exactly the kind of introspection and reflection that differentiates the poetic apocalyptic sublime from the action apocalyptic sublime. The affective result is perhaps even more convincing in the magnificent scene in *The Day After Tomorrow* when the camera, in one long, breathtaking shot, circles around the deluged Statue of Liberty (which has also been struck by lightning) in the underwater New York City to the sounds of lightning, water and sudden frantic, orchestral bursts. It opens up an opportunity for feeling the true angst of the destruction. The poetic sublime is less violently physical and more affective and reflexive; the truth claims deal more with feelings of despair and nostalgia than with violent upheavals.

Hollywood cli-fi films promulgate a sense of hyperreality. Through a superbly technically constructed point-of-view experience, these films maximize, even override, conventional truthfulness. The creation of a total subjective experience is made possible because of the truth claims of its own cinematic method. Although Hollywood cli-fi films have the potential to create a temporary emotional shock regarding ecological disaster, these affective affirmations are contradicted by the sentiment 'do not worry, everything will be as it has always been', which is an inherent part of the adventure narrative genre, wherein quest, conflict, heroism and resolution contradict the sensual impact of the apocalyptic sublime and diminish any kind of agency to change human behaviour. Consequently, and typical of many mainstream representations of future climate disasters, *The Day After Tomorrow* ends in smiling reunions, a newly constructed heterosexual couple and a strangely intact Manhattan skyline in bright sunlight in front of a blue sky. The film suggests both a longing for past times and a strong desire to preserve what is imagined to be the essence of the Western world. The genre, thus, disregards a necessary shift of focus to the negative aspects of the Anthropocene condition, and the potentially sensational warning effects of these spectacles are short-lived.[4]

In the end, the qualifying media aspects of Hollywood commercial cinema, and its narrative structures, appear to severely reduce the hard facts of climate science even if the inclusion of scientific characters and qualified media types attempts to bridge this gap. The truth claims related to the presence of the scientists and, in particular, to their discourses and multimedia presentations that are part of the film are downplayed in the more comprehensive (and economically dominant) Hollywood plot. What we can acknowledge here is the transition from scientific objective truth claims to Hollywoodesque subjective truth claims. Nevertheless, the medial possibilities inherent in Hollywood cinema (embodiment, immersion, affect) manage to create an experience that concerns the effects of climate change that scientific discourse cannot.

How do we know it's true? Fake(d) news and the truth claims of news media

In 2014, a story about a schoolgirl spread across Swedish social media. The article that was shared told how a 9-year-old girl was kept in after school

because it was held that the Swedish flag on her mobile phone case could be offensive to migrants. And although the story was soon debunked as satire, one user angrily retorted in a commentary field discussion: 'I don't care if it's a fake, it's still a f**ing scandal' (Werner 2018, p. 27). This comment is symptomatic of how objective and subjective truth claims collide, and bears similarities to the debate about the climate in the 2010s. It is an example of how the hierarchy between subjective and objective truth claims, between a truth claim involving a 'personal, local approach to truth' and emotional, personal experience and truth claim involving objective knowledge 'gained from scientific, academic inquiry' (Haiden 2018, p. 10) has become unstable. If a story feels right, why bother about whether it actually did take place?

This comment is also symptomatic of how digital communication and digital social interaction have complicated the practices of evaluating truth claims. We often ground our evaluation of truthfulness in our knowledge of and our trust in the source. We also evaluate the truthfulness of media products according to the conventions of qualified media types. But in front of the computer and on the internet, we access and easily switch between different kinds of qualified media types. News, science, satire, gossip, fiction and education are often only separated by a mouse click or two. When read in its original context, the 'news' on a website called *The Stork* (which offers 'Real news and gossip') about punishing a schoolgirl because of the colours on her mobile phone case is easily recognized as news satire. Once the article is shared on social media, it might be mistaken as news.

In the following, we explore conflicting truth claims in the current infosphere by analysing how we ground our evaluation of truthfulness in different interacting indexical relationships between external indexical relations and internal coherence. After this analysis, instead of just being baffled by the fact that some people accept as true what to others is clearly fake news, we will be better able to describe how fabricated news stories are manipulated.

Different kinds of qualified media convey different forms of truth claims. Thus, we evaluate narratives differently depending on whether we read a novel or the news. A news article tells the story of a particular event that has taken place. In the news, the cohesion of narrative patterns is used to put this particular event into context (Carlson 2017, p. 54). However, the difference between fictive and factual narratives does not help when it is uncertain which truth claims apply and which are made up.

True stories: The truth claims of news media

What are the truth claims of news media? Matt Carlson (2017) conceives journalistic authority as being established and confirmed with every single piece of news that conveys what we call truth claims here. There is the truth claim of professionalism – news stories are true stories because they are based on research, on interviews with sources and a journalist's own observations. The truth claims of news media are also to a large extent based on and performed

by the visual and narrative forms and conventions employed. Last but not least, the news article is the result of an editorial evaluations process: the event is selected and evaluated as relevant news. The position of news within the structure of the TV news or the newspaper already signals an evaluation of its importance and context.

These truth claims of news media are challenged in digital media. A printed news story and its position in a printed newspaper claims relevance and the public's attention. In digital media, news stories that are shared become isolated and interchangeable texts. Actors other than journalists draw on the visual and narrative truth claims of news media for other reasons than simply informing readers or viewers about recent events.

In the current infosphere, trust in journalistic professionalism or heuristic short cuts cannot be applied. We cannot easily differentiate between true and false, or that facts are replaced by fiction. We cannot understand different forms of disinformation by simply pointing out that they ignore facts. Nor does it help to label media products that manipulated the truth claims of news media as fake news. 'Fake news' is a rhetorical term often used to attack opponents and always the problems of others (Tandoc 2019). To make things even more difficult, this kind of pseudo-journalistic disinformation is not totally fabricated. Instead, actual events and facts are connected in a way that conveys a distorted impression that is not truthful. Truth claims are made, but they are made on false grounds.

In the following, we explore the manipulation of truth claims of news media by describing how disinformation manipulates the relation between different indexical relations, between external experience, the narrative and the confirmation of world knowledge. We analyse two different cases of disinformation. These stories draw on the truth claims of news media but do not comply with all of them. We explore the possibilities that are offered to ground the article in experience, previous knowledge and coherence. Which facts and actual events are mentioned? Which structural patterns of cohesion are created? How does the event relate to previous knowledge and belief? Through this we may begin to understand how we end up in conflict about whether a piece of information is a true story or fake news.

Alternative truths and narratives

In October 2016, news media in Sweden reported that the Swedish Transport Administration would no longer allow Christmas decorations to be fastened to the lamp-posts owned by the administration in minor localities for safety reasons and due to organizational and legal changes. When Swedish Television covered the story on a regional news site on 23 October, the web article included the uncomprehending reactions of local politicians (Renulf 2016). On 24 October, the alt-right news site *Fria Tider* (*Free Times*) published an article that integrated the event into a strategic narrative, and provided an alternative explanation and context for the reported event, already presented in the

subheading 'War on Christmas' (Fria 2016). Journalist Paul Rapacioli has traced how the actual event in the context of alt-right media was reported on as a symptom of Sweden's problems after the so-called refugee crisis in 2015 (Rapacioli 2018, pp. 15–27). *Fria Tider* thus anchored the event into the same anti-Muslim and anti-migration narrative that the article from *The Stork* about the banned mobile case satirized. The *Fria Tider* article presents the ban on fastening Christmas decorations to the administration's lamp-posts as an indexical sign of an ongoing fight against Christian traditions. This is not only indicated in the subheading but explicitly repeated in the article. 'The change is a victory for those who want to tone down the remainder of the country's Christian traditions' (Rapacioli 2018, p. 17). These lines are added to an otherwise quite faithful account of the report on Swedish television.

This anchoring in the audience's worldview is supported by different forms of structural coherence. For instance, the article reduces the complexity of the matter by creating the structural parallel that the ban on Christmas decorations equals a ban on Christmas traditions. The phrase 'War on Christmas' echoes those of existing campaigns such as the 'war on terror' and the 'war on drugs', which conveys a certain authority to the phrase. However, the claim that there is an ongoing campaign against Christian traditions is not grounded in the specific quote of a source that could confirm the claim put forth. Still, the text is grounded in something that is presented as factual external evidence, as it points out that there had been no reports yet of lamp-posts collapsing because of the weight of Christmas decorations. This external fact, which points towards an event that has not taken place, can in turn be read as indexical evidence that the official reasons cannot be valid.

Thus, the article is not merely anchored in a strategic narrative that confirms the previous convictions of the intended audience. The article aligns all three forms of indexicality. The article anchors the claim of a War on Christmas in other observable facts, connects a fictive event to existing events by parallelism and increases all forms of coherence to reduce complexity and create an impression that it all fits together.

Recognition effects

Different indexical relations also cover up for each other in the manipulated feature stories of the former German star reporter Claas Relotius. In 2018, Relotius had to admit that he had manipulated many of his prize-winning reportages that had mainly been published in the highly respected German news magazine *Der Spiegel* (Fichtner 2018). In the wake of the scandal, many wondered why nobody had noticed earlier that Relotius's stories were, in fact, a bit 'too good to be true'?

In Relotius's feature stories, we can see how different indexical relationships are grounded in each other. 'The Story of Ahmed and Alin: Syrian Orphans Trapped in Turkey' (Relotius 2016) is mostly made up of fictive events. It tells

the story of two Syrian siblings who had fled from Aleppo to Turkey aged 10 and 11, were separated and now worked as child labourers. *Der Spiegel*'s internal fact-check revealed that Relotius and his photographer had met a boy named Ahmed, but he was not orphaned, did not have a sister and did not collect scrap but worked in a relative's car repair shop.

Narratologist Samuli Björninen (2019) has analysed in detail the literary narrative strategies of this article. The story is told mainly from the point of view of the alleged sister Alin, that is, from a fictive point of view. It is told by an omniscient narrator who not only observes people but focalizes from their point of view and prefers to mediate their words in his own words in free, indirect discourse. As he quotes the children only in short phrases, the narrator feels obliged to ensure that 'they tell their stories vividly and honestly – in the way only children can' (Relotius 2016, p. 128); this is a quite remarkable self-referential statement ensuring the (falsely claimed) authenticity by simply stating their authenticity. Still, these literary narrative techniques might be consistent with the style of New Journalism that advocates literary and subjective storytelling in journalism, and they are a hallmark of the magazine *Der Spiegel.*

Thus, a reportage can comply with the truth claim of journalism that it is telling a story based on research, on interviews with sources and on a journalist's own observations despite the fact that it draws on literary techniques. However, in the case of Relotius's texts, the increased coherence between fictive events that are constructed to fit, covers up the absence of facts that could be checked. The details that appear to be external facts are minor details, such as the 15 steps to a cellar or the number of children working at a sweatshop. The text is vague on exact dates that could be checked, such as when it is claimed that war arrived in the children's life 'a summer's day, two years ago' (Relotius 2016, p. 128). If the text referred to the 'summer of 2014' instead, the inconsistency would be more obvious, as the siege of Aleppo had already started in 2012. The patterns of cyclical time, such as day and night, increase coherence, because Alin is said to sew by day and Ahmed to collect scrap metal by night.

Instead of being grounded in facts that can be observed and checked by others, the reportage is anchored in the general knowledge and experience of the German audience. In a surprisingly inconsistent way, the text mentions small details for the German audience to recognize. On second glance, these details are obviously wrong for a Middle Eastern context, such as when Alin, who is a Muslim, is said to fold her hands in bed for her night-time prayers (which is a Western Christian tradition). When the children are said to escape from Aleppo in the boot of a car, this description creates a recognition effect in relation to stories of escape from the GDR. The siblings keep in contact via smartphones, although at least Ahmed is said to live in a makeshift shed in the forest without electricity, and Alin is said to be hungry but must have spent money on mobile data. It takes time to notice these inconsistencies because smartphones even provide opportunities to highlight other forms of allegedly factual evidence, such as films and images. The phones provide internal narrative coherence as well, as they connect the Syrian past with the present and the

two siblings' narrative strands via text messages. All these appeals to the audience's world knowledge about what *usually tends to be true in a German context* do not add up to an appeal to confirmation bias but create more of a vague recognition effect. In marketing strategies, the recognition effect will nudge customers in a shop to choose the brand they recognize. In this text, the fragments of inconsistent familiarity appear to nudge the reader into acceptance of the story.

The article does not confirm any strategic macro-narrative. Instead, it is anchored in literary intertextuality. Alin is said to sing a Syrian folk song about children who lost everything but end up as King and Queen of Syria. The song thus connects both to the sibling's alleged situation and to the title of a German folk song, *Es waren zwei Königskinder* (There once were two Royal Children). The folk song creates coherence as it works as a *mise en abyme* for the entire reportage. The German title *Königskinder* in turn also evokes the above mentioned well-known traditional folk ballad about 'two Royal Children' that 'held each other dear' but 'they could not come together' because 'the water was far too deep' (Nagel 2018). Even in this article, the structural parallel with existing phenomena, here an existing folksong, anchors the made-up story. In the German ballad, the prince tries to cross the water and drowns in the attempt. The intertextual reference does not create an exact parallel but connects the invented fate of the Syrian siblings with the actual stories of refugees drowning in their attempt to reach Europe. The structural parallel in the intertextual reference grounds, via a kind of family likeness, the invented events in actual reported events. Therefore, a made-up feature story is indexically grounded in literary intertextual references. Once again, different external and internal indexical relations appear to refer to each other and thus cover up the fact that they are all made up.

In both of these cases, the line between fiction and fact is not easy to draw. Both cases present a story that is more based on the world knowledge or world view of the audience than on the factual experience of the reported event. However, facts are not merely replaced by an invented story that confirms the opinion of the audience. There is no radical shift from truth to lie. Instead, both texts reveal an alignment in the different forms of indexical relations that provide coherence. Instead of pointing to actual events, they connect to each other and provide coherence. Thus, a closer look at indexical relations can describe the mechanisms that explain in more detail how news stories are manipulated.

Conclusion

Questions of truth, authenticity and objectivity have long been discussed in media-specific contexts. In this chapter, we touched upon some of those questions, like the truth of fiction, the indexicality of photography, the objectivity of the camera. With the concepts of truth claims and truthfulness in different media types, however, we presented in this chapter a transmedial approach. Truthfulness and truth claims allow us to connect different but

related discourses on truth, authenticity, objectivity and to explore more specifically the implicit appeals made in different media products concerning why, how and when we should trust them.

Throughout this chapter, we explored different forms of truthful representations in poetry, popular science narratives, literature, mainstream cinema and the news media. We highlighted the interaction and interrelation of truth claims and truthfulness. The truth claims of qualified media types influence what kind of truthful relation we expect and respond to. In specific media products we perceive interaction of objective and subjective truth claims, of truthful representations of external perception and inner experience.

The truth claims may vouch for different kinds of truthful representations in different media types, but they are always framed by production and reception contexts, and based on constellations of basic media types and technical media of display (as is all communication by way of qualified media).

Exploring truth claims and truthfulness across media are thus useful tools to address the societal challenges of the current communication crisis. In this chapter, we explored the communication of climate change and the spreading of disinformation. But questions of scientific truth production and truthful communication grew more and more prominent during the time of writing, due to the COVID-19 pandemic. And generally, as we can combine different media types and transfer information between different media types more easily than in the digital age, we need to better understand the transmedial dimensions of truthfulness. Identifying truthfulness, therefore, is definitely an issue that demands a high degree of intermedial literacy to avoid getting lost in the labyrinth of truths, fake news and half-lies.

Notes

1 Enli discusses the question of 'mediated authenticity', but we gently transplant her arguments into the very similar (but not identical) questions of truth claims and truthfulness.

2 Se människan/Huden Hålorna Tarmarna/*Enterococcus faecalis*/*Helicobacter pylori*/Nittio procent av/cellerna i människan/tillhör mikrober/Jag/är i minoritet/i mig själv (p. 14). Translated by Jonas Gren and Dougald Hine. The translation has not been published at the time of writing.

3 For an extensive analysis of the differences between scientific media and cinematic media, and the transmediation from the scientific article 'The "Anthropocene"', published by Paul J. Crutzen and Eugene F. Stoermer in 2010, to *The Day After Tomorrow*, see Lars Elleström's 'Representing the Anthropocene: Transmediation of narratives and truthfulness from science to feature film' (2020).

4 In the case of *The Day After Tomorrow*, this is also supported by Mike Hulme's analysis of five different reception studies of the film. Hulme (2009) explains that the film 'cannot be said to have induced the sea-change in public attitudes or behaviour that some advocates had been hoping for' (p. 214).

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