

## **Envisaging Human-Nature Conflict in the Trailer for *Oppenheimer* (2023): A Multimodal Ecolinguistic Study**

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**Abstract:** Ecolinguistics is widely acknowledged as a field of study that cares about the relationship between language and ecology. Since the conflict between humans and nature has been intensifying, ecolinguists have concentrated on ecological studies adopting discourse analysis approaches to demonstrate how discourse constructs the relationship between humans and the ecosystem. This study aims to conduct a multimodal analysis of ecological dynamic discourse in an attempt to integrate multimodality with ecolinguistic studies, an area which is still under-researched. The trailer for *Oppenheimer* (2023) comprises the data of the study. The movie is a dramatization of the life story of Oppenheimer, the leader of the Manhattan Project that produced the first nuclear weapons. The research focuses on exploring how the human-nature conflict is rendered via multimodal resources. The theoretical framework of the study dwells upon Visual Environmental Communication Research (Hansen 2018) supported by the updated version of the Relevance Theory (RT) as extended to multimodal communication (Forceville 2020). By utilizing ecolinguistics as an analytical lens and applying RT, this study uncovers how movie trailers significantly underscore the urgency and cruciality of the human-nature interconnection amid tragedy and destruction. The findings of the study indicate that multimodal affordances in *Oppenheimer* trailer, both verbal and non-verbal, contribute to portraying the complexities of nature-human interface.

**Keywords:** ecolinguistics, human-nature conflict, multimodality, trailer for *Oppenheimer*

### **1. Introduction**

Ecolinguistics is a growing field of study that looks into the relationship between language and ecology. Einar Haugen's (1971) seminal book "The Ecology of Language" marks the beginning of the field (Zhang 2022). Recently, ecological problems such as depletion of natural resources, environmental pollution and endangerment of species have become increasingly serious and have led to intensifying the conflict between humans and nature. Therefore, there have been collective efforts on a global scale for establishing harmonious relationships between humans on the one hand and nature and other species on the other hand. Semiotic resources can be deconstructed by researchers to identify their ecological implications. Such conflicts between humans and the surrounding environment have attracted the attention of linguists, among other scholars. Discourse analysis has become a key framework in environmental policy analysis since the mid-1990s (Leipold et al. 2019). Consequently, environmental discourse analysis can function as a means towards the creation and protection of a harmonious

environment (Zhang and Wei 2021). Consequently, ecolinguistics researchers have started to shift their attention to ecological studies adopting ecological discourse analysis approaches to show how discourse establishes the relationship between humans and the ecosystem and showcases the ecological values embedded in the discourse (Qi and Hu 2020). In response to the magnitude and rapidity of social changes, natural disasters, severe ecological disorder and the urgent need for prioritizing ecological integrity and well-being, the past few years witnessed significant developments in the field of ecolinguistics in terms of research publications, communities and events (Zhang 2022). The two most-cited research models in ecolinguistics are the Haugen model and the Halliday model. The former gives focus to the impact of environmental conditions on language ontology and the latter is concerned with the impact of language on environmental conservation and the degradation of environmental problems (Qi and Hu 2020).

Visual representation has played a significant role in the communication and construction of the environment as a central subject of public and political concern since the emergence of the modern environmental movement in the 1960s. This recognition was early acknowledged, particularly by environmental advocacy groups, who recognized the significance of visuals as a means of documenting environmental degradation (Hansen 2013). However, it is only in the present century that the visual communication of the environment has started to receive the necessary research attention it deserves, according to Hansen and Machin (2013). They investigated the significance of visuals in environmental communication research by exploring how visual imagery – either in static or dynamic – can deliver messages and constructs related to the environment. They underscored the importance of implementing a multimodal discourse analysis approach which embraces detailed analysis of the semiotic, discursive, rhetorical, and narrative characteristics of visuals within three significant contexts: communicative, cultural, and historical. In other words, multimodal discourse analysis investigates how verbal and non-verbal modes interact and contribute to meaning-making processes. However, despite the recent advances in ecolinguistics and multimodality, research combining multimodality and ecolinguistics is still in its infancy.

Hence, driven by the need for developing the path of research on ecological multimodal discourse analysis, the researchers examine the trailer for the film *Oppenheimer* (2023) in an attempt to conceptualize how the human-nature relationship is rendered by multimodality. *Oppenheimer*, the leader of the Manhattan Project that produced the first nuclear weapons, is a biographical or biopic thriller written and directed by Christopher Nolan, a leading filmmaker of the 21st century. The movie is a dramatization of the life story of Oppenheimer; it recounts Oppenheimer's studies, his direction of the Manhattan Project during World War II and his fall from grace due to his 1954 security hearing.

In particular, the study purports to answer the following questions:

1. How do the verbal affordances in the trailer for *Oppenheimer* (2023) function to render the complexities of the human-nature conflict?

2. How do the non-verbal resources in the trailer for *Oppenheimer* (2023) display the intricacies of the human-nature conflict?

## **2. Theoretical background and literature review**

The analytical framework of the study dwells upon Environmental Communication Research (Hansen 2018) supported by the updated version of the Relevance Theory (RT) as extended to multimodal communication (Forceville 2020).

### **2.1 Theoretical background**

This section sheds light on main approaches and advances in the field of ecolinguistics including Visual Environmental Communication research. In addition, it presents key tenets of the Relevance Theory and some of the major characteristics of movie trailers.

#### **2.1.1 Ecolinguistics**

The emergence of ecolinguistics (Haugen 1972; Halliday 1990) has produced a novel domain of language study with linguists being concerned about ecosystems and exploring ways of studying language ecologically. Within the context of the deterioration of the natural environment, ecolinguists have applied linguistics and other disciplines to solve environmental problems and investigate the relationship between language and the ecology (Huang and Zhao 2021).

Ecolinguistics is an ‘umbrella term’ covering an array of approaches with different goals (Stibbe 2020); there are “different understandings of the aim, nature, mission, and positioning of ecolinguistics” (Huang and Chen 2017: 38) that move the field to conflicting directions. However, there are some common grounds in the field of ecolinguistics. One of these is that it is a field that is concerned with the relationship between language and ecology. Another one is that the field has its traces in two major approaches: Haugen’s metaphorical perception of “language ecology” as “the study of interactions between any given language and its environment” (Haugen 1972: 325), and Halliday’s biological perception of ecology in the study of language and of the role of language in dealing with environmental problems (Halliday 1990).

The Haugenian approach which is popularly known as “language ecology” has been subject to many debates and disagreements for reifying language as a living independent agent. In spite of these critiques, many evidence-based studies conducted on language-related issues in educational, cultural, political and social contexts have been categorized as ecolinguistic studies. Some of the major topics were concerned over co-existence between major and minor languages in bilingual or multilingual ecology. The Hallidayan approach underscores that language plays a significant role in ecological issues. The year 2021 has witnessed the emergence of innovative and practical works either within these two established approaches or within their intersection and unification (Zhang 2022).

Scholars have analyzed various types of discourse under ecological scrutiny using tools from Critical Discourse Analysis (CDA), Multimodal Discourse Analysis (MDA), Positive Discourse Analysis (PDA) and other methodologies.

However, few attempts have been made to establish new methods specifically for ecological discourse analysis.

During the year 2021, a number of methods of ecological discourse analysis have been developed. Among the most prominent ones is Stibbe's (2021) updated version of *Ecolinguistics: Language, Ecology, and Stories We Live By*, in which he added new analytical tools of narratives to various types of stories in the belief that one form of ecolinguistics is the analysis of language for revealing the stories we live by, judging them from an ecolinguistics perspective, resisting damaging stories and searching for new ones. Eight types of stories can be identified: ideologies, framings, metaphors, evaluations, identities, convictions, erasure, and salience. Another approach to ecological discourse analysis is Harmonious Discourse Analysis (HDA) which was proposed by Huang and Zhao (2021) with the approach localized in a Chinese context. HDA is based on Systemic Functional Linguistics (SFL); its general assumption is human-orientedness and its philosophical principles are conscience, proximity and regulation. The analytical framework starts from the context of the situation on the micro-level and moves on to the investigation of how language intervenes in human thinking and activity on the macro-level. H. Do Couto, E. Do Couto and Da Silva (2021) have updated the Ecosystemic Discourse Analysis (EDA) framework by explaining the natural, mental, and social ecosystems in the integral ecosystem of language. This approach was described as an ecological discipline that studies language phenomena following ecoideology; i.e. the ideology of life.

The year 2022 has witnessed further advances in the field of ecolinguistics. The scope of research in ecolinguistics has gradually developed from micro to macro. One of the main goals of ecolinguistics is 'cultivating ecological literacy'; one of the significant discussions in this regard is the "five-dimensional framework for assessing ecological literacy" designed by Ha et al. (2022) to explore the inhabitants of Guiyang City, an ecologically advanced city in China, from the perspectives of ecological knowledge, awareness, ethics, emotions, and behavior. Ecolinguists have emphasized the significance of ecosophy and gave accounts of their ecosophy. Examples include the ecosophy "Living" and its seven components identified by Stibbe (2021): "Value Living", "Wellbeing", "Now and the Future", "Care", "Environmental Limits", "Social Justice", and "Deep Adaptation", and Wei He's ecosophy of "Diversity and Interaction, Coexistence and Harmony" (He et al. 2021).

### **2.1.2 Visual environmental communication research**

Broadly speaking, environmental communication can be defined as the assessment and practice of how people and organizations interact with and effect the environment. Much of what is recognized by the public as the "environment" or "environmental problems" is perceived through mediated forms of communication which is mostly composed of visual representations (Hansen 2018). Though there has been substantial progress in textual analysis in scholarly work on media representations of the environment, there has been less work on visual analysis (Hansen and Machin 2013). It is only during the current century that research

attention has been directed to visual environmental communication (VEC). Hansen (2018) defines VEC research as research which is concerned with “theorizing and empirically examining how visual imagery in the broadest sense (photographs, films, scientific/graphical representations using charts and graphs, maps, models, drawings, cartoons, paintings, artistic exhibits, installations or performances, etc.) communicates and conveys/constructs messages about the environment” (p. 180). The principal interest in visual analysis is to investigate how visuals contribute to the social, political and cultural understandings of the environment. Surveying the literature on visual environmental communication leads to the conclusion that visual analysis does not only need to attend to the semiotic characteristics of visuals but also to the contexts and sites of visual communication. Three contexts can be identified: communicative, cultural and historical. Conventions of genre and medium guide the way viewers/ consumers understand the meaning and the effect of images. Attending to the cultural context is significant for understanding the meaning of images: visual environmental depictions are meaningful in relation to the extent they resonate with recognizable cultures and values. The historical context is also significant for the interpretation of visual images; this is evident in longitudinal studies.

Ecocriticism is generally defined as the study of literature and the environment adopting an interdisciplinary approach where literature scholars analyze texts dealing with environmental concerns. The practice of ecocriticism is one of the most recent critical perspectives which had its inception during the environmentalist movement during the 1960s and 1970s and is still evolving. It was only during the 1990’s that it began to gain momentum in the UK and the US when literary scholars began to question how their field could contribute to our understanding of the environmental crisis. Ecocriticism practitioners examine the relationship between literature and nature for raising the reader’s awareness of the nonhuman world and their responsibility to sustain it (Dobie 2012). The two domains of ecocriticism and ecolinguistics which have nature and language as their focal points can be combined. In ecolinguistics, linguistic techniques are used to reveal the stories we live by; i.e. the cognitive structures shared across the minds of individuals within a society and influence the way we think, talk and act whereas ecocriticism techniques are used to interrogate local and worldwide literature to search for new stories to live by; i.e. alternative perspectives or ideas for what to notice and what to appreciate (Stibbe 2019).

### **2.1.3 Multimodal communication: Relevance theory**

Relevance Theory, proposed by Sperber and Wilson, is a cognitive psychological theory that provides a framework for understanding the interpretation of utterances. Successful communication requires optimal relevance to a target audience. Forceville (2020) provides an expanded version of RT that can accommodate various dimensions of mediated communication. The key idea of RT, which is the fact that “every act of communication comes with the presumption of optimal relevance to its envisaged addressee” (p. 90), holds not only for face-to-face communication with two people talking to each other in the same time/ space

continuum but is applicable to all communication. Though providing acceptable claims, this theory leaves many complicating factors unsettled. For example, the mass-communicator needs to cater for the variety of the cognitive environment of a huge number of addressees. In providing an expanded version of RT, Forceville (2020) highlights the difference between one-to-one exchanges and mass communication. In the former, if the interlocutors know each other, they are having a large set of background assumptions in common and each can easily understand the informative and communicative intentions of the other. Conversely, in visual and multimodal communication each individual will process the ostensive stimulus in the context of his own personal knowledge, attitudes, beliefs and goals. This distinction does not invalidate the central tenet of RT which is “relevance is relevance for an individual” (p. 111).

Forceville (2020) raises the question of how the message sent by the mass-communicator can be understood by various audiences with their varying cognitive environments. By reference to the basic tenet of RT, he claims that “the mass-communicator aims at optimal relevance to the mass-audience, taking into account as best as she can the cognitive environments of the numerous individuals in that audience” (p. 117). A viewer is able to interpret films due to their understanding of their semantic and syntactic elements. The semantic elements pertain to the film’s vocabulary while the plot structure would be equivalent of a language’s syntax. This is in addition to understanding what genre the film belongs to. However, if no genre attribution is possible, audiences would rely on embodied schemata, encyclopedic cultural knowledge, evaluative standards and everyday life experience with human emotions for its interpretation. In terms of RT, the mass communicator needs to make sure that they activate the intended genre attribution in the addressee since genre provides the main context where the address would search for relevance. Forceville (2020) considers genre the most important pragmatic factor governing mass communicative information and the most crucial part of the cognitive environment of the communicator and addressee. Therefore, genre knowledge as part of the cognitive environment of communicators is central for successful mass-communication.

According to Forceville (2020), the fact that a mass audience can interpret a certain picture or visual element in more or less the same way is due to two reasons. The first one is that they can recognize the referents and the symbols in the picture and the second one is that they can recognize the particular genre that the picture or visual element belongs to and the conventions they appropriately apply for its interpretation which results in certain responses the maker of the picture aims us to have; e.g., a smile in the case of a political cartoon or a tendency to buy a certain product in the case of an advertisement. The author states that interpretations of different discourses by the mass audience require the following: (1) command of pertinent relevant codes, (2) awareness of the genre and its conventions, (3) familiarity of the affordances and constraints of the medium in which the discourse is presented including its style, (4) realization of how people, objects, events and frames in the picture resemble equivalents in the real world, and (5) encyclopedic knowledge of the world. Movie trailers represent a genre that can be multimodally

analyzed and interpreted using the updated version of the Relevance Theory, as proposed by Forceville (2020).

#### **2.1.4 Movie trailers as a genre**

A movie trailer can be defined as ‘an audiovisual advertisement of an audiovisual product’ (Dornaletetxe 2014: 1878). Pollaroli (2014) has defined movie trailers as ‘hybrid audiovisual discourse genres’ (1). They are hybrid since they combine both the narrative and the advertising nature of the movie, and multimodal since they utilize a thoroughly-chosen re-montage of still and moving images, music, voiceover, intertitles, etc. in order to persuade potential spectators to watch a forthcoming movie. The few scholars who have conducted research on movie trailers (Dusi 2002; Kernan 2004; Dornaletetxe 2007, 2009; Maier 2009, 2011) unanimously agree that trailers have a persuasive function like advertising. Though movie trailers cannot be easily accepted as argumentative discourse by some scholars since they claim that advertising is not argumentative, they can, as a starting point, be viewed as enthymemes: the standpoint often remains implicit and indirect, and potential spectators are required to construct the argument(s) with the help of the overall purpose of the discourse and the surrounding context. It is worth noting that this is in accordance with recent research on multimodal argumentation: arguments that are constructed modally utilizing potential semiotic resources and images are viewed as enthymemes (Hassan and ElMansy 2023a; Hassan and ElMansy 2023b).

Movie trailers are different from summaries of movies: they have a non-chronological structure and are constituted of ‘bracket syntagmas’ (Metz 1989; Bateman 2007): shots put together representing a topic or a reality without chronological order. In movie trailers the meaning is condensed and the multimodal sequences may seem incoherent; however, movie trailers invite the audience to form hypotheses on the cinematic discourse they are subsequently invited to watch. Wildfeuer and Pollaroli (2017) view movie trailers as ‘multimodal argumentative discourse’ in which cross-modal devices; i.e., the interplay of semiotic resources such as montage, music, sound, etc. conveys not only the semantic content (story’s content and characters) but also the standpoints and arguments expressed in the movie. They argue that much information which contributes to the meaning of the movie is not explicitly stated in the trailer and has to be inferred by the viewer based on their knowledge of the world and of the trailer as a genre; furthermore, the standpoints are not directly expressed but they have to be reconstructed from the intersemiotic interplay and the surrounding context.

#### **2.2 Previous related studies**

A growing body of literature has explored the intersections of ecolinguistics with the realms of art and literature offering insights into the relationship between language and the nature. For instance, Awny’s (2023) ecolinguistic study investigated the salient patterns identified by Stibbe’s (2015) framework in Katherine Alice Applegate’s *Wishtree*. Another study goes beyond the mere discursive analysis of literary works and analyses how ordinary witnesses deploy

fear and threat expressions in Lahoucine Faouzi's eco-documentary *Whining of the Blue Lagoon* through using Snape and Spencer's model back in 2003 (Mliless et al. 2021). The researchers used perceived severity and perceived susceptibility model to uncover mechanisms about how fear and threat appeals are at work in the testimonies of members of the public present in the documentary. That study disregarded the ecological affordances that go into the construction of ecological meanings and narratives. More precisely, multimodal resources contributing to environmental perspectives and experiences by means of the complex interplay between verbal and non-verbal elements have been marginalized.

Thus, the growing body of literature has shown the necessity for further investigation of the interconnection between ecolinguistics and multimodal discourse analysis. Although ecolinguistics has explored artistic and literary works, its study of multimodal discourses has not mainly concentrated on the complex combinations of verbal and non-verbal elements that create ecological meanings. The merging of these two areas, however, is far from completed as research to date shows. This gap is addressed in this research using RT as a theoretical framework through which to analyze the human-nature relationship in movie trailers as a novel genre. Thus, the aim of this research is to reveal how multimodal resources are used in the expression of ecological perspectives and ideologies by examining their deployment within trailers as representations of this intersection.

### **3. Research data and methodology**

#### **3.1 Data**

The trailer for the epic wartime film, *Oppenheimer*<sup>1</sup> (2023), comprises the data of this study. *Oppenheimer* is based on the 2005 biography *American Prometheus: The Triumph and Tragedy of J. Robert Oppenheimer* by Kai Bird and Martin J. Sherwin, which is a biography of the theoretical physicist J. Robert Oppenheimer. This biography, which was written over a period of twenty-five years and won several awards including the 2006 Pulitzer Prize for Biography or Autobiography of the general head of the Manhattan Project that produced the first nuclear weapons, served as an inspiration for Christopher Nolan's biographical film *Oppenheimer*. *Oppenheimer* is categorized as a thriller film since it evokes suspense and excitement in the audience. The trailer functions as a commercial advertisement for the movie that was going to be exhibited at a movie/ theater. The excerpts of the trailer are drawn from the most noteworthy parts of the movie to engage the audience and have maximum impact. Similar to a feature film, the trailer typically has a three-act structure: the first act presents the premise of the story, the second act moves the story forward and the third act ends with a dramatic climax. It is worth noting that the trailer under study is a *standard* movie trailer since it introduces diverse characters and a more comprehensive explication of the fundamental plot elements. Moreover, the trailer under study relies upon voice-over, graphic art, and meticulous grid editing techniques. The purpose of employing

this editing style is to capture the audience's interest in the movie by providing a general idea of the story while leaving certain narrative gaps.

### 3.2 Analytical framework

The analytical framework of the study dwells upon Environmental Communication Research (Hansen 2018) and the updated version of RT (Forceville 2020) as shown in Figure 1:

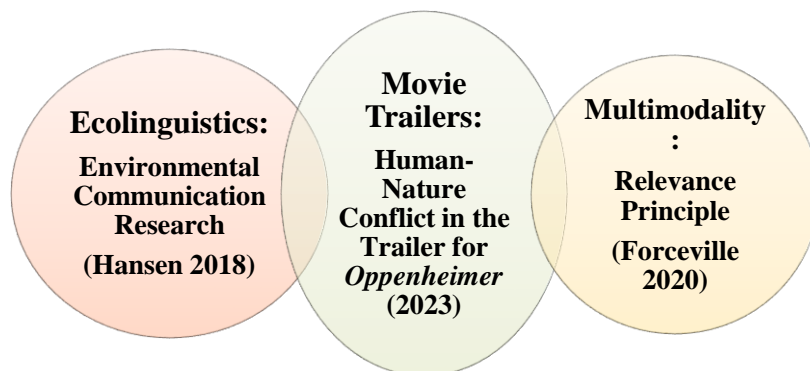


Figure 1. Multimodal ecolinguistic analysis of the trailer for *Oppenheimer* (2023)

The multimodal approach adopted in the study for envisaging human-nature conflict in the trailer under study draws upon semiotics and explicatures and implicatures. The interpretation of selected scenes of the trailer is conducted in relation to three types of context: communicative, cultural and historical. It requires knowledge of the trailer as a genre: its conventions, affordances and constraints as well as encyclopedic knowledge of the world.

Figure 2 illustrates how RT (Forceville 2020) is applicable to mass-communication. The maker of a picture tries to be optimally relevant to their envisaged audience by attracting the audience's attention (ostensive communication), conveying information and/or attitudes (informative intention) and, hence, having an effect on this audience effortlessly. The genre of a picture as a mass-communicative construction is recognized unproblematically by the envisaged audience. In RT, there is a distinction between the processes of en/decoding, i.e., pragmatically inferring explicatures and implicatures. Explicatures are propositions that can be evaluated as true or false. The viewer is likely to recruit information that pertains to the place and time of the discourse under consideration. In most mass-communication, the audience do not share spatio-temporality with the maker of the picture. However, the spatio-temporal circumstances in which we come across a discourse facilitates correct genre-attribution. This is determined by the institution controlling the discourse. The

attribution of meaning is guided by the chain “discourse-genre-medium-institution” embedded in the presumption of relevance. Communicative versus Informative Intention: As a mass-communicator, the maker of the picture’s intention is to engage the audience in ostensive-inferential communication. The communicative intention is fulfilled if the assumptions conveyed by the trailer are successfully processed in the addressees’ cognitive environments. The mechanisms of effect and effort apply in multimodal mass-communication.

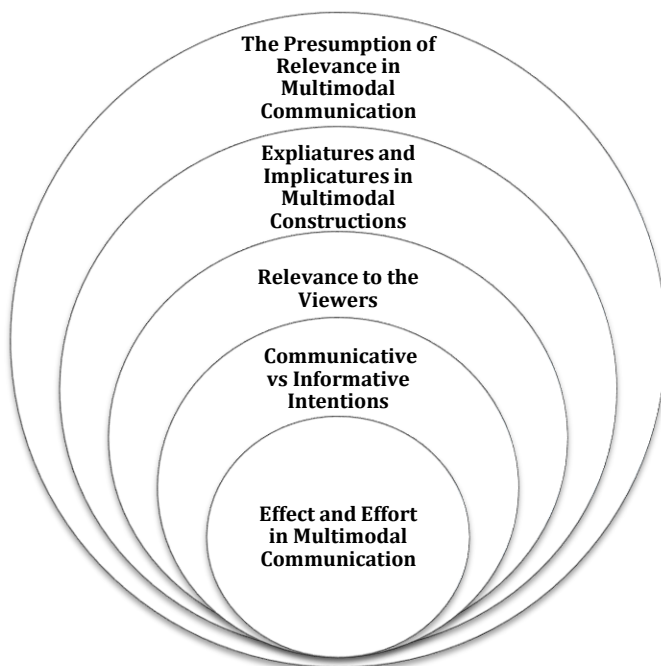


Figure 2. Tenets of the updated version of RT as applied to multimodal communication

### 3.3 Procedures of analysis

In conducting a multimodal ecolinguistic analysis of the trailer for *Oppenheimer* (2023), the researchers initially downloaded the trailer from the internet. Then, they utilized the software programme Free Video to JPG Converter – DVDvideosoftware to extract the trailer’s still images. Time intervals of 2 seconds were chosen for the extraction of the trailer which resulted in a total number of 83 still images. Then, a number of 28 images were selected. These images were multimodally examined to identify human-nature conflict. The visual, auditory and verbal modes in each of the selected frames were identified and tabulated (Table 1). To explain how the complexities of the human-nature conflict are rendered, the analysis included commentary on the explicatures and implicatures of the various resources in each of the selected frames, the informative and communicative intentions of the maker

of the trailer under study and the mechanisms of effect and effort. A descriptive qualitative approach was adopted by the researchers to provide an in-depth description and interpretation of the trailer with particular focus on human-nature conflict.

#### **4. Multimodal ecolinguistic analysis of the trailer for *Oppenheimer* (2023)**

Humans and nature, i.e. people and their living place, are strongly linked to each other to construe all types of living experiences. Under this mutual construction, it is impossible to establish the self without some context of place (Zhang and Wei 2020). For many centuries, the relationship of humanity with nature has been a pivotal issue. Natural problems have been caused, either intentionally or unintentionally, by human activities that are careless of environmental sustainability. Several literary works have portrayed the conflict between humans and nature where nature has been depicted as an entity suffering from human actions. Inspired by the dearth of research in visual environmental communication (Hansen 2018) as well as the need for further multimodal elaborations adopting the updated version of the RT (Forceville 2020), the researchers have attempted to probe into the human-nature conflict. Hence, a movie trailer portraying the human-nature complex interaction has been selected as the data of the study.

As a form of mass communication, the trailer for *Oppenheimer* possesses a complex nature due to its fundamental constraint of lacking adaptability to effectively address instances of misunderstanding. Thus, the maker of the trailer meticulously considered the form and content of his message before its release. However, the trailer for *Oppenheimer* remains precarious due to the reliance on what Forceville (2014) calls a "one size fits all" approach, which results in the message being interpreted differently within the diverse cognitive environments of its recipients. The audience of *Oppenheimer* do not share spatio-temporality with the maker of the trailer. Nonetheless, the maker of the trailer wants his audience to critically wonder about the trailer, and to attain aesthetic appreciation of its layout in his audience. In other words, the message of the trailer is highly contextualized. The trailer, being situated within a particular temporal and spatial context, is significantly influenced by the specific moment in time and place in which it is presented. This contextualization allows the trailer to tap into the collective knowledge and understanding of the target audience, who could possess a shared awareness of the historical events and figures related to J. Robert Oppenheimer and the development of the atomic bomb. Moreover, the trailer for *Oppenheimer* is tailored for a specific target audience with a particular interest in historical events.



The genre attribution of the trailer for *Oppenheimer*, with its focus on historical events, invites contemplation of the profound implications and ethical dilemmas surrounding the development of the atomic bomb. This exploration of history and the associated moral dilemmas can be linked to the broader concept of destroying the Earth and the human-nature relationship. Even though the trailer is made up of rapid non-linear shots, the maker of the trailer tries to be optimally relevant to the envisaged audience. The maker of the trailer wants to attract the audience's attention (ostensive communication), convey information (informative

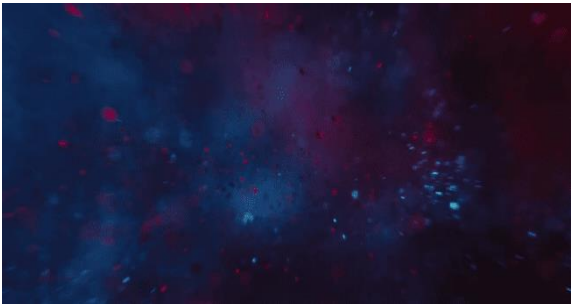

intention) and thus to have an effect on this audience at no unnecessary effort (communicative intention). To elaborate, the trailer gives focus to a specific scientist (Robert Oppenheimer) and a state of affairs (Manhattan Project and Oppenheimer's moral responsibility and his ethical dilemma) during World War II. These mass-communicative shots, whose genre their envisaged addressees are familiar with, have been recognized effortlessly.



Contextualizing the trailer, the movie centralizes J. Robert Oppenheimer, a brilliant physicist who was the general head of the Manhattan Project in Los Alamos, New Mexico, during World War II. Oppenheimer was entrusted the operose task of constructing the atomic bomb. The consequential bombings of Hiroshima and Nagasaki in 1945, was the conclusion of the war against Japan (as Germany had already surrendered), resulted in Oppenheimer being hailed as a heroic figure. Nevertheless, a few years later in 1954, his security clearance was revoked in a widely-publicized hearing conducted by advisors to the Atomic Energy Commission. This hearing made Oppenheimer a security threat due to his alleged leftist affiliations at the University of California, Berkeley, including associations with Communist Party members. Moreover, his opposition to the development of a more powerful weapon; namely, the hydrogen bomb advocated by his colleague, Edward Teller. This was the end of Oppenheimer's career within government circles and his influence on the future of atomic energy during the Cold War. Subsequently, he became "a martyr figure" within the scientific community. Numerous notable physicists, including Albert Einstein, expressed discontent over the decision of the United States to deploy the atomic bomb without any warning against a defeated enemy. On the contrary, Oppenheimer thought that the emergence of nuclear weapons would make war unthinkable and pave the way for international regulations on such armaments (Overby 2023).


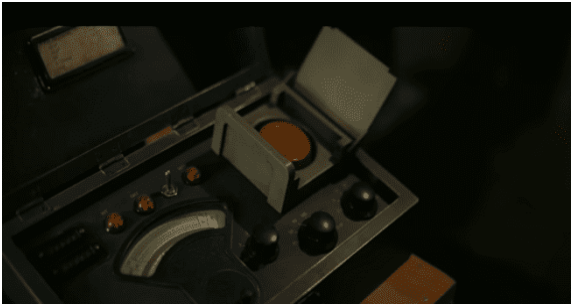
Decoding the trailer for *Oppenheimer* may be a straightforward task; however, explaining the complex interplay between each frame, the accompanying soundtrack, dialogue, and music employed therein contributes significantly to the argumentation and complexity of the trailer. In other words, despite its fragmented non-linear structure, the trailer's overall meaning emerges through a dynamic interplay between the triangulation of each frame, the narrative progression conveyed by the voice-over, and the sound effects as seen in Table 1. Moreover, in order to apply Forceville's RT to the trailer, a distinction must have been made between the encoding process; i.e., pragmatically inferring explicatures, and decoding process; i.e., pragmatically inferring implicatures. Thus, the first step in analysing the trailer is recognizing the different elements in the visual frame, then viewers, whose cognitive environment has knowledge of Oppenheimer's historical context, can derive more information along with reference assignment, disambiguation and enrichment. Inferring implicatures comes as the last step as indicated in Table 1.



Table 1. Interpretation of selected frames in the trailer for *Oppenheimer* (2023)



Time	Frame and Interpretation
0:09	<p>1.</p>  <p><b>Oppenheimer:</b> “This is a national emergency.”</p> <p><b>Explicatures:</b></p> <ul style="list-style-type: none"> <li>• The visual elements capture the preparation of the atomic bomb in a remote location, apparently in the desert of Los Alamos, showing the immense power and destructive force unleashed by human intervention.</li> <li>• Oppenheimer’s statement suggests that there is a crisis and urgency at the national level.</li> </ul> <p><b>Implicatures:</b> The situation requires immediate attention, resources, and coordinated efforts to address the threat cautiously.</p>
0:13	<p>2.</p>  <p><b>Kenneth Bainbridge<sup>ii</sup>:</b> “Denotator’s charged.”</p> <p><b>Explicatures:</b> The one responsible for charging the device that is used to initiate an explosion looks very tense during the Trinity test announcing that it is ready.</p>



	<p><b>Implicatures:</b> The explosion is about to occur.</p>
0:18	<p>3.</p>  <p>Sound effects: explosive sound</p> <p><b>Explicatures:</b> The scene was set for an explosive display of molecular chaos in purple and blue shades.</p> <p><b>Implicatures:</b> The detonator has initiated the explosion, and the bomb is exploding.</p>
0:27	<p>4.</p>  <p><b>Oppenheimer:</b> “We are in a race against the Nazis.”</p>



0:35	<p>5.</p>  <p><b>Oppenheimer:</b> “And I know what it means,”</p>
0:36	<p>6.</p>  <p><b>Oppenheimer:</b> “if the Nazis have a bomb.”</p> <p><b>Explicatures:</b></p> <ul style="list-style-type: none"> <li>• Shot 4, which is in black and white<sup>iii</sup>, features Oppenheimer and lots of photographers taking photos of him, portraying him as a hero.</li> <li>• This shot particularly indicates the success of Oppenheimer’s atomic bomb in the past.</li> <li>• The use of colours in shot 5 features the juxtaposition of innocent nature, exemplified in the presence of the river and trees, with the looming presence of smoke blurring the visual frame followed with shot 6 which foregrounds the explosion.</li> <li>• It is imperative to highlight the significance of the fusion of sequenced white and black scenes with the coloured ones. This sequence provides a distinction in the historical events that already occurred.</li> <li>• The interplay between the visual and verbal modes along with the fast-editing montage techniques in shots 4, 5 and 6 explicates the urgency of developing the atomic bomb to prevent the Nazis from obtaining it.</li> </ul>



	<p><b>Implicatures:</b> The consequences of the Nazis possessing the bomb would be catastrophic. The sequence of visual shots 5 and 6 foregrounds the vulnerability of the natural world in the face of human advancements.</p>
1:34	<p>7.</p>  <p><b>Leslie Groves<sup>iv</sup>:</b> “Are we saying there is a chance?”</p>
1:37	<p>8.</p>  <p><b>Leslie Groves:</b> “That when we push the button.</p>

<p>1:39</p>	<p><b>9.</b></p>  <p><b>Leslie Groves:</b> “That we destroy the world?”</p> <p><b>Explicatures:</b> Visual frame 7 shows some scientists preparing the bomb in an isolated laboratory, then a close-up shot is taken in frame 8 on the denotator and then the camera focuses on Leslie Groves, in Frame 9, who expresses his concern about the possible global destruction resulting from the use of the atomic bomb.</p> <p><b>Implicatures:</b> Using the bomb carries a substantial risk of catastrophic consequences; however, the manufacturing and testing of the atomic bomb was driven by technological superiority.</p>
<p>1:40</p>	<p><b>10.</b></p>  <p><b>Oppenheimer:</b> “Chances are near zero.”</p> <p><b>Explicatures:</b> A close-up shot captures Oppenheimer asserting the probability of catastrophic consequences is extremely low.</p>

	<p><b>Implicatures:</b> Oppenheimer tones down the risk, potentially suggesting determination, overconfidence or denial.</p>
1:53	<p>11.</p>  <p><b>Oppenheimer:</b> “This is a matter of life and death.”</p>
1:55	<p>12.</p>  <p><b>Oppenheimer:</b> “I can perform this miracle.”</p> <p><b>Explicatures:</b></p> <ul style="list-style-type: none"> <li>• A wide shot is taken for a remote location featuring the presence of scientific facilities and then a close-up shot in frame 12 for ominous imagery of the bomb. In both frames, Oppenheimer is envisaged from his back, recognized by his hat, looking up to the atomic bomb.</li> <li>• The voice-over accompanying frames 11 and 12 express Oppenheimer’s confidence in his ability to accomplish something remarkable.</li> </ul> <p><b>Implicatures:</b> The visual elements in frames 11 and 12, along with the voice-over, reflect how Oppenheimer sees the development of the atomic bomb as an extraordinary achievement and, at the same time, foregrounds the vulnerability of nature in the face of human aspiration and technological superiority.</p>

2:01	<p><b>13.</b></p>  <p><b>George C. Marshall<sup>v</sup>:</b> “World War II will be over. Our boys would come home.”</p> <p><b>Explicatures:</b> A close-up shot captures Gen. Marshall predicting that the end of World War II is approaching, and the US soldiers who will be returning home.</p> <p><b>Implicatures:</b></p> <ul style="list-style-type: none"> <li>• The war will be won because of Oppenheimer’s atomic bomb, resulting in a positive outcome for the US soldiers and their families.</li> <li>• The primary goal of the US officials is to secure the return of their soldiers and making sure not to expose them to any potential risks, meanwhile, the statement highlights the officials’ indifference towards the far-reaching consequences of the atomic bomb on the world at a global scale.</li> </ul>
2:05	<p><b>14.</b></p>  <p><b>Kitty Oppenheimer<sup>vi</sup>:</b> “It’s happening, isn’t it?”</p> <p><b>Explicatures:</b> Oppenheimer’s wife expresses her awareness that the explosion of the bomb is taking place.</p> <p><b>Implicatures:</b> Oppenheimer’s wife is aware of the magnitude of the explosion.</p>

2:06	<p><b>15.</b></p>  <p><b>Explicatures:</b> The visual frame depicts the bomb explosion showing the aftermath of the atomic bomb tests.</p> <p><b>Implicatures:</b> Human decisions cause destruction to the surrounding ecosystems and landscapes, highlighting the consequences of human actions on nature.</p>
2:14	<p><b>16.</b></p>  <p><b>Oppenheimer:</b> “The World will remember this day.”</p> <p><b>Explicatures:</b> A close-up shot of Oppenheimer who looks worried and the voice-over indicates how he believes that the day of the explosion will be memorialized and have lasting significance.</p> <p><b>Implicatures:</b> The bomb explosion marks a turning point or a historic occurrence that would be engraved in history.</p>

<p>2:15</p>	<p><b>17.</b></p>  <p>Sound effects: Cheers and thunderous applause</p> <p><b>Explicatures:</b> This wide shot shows US people celebrating Oppenheimer’s invention of destroying the world.</p> <p><b>Implicatures:</b> The people are oblivious of the gravity of the atomic bomb and its catastrophic consequences on the world.</p>
<p>2:18</p>	<p><b>18.</b></p>  <p><b>Oppenheimer:</b> “Our work here will ensure”</p>

19.



2:20

**Oppenheimer:** “A peace mankind has never seen.”

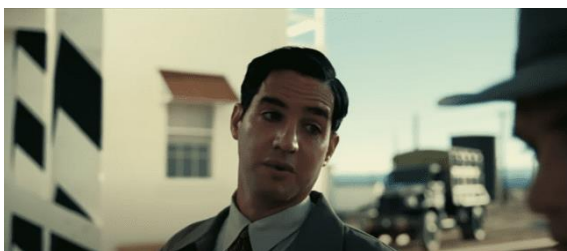
**Explicatures:**

Shot 18 features Oppenheimer raising his arms taking off his hat celebrating victory with his team members who are dancing at Manhattan Project, as seen in shot 19, asserting that their efforts would lead to an unprecedented era of peace.

**Implicatures:**

The development of the atomic bomb would bring about a new level of global peace.

20.



Edward Teller<sup>vii</sup>: Until somebody builds a bigger bomb.



2:27



**Explicatures:**



Teller apparently replies to Oppenheimer anticipating that the peace accomplished through the invention of the atomic bomb may be short-lived if someone develops a more powerful weapon.



**Implicatures:**

The need for more destructive weapons could subvert the potential for long-lasting peace which highlights the scientist’s inconsideration to the hazardous consequences of the atomic bomb on the world.

<p>2:34 -2:36</p>	<p><b>21.</b></p> 
<p>2:39</p>	<p><b>Niels Bohr</b><sup>viii</sup>: “You are the man who gave them the power to destroy themselves.”</p> <p><b>22.</b></p>  <p><b>Niels Bohr</b>: “And the world is not prepared.”</p> <p><b>Explicatures:</b> This close-up shot of Oppenheimer’s face highlights Oppenheimer’s worrisome as Bohr charges him for providing humanity with the means to self-destruction and that the world is unprepared for the consequences as appeared in the voiceover in frame 22.</p> <p><b>Implicatures:</b> Oppenheimer’s facial expressions in frame 21 along with the voice-over in frames 21 and 22 convey a sense of conflict or guilt or moral dilemma as he starts to contemplate the ethical consequences of his scientific pursuit.</p>

<p>23.</p> <p>2:49 – 2:57</p>	 <p>Sound effect (Conting down): Eight..Seven ..Six</p> <p><b>Explicatures:</b> This close-up shot shows Oppenheimer and the image of explosion and smoke in the background blurring the visual frame along with a strong sound effect of counting down mark the denotation of the atomic bomb.</p> <p><b>Implicatures:</b> Oppenheimer contemplates the consequences of his deed, his facial expressions convey a sense of moral dilemma as he faces the ethical implications of his scientific invention.</p>
<p>24.</p> <p>2:58</p>	 <p><b>Lewis Strauss</b><sup>ix</sup>: “Truman needs to know what’s next.”</p> <p><b>Explicatures:</b></p> <ul style="list-style-type: none"> <li>• This shot is in black and white to discern a specific shift in time.</li> <li>• Strauss emphasizes the importance of informing President Truman about future plans or developments.</li> </ul> <p><b>Implicatures:</b></p> <ul style="list-style-type: none"> <li>• There are crucial decisions to be made regarding the atomic bomb and its implications, and Truman's awareness and decision-making are crucial.</li> </ul>

	<ul style="list-style-type: none"> <li>• Strauss’ statement indicates his ignorance of Oppenheimer’s decision.</li> </ul>
<p>3:00</p>	<p><b>25.</b></p>  <p><b>Oppenheimer:</b> “What’s”          Sound effect: Counting down “two””</p> <p><b>Explicatures:</b>          A close-up shot on the timer of the detonator which has the reading “00 00 02” signifies the approaching of the explosion of the atomic bomb.</p> <p><b>Implicatures:</b>          The timer symbolizes the approaching impact of the intrusion of human ambition into the natural world.</p>
<p>3:01</p>	<p><b>26.</b></p>  <p><b>Oppenheimer:</b> “next?”</p> <p><b>Explicatures:</b>          This shot is in black and white to discern a specific shift in time.</p> <p><b>Implicatures:</b>          Oppenheimer can be envisaged as replying to Strauss’s statement.</p>

3:02	<p><b>27.</b></p>  <p>Background sound: One</p> <p><b>Explicatures:</b> The envisaged audience will recognize Kenneth Bainbridge's hand is about to press the button of the detonator.</p> <p><b>Implicatures:</b> The atomic bomb will explode.</p>
3:03	<p><b>28.</b></p>  <p>Sound of explosion</p> <p><b>Explicatures:</b> The explosion of the atomic bomb occurred as a result of pressing the denotator's button.</p> <p><b>Implicatures:</b> The explosive sound along with the visual explosion depict the aftermath of the atomic bomb tests, revealing the massive power and destructive force unleashed by human intervention on nature.</p>

The accumulative implicatures conveyed through the visual shots along with the voice-over and the powerful sound effects in the trailer for *Oppenheimer* serve as a reflection of the complex relationship between human and nature, particularly

in the context of the development and deployment of the atomic bomb. These implicatures, generated through a tactful arrangement of visual elements and cinematic techniques, contribute to a deeper understanding of the entrenched conflict and tension that arises between human ambition and the technological superiority on the one hand and the destructive catastrophic consequences on nature on the other hand.

Through a sequence of shots, the trailer portrays the juxtaposition of human accountability and the vastness of the natural environment. To elaborate, wide-angle shots captured the expansive landscapes, emphasizing the grandeur and timelessness of nature as in Frames 1, 5, and 11, while close-ups of humans conveyed their determination, intellect, and emotional struggles as in frames 2,7, 9, 20, 21, 22, 23, 24, and 26. This contrast highlights the entrenched dichotomy between human ambition and the natural ecosystem as well as the potential for irreversible consequences.

## **5. Concluding remarks and directions for future research**

The multimodal ecolinguistics analysis of the trailer for *Oppenheimer* has revealed that the envisaged audience of the trailer were able to recruit a lot of knowledge about the historical context of *Oppenheimer* and the atomic bomb from their cognitive environment. Decoding the visual frames along with the other modalities (voiceover, white-black scenes, sound effects, montage techniques) in the trailer involved the assessment that there is a conflict between Oppenheimer's aspiration of technological advancement and power control on the one hand, and the sense of guilt and ethical responsibility towards the destruction of the ecosystems and death of people. Reference attribution, enrichment and disambiguation marked the intensifying conflict in human-nature relationship.

Broadly speaking, the premise of this research has been to unite two trajectories: ecolinguistics and multimodality to reveal embedded ecological stories through the analysis of the modalities partaking in the construction of the human-nature relationship which is a significant issue in the growing field of ecolinguistics. One commonality between these two areas has been the recent disposition towards a systematic investigation of dynamic discourse, thus moving beyond static images. To clarify, Hansen (2018) calls for further research in Visual Environmental Communication and thus developing the path of research in the field of ecolinguistics. In a similar vein, Forceville (2020) states that though he has attempted to fill in some gaps in the classic model of the RT, the theory is still not complete or perfect and, therefore, he calls for further refinements, amendments and extensions when other media, genres and modes are systematically investigated. Another commonality between these two areas is the crucial role played by context in interpreting multimodal discourse. To fill in these gaps in the literature, the researchers have selected a movie trailer as an example of a dynamic discourse genre to envisage how the human-nature conflict is represented multimodally.

This research might pave the way for further multimodal explorations of dynamic discourse in the field of ecolinguistics. For the future, there are several

aspects that are worthy of closer examination. One of these is drawing attention to *Multimodal Environmental Communication Research*, thus enhancing the framework proposed by Hansen (2018) which has been employed by the researchers in the current study. Another one is applying RT to multimodal dynamic discourse like films, movie trailers, etc., thus developing the path of research recommended by Forceville (2020) in applying RT to multimodal communication.

Additionally, the study might inspire researchers to investigate other ecolinguistic issues in light of advances in the growing field of ecolinguistics during the past few years. The reviews of works in ecolinguistics during the year 2021 (Zhang 2022) and the year 2022 (Cha 2023) has revealed that these two years have witnessed numerous advances in research areas, conferences, journals, and monographs. These reviews have shed light on recent trends and future directions in the field of ecolinguistics: emphasizing the significance of ecolinguistics within the boundaries of linguistics, highlighting the interdisciplinary and transdisciplinary attributes of ecolinguistics and investigating issues related to ecosophy, ecological literacy and ecological awareness which would contribute to harmonious coexistence between humans and the surrounding environment. Raising ecological awareness and cultivating ecological literacy are the focus of the upcoming phase of research in ecolinguistics (Cha 2023).

## Endnotes

<sup>i</sup> <https://www.youtube.com/watch?v=kIsHC1cpUpA>

<sup>ii</sup> Kenneth Bainbridge is an American physicist. He was appointed as the director of the Trinity test.

<sup>iii</sup> The director of *Oppenheimer* uses black-and-white scenes to present the objective historical perspective, focusing on the repercussions of the atomic bomb (Smith 2023).

<sup>iv</sup> Leslie Groves was the director of the Manhattan Project and he recruited Oppenheimer to lead the project at Los Alamos.

<sup>v</sup> Gen. Marshall is participating in a discussion with Secretary of War Henry Stimson and others about the first use of the new atomic bomb.

<sup>vi</sup> Kitty Oppenheimer is a German biologist who got married to Oppenheimer in 1940 and she moved with Oppenheimer to Los Alamos in 1943 so that her husband could work full time on his Manhattan Project duties.

<sup>vii</sup> Edward Teller is a theoretical physicist from Budapest who is known as the “father of the hydrogen bomb”.

<sup>viii</sup> Bohr was a Danish physicist who won the Nobel Peace Prize in Physics in 1922 for his work on quantum theory and atomic structure. He is one of Oppenheimer’s physicist idols.

<sup>ix</sup> Strauss was the chairman of the U.S. Atomic Energy Commission (AEC). He became an enemy of Oppenheimer’s due to the AEC’s controversial hearings in April 1954 that led to Oppenheimer’s security clearance being revoked.

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