



“Unless someone like you cares a whole awful lot, nothing is going to get better”: an environmental discourse analysis of animated films *The Lorax* (2012) and *Tomorrow* (2019)

Mohammad Mizan-Rahman

School of Cultural and Critical Studies, Bowling Green State University, Bowling Green, OH, USA

Correspondence: Mohammad Mizan-Rahman (mohrah@bgsu.edu)

Received: 16 December 2022 – Discussion started: 12 January 2023

Revised: 14 September 2023 – Accepted: 4 December 2023 – Published: 4 March 2024

Abstract. Fostering understanding and support for environmental and climate issues requires a foundational understanding of how environmental discourse interacts with the public. Animated films exist as a medium in which environmental messaging is distributed to the public with the goal of inducing behavioral change in an audience. The goal of this paper is to link the messaging of such films with audience feedback. This will be accomplished by analyzing the impact of two environmentally focused animated films, *The Lorax* and *Tomorrow*, produced in Hollywood (United States) and Dhallywood (Bangladesh), respectively, and by using environmental humanities discourse analysis to examine how people responded to these films on social media websites. The first part of the article is the analysis of selected social media pages to understand the impact of these two films on contemporary environmental discourse, and the second part comprises an analysis of the environmental narrative of the films. I selected these two films for four reasons: (i) they are both environmental educational and pedagogical tools, (ii) they use environmental storytelling, (iii) they both address sustainability, and (iv) they may have influenced some discourse on environmental issues on social media. The study demonstrates that environmentally driven animated films can affect and shape the discourse of their audiences. This study also demonstrates how narratives from films such as *The Lorax* and *Tomorrow* can lead an audience to consider large-scale environmental issues.

1 Introduction

Using environmental discourse analysis as a narrative inquiry, I investigated two animated eco-blockbusters, selected for the rich social media feedback available for them: *The Lorax* (Chris Renaud, 2012) and *Tomorrow* (Mohammad Shihab Uddin, 2019). The 2012 rendition of *The Lorax* was selected over the 1972 version as, while the 1972 version is closer to *Tomorrow* in terms of time format, the release date makes the 2012 version more suited to social media analysis, avoiding nostalgia as a confounding factor. The films were produced in Hollywood (United States) and Dhallywood (Bangladesh, Bangladeshi production house Cycore Studios), respectively. *Tomorrow* specifically was selected as a standout film produced recently within the global South that has received good reception both domestically and internationally, having won the Cannes World Film Festival (not to be confused with the Festival de Cannes) award in August 2021 (Rabbi, 2021) and having received praise from western environmental journalist Bill McKibben. Another major factor in the selection of *Tomorrow* was that it came out at a time in which there was a relatively large population of Bangladesh that had internet access, having gone from 5 % of the population having access in 2012 to 23.8 % in 2019, providing an early look into how a key population within the global South reacts to environmental messaging targeted specifically at them (Statista, 2023a, b). The 2012 incarnation of *The Lorax*, while deviating from the source material, was selected as a contemporary western environmental blockbuster due in part to its similarities in art style to *Tomorrow* and due to sharing a message that promotes a world where sustainability is not prioritized over economic devel-

opment. While more popular and award-winning films closer in format and style to *Tomorrow* would have been valuable sources, no such films appear to exist. For example, *WALL-E* was also considered for analysis but was not selected due to not showing the world prior to environmental collapse, lacking the direct cause-and-effect relationship in the periods before and after environmental collapse as represented in *Tomorrow* and *The Lorax*.

Animated films may be a powerful medium of environmental education and may shape the public discourse, as discussed below. That said, both stories take different approaches to this end – while *The Lorax* describes the severity of waste and environmental collapse caused by deforestation (and, implicitly, climate change, given the media environment and promotional material around the release of the film), *Tomorrow* describes how such events result in climate change. *The Lorax* uses a fictional world to deliver a general message, while *Tomorrow* highlights the reality of severe climate injustices in areas of the global South such as Bangladesh. I undertake a meticulous analysis of social media commentary to gain valuable insights into the perception and response of the general public in both Bangladesh and the United States, specifically in relation to the climate change themes depicted in the animated films. By carefully examining the discussions and reactions of individuals from diverse backgrounds and demographics on various social media platforms, I aim to unravel the profound impact these films have on the broader population and their role in shaping the discourse surrounding climate change and environmental concerns.

Humanities scholars such as Elliott and Cullis (2017) argue that research on climate change has shifted to a global scale from a previous focus on the Euro-American perspective. The film *Tomorrow* reflects this trend in the realm of popular culture. *Tomorrow* came out in 2019 after being in development for 2 years, notably in around the same period that Bangladesh had experienced several environmental disasters, including flash floods attributed to climate change. This is further substantiated by two supporting sources. The Business Standard (2021) news highlights this correlation, while Hossain et al. (2020) explore the implications of these extreme flood disasters, emphasizing their impact on the livelihoods and coping mechanism of the Char Village. *The Lorax* (2012) is similar, despite not being set in a specific place, in that it was released at a time when environmental catastrophes including earthquakes, wildfires, and hurricanes were major stories in media across the globe, including the previous year's Fukushima nuclear disaster, which stroked fears of nuclear contamination across the Pacific Ocean, and the remnants of Hurricane Irene, which caused atypical damage in parts of New England. While Hurricane Irene was, in many cases, not as bad as it had been predicted to be with regards to the effects on New York City, it did cause a media frenzy prior to landfall and actual catastrophic flooding in many places, especially parts of Vermont and New Hamp-

shire. Both films therefore addressed the global nature of environmental crises in a timely manner. Through the joint analysis of the films and their reception by viewers on social media, this study finds evidence that these two films gave their viewers thematic narratives and talking points that they then incorporated into personal discussions and, in general, into the promotion of environmental causes.

2 Methodology

Using environmental humanities discourse analysis as a tool, the principal question of this study is as follows: *How do The Lorax and Tomorrow instruct viewers about key environmental messages?* To answer this overarching question, I consolidated the public comments and the narrative analysis of the films into three main categories – environmental catastrophe, environmental storytelling, and environmental education – in order to address three questions related to these three environmental discourses. First, how are these two films situated within the discourses of environmental catastrophe? Second, how do these two films perform environmental storytelling while emphasizing a sense of place, i.e., spatiality? Third, what sorts of educational messages do these two films spread regarding sustainability?

The environmental discourse analysis in the paper is structured as follows. First, this paper provides a brief synopsis of the films. Second, this study considers the literature on how public comments online pertain to broader environmental media. Continuing the discourse analysis, a select sampling of activity on social media pages related to each film is analyzed to understand the discourse surrounding each. Third, the paper provides an environmental discourse analysis to extract the themes and narratives with the most impact from both films. By using both an analysis of social media posts about the films and a direct analysis of the films themselves, this study demonstrates how aspects of each film influenced public discourse.

I use an environmental discourse analysis model drawn mainly from the scholarship of the anthropologists Peter Mühlhäusler and Adrian Peace (2006). My narrative analysis also incorporates spatiality as it shows how discourse may vary in different local, regional, and global contexts even when they address the same environmental concerns. Furthermore, the narratives and target audiences of both works incorporate some spatiality, with *Tomorrow* being squarely set in the real world and particularly focused on Bangladesh, while *The Lorax* was a Hollywood blockbuster aimed at the developed world with a fictional setting reminiscent, at first glance, of global-North suburbia. While discussing the methods of environmental discourse analysis, Peace (2018) states that an emphasis on keywords and select terminologies is vital to the anthropological contribution to environmental discourse analysis (p. 415). As a part of the environmental discourse analysis, I chose select words and phrases from the

content and comments of the two films. The study also deals with spatiality as both comments and contents highlight local and global concerns about the environment.

I use social media as a platform to measure and understand public reactions. To extract public comments about *The Lorax* on social media, I used the search term “lorax” on Twitter (currently in the process of being rebranded as X) using the Netlytic social networks analyzer, which yielded exactly 1000 comments. This number of comments was chosen as it is the default used by Netlytic and represents a reasonable sample for manual coding of sentiments (Gruzd, 2020). Based on the research objectives and available resources, it was determined that a sample size of 1000 comments would provide a sufficiently representative sample for manual coding of sentiments. It is also worth noting that the ability to conduct an updated analysis using Netlytic may have been affected by recent changes made by Elon Musk to the Twitter API, which can impact the availability of data. I confined the study to Twitter because Netlytic does not extract comments from Facebook and because *The Lorax*’s Facebook page has very few public comments from which to glean data. Furthermore, *The Lorax* does not have a YouTube page. For *Tomorrow*, I extracted comments from *Tomorrow*’s YouTube page as *Tomorrow* has neither Facebook nor Twitter pages. I extracted comments by using a web-scraping method written in the Python programming language using the search phrase “tomorrow animated movie”, which yielded 1510 comments (Bengali and English) out of a total of 4974 comments based on which comments received more likes (the remainder of the comments were omitted for falling below a threshold of likes) (Van Rossum and Drake, 2009). For *The Lorax*, the Twitter comments spanned a decade as the film was released in 2012. *Tomorrow* is a relatively recent release, and, thus, so are all its comments. After transferring the data to a Microsoft Excel spreadsheet, I manually examined it, developing codes to analyze public reactions pertaining to different environmental discourses. I began with a total of 25 codes, re-examined the data, and condensed them to 7 major codes. Using the statistical programming language R, I present a graphical text categorization algorithm that generates skip-gram phrases selectively by extracting and using phrases (Orduz, 2018; St-Amant, 2020). Commenter names and online handles have been excluded for anonymity.

3 Film synopses

The animated film *The Lorax* (2012) is loosely based on Dr. Seuss’s children’s book, *The Lorax* (1971), although the plot of the film diverges from the source material. This divergence primarily takes the form of additional plot points and characterization, such as the focus on the history of the “Once-ler”, or newly invented characters such as Aloysious O’Hare. Visual communication studies scholar Dylan Wolfe (2008) notes that environmentalism is a key feature of the work.

Produced by Illumination Entertainment and released by Universal Pictures in 2012, *The Lorax* had a budget of USD 70 million and grossed USD 348.8 million worldwide (Box Office Mojo, n.d.). *The Lorax* showcases the process of industrialization, portraying the cause and effect of the hypocritical nature of “human progress” when externalities are not addressed and when the environment is not thought of as worth protecting. It must be noted that environmental messaging in media adjacent to the film was compromised, as noted by Caraway and Caraway (2020) in their article; while the film railed against greenwashing, cross-promotion in advertising with the film was used to showcase gas-powered automobiles. In her article, communication scholar Ellen Moore (2016) also notes this as a flaw as it changes the focus from reducing consumption to encouraging a nebulous “green” consumption.

Ted, the protagonist, wants a real tree, which is now so rare as to be mythical. The tree is intended to impress a girl he likes named Audrey. Audrey personifies trees and is described using words such as “softer than silk” and “smelled like butterfly”. Because of Audrey’s love of nature, somewhat uncharacteristic of a Thneedville resident, her character invokes a sense of conservation. Audrey shows Ted a painting of trees with a sense of loss and lamentation. Unlike how the general population and especially the industrialists of their town of Thneedville approach trees, Audrey’s approach produces a renewal in environmental consciousness. To investigate the disappearance of the real trees, Ted visits a hermit known as the Once-ler, who describes a being known as the Lorax who “speaks for the trees”. Speaking for the trees (Earth) is portrayed in a positive light.

The Once-ler represents industrialist society, which profited from development but at the cost of pollution and deforestation. The Once-ler employs subterfuge in his industrialization, including greenwashing. The Lorax’s warnings were ignored by the Once-ler when he became an industrialist, and the sky was filled up with smoke, the water was polluted with sludge, and the land was left barren. Greed and the illusion of progress deafened the Once-ler to the words of the Lorax until one day the last Truffula tree was chopped down, and the Once-ler discovered that he was condemned to grow old and waste away in the wretched badlands of his own making. This very clear cause and effect is a cautionary tale to viewers, showing how unethical profiteering can one day leave them worse off, with gains that were fleeting. Because the Lorax disappeared when the last Truffula tree was chopped down, the Once-ler relays to Ted the Lorax’s cryptic last message: “Unless someone like you cares a whole awful lot, nothing is going to get better, it’s not” (1:02:09). This is a clear call to action to the audience as Ted is the archetype of an everyday person, a person who the audience can relate to. Indeed, the Once-ler charges Ted – and, by extension, the audience – with repairing the devastated environment. However, other industrialists in the movie, chief among them a clean-air tycoon named O’Hare, fight to keep the status quo

by tricking the populace, subconsciously warning the audience that pushback from people they know may in fact be misdirection from real-life industrialists.

The 2019 film *Tomorrow* (budget: BDT 10 million, converted roughly to ~USD 119 000; a reliable figure for gross income could not be found) similarly portrays a dire future in the hopes that the present generation will find a way to avoid it (Karim, 2021). *Tomorrow* begins when Ratul and his father, a nature lover, learn that sea levels are rising, which will make them and their fellow villagers ecological refugees. Despite this knowledge, they and the villagers are reluctant to take any actions to prevent the hazard. One of the villagers' comments, "Why would we ruin today thinking about tomorrow?" (4:10), is a refrain viewers may be familiar with, a carelessness about their own future.

In a dream, Ratul learns that Bangladesh is going to face a disastrous fate because of rising sea levels combined with the melting ice caps in the Himalayas. To answer Ratul's questions, Batasher Buro, a shamanic figure known as "the Old Man of the Winds", takes him to the future, in which most of southern Bangladesh is submerged, with almost 30 million homeless and destitute people taking shelter in the north. This reflects real life – for some time now, residents of southern Bangladesh have been migrating to the capital city, Dhaka, and other comparatively highland parts of the country. But there is still hope: the Old Man of the Winds takes Ratul to another possible future, where solar panels and windmills are commonplace, and there is no usage of fossil fuels. This alternate future implies that humankind has a choice. Ratul wants to know how to build a future like this, but the Old Man of the Winds leaves, saying this is Ratul's planet, and he himself needs to seek an answer. Similarly to *The Lorax*, Ratul is an everyman, with the audience implicitly being told to personally care about the environment themselves.

Ratul awakens concerned about the welfare of Earth. Inspired by his father's motivational speech about saving the environment, Ratul starts a campaign on social media focused on taxing fossil fuels, inspiring protests, which start taking place all over the world. Note that posting on social media and protesting are actions that viewers may be able to take on their own; these easier actions are shown first, lowering the barrier for meaningful action by the audience. The film then leaps 25 years in the future to show a grown-up Ratul delivering a speech at the United Nations. By then, many parts of the world, including southern Bangladesh, are submerged. But there is optimism that Bangladesh can rehabilitate its people with money from a tax on fossil fuels; the other countries of the United Nations begin helping to address the climate crisis, following in the footsteps of Bangladesh. Ratul hears the voice of the Old Man of the Winds, who tells him that he has been successful in saving the world. This is more than a narrative statement; it is a clear statement to the audience that their actions have the potential to make a real impact.

4 Environmental discourse analysis

How film characters deal with environmentally catastrophic issues is part of what viewers imitate and can be influenced by in a film. These two films exhibit several major environmental themes, including the concept of unspoiled nature, the sense of place, pollution, deforestation, and land erosion.

Environmental discourse analysis has been adapted and developed from several branches of social sciences, primarily anthropology, and is therefore inherently multifaceted. Adrian Peace (2018) explains that "academic disciplines go about their interrogation of discourse in different ways" (p. 415) but, in general, describes discourse as "specific ways of talking about particular environments and their futures" (Mühlhäusler and Peace, 2006, p. 458). A social anthropologist, for example, "become[s] familiar with the natural discourses local people draw upon to describe environments of greatest significance to them" and, in this way, contributes to environmental discourse analysis by highlighting environmental discourse on a local level (Peace, 2018, p. 415). Peace (2018) is a social anthropologist, but there are many historians, political scientists, or communication studies researchers who examine power abuse, inequality, and other significant concerns within the social and political environment. The many discourse analysis techniques cannot be summarized in this brief space, but all approaches, at least to an extent, view language as a social practice and discourse as being pertinent to the broader social order. This research aims to complement the broader discourse by providing valuable empirical insights. By examining the empirical findings alongside the existing discourse, it contributes to a comprehensive understanding of the reception and impact of climate change media. Thus, this study recognizes the relevance of the ideological debate while highlighting the unique perspective offered by the empirical analysis.

Mühlhäusler and Peace (2006) underscore that "[m]uch environmental discourse elaborates the theme that human actions are detrimental to the survival of humanity" (p. 461). My analysis correspondingly highlights the irreparable damage that humanity is contributing to the environment, which viewers witness within the selected films. Mühlhäusler and Peace (2006) speculate that it is yet unknown how much the environmental discourses and metadiscourses improve the condition of the environment (p. 457). Environmental discourse analysis can show which narratives instill feelings of hopelessness, apathy, and inaction in viewers. Conversely, environmental discourse analysis may highlight narratives about environmental issues and matters of environmental justice that give the viewer a manageable sense of alarm, spurring them to act before it is too late. In the article "Envisioning A Sustainable World", sustainability scholar Donella Meadows (1996) regrets that "[w]hatever the reason, hardly anyone envisions a sustainable world as one that would be wonderful to live in" (p. 2). She is hopeful nevertheless: "I have noticed, going around the world, that in different disci-

plines, languages, nations, and cultures, our information may differ, our models disagree, our preferred modes of implementation are widely diverse, but our visions, when we are willing to admit them, are astonishingly alike” (1996, p. 4). Two different movies from two different parts of the world with two different senses of place both demonstrate a singular desire to save the world from environmental catastrophes.

5 Analysis of public reactions to the films on Twitter and YouTube

The films *The Lorax* and *Tomorrow* engendered the formation of publics, aligning with Michael Warner’s (2002) conceptualization. These publics emerged through self-organization as individuals voluntarily congregated around a shared interest in the films’ environmental themes. Online discussions and interactions epitomized relations among strangers within the public sphere, where personal and impersonal address intertwined. The collective attention devoted to these films and the reflexive circulation of discourse on social media platforms fostered a dynamic social space for the shaping of public opinion and reception. Valuable insights into the dynamics of these publics and their role in the discourse surrounding *The Lorax* and *Tomorrow* are possible by integrating Warner’s conceptual framework.

In the context of the public who commented on social media platforms, Warner’s (2002, p. 50) concept of a public as “a space of discourse organized by nothing other than discourse itself” holds significant relevance. The individuals who engaged in discussions and expressed their opinions on platforms such as YouTube and Twitter can be seen as actively participating in the creation of a public space through their discourse. Their comments, reactions, and interactions constitute the very fabric of this discursive space, where ideas, perspectives, and sentiments are exchanged and circulated.

Warner’s (2002) notion of a public being autotelic, existing as the purpose and outcome of the discursive activities it encompasses, aligns with the understanding of social media platforms as spaces where public discourse takes place. The act of addressing and responding to one another’s comments on these platforms contributes to the formation and sustenance of the public sphere. The comments made by individuals reflect their engagement with the films and the issues they address, shaping the broader discourse surrounding climate change and environmental themes. Public comments are not just isolated individual expressions but collectively contribute to the discursive space of public reception. Understanding and analyzing these comments provides insights into the perceptions, interpretations, and responses of the public, shedding light on the dynamic nature of public engagement with climate change media.

The audience is a key part of the environmental discourse equation, and these two films generated many positive reviews on the social media pages related to the films. Audiences’ reactions to media are important to understand so that artists, activists, and academics may even more effectively contribute to environmental awareness. Despite this clear need, some scholars caution that we lack sufficient knowledge regarding how audiences react to environmental communication, calling for more such studies (Kluwick, 2014; Garrard, 2014, p. 20). Solitary public comments on social media may be inconsequential on their own, but together, they are important to understand public reception. Unlike formal media, informal social media is often free from the traditional trappings of media criticism; the opinions on social media are often those of laypeople who are concerned with different aspects of the film than a professional critic would be. Furthermore, the opinion of a friend or family member on social media may have more impact on someone than that of a distant critic the reader does not know. Social media comments are not a perfect stand-in for an average opinion of the film as social media posts come with their own biases, and there are economic and geopolitical factors that affect who is able to access the internet and, by extension, social media platforms.

I manually examined each of the selected 1510 public comments about *Tomorrow* (beginning with the comment with the most likes (1.4 K) and ending with those with just one like). The most-liked comment states that *Tomorrow* is a locally made film with a global international standard that carries an environmental narrative. The most-liked comments after that are about the quality of the film and the fact that it deserves international accolades. The major seven environmental discourses derived from such public comments are presented in Table 1.

Public reactions juxtapose positive reviews of the content of the film with negative statements about the current local and global environmental conditions. Online commenters urge showing *Tomorrow* in all primary and secondary schools across Bangladesh while encouraging elected officials to watch and screen it as well. This commentary connects with the film narrative as the protagonist of *Tomorrow* is a schoolchild, who goes on an abridged hero’s journey to affect global politics regarding environmental laws and policies.

The comments for *Tomorrow* demonstrate the power of locally produced media, an aspect of the film which may prove to be valuable to other environmental communicators and educators. Climate communication scholars Howarth and Anderson (2019) highlighted that stronger collaborative bonds between local media and scientific research help form a more trusting relationship between local media and other local stakeholders and increases engagement with climate change. Many comments express an emotional response to seeing environmental destruction in their own localized area, for example, “Alas! My home is in Hatia, the southern part of

Table 1. Example of YouTube comments from *Tomorrow* (arranged by total number of likes in sample.)

Discourse	Total number of likes of the combined comments	Total number of comments	Example of comments (These comments have been selected as fairly typical of the topic. Except for my translations, grammatical and spelling errors in comments have been left as is.)
Environmental education	1541	131	“It should be premiere in every School in Bangladesh ... It’s the most Realistic animated short movie I ever seen!”
Climate change	1239	95	“This film ... [shows] examples of how climate change can affect us environmentally and as a community”
Sense of place	142	116	“Local places are getting destroyed because of global places” (my translation)
Environmental activism	191	88	“It’s our duty to save our world, to save our people to save the wildlife # stand Against fossil fuel 🍌 # Raise awareness among all the people 🙌”
Environmental storytelling	189	309	“Story is beautiful... I love this story...”
Sustainability	152	158	“If we plants tree more, one day we get a beautiful Bangladesh. Let’s go we plants tree for a beautiful future”
Plastic/waste	110	29	“We should not destroy the environment by producing plastic” (my translation)

Bangladesh” (my translation). Since *Tomorrow* was made in Bangladesh, it may create a greater local impact than if it had been produced in Hollywood or even Bollywood. Relatedly, Howarth and Anderson (2019) have noted that climate change is often understood as “abstract and distant” (p. 718). *Tomorrow*, by contrast, shows how climate change is an issue requiring both local and global action.

Earth’s restoration is possible only if we can imagine it clearly. Stories occupy an important role in terms of that ability. For all of us, stories matter; if we know our local story, that is to say, how our local environment came to be, and how our actions alter it, especially through local media, we can participate in a range of actions to restore our local landscapes. However, the public of Bangladesh often do not believe that their elected officials will reduce the use of fossil fuels on their own. Yet the movie instills civic hope in some viewers – comments like “Should the prime minister watch this movie, the country would benefit greatly” (my translation) reinforce the position in the public discourse that the ordinary people of Bangladesh do not trust the government to take adequate action. Intriguingly, this mirrors the events of the film, where the government increases taxes on fossil fuels following public outcry – showing that such a strategy is viable in the real world.

Public comments carry a sense of responsibility and an ethic of care. Commenters use words and phrases such as “I cannot control my emotions”, “my eyes were moistened

while watching the movies”, “the Earth needs to be protected”, “save Earth, save Bangladesh”, and many more to explain their sense of empathy with and responsibility for local and global places. These are virtual comments, yet this sense of awareness is exhibited, nonetheless. This is again demonstrated when commenters give attention to the occasional hypocrisy or at least inconsistencies in the story. They appreciate the protest against fossil fuels and critique Ratul’s flight on a fossil-fuel-powered airplane; they appreciate the message about the environment.

Regarding environmental activism, there were many comments such as “We each have a responsibility to save the world” and “All mass media ought to disseminate this film massively to create public awareness regarding climate change... the UN must force a new policy plan over the globe for building green planet again as soon as possible, avoiding further environmental degradation. Let’s reduce fossil fuel usage, stop cutting trees by planting more, ban the Rampal project, together heal the world, make it a better place”. Comments emphasized the need to act locally, for instance, stopping the Rampal coal-based power plant, located near the Sundarbans, a UNESCO World Heritage Site, which is having an adverse impact on the Sundarbans’ biodiversity and ecological conditions. The current administration built the power plant, ignoring feedback from both environmental experts and the masses. There was a collective effort to stop the project, but it went forward anyway.

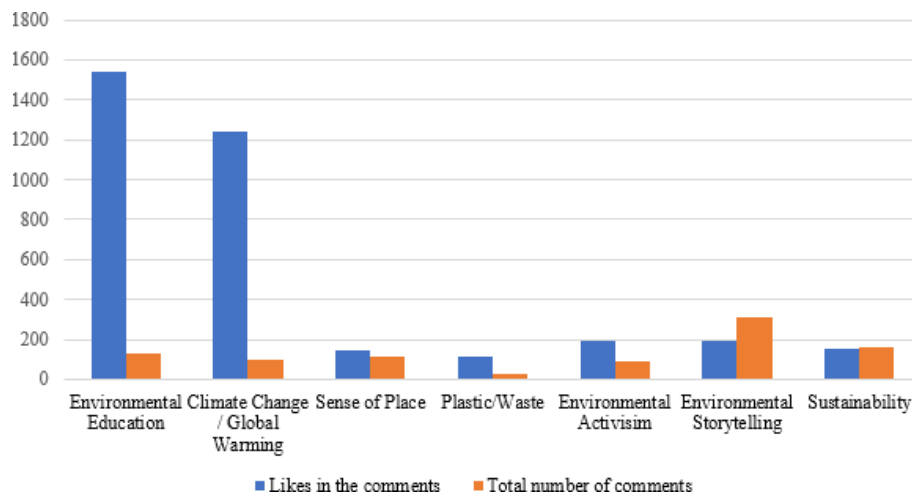


Figure 1. *Tomorrow*.

Figure 1 shows the relationship between the total number of comments by topic in the sample alongside the total number of likes for that topic. A high like bar indicates many likes, the easier of the two participatory actions. Total comment bars tend to be lower as commenting is harder; the higher an orange bar, the greater the desire for deeper participation. The ratio between the two shows how well comments are received.

By focusing on the individual aspects covered in the above chart, we can better see what engages online commenters. Of special significance is the generation of likes for environmental education topics in comments, which is over 14 times higher than the lowest topic measured, that being plastic/waste. Similarly, climate change/global warming performed well as a topic for this movie in the comment topics.

Figure 3, however, shows that the comments that receive the most engagement with likes is a minority, with the majority of comments focusing on topics related to environmental storytelling. This provides some insight as to which topics are most likely to incite a user to act if we assume that writing and posting a comment are more effort than liking a comment. It also potentially highlights a worrying disconnect between those who are the most likely to get involved and the broader online public.

Public comments demonstrate two major demands. First, this film should be disseminated more widely, including being translated into English and other languages (the film was indeed later translated into other languages). People from outside Bangladesh should know that the Bangladeshi film industry can make a film that meets international standards, and people from everywhere should be aware of climate change and become active in civic discourse to hold their leaders accountable. Second, common people should engage in environmental activism and take peaceful civic action. The film suggests imposing taxes on fossil fuels and investing in renewable energy, solutions echoed in the comments: the

public – individually and collectively, locally and globally – want to create and contribute to a broad environmental movement.

The commenters exhibit a sense of urgency to create a sustainable planet Earth, as well as a sustainable local environment. The tax solution to climate found in *Tomorrow* is also found in comment analysis: online commenters want to create a movement to combat climate change and plastic production. This shows that the calls to action given by the film in both its visual and narrative storytelling were effective in at least inspiring viewers to comment on their desire to act.

The public reactions to *The Lorax*, based on 1000 tweets, are similar to yet distinct from those to *Tomorrow*. For example, “The Lorax is a cinematic masterpiece” and similar comments show the widely shared opinion that the film had a high production value and was enjoyable. As was the case with *Tomorrow*, the public reaction was also emotional for *The Lorax* – the public cannot tolerate injustices and environmental destruction, even in fiction. Table 2 and Fig. 4 demonstrate the major environmental discourses coded from the public comments and the counts of these comments. Note that Netlytic-derived Twitter comments excluded likes, hence the exclusion compared to Table 1.

Figure 4 illustrates that *The Lorax* commentators responded with likes mostly to sustainability and environmental storytelling, with environmental activism also performing well. Notably, environmental education exhibited the lowest performance here, whereas in *Tomorrow* it performed the best. Climate change/global warming also performed much worse for *The Lorax*, although this may be more easily explained by *The Lorax* only showing ecological collapse and not the explicit threat of real-life climate change.

The most frequent subject of public comments relates to the multifaceted issue of sustainability. The audience knows that online activism can be an effective tool for creating polit-

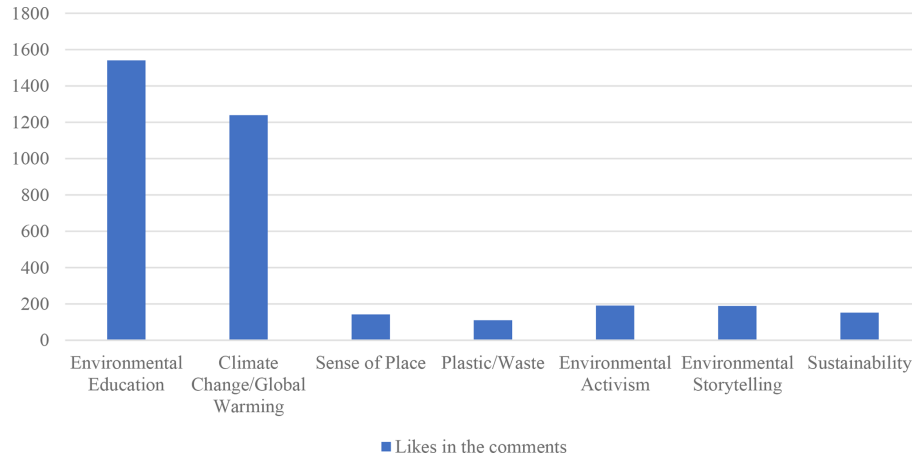


Figure 2. Likes in the comments by topic for *Tomorrow*.

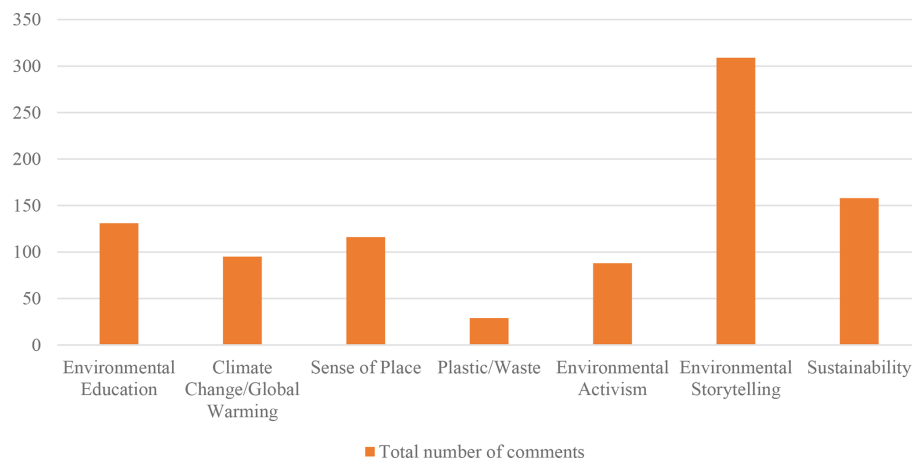


Figure 3. Total number of comments by topic for *Tomorrow*.

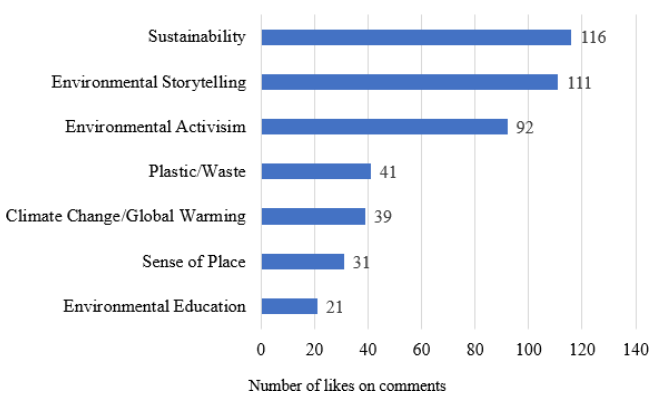


Figure 4. *The Lorax*.

ical pressure and social action. An example of a commenter calling for social action is as follows:

As the wise Lorax once said “Unless someone like you cares a whole awful lot, nothing is going to

get better. It’s not”. On Saturdays, join us for a Self-Guided Beach Cleanup. Make a difference in as little as two minutes. <https://t.co/1UpXKlmoy3> #volunteer (last access: 12 November 2020)

Perhaps the environmental storytelling used by the films is why commenters actively ask for initiatives aimed at reducing the plastic impact.

Figure 5 compares the terms found in the environmental discourse seen within the public comments. Since *Tomorrow* has more analyzed comments (1510), it appears higher than *The Lorax* (1000) in all discourses when directly comparing raw data. Figure 6 therefore compares the percentage of comments by coded subject.

Today’s academic environmental activism draws inspiration from Thoreau, Muir, Leopold, and Carson, among others, with this academic discourse indirectly influencing ideas found in public activism through the broader environmental movement. *Walden* (1854) laid the foundation of modern-day activism because Thoreau coexists with nature. Muir’s

Table 2. Examples of Twitter comments from *The Lorax* (arranged by total number of comments).

Discourse	Total number of comments	Examples of comments
Environmental education	21	“y’ all are getting literal degrees and careers still not believing in climate change. my 2 year old sister understands climate change and all she did was watch the Lorax”.
Sense of place	31	“I am the Lorax and I speak for the trees Save the Amazon, or I’ll break your knees”.
Climate change	39	“#Earth #water The biggest issue of our time #climatechange #unless ‘Unless someone like you cares a whole awful lot, Nothing is going to get better. It’s not.’”
Plastic/waste	41	“i am the lorax and i speak for the trees litter again and i’ll break your fucking knees 😊”
Environmental activism	92	“@JohnBrennan @tedcruz He read Green Eggs and Ham on the Senate floor. I read the book to my 3 children countless times. Can I be a Senator from Texas now? The Lorax is the finest Dr. Seuss book and when Senator I will read that on the Senate floor”.
Environmental storytelling	111	“It is a very deep and inspirational movie ... I truly think it should have won movie of the year in 2012. It has changed my life for the better. This post is not satire”.
Sustainability	116	“The Lorax are we planting more trees – In sha Allah, many more 🌱❤ https://t.co/evJu2P0iIb ”. (last access: 12 November 2020.)

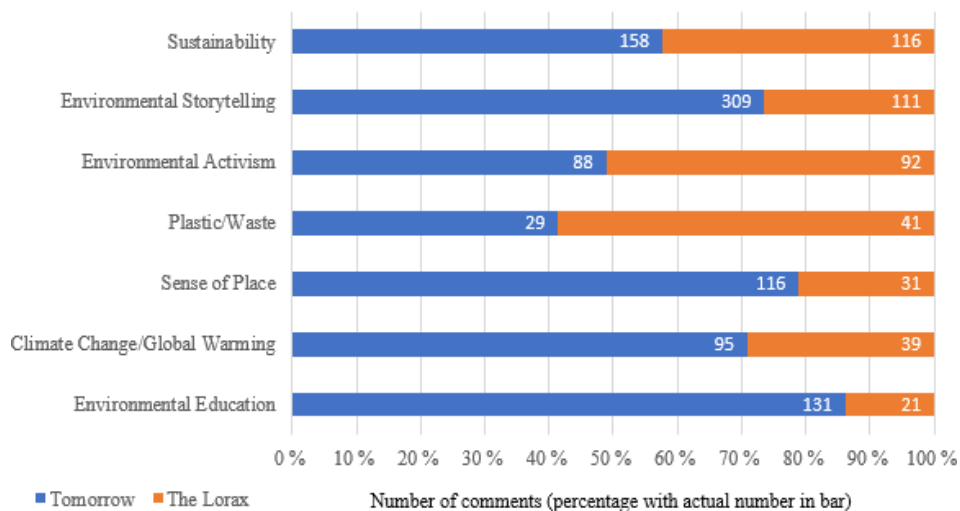


Figure 5. Comparison between *The Lorax* and *Tomorrow*.

(2003) establishment of the Sierra Club and encouraging ordinary people to explore Yosemite Mountain shows activism. Leopold (1986) considers the land to be a teacher and emphasizes that the restoration of land is an enduring example of environmental activism. Leopold (1986) remarks, “A thing is right when it tends to preserve the integrity, stabil-

ity, and beauty of the biotic community. It is wrong when it tends otherwise”. Carson’s (2000) *Silent Spring* is enduring because it shows women’s activism contrarily to men’s, and it demonstrates her bold statement against the patriarchy, which is responsible for pesticides and insecticides. In addition, like *Silent Spring*, Wolfe (2008) argues that *The Lo-*

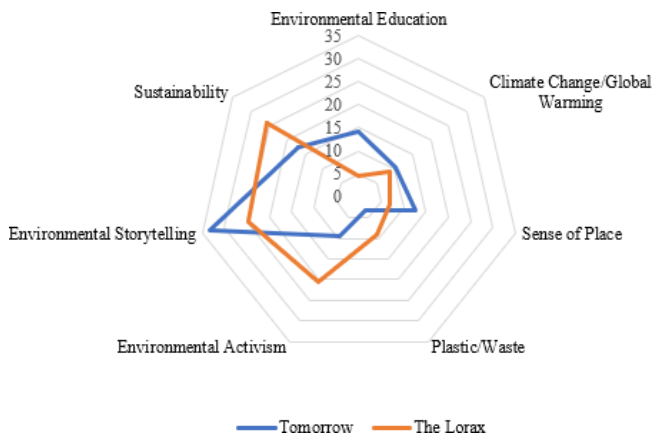


Figure 6. Percentage-based comparison (radar graph).

rax warns of a present danger and a rapidly approaching future. Comment activity demonstrates that the public also relates race, ethnicity, and gender with environmental activism. Some comments contend that *The Lorax* is racist and sexist because the Lorax speaks for only certain trees, as exemplified by the comment “Quick question: is the Lorax racist against certain trees? He just seems like the type” (username expunged), and some believe Audrey should have been the protagonist instead of Ted. Despite the fact that online commenters presumably do not often have backgrounds in academia, it is notable that a casual, informal understanding of intersectionality is sometimes seen within the comments. In the United States, campaigns about environmental justice have been historically intertwined with race, class, and gender. For instance, environmental historian Nancy Unger (2012) has written about how women often interact more closely with their local environment than men do. Similarly to the work of Unger, African American cultural geographer Carolyn Finney (2015) addresses environmental justice in *Black Faces White Spaces*. Finney reviews the history of African American engagement with the mainstream environmental movement from the early 1900s to the present. Finney focuses on how African Americans are excluded from the environmental justice movement, but she espouses the human experience of the story. Public comments tend to deconstruct the hegemonic racist elements, even if informally.

When analyzing the discourse of any text, through skip grams, bigrams, or n grams, a word association network prioritizes word-by-word analysis. Methodologically speaking, a single analysis of just one of these graphs could be highly misleading – they must be interpreted together and within the context of the films to avoid making inferences which are not based in reality. For example, methodologically, the value of the word *lorax* appearing in a word frequency table so much should be discounted because the use of the word could plausibly refer to the film, the book, the old television episode, or the character himself. However, by viewing the other graphs, enough context can be gleaned to provide cautious insight.

For *The Lorax*, the word frequency table demonstrates the top word counts of the selected tweets, in which the word *lorax* appears in nearly 800 tweets, while *Once-ler*, the least common term on the list, is in many fewer tweets. However, the count for the word *lorax* is included below to provide greater context for a later skip-gram analysis. Because of the discounting of the word *lorax*, the most significant term here is perhaps *like which*, while not a perfect indicator, generally indicates positive sentiment in conjunction with the relatively high-ranking word *good*. This is especially noteworthy when compared to the lower-ranked word *bad* (which may also be affected by its heavy use in the fan favorite song “How bad can I be?”). The word trees appears to be relatively highly ranked, indicating strong environmental sentiment in viewers. While the use of the *Truffula* tree as a movie plot point could contribute to this word being highly ranked since the *Truffula* tree is a fictional proxy for the overall environment, this inference is appropriate. Finally, the pair of words *watch* and *watching*, while individually ranked lower on the graph, would jointly rank higher and are often used in comments to indicate personal interaction with the film itself. One example comment illustrating this as follows: “@ (username expunged) Hey lol, wanna watch the *lorax* together 🤔👉”.

For *The Lorax*, the skip-gram count network exhibits the following word chunks. This skip gram is centralized around the phrase “the *Lorax*”, with a cluster influenced by the phrase “unless someone cares a whole awful lot”. While, in the previous example, the term *lorax* should be discounted, here the related words show a roughly even split between discussion of the movie itself or the character of these ideas, making it more useful within this context compared to the previous figure. For roughly half of the instances which emphasize the narrative of the film over the movie itself, this is linked with the environmental discourse regarding climate change. Other notable words are revealed by the skip-gram word count, including *redditships*, referring to off-site discussion of non-canonical romantic relations between characters, and *dress*, which can perhaps be explained by the distinctive clothing worn by the characters. In the skip gram, the word *dress* is directly connected to the word *redditships*, indicating a close and significant attachment to characters within the narrative, and is also located (albeit indirectly) in close proximity to the word *looks*, which indicates an emphasis on aesthetic value judgements. Perhaps factors such as fashion and the aspect of potential romance between characters are also something to be considered when designing new environmental media in order to improve audience engagement.

For *Tomorrow*, the word frequency table shows that animation is the most frequent word that appeared, though this is perhaps affected by the discussion of the film industry in Bangladesh. A number of online comments take nationalistic pride in a progressing film industry in Bangladesh, using *Tomorrow* to exemplify advancing standards in domestically produced computer-animated films. Many of the highly

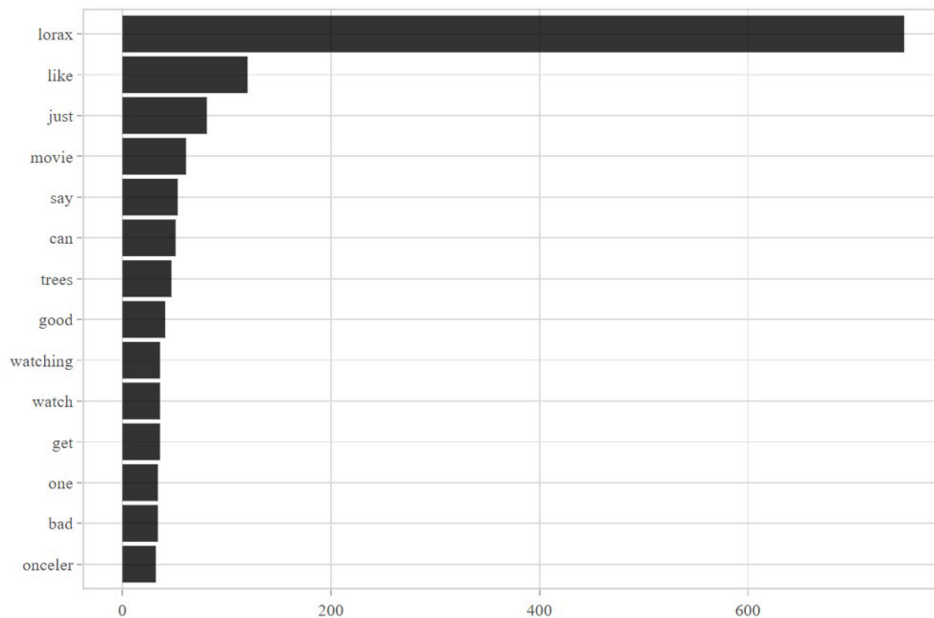


Figure 7. Top word count for *The Lorax*.

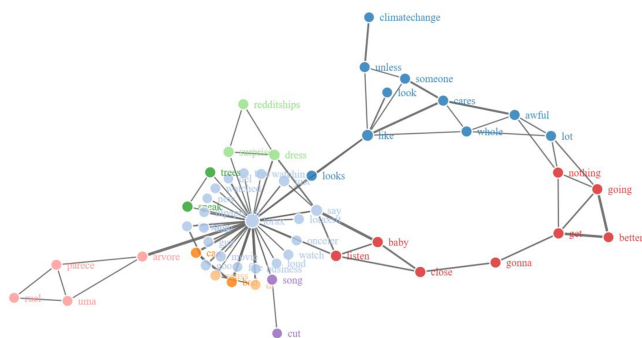


Figure 8. Skip gram for *The Lorax*.

linked words in the skip gram demonstrate the positive sentiment of the film and its content generally, such as awesome, good, great, etc. It is notable that, even though the word Bangladesh is ranked so highly in the top word count, the word world, while relatively lowly ranked among the top words, still demonstrates a global consciousness among the online commenters. This is especially illustrated by the skip gram, where the word world is closely associated with the words hope, save, and planet. Further analysis of the skip-gram count network for *Tomorrow* reveals a more decentralized network when compared to *The Lorax*. This is potentially influenced by the lack of a specific, unifying catchphrase in *Tomorrow*, whereas the central “unless” catchphrase of *The Lorax* comprises a significant wordchunk.

6 Environmental catastrophe

The Lorax takes a social-constructionist view of nature as the film explains that the trees, the forests, have agency but must act within a framework established by humankind – an anthropocentric view. The Lorax, the guardian of the forest, thus establishes a space to advocate for the rights of nature. The Lorax’s proclamation in the opening scene, “I am the Lorax, I speak for the trees” (0:00:56), establishes the role of the Lorax in representing nature more broadly. The tone of the film is set by the deceptively bright city of Thneedville, set against a foreboding sickly purple dawn. This city is one of artificiality, in which every entity is made of artificial products: “a town without Nature, not one living tree” (0:01:24). In this city, trees are made of plastic, and their colors can be changed by clicking remote buttons. Environmental pollution in the film is often implied through the use of plastic and the exclusive use of synthetic materials instead of those found in nature. The artificiality of Thneedville constitutes a major crisis in the film. Thneedville society takes capitalist pride in commodifying nature: O’Hare informs Ted, “I make a living selling fresh air to people” (00:31:19). Ted’s search for an original tree is a business threat to O’Hare’s company. Moore (2016) explains the intimate relationship that exists between children, consumer culture, and commercial media in the United States. Moore (2016) shows that both “the news and entertainment industries reveal that the way Hollywood treats a subject like the environment is not an exception to the rule; instead, the consistent subjugation of environmental concerns is part of a broader capitalist logic in a concentrated market” (p. 5). This also connects to real-life industrialists, as

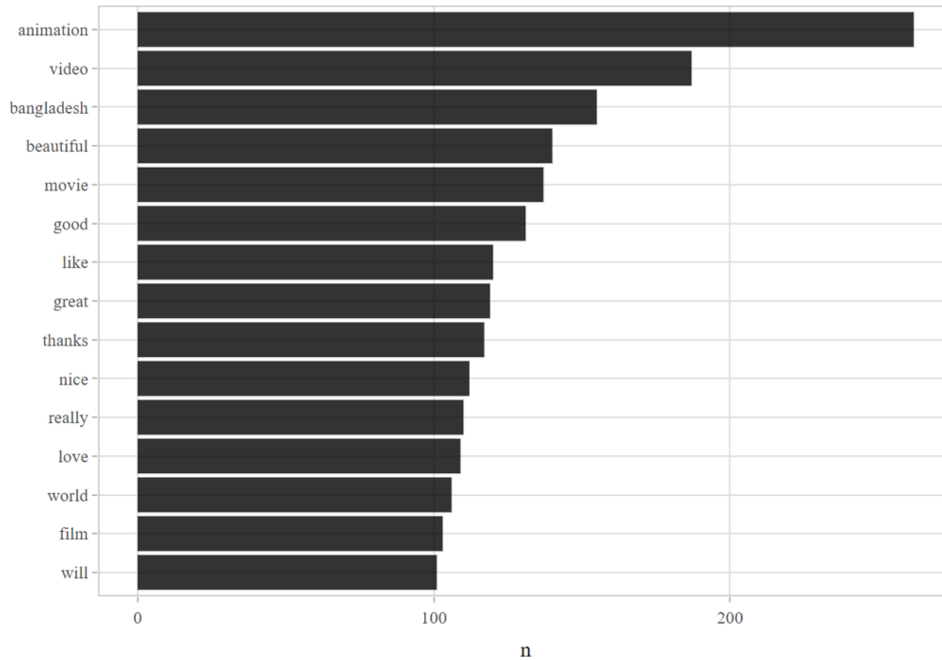


Figure 9. Top word count for *Tomorrow*.

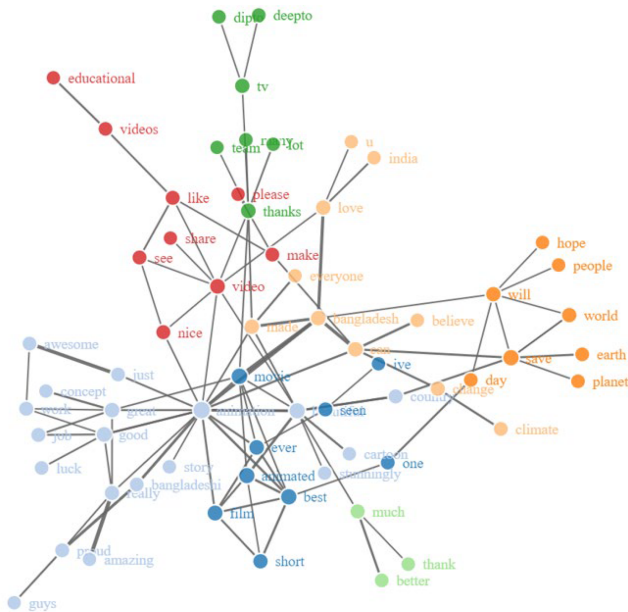


Figure 10. Skip gram for *Tomorrow*.

has also described the impact of nature as a commodity not just in American culture and landscapes but throughout the entire planet Earth for centuries.

The excessive use of plastic and artificiality are symbols of late-stage capitalism. In that regard, the opening song’s lyrics stress the phrase “brand new”, which references that we now live in an advanced capitalist society which fetishizes consumerism: “If you put something in a plastic bottle, people will buy it” (11:24). Commodification increases when natural entities are treated without respect, with some exceptions. The film implies that Truffula trees are valuable and a positive, desirable asset because, by providing food, shelter, and oxygen, Truffula trees help reduce environmental threats.

Tomorrow also presents the idea of nature, but it is neither a socially constructed nature nor a nature that is soothing and tranquil. Rather, it emphasizes that reckless behavior from humanity not only damages the environment but also makes nature uninhabitable for humans. Irresponsible human actions make the environment more vulnerable to future damage. The village in *Tomorrow*, unlike Thneedville, is not artificial, yet its people lack a sense of environmental consciousness just as in *The Lorax* until Ratul’s father joins the conversation about the land erosion with the people. Their conversation and the conversation between Ratul and the Old Man of the Winds change their attitude: they gain an understanding of nature which makes them proactive in slowing down the unfolding disaster and envisioning – literally showing the audience – a future full of hope. Such a positive narrative works against the idea that it is too late to act to prevent catastrophes.

in when Frankfurt School critics Theodor Adorno and Max Horkheimer (2007) discuss capitalist social structures, arguing that material identities are assigned to nonmaterial cultures (perhaps also natural resources), commodifying them into the products from which capitalists could profit. These natural resources are manufactured, bought, and sold like a commodity. Environmental historian William Cronon (1996)

Plastic waste is another environmental catastrophe on its own; it is, additionally, a contributing factor to global warming as plastic production and transportation require fossil fuels. *The Lorax* shows the audience the impact of waste and wanton consumption on the environment. *The Lorax* demonstrates that the process of wantonly cutting down trees and making clothes (fantastical knitting) out of it is a wasteful practice. But the Once-ler considers the result of these tree-cutting and knitting processes to be revolutionary. The product has a multitude of uses, and the audience may be inclined to agree at first, enhancing the impact of this cautionary tale. “Whoa,” is Ted’s reaction when he steps out of the walled Thneedville and sees the industrial waste. Thneedville produces a lot of waste but has no policy regarding waste management beyond hiding it from public view; this is a reminder that the whole world suffers from waste management policies that are effectively wishful thinking and likely encourages the viewer to consider the impact of the industrial society fueled by its own wanton consumption. Industrial waste is also a critical theme in *Tomorrow*. In the dream, when the Old Man of the Winds takes Ratul on a tour of the world, Ratul notices chimneys spewing greenhouse gases into the atmosphere. The Old Man of the Winds instructs Ratul that coal needs to be replaced as a source of energy.

Both *The Lorax* and *Tomorrow* encourage the viewer to foster a desire to protect nature, albeit in different ways. *The Lorax* fosters a protective desire through Audrey and Ted’s quest for Truffula trees, Grammy’s Indigenous sense of conservation, and the Lorax’s mission to speak for trees. Although Wolfe (2008) focuses on Dr. Seuss’s book, Wolfe’s observation that “[...] nature is elevated from inferiority to a form of divinity” is germane in the context of film (p. 14). *Tomorrow* fosters love for nature by creating an awareness about climate change and biodiversity.

7 Environmental storytelling: sense of place

These films deal with both place and displacement, important concepts in environmental education. “The integration of place into education is important,” writes sustainability scholar David Orr as “knowledge of place where you are and where come from is intertwined with knowledge of who you are. Landscape, in other words, shape mindscape” (2013, p. 187). These films use storytelling to show how human beings and animals are displaced.

Storytelling is an important element in combatting large-scale problems such as climate change. Stories lead to greater emotional attachment than raw data do. In looking at the impact of stories, I return to Jonathan Gottschall’s (2012) statement, “we are, as a species, addicted to story. Even when the body goes to sleep, the mind stays up all night telling itself stories” (12). Cherokee author Thomas King’s (2003) statement, “The truth about stories is that that’s all we are” (2) or environmental historian William Cronon’s (1992) statement,

inspired by Graham Swift, that human beings are “storytelling creatures” underscore the importance of storytelling. But humans are not the only storytelling creatures; other animals, plants, and spirit beings are storytelling creatures too (Ghosh, 2021). Trees, the land, and other non-human entities have agency, and they are storytelling creatures too, as demonstrated in the films. In *The Lorax*, although, of course, somebody else has to speak for those trees, they nonetheless have agency, and in *Tomorrow*, the Old Man of the Wind is not human but rather a spiritual entity. By incorporating non-humans into storytelling, these movies help combat human-supremacist attitudes by showing that man cannot stand alone against environmental collapse.

Movies cover important environmental features in the form of storytelling discourse, which also encompasses the field of storytelling discourse aimed at children. Dolores Subia BigFoot and Megan Dunlap (2006) note that “[s]tories give reason to the overall scheme of things” (p. 134). *The Lorax* and *Tomorrow* carry an environmental storytelling tradition to teach children a sense of place through stories (animated films are often aimed at children and teach both children and the parents; if children miss out on anything, the parents can pick it up). BigFoot and Dunlap (2006) suggest that “[p]arents, grandparents, and other relatives used stories to help children understand their place in the world and how they could show their gratitude for their existence” (p. 135). This is evidenced in the social media analysis, where one commenter stated “my 2 year old sister understands climate change and all she did was watch the Lorax”

Both films have a simple environmental storytelling trajectory, but that simplicity is grounded within the place of each respective culture. *Tomorrow* focuses on a specific place along the coastline of Bangladesh; *The Lorax* is a fantasy place that could be anywhere and nowhere. If places are ecological and cultural, I would argue that the sense of place is linked to the art of storytelling, ultimately linked to education and pedagogy. Orr (2013), for instance, demonstrates the nexus between place and pedagogy. Orr’s understanding of place as an educational tool emerges from Thoreau’s *Walden* (1854) (to be exact, “*Walden* is a model of the possible unity between personhood, pedagogy, and place”) and conservationist Leopold’s (1986) philosophy of “man as a biotic citizen”. Although non-human entities are appropriated for our use, *Walden* (1854) emphasizes natural entities in a way that could help contemporary culture be more sustainable, such as in issues like bottled water compared to tap water. A similar perspective can be seen from Leopold, who draws us across time and space by introducing ideas like the land ethic and asking human beings to think “like a mountain”. These philosophies should be highlighted with a greater emphasis in popular culture. By and large, these philosophies demonstrate how place plays a role in our moral and psychic transformation. In *Tomorrow*, although commoners lack an academic or formal understanding of place consciousness, they eventually show the unity

and sense of belongingness needed to protect and preserve their local place. In *The Lorax*, the not-real place still demonstrates influences from its Californian creators of 2012, such as a general heightened concern over environmental catastrophes like the 2011 Fukushima disaster in areas of the Pacific. In the film, a child begins glowing a radioactive green as he sings, “I just went swimming, and now I glow!” (0:03:03). Stories with connections to place are important as “[s]tories can give children a sense of belonging to their family, community, and tribe, and this can instill a sense of purpose, identity, and hope. Stories could be an extremely positive force in the life of children” (BigFoot and Dunlap, 2006, p. 5).

The Lorax and *Tomorrow* share the spectrum of life stories: as evidenced by online comments such as “local places are getting destroyed because of global places”, these stories can create a compelling connection between the storyteller and listeners or spectators. These two films are similar in that common people within the films are engaged to love their local places. Initially, the Once-ler’s family is not respectful of the local place and environment, but when the Once-ler gives Ted a seed to make the local place abundant with trees, the local place matters. People rally around Ted for planting the seed, although they had almost been convinced otherwise by O’Hare’s deceptive speech. In the same way, the common people start a movement to save their village from climate crisis in *Tomorrow*. These are both ways of showing place and action. In this way, the audience learns through example how they may avert their own climate catastrophes.

Storytellers can create a sense of connectedness with the stories. The Once-ler and Ted’s grandmother serve in the role of storyteller. Granny initiates the storytelling session, but she sends Ted to the Once-ler for firsthand experience. The Once-ler starts sharing the story with “It all started a long time ago” (00:16:45). The Once-ler’s starting cue gives us a sense of hearing a “once upon a time” story. He later uses the phrase “a long time ago” at least three times, hinting that the environmental destruction on Earth started a long time before. As a storyteller, the Old Man of the Winds in *Tomorrow* appears in Ratul’s dream and blames him for the deplorable condition of the planet. He takes Ratul away with him to show the cruelty of people to nature: factories are emitting fumes, and the use of fossil fuels is resulting in air pollution, the greenhouse effect, and related human eco-sicknesses.

8 Environmental education: sustainability

Today, many animated films are incorporated into educational curricula because of the impact they can have. *The Lorax* and *Tomorrow* are ideal candidates to be educational tools for children as these films visually show (rather than just tell) fundamental environmental problems and potential solutions. Both films can also be a platform to teach children about preserving nature.

The Lorax and *Tomorrow* promote a world where sustainability and environmental consciousness are prioritized over reckless economic and technological development. Both films critique capitalism for setting society down a path of self-destruction. When Ted leaves the town in search of the Once-ler, Ted is being watched on his way out by the corporate enforcers of O’Hare, who report on anything that threatens their industrial progress. Progress is the main goal for Thneedville’s people. The Once-ler’s mother rebukes him for not being successful. The Once-ler thus starts changing the world, but the spell of capitalism does not fool the Once-ler forever as he eventually recognizes the monstrous effects of unchecked capitalism. In *Tomorrow*, Ratul learns about the impact of capitalism when he travels with the Old Man of the Winds who shows him the advanced capitalist societies which are least sustainable (even though some pretend to be). Ratul becomes conscious of the negative aspects of the socio-political–economic nexus of capitalism, but he cannot remain free from it. The films show the audience, through visual storytelling, the consequences of life in a capitalist society that reveres progress and success and, later, how the lives of the people within that society improve when environmental consciousness triumphs over the commodities market.

The films both suggest that the destruction caused by unrestrained capitalism may be averted through action. In *The Lorax*, Ted brings meaningful change by helping begin the restoration of the environment. *Tomorrow* also offers solutions, such as imposing taxes on fossil fuels and implementing green energy around the world. *Tomorrow* asks its audience “Are you with us?” (20:55) and tries to create a sense of urgency to get its audience to act.

These films can help instill the idea that sustainability is more about actions rather than just caring about nature. *Tomorrow* suggests an alternative to the present world by showing a world occupied with environmentally responsible inhabitants; *The Lorax* suggests a return to a more natural environment as an alternative to an artificially lavish life. These alternatives are designed to preserve nature. It is important to note that these films do not reject societal progress outright, but they oppose development rooted in industrial, toxic consumerism which can cause the displacement of millions of people and the extinction of species.

Perhaps the most important characteristic for any educational tool is to leave a discursive space. These films question their surroundings, the human interference with our environment, and the inevitable consequences of such interference, and they provide examples of a remedy. *The Lorax* suggests it is “not too late”; that is, if people give up their anthropocentric attitudes and seek harmony between nature and human, their doom can be prevented. *Tomorrow* shows the need to be prepared for a calamity that cannot be evaded but also shows a glimmer of hope. It endows the audience with agency when the Old Man of the Winds tells Ratul, the audience surrogate, “This is your planet, you have to find out the answer” (21:54).

These films leave unfinished tasks to be comprehended and finished by the audience.

These films also offer pedagogical opportunities because they convey their messages through non-traditional formats such as social media, humor, song or rhyme, satire, etc. For example, the song “How Bad Can I Be?” in *The Lorax* provides insight into the greed-driven soul who avoids caring for a few trees in the desire to make money. In *Tomorrow*, there is the presence of social media. Ratul starts campaigning on Facebook about fossil fuels from a local place, and he receives global responses as people from around the entire world protest.

9 Conclusions

Using environmental discourse analysis to understand how discourses about climate change and sustainability, to list a few, are changing is an important task. This is acknowledged in the literature – Elliott and Cullis (2017) have written “the humanities should be more confident and vocal in addressing climate change” (p. 15). Although the number of creative works on climate change is increasing, their growth is not as substantial as the increase in risks we are encountering. Heise (2008) argues that “climate change poses a challenge for narrative and lyrical forms that have conventionally focused above all on individuals, families, or nations, since [climate change] requires the articulation of connections between events at vastly different scales” (p. 205). Although it is challenging, the most powerful environmentally driven artwork and films focus on local, regional, and global riskscapes. The combination of these different scales described by Heise can be tricky, but these films show it can be done. In *Tomorrow*, local action leads to global change, and in *The Lorax*, action within Thneedville leads to improvements in the lands outside the city.

In *The Lorax*, as time passes, new trees begin sprouting, animals return, and the repentant Once-ler joins the Lorax – everything in its proper place. The film ends with the note that, unless someone comprehends the awful consequences that await us and takes prompt action, “nothing is going to get better”. *The Lorax* seeks to promote ecological awareness among people by showing the repercussions of their deeds “unless” they start taking care of the environment. Film critics say that *The Lorax* is too political or scares children away from the environment by giving them ecophobia (Potts, 2021). Yet some are more hopeful, such as critic Deidre Pike (2012), who deems *The Lorax* to be a “dialogic enviro-toon” not presenting a subject merely for entertainment but creating a safe zone for exploration of environmental facts, ideas, images, and perspectives (p. 13). Public commenters generally seem to agree with Pike and do not seem to be hindered by the message of *The Lorax*. Rather than them being too political and ecophobia-inducing, I would argue that *The Lo-*

rax and *Tomorrow* have the power to inspire the next Greta Thunberg in households around the world.

The uncertainty with which *Tomorrow* starts is a recurring theme throughout its entire runtime. The film ends with a note of hope which environmentalist McKibben (2019) praises in his tweet, saying “it never blinks at the horrors in store, but refuses to give up hope”. Human beings are driving the great sixth mass extinction, but there is still time to take initiative – a sentiment demonstrated in both the environmental discourses in the content of these films and the public reactions. We need creativity, imagination, and hope to face the environmental crisis. The environmental discourse analysis of these films and the public comments symmetrically convey the message: nature is on the brink of disaster in both films; nevertheless, both give the audience hope for the future.

Code and data availability. Code and data are available upon reasonable request to the author.

Competing interests. The author has declared that there are no competing interests.

Ethical statement. Only data that have been processed in ways that do not identify individual users were included, typically by describing the content of tweets/YouTube comments and/or citing fragments that have generic wording in order to comply with recent ethical guidance on the handling of social media data (Townsend and Wallace, 2016).

Disclaimer. Publisher’s note: Copernicus Publications remains neutral with regard to jurisdictional claims made in the text, published maps, institutional affiliations, or any other geographical representation in this paper. While Copernicus Publications makes every effort to include appropriate place names, the final responsibility lies with the authors.

Acknowledgements. Some acknowledgements are in order. I extend my sincere gratitude to Susana Peña for her invaluable initial feedback. My appreciation goes to Maxwell Paul Brickner and Md Rezwan Islam for their assistance with programming and data, which significantly contributed to the quality of this work. I am also grateful to the anonymous reviewers.

Review statement. This paper was edited by Steven Rogers and reviewed by two anonymous referees.

References

- Adorno, T. and Horkheimer, M.: The Culture Industry: Enlightenment as Mass Deception, in: *Dialectic of Enlightenment. The Cultural Studies Reader*, edited by: Doring, S., Routledge, London, ISBN 0-415-13754-3, 2007.
- Box Office Mojo: *The Lorax* (2012), <https://www.boxofficemojo.com/title/tt1482459/> (last access: 2021), 2012.
- BigFoot, D. S. and Dunlap, M.: Storytelling as a Healing Tool for American Indians, in: *Mental health care for urban Indians: Clinical insights from Native practitioners*, edited by: Witko, T. M., American Psychological Association, Washington, 133–153, <https://doi.org/10.1037/11422-007>, 2006.
- Caraway, K. and Caraway, B. R.: Representing Ecological Crises in Children’s Media: An Analysis of *The Lorax* and *Wall-E*, *Environ. Commun.*, 14, 686–697, <https://doi.org/10.1080/17524032.2019.1710226>, 2020.
- Carson, R.: *Silent Spring*, Penguin Classics, ISBN 13 9780141184944, 2000.
- Cronon, W.: A Place for Stories: Nature, History, and Narrative, *J. Am. Hist.*, 79, 1347–1376, 1992.
- Cronon, W. (Ed.): *Introduction: In Search of Nature*, in: *Uncommon ground: Rethinking the Human Place in Nature*, Norton, New York, NY, ISBN 978-0393315110, 1996.
- Elliott, A. and Cullis, J.: The Importance of the Humanities to the Climate Change Debate, in: *Climate Change and the Humanities*, edited by: Elliott, A., Cullis, J., and Damodaran, V., Palgrave Macmillan UK, London, 15–42, https://doi.org/10.1057/978-1-137-55124-5_2, 2017.
- Finney, C.: Black faces, white spaces: reimagining the relationship of African Americans to the great outdoors, The University of North Carolina Press, Chapel Hill, 173 pp., ISBN 978-1-4696-1448-9, 2014.
- Garrard, G.: *The Oxford handbook of ecocriticism*, Oxford university press, New York, ISBN 9780199742929, 2014.
- Ghosh, A.: *The Nutmeg’s Curse: Parables for a Planet in Crisis*, The University of Chicago Press, ISBN-13 978-0226815459, 2021.
- Gottschall, J.: *The storytelling animal: how stories make us human*, Houghton Mifflin Harcourt, Boston, 248 pp., ISBN 978-0544002340, 2012.
- Gruzd, A.: *Netlytic: Software for Automated Text and Social Network Analysis*, <https://Netlytic.org> (last access: 10 August 2023), 2020.
- Heise, U. K.: *Sense of place and sense of planet: the environmental imagination of the global*, Oxford University Press, Oxford, New York, 250 pp., ISBN 978-0-19533564-4, 2008.
- Hossain, B., Sohel, Md. S., and Ryakitimbo, C. M.: Climate change induced extreme flood disaster in Bangladesh: Implications on people’s livelihoods in the Char Village and their coping mechanisms, *Prog. Disaster Sci.*, 6, 100079, <https://doi.org/10.1016/j.pdisas.2020.100079>, 2020.
- Howarth, C. and Anderson, A.: Increasing Local Salience of Climate Change: The Un-tapped Impact of the Media-science Interface, *Environ. Commun.*, 13, 713–722, <https://doi.org/10.1080/17524032.2019.1611615>, 2019.
- Karim, W.: *Tomorrow*, a 3D film by Bangladeshi animators, <https://www.thedailystar.net/lifestyle/news/tomorrow-3d-film-bangladeshi-animators-2111009>, last access: 3 January 2022.
- King, T.: *The truth about stories: a native narrative*, House of Anansi Press, Toronto, ON, 172 pp., ISBN 978-0816646272, 2003.
- Kluwick, U.: Talking about Climate Change: The Ecological Crisis and Narrative Form, in: *The Oxford handbook of ecocriticism*, Oxford university press, New York, ISBN 978-0-19-974292-9, 2014.
- Leopold, A.: *A sand county almanac: with essays on conservation from Round River*, 29. pr., Ballentine Books, New York, 296 pp., ISBN 0345345053, 9780345345059, 1986.
- McKibben, B. [billmckibben]: Loosely inspired by Dickens, this Bangladeshi animated tale about climate change is wonderfully done. It never blinks at the horrors in store, but refuses to give up hope, X (Formerly Twitter), <https://twitter.com/billmckibben/status/1211276652178759680> (last access: 6 September 2023), 2019.
- Meadows, D.: *Envisioning a Sustainable World*, in: *Getting Down to Earth: Practical Applications of Ecological Economics*, edited by: Robert Costanza, Olman Segura, and Juan Martinez-Alier., Washington, DC, Island Press, 1996.
- Moore, E. E.: Green Screen or Smokescreen? Hollywood’s Messages about Nature and the Environment, *Environ. Commun.*, 10, 539–555, <https://doi.org/10.1080/17524032.2015.1014391>, 2016.
- Mühlhäusler, P. and Peace, A.: Environmental Discourses, *Annu. Rev. Anthropol.*, 35, 457–479, <https://doi.org/10.1146/annurev.anthro.35.081705.123203>, 2006.
- Muir, J.: *The Yosemite*, Introduction by Gretel Ehrlich, Modern Library Paperback Edition, Random House Inc., New York, ISBN 978-0-8129-6701-2, 2003.
- Orduz, J. C.: Text Mining, Networks and Visualization: Plebiscito Tweets, <https://juanitorduz.github.io/text-mining-networks-and-visualization-plebiscito-tweets/> (last access: 2020), 2018.
- Orr, D.: Place and Pedagogy, *NAMTA J.*, 38, 183–188, 2013.
- Peace, A.: Environmental Discourse Analysis, in: *Companion to Environmental Studies*, edited by: Castree, N., Hulme, M., and Proctor, J. D., Routledge, <https://doi.org/10.4324/9781315640051>, 2018.
- Pike, D. M.: *Enviro-toons: green themes in animated cinema and television*, McFarland & Company, Inc., Publishers, Jefferson, N.C., London, 203 pp., ISBN 978-0786465927, 2012.
- Potts, M. A.: Entertainment: “The Lorax” and Climate Change: Is This Kids Book Even Good Anymore? *Fatherly*, <https://www.fatherly.com/play/the-lorax-and-climate-change-kids-book-history> (last access: 7 February 2024), 2021.
- Rabbi, M. Z.: Bangladeshi film wins an award at Cannes World Film Festival. *The Financial Express*, <https://thefinancialexpress.com.bd/lifestyle/entertainment/bangladeshi-film-wins-an-award-at-cannes-world-film-festival-1632743753> (last access: 13 September 2023), 2021.
- Renand, C.: *The Lorax*, Illumination Entertainment, 2012.
- The Business Standard: My Role in “Tomorrow” Was to Motivate Our Team and Help Them Dream Big – Mohammad Shihab Uddin, <https://www.tbsnews.net/glitz/my-roletomorrow-was-motivate-our-team-and-help-them-dream-big-mohammad-shihab-uddin-316519> (last Access: 10 August 2023), 2021.

- Thoreau, H.: Walden, Obtained from Project Gutenberg, <http://www.gutenberg.org/ebooks/205> (last Access: 15 July 2023), 1854.
- St-Amant, F.: How to Scrape Youtube Comments with Python: Building an NLP database from scratch, Towards Data Science, <https://towardsdatascience.com/how-to-scrape-youtube-comments-with-python-61ff197115d0> (last Access: 8 June 2023), 2020.
- Statista: Bangladesh, internet penetration rate: <http://www.statista.com/statistics/764102/internet-penetration-rate-bangladesh/>, last access: 6 September 2023a.
- Statista: Bangladeshi animation film “Tomorrow” bags Cannes World Film Festival award for Best Animation Film, <https://www.thedailystar.net/entertainment/tv-film/news/bangladeshi-animation-film-tomorrow-bags-cannes-world-film-festival-award-best-animation-film-2185166>, last access: 11 December 2023b.
- Townsend, L. and Wallace, C.: Social Media Research: A Guide to Ethics. Aberdeen: University of Aberdeen, https://www.gla.ac.uk/media/media_487729_en.pdf (last access: 16 January 2023), 2016.
- Uddin, M. S.: Tomorrow, Kazi Media Limited, 2019.
- Unger, N. C.: Beyond nature’s housekeepers: American women in environmental history, Oxford University Press, Oxford, New York, 319 pp., ISBN 978-0199735075, 2012.
- van Rossum, G. and Drake, F. L.: The Python language reference, Release 3.0.1 [Repr.], Python Software Foundation, Scotts Valley, CA, 109 pp., ISBN 1441412697, 2009.
- Warner, M.: Publics and Counterpublics, *Public Culture*, 14, 49–90, <https://doi.org/10.1215/08992363-14-1-49>, 2002.
- Wolfe, D.: The Ecological Jeremiad, the American Myth, and the Vivid Force of Color in Dr. Seuss’s *The Lorax*, *Environ. Commun.*, 2, 3–24, <https://doi.org/10.1080/17524030801936707>, 2008.