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UNVEILING THE ECO-STORYTELLING: MULTIMODAL LAYERS OF MEANING IN GREENPEACE'S ENVIRONMENTAL VIDEOS

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Abstract

This paper addresses eco-storytelling as the process of meaning-making in Greenpeace's environmental videos, with a focus on semiotic and cognitive aspects within a multimodal framework. By combining insights from multimodal discourse analysis and cognitive semiotics, this study explores how Greenpeace's videos construct environmental issues through the interplay of various modes across different layers of meaning. This study presents a semiotic space within Greenpeace's videos, highlighting the interplay of signs at the core, involved in a situation and embedded in the worldview. This model allows differentiation of three layers of meaning within the videos: embodied, referential, and ideological. Eco-storytelling involves the strategic use of multimodal elements—visual and auditory modes, including verbal, nonverbal, and cinematic means. These elements construct narratives at embodied, referential, and ideological layers, aiming not only to inform about environmental issues but also to inspire viewers to engage in environmental stewardship and advocacy. The study examines the role of multimodal means in constructing each semiotic layer and investigates the process of conceptual integration based on Brandt's theory of Mental Space Network. In this framework, embodied, referential, and ideological meanings interact through mental spaces to create a comprehensive narrative that underscores the urgency of environmental action. This research contributes to understanding the complex role of multimodal resources in eco-storytelling and highlights how Greenpeace's videos foster environmental awareness.

Keywords: *cognitive semiotics, Greenpeace, meaning-making, multimodality, storytelling, video.*

1. Introduction

Today's environmental communication plays a key role in the relationship between scientists, society, and government, as it bridges the gap between complex scientific information and public awareness of environmental problems and their consequences, contributing to the development of sound policies that promote environmental justice. As Lakoff (2009) claims, environmental issues go beyond the study of the natural world; they are based on moral aspects related to empathy, which leads to the understanding of natural systems and systemic causes. This understanding applies not only to the environment, but also to the interpersonal, social, business, and political spheres (Lakoff, 2009, p. 122-123).

At the intersection of environmental advocacy, multimodal communication, and semiotics lies the study of storytelling in Greenpeace's environmental videos. Greenpeace, a non-governmental organization committed to environmental activism and advocacy (Greenpeace, n.d.), promotes a distinct ideology rooted in ethical values such as accountability and respect for the natural

environment, striving to foster a sustainable and just world. On the one hand, Greenpeace's videos perform a social function by informing the public about the consequences of the climate crisis and urging them to take action to preserve the environment. On the other hand, they are a cinematic phenomenon utilizing sophisticated film techniques for meaning-making, with each multimodal element contributing to the overall meaning. Moreover, they organize video events into a coherent sequence, clearly framing the environmental issue through the context and atmosphere in which the story unfolds. This semantic heterogeneity allows the videos to resonate on multiple levels, engaging viewers both intellectually and emotionally.

The *aim* of my study is to unravel the semiotic complexity within Greenpeace's environmental videos through revealing the layers of meaning implemented multimodally. This involves analysing the meaningful potential of various multimodal modes to understand their role in communicating complex environmental messages. Through the analysis of the intricate process of meaning-making, we unveil successive layers of meaning, each serving as a crucial component in the seamless communication flow within the videos. This exploration sheds light on the nuanced construction of environmental storytelling related to the climate crisis and offers insights into the methods employed to shape perceptions and influence audiences.

This study is part of a larger project titled *Multimodal Meaning-making in Social Videos: Cognitive, Pragmatic, and Semiotic Perspectives*, which examines the multifaceted process of meaning-making in various contexts. Currently, this includes research on US political campaign videos (Krysanova, 2024), Greenpeace's environmental videos, Ukrainian motivational videos of the war period, and anti-European propaganda videos of Russia.

The environmental communication has been a topic of concern for a long period of time since the humans experienced the devastating effects of climate changes. Many works on environmental discourse emphasize the role of the media in communicating about climate change (Boykoff, 2008; Cox, 2013), highlighting the social issues inherent in the communicative strategies employed across different types of media (Peverini, 2014).

Eco-storytelling, also known as climate storytelling, encompasses diverse communication practices aimed at addressing climate change. It involves various narrative techniques across literature, film, art, and digital platforms to convey environmental messages, themes, and values (Moezzia, Jandab, and Rotmann, 2017). In narratives addressing environmental issues, climate change is often depicted as an existential threat not only to human society but also to the natural world and the planet as a whole (Meyer et al., 2021). A significant focus at the present stage is the study of visualizing environmental problems, particularly through the analysis of photographs (Doyle, 2007), documentaries about nature (Bousé, 2000), advertising campaigns (Svoboda, 2011), television news coverage (Cottle, 2000), recognizing that images of nature are culturally, socially, and politically motivated (Doyle, 2007).

Noting cinematography's tendency to aestheticize environmental problems, researchers emphasize the need to tell compelling stories about nature and climate change, which can significantly increase public interest in these issues (Shanahan & McComas, 1999). Arnold (2018) believes that to mobilize people and guide their actions, climate advocates must tell stories that convince, evoke emotions, and enrich knowledge. In her research on interviews with climate advocates, she focuses on the arguments they use when discussing environmental issues highlighting their cultural variability. Hochachka (2021) claims that climate change disrupts both individual and collective meaning-making, resulting in a 'value-action' gap where people's actions do not align with their stated concerns, and opinions remain divided.

However, the role of video in implementing communicative policies on environmental issues remains insufficiently explored. Only recently studies have begun to focus on how video influences people's intentions to protect the environment (Zheng et al., 2022; Shreedhar & Mourato, 2018).

My research aims to address the less explored process of meaning-making in environmental videos, specifically examining semiotic and cognitive aspects within a multimodal framework.

Greenpeace's environmental videos serve a critical social function by emphasizing urgency and motivating viewers to take action for a safer future, achieved through blends of multimodal elements. By integrating these elements across multiple layers of meaning, these videos encourage collective determination toward positive transformations in human interaction with the natural world—a dimension that needs deeper investigation.

In this paper, I attempt to explore various layers of meaning-making in Greenpeace's environmental videos, elucidate the role of multimodal elements in shaping each level, and argue for the integration of these layers in eco-storytelling. Firstly, I provide the theoretical background to my study, delving into the notions of meaning and the distinctive features of storytelling in environmental videos. Then, I establish the semiotic space of environmental videos to their diversity in semiotic expression. Further, I delineate three levels of meaning-making within videos—embodied, referential, and ideological—and specify the key categories of multimodal elements characteristic of each level. Finally, I explore how these layers of meaning integrate using Brandt's theory of Mental Space Network.

2. Theoretical background

This study was largely inspired by phenomenological and semiotic studies, which posit that meaning is not monolithic and fixed but rather multi-dimensional and context-dependent. Husserl (2012) argues, that meaning “is not a concrete essence” but “a kind of abstract form”, which is “determined, namely, through the modes in which it is given” (p. 275) He argues, that our consciousness does not merely passively perceive but rather actively engages with the world—what captures our attention also influences and moves us, extending beyond visual to auditory stimuli. This dynamic perception shifts the viewer's role from passive observer to active participant. The object of focus in this process is not merely received; rather, it invites the viewer into a specific engagement, which is willingly accepted (Husserl, 2012, pp. 184-186).

Greimas (1987) claims that meaning does not have the fixed nature as it is continually changing through perpetual transformation. Meaning-making involves transforming an existing meaning, stressing the importance of giving significance to form regardless of its content. This perspective portrays meaning as dynamic, where each act of interpretation has the potential to evolve from one meaning to another through transformative processes (pp. 27-30).

Thus, meaning posits as a dynamic and contingent phenomenon, embedded into our perception of the objective world, shaped by various factors and subject to interpretation and reinterpretation. Meaning is not uniform or consistent across all contexts but can vary depending on factors such as cultural background, personal experiences, and linguistic aspects.

These properties contribute to the existence of diverse layers or levels of meaning highlighting meaning as a multilayered phenomenon.

According to Zlatev (2009) and Konderak (2021), meaning-making unfolds across a hierarchy of meanings, encompassing four distinct levels: life, consciousness, sign function, and language. The Semiotic Hierarchy framework, as articulated by Konderak (2021), suggests that life involves cognition and sense-making, while the second phenomenal meaning pertains to the direct experience of objects in the environment. The emergence of sign function occurs when a conscious subject engages in symbolic or semiotic activities. Finally, linguistic meaning necessitates adept use of conventional symbols within established norms, marking a higher level of semiotic competence (p. 138). As Konderak (2021) further argues, meaning-making activity cannot be limited either to internal processes, immanent to a subject, or to phenomena in the environment in which the subject is embedded. Rather, meaning-making is a relational phenomenon that consists in value-based interactions between a subject and its “world” (p. 137).

Applying the theory of meaning-making to film, Bordwell (1999) identifies four levels of meaning that viewers unconsciously recognize: referential, explicit, implicit, and symptomatic. Referential meaning constructs the film's narrative world (diegesis). Explicit meaning is determined

by the context and overall structure of the cinematic work while implicit meaning involves symbolic interpretations. Symptomatic meaning reveals hidden interpretations within a film, often contrary to the filmmaker's intentions and sometimes repressed (pp. 8-10).

All these theories of levels exhibit a common feature: they involve a subject situated within an environment, interconnected through a system of values that shape their interactions. This fundamental aspect strongly implies that the process of making meaning links internal cognitive processes with external environmental influences, highlighting the importance of considering both in analysis.

As for the multimodal discourse, meaning is viewed as an emergent discursive construct created in the process of integrative construction by multimodal elements (Krysanova, 2022, p. 48). Multimodal means create specific frames or scenarios that guide the meaning-making process. There is a reciprocal relationship between these multimodal means and the constructed meanings, leading to a transformation of the worldview and indirectly influencing societal practices (Shevchenko, 2023).

Thus, meaning appears as a dynamic and multisemiotic phenomenon that evolves across various levels—from basic life processes to sophisticated linguistic symbols. It underscores the interactive relationship between individuals and their environments, illustrating how interpretation and meaning-making are integral to human cognition and communication.

3. Method and data

The approach used in this study combines the insights of multimodal discourse analysis and cognitive semiotics, allowing us to examine how environmental issues are constructed through the interplay of various modes across different layers of meaning in Greenpeace's videos. Both cognitive semiotics and the theory of multimodality study meaning as the process of meaning-making emphasizing its dynamic and on-going nature. As Zlatev et al. (2018) claim,

meaning needs to be understood as a dynamic phenomenon, stretching across a number of different temporal scales, from the micro-scale of ongoing interaction and experience to the macro-scales of history and evolution. In other words, as reflected in the formulations above, meaning should be studied precisely as meaning making rather than as inherent in static structures (p.1).

From the cognitive-semiotic perspective, meaning-making is seen as an active process shaped by cognitive processes (Konderak, 2021, p. 134) since agents are continuously interacting with their environments (Konderak, 2019, p. 6). Meaning, according to Brandt (2020, p.9), refers to the contents of the human mind; and through semiosis, it also encompasses the existence of communicative networks within the intersubjective exchange and sociocultural discourse in a broad sense. In this view, meaning requires a subject who is immersed in a world and engaged in value-based interactions with the phenomena within it. Emphasizing the three elements of this relationship—the subject, the world, and an internal value system—results in understanding it as a multilayered process (Konderak, 2019, p. 5).

The multimodal perspective emphasizes the capacity of different modes and semiotic resources to construct meaning in heterogeneous discourses. Multimodality characterizes communicative situations that rely on combinations of various 'forms' of communication to be effective (Bateman, Wildfeuer & Hiippala, 2017, p. 7). It acknowledges that meaning is constructed through the integration of multiple modes of communication. Each mode contributes uniquely, with its own strengths and limitations, to the overall meaning-making process. This perspective emphasizes that understanding meaning requires attention to all the semiotic resources employed in a given communicative situation, as they work together to create a coherent and comprehensive communicative flow. In essence, multimodality highlights that meaning is not derived from a single mode in isolation but from the complex interplay of various modes working in concert (Kress, 2010).

The *data* include 105 environmental protection videos produced by Greenpeace from 2010 to 2024. These videos are publicly accessible on both the organization's official website and the global YouTube platform. Screenshots from selected videos are used in this paper under fair use for commentary purposes.

To analyze the multilayered mechanism of meaning-making within Greenpeace's videos, I employed a *framework* that combines qualitative content analysis and semiotic analysis. Initially, I transcribed the videos, capturing verbal, nonverbal, and cinematic elements. These transcriptions were manually created using text documents, with each verbal segment accompanied by detailed descriptions of the corresponding visual and cinematic elements.

Next, I defined key categories encompassing the different layers of meaning-making, each category featuring specific multimodal elements spanning language use, visual imagery, and cinematic techniques. This approach ensured precise documentation of every multimodal element for analysis, capturing both the spoken narrative and the nonverbal and cinematic cues embedded in the videos.

Finally, I analyzed the mechanism of multilayered meaning-making through the conceptual integration of multimodal resources, drawing from Brandt's theory of Mental Space Network (Brandt, 2004). This analysis underscored the significant role of multimodal elements in creating layered meanings.

In this paper, I *aim* to explore several key *research questions*: What role do multimodal resources play in eco-storytelling within Greenpeace's environmental videos? How is meaning created at different levels of meaning-making, and what are the roles of multimodal means in this process? Furthermore, I will investigate how these levels of meaning-making integrate to form cohesive narratives that convey environmental messages effectively.

4. Results and discussion

This section begins by outlining foundational assumptions about eco-storytelling in Greenpeace's environmental videos. It then delves into the construction of the semiotic space within these videos, highlighting the differentiation of three layers of meaning. Each layer is characterized with an emphasis on the role played by multimodal elements in constructing specific meanings. Finally, the section explores how these layers interconnect in storytelling through the process of conceptual integration.

4.1. Storytelling in Greenpeace's environmental videos

Greenpeace's environmental videos focus on global issues such as climate change and biodiversity conservation, employing eco-storytelling to convey environmental messages and values that are intrinsic to their advocacy efforts. These videos promote a specific ideology rooted in moral values like responsibility and respect for the natural world. They are inherently proactive, featuring clear calls to action that urge viewers to support environmental conservation efforts or engage with Greenpeace campaigns. This approach not only shapes their communication style but also influences the meanings constructed within the videos.

Lasting typically up to three minutes, Greenpeace's environmental videos are designed as a communication tool to engage viewers. They raise awareness about environmental issues indirectly through narratives that highlight climate threats, combining emotive imagery with factual content to create compelling stories. Eco-storytelling by Greenpeace aims to foster emotional and intellectual connections with nature, employing emotional appeal to evoke empathy and urgency. By linking the climate crisis directly to human lives and well-being, these videos trigger emotions and inspire viewers to feel concerned and motivated to take action.

Distinguishing the ways in which stories about climate change challenge social meaning, Hochachka (2021) argues that climate change appears psychologically distant, requiring more abstract mental representations. It is deeply entangled with our emotions, self-identity, and culture, and is

often contested due to differing values and interests. Climate change is frequently overshadowed by more immediate concerns, failing to appear on people's 'salience landscape'. However, crafting compelling stories can elevate its visibility and generate greater interest in the issue (pp. 521-522).

In the realm of storytelling, as argued by Moezzi, Janda, and Rotmann (2017), the focus is on the performance and construction of stories, rather than viewing the story as an object. Understanding why a story is told in a specific context, and how it is constructed, highlights that stories are actively shaped.

Greenpeace tailors its storytelling across diverse audiences and formats. These include animated cartoons aimed at children, such as *The Story of a Spoon*, which uses fictional narratives to highlight environmental issues. Animated films aimed at adults often employ irony and sarcasm to convey messages effectively, as seen in examples like *Wasteminster: A Downing Street Disaster*. This film satirizes the UK government's actions concerning plastic pollution, highlighting the absurdity of their efforts through a humorous and critical lens. Greenpeace also creates impactful stories like *A Homeless Polar Bear in London*, depicting the gravity of environmental challenges through non-real scenarios. Additionally, Greenpeace collaborates with celebrities such as Jane Fonda in videos like *Jane Fonda and Greenpeace: The Environment Needs You*, where celebrities share their personal experiences and perspectives on environmental preservation. A considerable number of videos feature narratives of ordinary people detailing their experiences with environmental threats, including their hardships, or their involvement in actions supporting environmental preservation (e.g., *The End of 2022 – Greenpeace*).

Moreover, environmental videos employ cinematic techniques such as camera movement, editing, lighting, and sound design to enhance their storytelling impact. They are characterized by their multimodal nature, incorporating visual and auditory modes, as well as verbal, nonverbal, and cinematic semiotic resources. Through the seamless integration of these multimodal elements, environmental videos synergistically create an immersive viewing experience.

The verbal semiotic resource is represented either through the audial mode – as over- or on-screen oral speech and through the visual mode – as posters or text messages on the screen. It contains lexical and pragmatic means, which directly or indirectly convey the meaning of the climate crisis. The nonverbal semiotic resource includes dynamic images of people, animals, plants, natural disasters, industrial facilities, vehicles, etc., which ascribe connotations to the verbal text and possess the meaning-making potential. The cinematic semiotic resource encompasses signs peculiar to the cinematographic sphere, namely shot sizes, camera angles, sounds, lighting, which are the integral part in constructing meanings in videos.

Each semiotic resource has a distinctive meaning-making potential and the contribution of different semiotic resources to the process of constructing storytelling varies. In environmental videos, the verbal and nonverbal elements largely blend emotional and rational elements, whereas cinematic elements engage the audience through the emotional appeal. The synergistic combination of modes and semiotic resources gives forth to meaning-making in videos.

Eco-storytelling in videos communicates environmental issues by creating a semiotic space where meanings are constructed and conveyed to the audience.

4.2. Semiotic space of Greenpeace's videos

The notion of semiotic space, rooted in Lotman's concept of the 'semiosphere', encapsulates both the conceptual and practical environment where meaning is constructed. Lotman defines the semiosphere as society's semiotic space, where meaning-making unfolds through a diverse array of signs and systems. This dynamic network fosters continuous interaction among various semiotic elements, forming an interconnected network of meanings. It encompasses the cultural, social, and linguistic contexts in which communication takes place, influencing how individuals interpret and assign meaning to signs and symbols (Lotman, 2001).

The semiotic space of videos encompasses an environment where meanings related to ecological issues are constructed through verbal, nonverbal and cinematic signs. This includes a diverse range of situations that underscore human-nature relationships and ecological concerns. For instance, in the video *Is this the ocean of the future?*, images of plastic floating in polluted oceans and piles of various types of plastic waste on the shore evoke situations of extreme industrial and consumer pollution, highlighting the severe environmental degradation caused by human activity. These signs resonate with values like environmental stewardship, conservation of marine life, and responsible consumption, linking abstract concepts with tangible experiences and prompting viewers to reflect on their significance in real-world contexts. Thus, effectively connecting signs with situations requires recognizing their contextual relevance and the emotions they provoke in viewers.

This enables us to build the semiotic space in videos, which consists of several spheres (Fig.1). At its core, the semiotic space in environmental videos involves the interplay of verbal, nonverbal, and cinematic signs, where each sign type enhances and contextualizes the others. Verbal signs provide both rational and emotional aspects of explicit information, while nonverbal signs, such as imagery of natural landscapes or human activities, evoke emotional responses and implement ideas. Cinematic signs, including natural sounds or music, further immerse the audience and reinforce the video's tone.

The model presented assumes a defining characteristic: a wide array of multimodal elements and situations related to various aspects of the Greenpeace worldview. This results in the construction of meaning across multiple layers, facilitated by the integration of these multimodal elements.



Fig. 1. Semiotic space of Greenpeace's environmental videos.

For instance, in the video *How do we fix the palm oil problem?*, verbal signs feature scientific words linked to palm oil production and its ecological impact, such as *vegetable oil*, *absorb*, *deforestation*, *indigenous communities*, *CO2 gas*, *hectare*, and solution-oriented phrases like *put pressure on brands*, *demand industry-wide change*, *boycotting a KitKat*, etc. The video also poses rhetorical questions that address the environmental issues tied to palm oil production:

- (1) *Why is palm oil in demand? How is it actually destroying rainforests? And if we don't boycott them what is the solution?* (How do we fix the palm oil problem? 0.18).

As for nonverbal signs, they are represented by the speaker's disquieted and engaging facial expressions, gestures, and voice modulation, as well as visuals depicting devastated forests, forests engulfed in flames, wildlife in danger, and images of brands involved in palm oil production and use. Cinematic signs, driven by film techniques, encompass close-ups and medium shots of the speaker, wide shots capturing expansive forest landscapes, along with bird's-eye-view perspectives, and high and low angles.

However, the semiosis is always tied to a specific situation, whether communicative or referential, as meaning-making is inherently linked to the context. Consequently, the next sphere involves the situation in which signs acquire their contextualized meaning. For example, the video *Save the Orangutan* highlights the devastating effects of deforestation on wildlife habitats. It includes elements of the referential situation: the sounds of chainsaws and the cries of distressed animals. Additionally, the video's meaning is shaped by deictic visual elements—the specific details that anchor meaning in the video's context. These elements encompass references to specific locations like the Amazon forests, depictions of human actions such as tree-sawing, and visuals showing vast, barren areas without trees, all of which establish the video within a distinct environmental reality. The verbal text (2) constructs a clear and urgent narrative about the environmental crisis caused by palm oil plantations, identifying responsible parties, and connecting it with real-life implications.

- (2) *A rugby pitch worth of forest will be destroyed before you can even skip this message. Big companies are exploiting the ancient rainforest for profit from palm oil plantations. 25 orangutangs are killed every day leaving orphans vulnerable and alone* (Save the Orangutan. 0.1-0.17).

Since Greenpeace utilizes videos to advocate for its ideology of biodiversity preservation and reducing environmentally harmful production, worldview inherently permeates these videos. Both the multimodal signs and the situations depicted are deeply embedded within Greenpeace's worldview, which forms the next sphere of the semiotic space. Worldview plays a foundational role in meaning-making by providing the contextual framework through which individuals interpret signs, influenced by their cultural, social, and personal backgrounds. It shapes emotional responses and the way how people interact with content. In addition, worldview makes the impact on attitudes by determining whether people feel motivated to act or remain indifferent.

This model of semiotic space enables us to differentiate three layers of meaning within the videos.

4.3. Multimodal layers of meaning in Greenpeace's environmental videos

In environmental protection videos, meaning-making unfolds through a multilayered process encompassing three distinct layers: embodied meaning, referential meaning, and ideological meaning. These layers are motivated by the semiotic environment within the videos. Each layer is articulated through diverse combinations of verbal, nonverbal, and cinematic resources.

4.3.1 Embodied layer. The embodied layer refers to the sensory aspects of communication that contribute to meaning-making. It suggests that our perception of the world around us is not just about what we see or hear, but also about how our bodies physically respond to those perceptions. As Zlatev (2008) claims, embodiment is “a cross-modal mapping between the perception of the surrounding and the perception of the body and corresponds—iconically or indexically—to a certain action, object or event” (p. 228). This concept extends beyond mere observation to include the ways in which our bodily states and emotions influence our understanding of objects, actions, and events in our surroundings. By integrating bodily sensations with cognitive processes, embodiment shapes our attitudes and behaviors accordingly.

Embodied meaning in videos is constructed by verbal, nonverbal, and cinematic elements that refer to the physical sensations, emotional responses, and sensory experiences. Emotions are the integral component of video meaning, as “reason requires emotion” (Lakoff, 2009, p. 8) and the perception of sensory experiences is influenced by emotional reactions (Barrett & Bar, 2009). Verbal means embody meanings when perception systems are activated during words and utterances comprehension. Scorolli and Borghi (2008, pp. 3-4) suggest that concepts are understood to align with the format of their referents, reflecting our direct experience with the external reality they

represent. When we hear a word, our brains bring up the same feelings and actions associated with that word in our minds, whether we're thinking about something real or imaginary.

Verbal means include verbs of sensory modalities *see, hear, smell, feel, breathe, and taste*, etc., adjectives *dirty, beastly, fragrant, fresh, vibrant*, etc., emotion words *sad, depressive, worry, concerned, alarmed, fear, happy, interested*, etc., and emotion-laden words, which evoke emotions through connotations *enthusiastic, inspiring, successful, fail, criminal, monster, warn*, etc. Within a contextual framework, action words can elicit specific emotional states since abstract word meanings are rooted in affective knowledge (Portch et al., 2015). In videos, action verbs like *fight, tear, warn, combat, defend, kill, destroy, burn, bury* indirectly convey a sense of threat through their association with struggle. Nouns implying the meaning of threat *damage, danger, challenge, battle, stake, risk* evoke sensory experiences that amplify the emotional and psychological impact of the perceived danger.

Consider the video *There's a monster in my kitchen*, which presents an animated story about a fictitious monster that destroys forests to create pastures for livestock. The use of lexemes such as *monster, fear, danger, and warn* embodies the meaning of threat evoked by the environmental issue.

- (3) *There's a monster in my forest and it's filling me with fear! It's putting us all in danger, to warn you is why I'm here* (There's a monster in my kitchen. 1.23).

Nonverbal elements in environmental videos include images of living beings—people, animals, birds, fish, and plants—who either suffer from environmental threats or experience relief from solving an environmental problem. This embodies the emotional and physical impact of environmental issues, highlighting the contrast between the distress caused by ecological harm and the positive outcomes of environmental solutions. Therefore, these videos prioritize depicting people in dynamic scenes, expressing anxiety, distress, concern about environmental issues, or warning about dire consequences. Videos also center on the struggles of people amidst the impacts of the climate crisis. These active portrayals indexically convey inner states and embody the threats posed by environmental challenges. Fig. 2 embodies the impact of air pollution caused by the aviation industry, depicting the main character wearing a gas mask to safeguard her health.



Fig. 2. Eco-friendly aviation? Pigs might fly... (0.26).

The next picture illustrates a protest march as part of Greenpeace's global "Detox" campaign, which calls for ZARA to commit to eliminating the use of all hazardous chemicals throughout its supply chain. The people in the image mimic the energetic movements of mannequins, with masks on their faces to embody the dangers posed by the chemicals used by ZARA.



Fig. 3. ZARA Mannequins Revolt! (0.26).

Cinematic elements play a crucial role in embodied meaning. Camera positioning can significantly impact the viewer's sensory-motor activity, eliciting a strong emotional reaction. (Heimann et al., 2014). Cinematic devices engage viewers in a bodily experience through the expressive actions of characters seen and heard on screen. They not only embody meanings but also make them tangible and material, bringing them to life.

While close-ups are primarily effective for highlighting facial expressions or specific details (Fig. 2), middle shots emphasize activities related to human body movements (Fig. 3). Camera angles also highlight different aspects of embodiment: high angles indicate a character's vulnerability, low angles emphasize power, and POV shots represent a character's perspective, immersing the audience in their viewpoint.

Environmental videos embody meanings through the use of music, sounds and, voice-over the screen, which ascribes connotation to the events on the screen. Music is not the part of the environmental narrative and is directed to the audience in order to create a certain emotional effect. Many researchers highlight the connection between music and the embodiment of meaning, noting that music can evoke strong emotional responses and physical reactions. It can amplify the emotional impact of a scene, synchronize the audience's feelings with those of the characters, and create a rhythm and movement that mirror the on-screen action (Cox, 2016). Thus, music not only supports the narrative but also embodies the emotional and physical experiences of the characters, further immersing the audience in the story. Minor keys, alternating slow and fast tempos, and dynamic buildups contribute to increasing tension, as demonstrated in the video *The Cost of Air Pollution*, which highlights the harmful effects of fossil fuels on air quality. The video also begins with the non-diegetic sound of labored breathing, embodying respiratory issues and linking them to industrial emissions.

The lighting effects construct meaning through dim lighting, the interplay of black and white, flashes, fire, flickering, and the play of light and shadow. These techniques effectively embody the destructive nature of environmental threats. In the animated video *There's a Monster in My Kitchen*, the environmental threat is symbolized by a dark-coloured monster and the play of light and shadow (Fig. 4 below).



Fig. 4. There's a Monster in My Kitchen. (0.44).

A voice-over serves as a means of embodiment in environmental videos, enabling the verbal expression of thoughts, emotions, and narrative context. This enhances the viewer's understanding and emotional engagement with the content, exemplified in videos such as *Vicious Circle*, narrated by actor John Hurt over the screen.

4.3.2 Referential layer. Referential meaning pertains to how language and other semiotic elements refer to or describe real-world situations, actions, and events. This type of meaning focuses on the denotative aspect of communication, clarifying what specific words, images, or sounds point to in the external world. By conveying concrete information or facts directly tied to real-life objects and occurrences, referential meaning provides clarity and relevance. Situational factors help pinpoint specific entities and their significance within the video content. Constructing referential meaning grounds the video narrative in real-world contexts, enhancing credibility and fostering trust.

Referential meaning often provides specific details about the subject matter, including facts, statistics, images or sounds that denote real-world objects and events. For example, the name Greenpeace used in videos refers to the specific organization fighting for the protection of the environment and sustainable practices, reinforcing the legitimacy and authority of the message. A video showing melting glaciers (*Why Arctic sea ice melting matters*) visually refers to the phenomenon of climate change, illustrating the tangible impacts of global warming on our planet's ice reserves. This visual representation provides concrete evidence of environmental degradation, making the abstract concept of climate change more accessible and real to viewers.

Referential meaning in videos is constructed by the specific choice of verbal, nonverbal, and cinematic elements.

Verbal elements include words and phrases that explicitly identify the causes of environmental threats: *pollution, water contamination, climate change, deforestation, oil spills, habitat destruction, species extinction, waste disposal, fossil fuels*; indicate the victims affected by the climate crisis: *ecosystems, the Earth, planet, coastal communities, farmers, indigenous populations, children, future generations, marine life, coral reefs, and polar bears*; denote the prospective institutional agents responsible for taking action: *government, leaders, authorities, businesses, corporations, industry leaders, activists, communities, scientists, researchers, global leaders, citizens*; and imply the solution of environmental problems: *conservation, renewable energy, waste reduction, carbon neutrality, green infrastructure, ecosystem management, recycling, carbon capture, alternative fuels*.

The incorporation of statistics and data enhances the credibility and persuasion of videos by providing factual content. This not only appeals to the audience's logic and rationality but also plays a crucial role in shaping the overall meaning within the narrative. Utilizing geographical names in

videos adds a layer of specificity and context, grounding the narrative in real-world locations such as the Amazon rainforest, the Arctic ice caps, or the Great Barrier Reef. This technique enhances the credibility of the content by linking abstract issues to tangible places.

Consider examples of such lexicon in the Greenpeace's video *TotalPollution: A Dirty Game*, which exposes TotalEnergies, one of the world's largest fossil fuel companies, attempting to greenwash their reputation by sponsoring the Rugby World Cup 2023. Opening with a satirical image of a rugby pitch drenched in oil, affecting both players and spectators, the video indicts TotalEnergies and other fossil fuel companies for their environmental harm. It presents data on extraction rates and volumes, highlighting potential victims and the agents responsible for environmental pollution as illustrated in (4) below.

- (4) *TotalEnergies and other fossil fuel companies are sponsoring sporting events so they can greenwash their dirty businesses. In reality, the fossil fuel industry produces a stadium full of oil every 3 hours and 37 minutes, destroying a livable future for all of us* (TotalPollution: A Dirty Game. 0.58-1.06).

Nonverbal elements that construct referential meaning include various types of images. These images highlight people engaged in activities such as putting out fires, escaping floods, working in factories, or rescuing animals from burning forests. Additionally, they depict authority figures, like scientists or environmental experts, who either warn about threats or offer solutions. Moreover, they depict people of different ages suffering from health issues due to environmental pollution.

The images of animals in danger (ducks swimming in oil-contaminated water, wounded animals, dead whales in oceans,) and plants (burning forest, dried plants), natural disasters (hurricanes and typhoons, flood, chemical spills, oil- or rubbish-contaminated water, smog), and images of industrial activity (smoking factory pipes, oil refineries, oil rigs, construction images, heavy traffic, landfill sites), piles of plastic bottles, etc. These images are tied to real life situations and the awareness about them is grounded on the shared knowledge of filmmakers and viewers.

The video *Why Arctic sea ice melting matters* demonstrates the environmental issues tied to Arctic ice melting, a consequence of industrial human activity. By depicting real scenarios of melting glaciers (Fig. 5), the authors integrate stories from individuals directly involved in this field, including ice pilot Arne Sorensen (Fig. 6), research fellow Will Trosell, sea ice scientist Till Wagner, and Greenpeace activist Joss Garman. These aspects ground the narrative in reality, making the story of ice melting tangible for viewers. By showcasing firsthand accounts from those directly involved, the video connects the audience to the real-world consequences of environmental degradation.



Fig. 5. Why Arctic sea ice melting matters. (1.48).



Fig. 6. Why Arctic sea ice melting matters. (0.14).

Regarding cinematic means, wide shots (Fig. 4) serve to establish the relationship between characters and their environment, while bird's-eye views provide a broader perspective of the scene. Close-ups focus on authority figures (Fig. 5), and medium shots highlight living beings in peril. These varied shots help implement the urgency and reality of the environmental issues depicted.

Diegetic sounds, such as crackling fire, bustling factories, traffic jams, chainsaws, and others, add authenticity to the depicted events on screen, enhancing the portrayal of specific situations.

4.3.3 Ideological layer. Ideology plays a crucial role in the meaning-making process within Greenpeace's environmental videos. These videos aim not merely to inform but to persuade and mobilize viewers towards environmental activism, making the underlying ideological framework fundamental to their construction and impact. According to van Dijk (1998), ideologies shape how events are constructed and interpreted in media, guiding the audience towards a particular understanding of reality.

Ideological meaning encompasses the broader social, cultural, and political implications embedded within Greenpeace's environmental videos, involving fundamental values and beliefs that shape the construction of environmental issues. The framing of these issues, the choice of imagery, and the rhetorical strategies underscore Greenpeace's commitment to preserving biodiversity and combating environmentally harmful practices. By embedding these values into their narratives, Greenpeace seeks not only to inform but also to inspire viewers to take proactive steps towards environmental stewardship, fostering a deeper understanding of how environmental challenges intersect with wider social and political contexts. As Carvalho (2007) states, ideology in media about climate change acts as a powerful selection device in deciding what the relevant "facts" are (p. 223).

Ideology constructed in Greenpeace's videos calls to action, such as signing petitions, participating in protests, or adopting sustainable practices. By doing so, these videos attempt to engage viewers on a deeper level, transforming passive consumption into active participation. The ideological framing emphasizes the urgency and moral necessity of environmental activism, motivating individuals to align their actions with the values promoted by Greenpeace.

The construction of ideological meaning in Greenpeace's videos draws upon embodied and referential meanings. Fairclough (1992) suggests that ideology in discourse can influence people's emotional responses and subsequent behaviors, emphasizing the use of emotionally charged means to convey ideological messages. In Greenpeace's videos, ideology shapes the reality through selective portrayal of facts, emphasis on specific narratives, and the inclusion of authoritative figures who support Greenpeace's moral position.

Verbal means of constructing ideological meaning include value-laden words (Biber, 2006; Zhabotyńska & Brynko, 2022): *freedom, revolution, treaty, petition, crime, safety, justice, safe, fair, power, respect, support, ratify*, which possess an evaluative proposition combining both emotional

associations and value judgments, reflecting particular moral, ethical, or ideological perspectives (Biber, 2006, p. 88).

The words with modal meaning such as *must*, *should*, *have to*, *want*, *let*, *may*, *need* are strategically used to motivate viewers to engage in environmental conservation efforts, advocate for policy changes, and adopt sustainable practices.

The use of metaphors and metonymies serves to symbolically convey complex issues related to environmental issues making them more accessible and emotionally compelling to viewers, for instance, *greenwash*, *give Earth the hand*, *oil fuels war*, *climate-wrecked crime*, *wrapped in plastic*, etc. Fig. 7 employs the metaphor *oil is war* to highlight the ideological meaning that oil extraction devastates the environment and leads to severe consequences for humanity.



Fig. 7. The end of 2022 – Greenpeace (1.45).

Calls to action, slogans, and demands are the integral element of ideological meaning within videos. They serve as direct appeals to viewers, urging them to take specific steps and actively participate in environmental advocacy, for instance, *Stop mining the deep sea* in the video *Protect deep sea*. Such utterances can be realized through the audial mode by the spoken text or through the visual mode by the images of inscriptions on posters, on the surfaces of buildings, ships or industrial constructions as in Fig. 8.



Fig. 8. Greenpeace 2023: there's something in the air (1.57).

Rhetorical questions in environmental videos serve as a persuasive tool, prompting viewers to think about pressing environmental issues. They are used to provoke thought, emphasize the urgency and emphasize the seriousness of environmental problems. The rhetorical question in the image (Fig. 9) illustrates the issue of rivers disappearing due to human industrial activity. It aims to raise awareness and cultivate a sense of responsibility towards environmental stewardship.



Fig. 9. Greenpeace 2023: there's something in the air. (1.58).

Example (5) illustrates the appeal for immediate action to protect the sea from industrial pollution. The moral issue is constructed through the use of modal words such as *need*, *have to*, and *must*, indicating a strong necessity to reinforce ocean management and the imperative for governmental action. The use of value-laden words like *ratify*, *treaty*, *protect*, and *support* adds a layer of morality to the narrative. The metaphor *at the heart of ocean management* emotionally implies that coastal voices should be deeply integrated into the process of managing the ocean. Direct calls to action, such as *Support coastal communities* and *Please sign the petition*, encourage the audience to actively participate in the cause.

(5) *The situation with the sea needs urgent action. This is why we have to protect this sea for our children and the next generations. Coastal voices must be at the heart of ocean management. And governments must ratify the Global Ocean Treaty. Support coastal communities to protect the oceans. Please sign the petition.* (Supporting Coastal Communities with Amanda DuPont. 2.07-2.26).

Nonverbal means of constructing ideological meaning rely on contrasting images of people affected by the climate crisis with those showing resolve and determination to address environmental issues. Images of people engaged in environmental activism serve as symbolic representations of values. By depicting individuals taking proactive steps to protect the environment, the video constructs ideological meaning by promoting positive values and inspiring viewers to contribute to environmental solutions.

In video *Greenpeace 2023: there's something in the air*, people participate in rallies protesting the environmental pollution caused by plastic (Fig. 10). They carry posters demanding decisive action, shout powerful slogans, and showcase their unwavering determination to make a difference.



Fig. 10. Greenpeace 2023: there's something in the air. (1.59).

Images of people implementing solutions to environmental challenges illustrate the potential for positive change and collective action. They construct ideological meaning by promoting hope, empowerment, and optimism about the possibility of achieving a sustainable future. Fig. 11 illustrates the determination of environmental activists to defend the right to a clean environment through legal action.



Fig. 11. Greenpeace 2023: there's something in the air. (1.07).

Apart from utilizing a wide range of shot sizes and camera angles, cinematic elements specific for constructing ideological meaning include natural lighting, which enhances authenticity, connects viewers with nature, and creates the positive atmosphere. These elements collectively contribute to the ideological meaning by immersing viewers in an environment that emphasizes the importance of environmental stewardship.

However, embodied, referential, and ideological meanings are not constructed in isolation. They integrate seamlessly, creating emergent blends through the process of conceptual integration.

4.4. Conceptual integration in environmental videos

To explain the integration of embodied, referential, and ideological meanings within the semiotic environment of videos, I draw on the theory of conceptual integration. The idea of conceptual integration in multimodal discourse has recently been actively debated, as seen in the works of

Coulson and Oakley (2001) in TV news, Krysanova and Shevchenko (2021) in film, and Molina and Belmonde (2016) in digital storytelling, to elucidate the mechanism of meaning-making. First suggested by Fauconnier and Turner (1996), this theory was further elaborated by Brandt (2004), who integrated both mental and communicative activities into Mental Space Network.

This theory is significant in explaining the multilayered meaning-making process of videos. According to Brandt (2004), mental space serves as a structural format that organizes specific contents to which human consciousness naturally responds, integrating content across hierarchical levels. Mental spaces are common to human minds and active in all communication situations where reciprocal attention is experienced. Situations integrate objects perceived through cross-modal sensory processing, appearing as semiotic forms. These situational units form complex semantic wholes that are cognitive and communicable, allowing for countless recombinations. The mental space format facilitates interactions between individuals and their environment, as well as with the minds of others. This framework helps explain the communicative process through the integration of mental spaces or conceptual blending (pp. 98-99).

According to this theory, the basic mental space network includes six mental spaces. The Base Space represents the basic enunciative situation or a scenario typical for the minds of many individuals united by joint attention during communication. It triggers the formation of other mental input spaces: Presentation, Reference, and Relevance Spaces. The Presentation Space shows how we mentally perceive the thing. The Reference Space indicates what we are attentive to. The Relevance Space explains why we presently perceive the thing in that particular way (Brandt, 2004, p. 83). The Presentation Space and the Reference Space have counterpart connections to each other and integrate into a blend, known as the Blended Space. This blend, in turn, has counterpart connections to and integrates with the Relevance Space, resulting in an elaborated version of the blend, or Meaning Space. This network is triggered from the Base Space, and the final meaning blend projects its content back to the Base Space, thereby elaborating its meaning (Brandt, 2004, pp. 83-84).

To illustrate the conceptual integration within environmental videos, I use the video *The air I breathe*, which warns people about the danger of breathing the polluted air (example 6).

- (6) *The air I breathe has a taste of burning, The air I breathe is no longer safe. The air I breathe gives me asthma. The air I breathe is changing our planet. The air I breathe needs some serious cleaning. The air I breathe is not the air I want for my children. The air I breathe kills millions every year. The air I breathe is the same air you breathe. What are you waiting for? People around the world are standing up asking leaders to act now against air pollution. For our health. For our planet. For our future. Demand CleanAirNow* (The air I breathe).

The Base Space encompasses a scenario involving general knowledge about the physical act of breathing, its dependence on air quality, and the risks posed by polluted air, which can lead to illness or death. This scenario triggers the formation of other mental input spaces, including the Presentation Space where the embodied meaning is constructed. The Presentation Space represents how we perceive this scenario: through verbal elements like sensory words (*breathe, taste*) (Fig. 12), action words (*act, kill*); nonverbal means such as sad or anxious facial expressions across diverse demographics, people, wearing masks to protect from the polluted air (Fig. 13), and cinematic techniques such as close-ups of human faces and the use of minor, alarming music in dim lighting. Together, these elements evoke emotions of fear and anxiety, embodying the human experience of environmental threat and prompting an emotional response from viewers. The elements in the Presentation Space embody the broader implications of the Base Space scenario, enhancing the overall effectiveness of the narrative.



Fig. 12. The air I breathe. (0.03).



Fig. 13. The air I breathe. (0.33).

The Base Space also activates the Reference Space, detailing elements of situations related to air pollution through various multimodal elements, where referential meaning is constructed.

Verbal components highlight causes of environmental threats like *air pollution*, those impacted—*I, you, millions, people, children, planet*, and potential agents such as *leaders*. Nonverbal elements include images of vehicles emitting exhaust fumes, factories releasing harmful chemicals into the air (Fig.14), and the burning of fossil fuels for energy production. These elements construct real-life scenarios causing air pollution. Cinematic elements like wide shots and bird's-eye-view angles visualize these situations. The construction of referential meaning in the Reference Space aims to ground the narrative in real-world contexts, conveying concrete information about environmental challenges and agents involved.

(7) *The air I breathe gives me asthma. The air I breathe is changing our planet.*



Fig. 14. The air I breathe. (0.08)

Meanings constructed in the Presentation Space and Reference Space are cross-mapped and projected into a Blended Space. In this Blended Space, the emergent meaning of harm to people caused by industrial air pollution is constructed. This blend integrates the visceral responses elicited by the Presentation Space with the concrete realities depicted in the Reference Space, creating a unified meaning that underscores the severity of air pollution and its impacts on human health due to the industrial activity.

However, the Base Space also triggers the formation of the Relevance Space, where the ideological layer shapes the meaning. This ideological meaning is constructed through value-laden words *safe, stand up for*; modal words *need, want*; metaphor *The air I breathe kills millions*, a rhetorical question *What are you waiting for?*, and a call to action *Demand CleanAirNow*. Cinematic elements enhance this meaning through the contrast of bright and dimmed light, visualizing the difference between life with clean air and polluted air (Fig. 15), and the use of natural light accompanying the call to action.

In the Relevance Space, the constructed meaning emphasizes the urgency and moral imperative of addressing air pollution. The ideological meaning constructed here stresses the importance of collective responsibility and the necessity for societal and governmental change to ensure safe air quality.



Fig. 15. The air I breathe. (0.43).

The meaning from the Relevance Space is mapped to the Blended Space, interpreting its motivation in terms of morality and values. The Relevance Space adds a moral dimension to the blended meaning, integrating ethical concerns with the physical harm to human health caused by industrial air pollution and projecting it to the Meaning Space. This final blend projects its content back to the Base Space, becoming part of the meaning of the basic scenario that initiated the mental process.

The mechanism of conceptual integration within environmental videos based on the Brandt's theory of Mental Space Network (2004) is depicted in Fig.16.

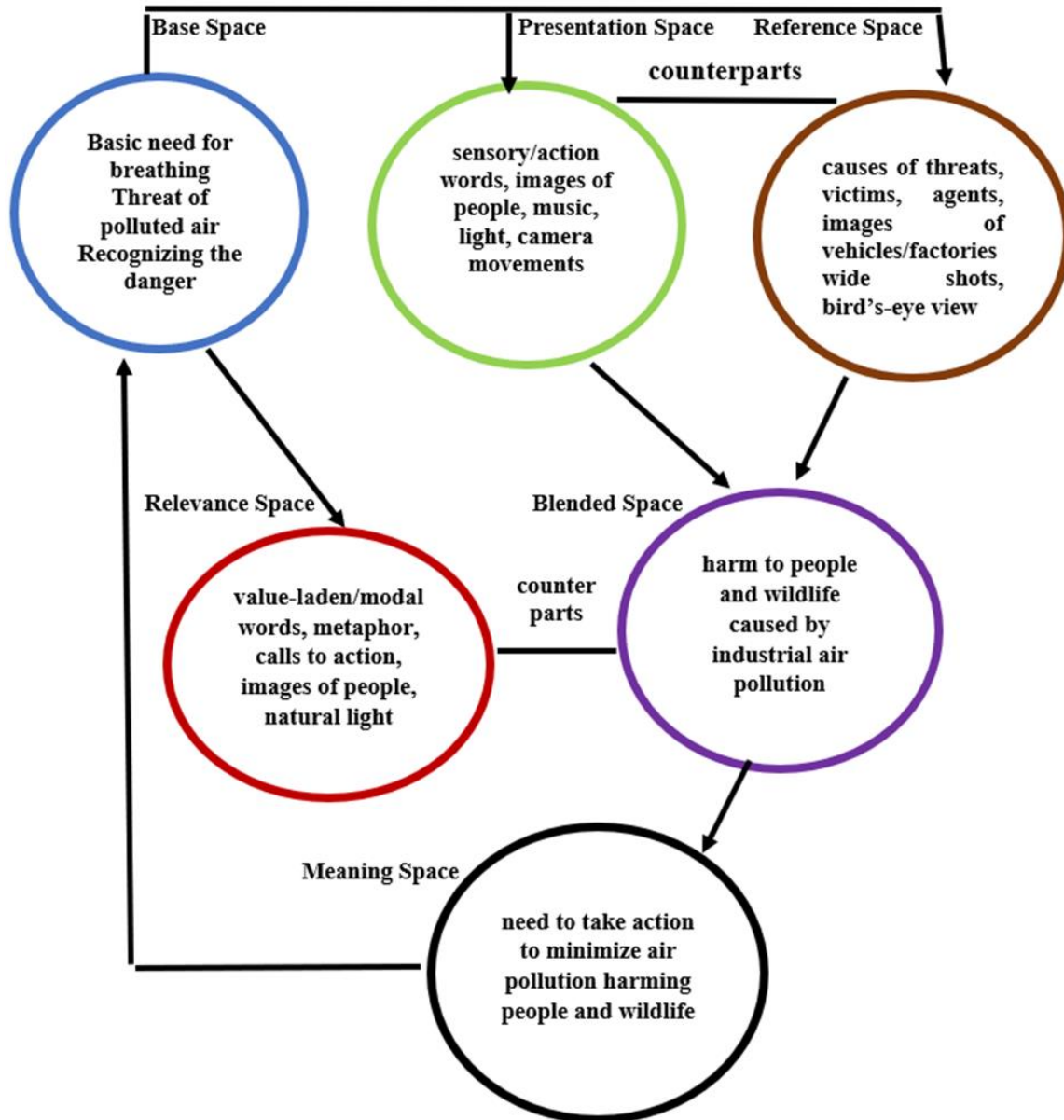


Fig. 16. Conceptual integration in environmental videos based on Brandt's model.

5. Conclusions

Eco-storytelling in Greenpeace's environmental videos involves the creation of narratives that foster strong emotional and intellectual connections between people and nature. Through these videos, Greenpeace seeks to evoke empathy and urgency by highlighting environmental issues such as climate change, biodiversity loss, and environmental degradation. Meaning-making in these videos involves the strategic use of multimodal elements— visual and auditory modes including verbal, nonverbal, and cinematic means. Through these means, Greenpeace constructs narratives at embodied, referential, and ideological levels, that not only inform but also inspire viewers to engage in environmental stewardship and advocacy.

At the embodied level, multimodal means encompass sensory and emotional language, action-oriented verbs, and nouns that signify threats. Visual elements depict living beings affected by

environmental challenges. These videos prominently feature dynamic scenes portraying people expressing anxiety, distress, or concern about environmental issues, alongside warnings of potential consequences. Cinematic techniques further immerse viewers through expressive use of camera shots and angles, vivid light and sound effects, enhancing the sensory and emotional impact of the narratives.

At the referential level, multimodal elements construct narrative worlds that contextualize environmental issues within real or imagined scenarios. This involves using explicit language to identify the causes of environmental threats, indicate the victims affected by the climate crisis, denote the institutional agents responsible for action, and imply solutions to environmental problems. Incorporating statistics and data enhances video credibility by providing factual content, while geographical references add specificity, anchoring the narrative in real-world locations. Nonverbal and cinematic elements depict people engaged in activities motivated by environmental issues as well as authority figures. Visuals of endangered animals, damaged ecosystems, natural disasters, and industrial activities tie to real-life scenarios.

Ideological meaning, constructed multimodally, encompasses fundamental values and beliefs. Verbal elements include value-laden language, modal expressions, metaphors, metonymies, calls to action, slogans, and rhetorical questions. Nonverbal cues contrast images of people affected by climate crises with those demonstrating resilience and environmental activism, symbolizing values. By depicting proactive environmental efforts, the videos promote positive values and inspire viewer engagement.

However, embodied, referential, and ideological meanings do not exist independently within videos; rather, they harmoniously blend together through the process of conceptual integration. This integration involves all layers interacting through mental spaces, each contributing equally to the construction of the narrative.

The exploration of layers of meaning within Greenpeace's environmental videos unveils the intricate process of eco-storytelling through cognitive-semiotic and multimodal frameworks. *Moving forward*, the focus lies in delineating how multimodal elements interact within each layer of meaning and examining the meaning-making process across various types of videos.

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**РОЗКРИВАЮЧИ ЕКОЛОГІЧНИЙ СТОРІТЕЛІНГ:
МУЛЬТИМОДАЛЬНІ ШАРИ СМISЛУ
В ЕКОЛОГІЧНИХ ВІДЕО ГРІНПІС**

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Анотація

Стаття досліджує еко-сторітелінг як процес конструювання смислу в екологічних відео природоохоронної організації Грінпіс, акцентуючи на семіотичних і когнітивних аспектах у межах мультимодального підходу. Поєднуючи ідеї мультимодального аналізу дискурсу та когнітивної семіотики, дослідження аналізує, як відеоролики Грінпіс конструюють екологічні проблеми через взаємодію семіотичних модусів на різних рівнях смислотворення. У статті представлено модель семіотичного простору відеороликів, яка висвітлює взаємодію знаків, залучених у ситуацію та вбудованих у світогляд. Ця модель дозволяє розрізнити три шари смислу у відео: утіснений, референційний та ідеологічний. Еко-сторітелінг передбачає стратегічне використання мультимодальних елементів – візуальних і слухових модусів, котрі вміщують вербальні, невербальні та кінематографічні ресурси. Ці елементи створюють наративи на утісненому, референційному та ідеологічному рівнях, мета яких не лише інформувати про екологічні проблеми, але й спонукати глядачів до активної участі у захисті довкілля. Дослідження розглядає роль мультимодальних засобів

у конструюванні кожного смислового шару та аналізує процес концептуальної інтеграції на основі теорії мережі ментальних просторів П. А. Брандта. У рамках запропонованого підходу утілені, референційні та ідеологічні смисли взаємодіють через ментальні простори, створюючи наратив, котрий підкреслює невідкладність екологічних дій. Це дослідження сприяє розумінню складної ролі мультимодальних ресурсів у еко-сторітелінгу та підкреслює, як відеоролики Грінпіс сприяють підвищенню екологічної обізнаності.

Ключові слова: *відео, Грінпіс, мультимодальність, когнітивна семіотика, смислотворення, сторітелінг.*

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