

**REPRESENTATION OF CLIMATE IN
GRAPHIC JOURNALISM: AN
INTERSEMIOTIC
COMPLEMENTARITY APPROACH**

BY

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**NATIONAL UNIVERSITY OF MODERN LANGUAGES
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By

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ABSTRACT

Title: Representation of Climate in Graphic Journalism: An Intersemiotic Complementarity Approach

The research attempts to explore the medium of graphic journalism to report incidents and communicate information. The graphic editorials on subject matter of climate are selected for the study. For this research, the theoretical model by T.D. Royce (1998) in his book *"New Directions in the Analysis of Multimodal Discourse,"* published in 2007 is selected for the analysis to investigate the intersemiotic behavior of multiple modes. The data contains (35 graphic editorials) on subject matter of climate are selected from popular and widely visited graphic journalism websites. The study sought to examine the prevalence of dominant modes in the field of graphic journalism. Furthermore, to understand the cooperative conduct of the two modes that work together to disperse a single storyline. The interdependent behavior is emphasized by applying metafunction analysis on graphics. The study examines the various approaches employed by graphic journalists to depict and document climate-related events such as climate summits and their subsequent impacts such as wildfires and rising temperatures in Europe and many other. The study finds that the editorials utilize visual and verbal modalities extensively. The analysis examines the verbal and visual modalities of communication, focusing on their interdependent behavior. It considers the ideational, interpersonal, and compositional aspects in a comprehensive manner. Both approaches are equally important in establishing the semantic foundation for reporting specific information about climate. Therefore, the study aims to encourage the use of graphic journalism and encourage journalists to embrace this creative medium, which has the capacity to both engage the reader/viewer emotionally and effectively convey information.

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DEDICATION

I dedicate this research to my loving family, my beloved parents, siblings and dearest husband, who have been my unwavering pillars of strength and support throughout my academic journey. Your selfless sacrifices, guidance, and encouragement have enabled me to pursue my dreams and reach this milestone. I am forever grateful for the values of perseverance and resilience that you have instilled in me.

CHAPTER 1

INTRODUCTION

Journalism is an ever-evolving entity that promptly adjusts to the societal shifts and mirrors the progress of the communities it is charged with representing. Entman (2014) said that despite the evolution of information gathering and dissemination methods from printing press to the digital age, the fundamental tenets of journalism continue to be unwavering, credible, précised and dedicated to serve the public interest. Schudson (2008) is of the view that in an ever- changing media environment transformed by technological progress, journalists are confronted with novel challenges like to adapt to changing audience demands and to aspire to uphold their vital function as historians and interpreters of contemporary events. According to Hartley (2005) comprehensive knowledge of the historical and contemporary development of journalism is crucial for effectively navigating its future and guaranteeing its ongoing significance in a dynamic global landscape.

1.1 Journalist, Journalism and Journalism Culture

Journalism can take many different forms including print journalism, broadcast journalism, and online journalism, amongst others. Newspapers, magazines, and other types of print media were the primary vehicles for the dissemination of information in the early days of journalism. This style of journalism is known as "print journalism." The process of reporting news via broadcast mediums such as radio and television are known as broadcast journalism. Online journalism can be defined as the practice of reporting news stories via websites, blogs, and other kinds of online media. Interviews, research, and plain old-fashioned observation are just some of the ways that journalists get information for their stories. In addition to this, they deliver the material in a number of written formats, such as news articles, features, and opinion pieces.

There are a lot of reasons why journalism is so important. To begin, it contributes to the process of educating the general public about important topics. Journalists are responsible for gathering information from a wide variety of sources and presenting it in a manner that is comprehensible. Because of this, the general

population is able to make well-informed decisions about topics that are relevant to their existence.

In addition to this, journalism serves to hold individuals in positions of authority accountable. Journalists are responsible for conducting investigations on instances of misconduct ranging from government corruption and corporate impropriety to other types of unethical behavior. Also, journalism offers a platform from which individuals with varying points of view can have their voices heard. Journalism offers a voice to people who are underrepresented or overlooked in society. This makes a contribution to the promotion of diversity and understanding. Journalists need the capacity to produce content that is of a high quality and can be accessed by a wide audience and graphic journalism do just the work for them. In addition to this, they need to be able to make use of modern technologies in order to communicate with their target demographic. For that, graphic journalism can provide opportunity of using hybridity in the form of text and graphics to do the service of what print or broadcast journalism do but in a more impactful manner.

Deuze (2005) in his research discusses and enlist five characteristics of a journalist ideology associated with their profession as stated by Kovach & Rosenstiel (2001). They are public service, objectivity, autonomy, immediacy and ethics. Hence, journalists are supposed to hold certain values while carrying out the service to keep the listeners/readers aware of worldly affairs. Journalistic duties around the world are performed keeping them in mind. All in all, a journalist carries out a research, gather data and then form a story which is true in its essence and then told to the people via oral or written mediums. This story then holds a special place than a story told to a child at night by her mother. Although both are told to influence and entertain but the medium is what demarcates special from an ordinary one. Thus, journalists are privileged due to the professional identity they hold and their voice carry weight as they are considered the pioneers of disseminating truth to the public in a record time of instance. Be it written or oral, journalistic duty is performed chiefly through language.

The research attempts to explore the medium of graphic journalism which contains hybridity in its nature. The medium merges two distinct semiotic systems for representation, these are graphics and language. The medium coincides with comics

and comics book writing but differ in the sense that it constitutes non-fiction comic writings which is unusual with comics or comics writing. Graphics contain pictures in all its strength whereas journalism has always been done via language through verbal or non-verbal means. The two medias have contributed in representation ever since the discovery. Thus, graphics have been used in cartoons, movies, images, comics, photographs and much more while journalism revolves around broadcasting of information and news. However, both have one common ground that is the transmission of something. In graphics it is done via images whereas in journalism, it has mostly been done through language. What concerns this research is the nexus of image and text with an agenda to perform journalistic duties.

Graphics are usually characterized in terms of cartoons and animations as they are a subjective view on affairs, ironic and sarcastic notes on matters. It is not that a journalistic duty is being performed via them instead it is a means for analysts for voicing out opinions being done through illustrations. However, these still images constitute linguistic cues and together these signs help a reader or viewer of an illustration to interpret. Signs are the guiding principle to comprehension in illustrations. Moreover, graphic arts like illustrations somehow carry the illustrator's subjective view in it which is another way that it differs from objective journalism.

According to Hodara (2018), graphic journalism is used as a generic term and accumulates all the various types of journalistic activities done using image/text ratio. They inculcate comic, technological features that adore them followed by some articles written in comic form but narrates true stories. Thus, using various ways, what remain common to be under the head of graphic journalism is their aim and extent of being non-fiction and covering true incidents. Even if it is reporting of an event that is not immediate but it has the power to touch readers/viewers in a way that otherwise would not have been possible by language. Hence, the reporting is on the same subject but the effect that they create is much more than that of language reporting.

Graphic journalism involves illustrations and linguistic cues in an image/text arrangement. Hodara (2018) in her article states that what makes it different is that both the text and the illustrations are co-dependent. In graphic journalism, the illustrator illustrates a story and without text it is incomplete and incomprehensible. The illustrator is a journalist who tells a story using images but unlike other forms of

graphic arts, graphic journalism is purely non-fiction in nature. Throughout history, there have been many instances when history reached out to us in the form of pictures carved out on stones and walls. Specifically, adoption of graphic medium for journalistic purpose started out in the second half of nineteenth century when civil war and holocaust were covered through illustrations in newspapers like Harpers weekly and Pulitzer Prize winner Maus, respectively. After that a journalist named Joe Sacco went on a journey to Gaza strip in Palestine where he covered stories on Palestinian conflict. He himself collected all the data as he was an eye-witness to most of them and published his book *Palestine* (1993), the first most concrete bearing on graphic journalism. After Sacco's work, the genre started to flourish and many journalists and illustrators picked up this medium for journalistic purposes.

Graphic journalism has much resemblance to comic writings but the difference lies in the kind of subjects they deal with. Language has somehow lost its appeal to stimulate emotions. Journalism is dependent on language for its dispersion, to be heard out and to be read out. In today's century of technological advancement, infecting each and everything with its splendor and wonders, journalism is not left behind. The ambiance is somewhat less sensitizing as language has somehow lost its ambiance in that department and graphic journalism seems to offer just that. The images and descriptions of the event take back the reader as if s/he is a witness to that. It engages the reader to read the story who would otherwise just go on without giving it a chance. The power of visuals to convey a complete message through a still is unheard of but graphic journalism attempts to do so.

Hodara (2018) is of view that graphic journalism trespasses time and immediacy. It is not like classical journalism where news is immediately dispersed to public and social media has made it more possible for a user to get to know what's happening. Whereas, graphic journalism offers a more thorough reach and grasp of the matter. It allows the reader to form a perspective. Dan Archer is founder of Empathetic Media and a prominent graphic journalist. His works in graphic journalism have been a phenomenal approach to the medium. His work, Nisoor Square Mosque shooting (2015) has been researched a lot. It is his unique way of formulating a view for the place where the incident happened in Baghdad. Research by Afshana and Din (2018) on Nisoor shooting has tackled the medium of graphic journalism in a deliberate manner. The comic is a Google map where the spatial orientation for what

happened among the victims and the shooters is explained well in multimedia mode. Thus, graphic journalism offers journalists and illustrators to experiment and present a story as they want in order for it to be impactful.

Through graphic journalism the illustrators get the opportunity that may not be available in other medias. The way to express, impress and being creative alongside maintaining the gravity of the matter is not treated as an integrated system that adheres to conventions and conveys meaning in the same manner as language. Afshana and Din (2018) in their study addresses that due to its recent emergence and quick popularity among readers, graphic journalism has opened up a number of opportunities for graphic journalists to create and experiment.

Despite being enticing to be formally introduced as a journalistic media, graphic journalism is emerging and has not established like other mediums. Many illustrators have adopted the medium and a lot more can excel in it. Graphic journalism is a new take on journalism and it is appealing for the public. However, it lacks widespread acknowledgment and demands attention and seriousness. It is an emerging trend in media and news dispersion. Despite mass appeal, it is still in its rudimentary stages in terms of adoption as a medium. It engages to disperse news using multiple modes where language and pictures are co-dependent for the reader to understand. It is an interactive medium. Language has been studied from various dimensions in various mediums mostly from various cultural, ideological and functional perspectives. Inculcating various ideas, themes and semiotic systems, graphic journalism is a multimodal medium where multiple signs are at work to construe meaning and understanding.

Among many subject matters for discussion, climate change has been one of the hot-topic in the past decade till now. A lot of debates, discussions, reports, conferences have been done to repeatedly highlight this issue that is promptly affecting our world and drastically re- shaping our future. According to the definition provided by the Intergovernmental Panel on Climate Change (IPCC), climate change is a shift in the frequency and distribution of weather occurrences that occurs over geologic timeframes ranging from decades to millions of years. There is a possibility that, on average, the weather will become more or less extreme, or that there will be a shift in the distribution of extreme weather around the world. At the moment, these

aspects are adding fuel to the fire that is, global warming. Climate change is a term that is widely used to refer to the effects that are specific to people. The rate at which climate change is reshaping our future is much faster than anyone had anticipated. This is one of the reasons why it is such a hot issue for discussion all across the world. This study only uses graphic journals that meet the research objectives of the study. The journalistic articles from four famous websites are selected in order of their popularity and readership ("Top 5 Best Comics Journalism," n.d.). These are: *Drawing the Times*, *Cartoon Movement*, *Graphic Journalism*, and *The Nib*. These websites are the most popular platform for renowned graphic journalists and illustrators. They use the platform to voice their opinions in a visual format. Therefore, for the research the theme of climate among many others is selected for exploration in a graphic journalism.

Systemic Functional Linguistics by Halliday & Hassan (1985) approach is to decode the social meanings with an effort to look beyond the linguistic cues. Haratyan (2011) in his study discuss Halliday's viewpoint. It states Halliday (1973) point of view that the influence of social circumstances is massive on an author/writer as it makes its linguistic and functional choices. Thus, graphic journalism is a combination of various linguistic and non-linguistic cues, hence the inspiration for writer and illustrator are derived from its social settings. This is why non-fiction content is focalized in it. Visual imagery implies various semiotic models and SFL has been restrained to the analysis of language solely with its metafunctions. Ideational, interpersonal and textual metafunction open ways to comprehend socially-affiliated meanings and messages. Ideational metafunction involves the analysis of real-world experience in message followed by interpersonal examination of speaker's status and role in the exchange of communication and textual function for determining the theme and ambiance that the message encodes. In multimodal medium, various signs are at work, particularly in medium of graphic journalism the study tries to extract and define the semiotic systems and define the semantic relationship among them in graphic journalism. With the combined framework of SFL and Visual grammar, Royce (1998) has given a theory for multimodal discourse analysis. Language and text depict a co- dependent behavior in this medium of communication. The theory of Intersemiotic complementarity by T.D. Royce (1998) in his book "*New Directions in the Analysis of Multimodal Discourse*," published was presented by in 2007. The

theory of Intersemiotic complementarity serves as the theoretical framework of the present research study. Hence, in graphic journalism language is not solely responsible for the task of communication but the images are complementing language to convey. The theory of Intersemiotic complementarity functions to contribute in understanding the working of this multimodal medium in containing a social approach to analyze non-fiction works and its ability to complement the semiotic systems imbued as coherent.

1.2 Problem Statement

Graphic journalism is a media that appears to have a great deal of potential but is little explored. The medium is distinctive in sense that it employs a text-to-image ratio in which all journalistic techniques are interdependent. The medium is not treated as an integrated system that adheres to conventions and conveys meaning in the same manner as language. Due to its recent emergence and quick popularity among readers, graphic journalism has opened up a number of new facets to be explored, but it lacks a body of knowledge. Therefore, the research endeavors to supplement the insufficient body of knowledge with substantial, evidence-based information. The research aims to address the obvious void where the medium is not studied in Pakistan or worldwide.

Regarding this particular media, the selected theoretical lens lacks in terms of exploration. The interaction between text and visuals in graphic journalism is wholly dependent. Thus, in graphic journalism, the Intersemiotic interaction of signs might provide more convincing evidence that the medium is appropriate for journalistic purposes. In addition, climate reporting is chosen as a case study in order to suggest an investigation to determine whether or not this medium can report on real-world issues as effectively as language.

1.3 Research Objective

1. To find out the various semiotic modes involved in climate reporting in graphic journalism.
2. To explore the complementarity behavior of the various modes for forming narrative on climate in graphic journalism.
3. To investigate the use of metafunctions as a cohesive ploy among text and image relationship in order to report climate related

commentaries.

1.4 Research Question

1. What are the semiotic systems integrated for covering climate reporting in the selected data of graphic journalism?
2. How do multiple modes complement each other for conveying a unit of narrative related to climate in graphic journalism?
3. How are metafunctions employed in the Intersemiotic play of text and image for climate reporting in graphic journalism?

1.5 Significance & Rationale of the Study

The study will be an insight into an emerging and trending mode of graphic journalism. Graphic journalism allows illustrators to showcase a true story of world in a way that appears more appealing for the readers due to its property of being interactive. Illustrators are using various tech-methods and gadgets to come up with an interface of journalism that is much more appealing and alluring for the readers/viewers to click, open and read. Graphic journalism with all the real depiction of incidents and happenings has more visceral impact than language.

The research focuses on exploring the medium using theoretical lens that has not been used before. The medium offers many dimensions to explore but lacks existing body of familiarity and acquaintance to it. Hence, the research significance lies in its effort to add substantial knowledge with proof to the insufficient body

of knowledge. The study tries to fill the visible gap that is not investigated in Pakistan or internationally. The study will shed light in order to make people acknowledge this medium which is more appealing and flexible in nature and should be rapidly adopted by Pakistani news agencies because of lack of familiarity. The study serves a guide on how to take up the medium which can fulfill the gap of lack of adoption of it in Pakistani journalism.

1.6 Delimitation of the Study

The study is delimited to:

- The study is limited to the analysis of limited amount of data (35 only) on graphic journalism
- The data is collected from the published work from the last one year that is

from July 2021-July2022.

- The factor of Intersemiotic semantic nexus in the dependent relationship of text and image in graphic journalism that make it visually as well as verbally coherent is the focus of study.

1.7 Chapter Breakdown

This research constitutes five chapters. Chapter one includes some information regarding background of the topic of our research, objectives of the study, research questions and significance of the study. Then chapter two has review of literature in which the research has introduced and explained the key terms including the gap on which the research is based on. Chapter three provides a detailed procedure or methodology with which the study has been carried out containing the method to carry out the sample and collect data for conducting the research. Chapter four is of data analysis and it contains different excerpts and figures from the data sample which are analyzed by the researcher according to the postulates which has been selected using the frameworks of Intersemiotic complementarity whose theoretical foundations lies in Halliday (1985) viewpoint of language as social semiotic and Kress and Leuwen (1996) visual grammar. Lastly, the fifth chapter is of findings, conclusion and recommendations. In this chapter, the researcher has concluded the study under the light of findings and recommendations on which future scholars or researchers can make use of this topic to carry out more novel and improvised researches.

LITERATURE REVIEW

CHAPTER 2

2.1 Introduction

This study's ultimate objective is to make a significant contribution to the growing corpus of research on multimodality. In spite of the fact that it seems like a promising medium to execute and encourage journalistic duties, graphic journalism has received relatively little attention. Because of the medium's text-to-image ratio, the journalistic strategy is interdependent, which gives the medium its special quality. As opposed to language, the medium is not considered a coherent whole that employs established norms and adheres to predetermined guidelines when expressing ideas. As the discipline of visual journalism is still in its infancy, there are still many untapped paths that have not been investigated despite the field's rising popularity. As a result, the reason for doing this research was to make a contribution to the limited body of previously published literature by delivering trustworthy and evidence-based data.

2.2 Journalism

In its original sense, the term "journalist" referred to a person who methodically documented public events during a specified period. However, in contemporary usage, the term has come to encompass a diverse array of professionals, such as bloggers, publishers, photographers, field producers, and Internet service providers. Zelizer (2005) said that the term is commonly linked to the craft aspects of journalism and typically denotes the progressive abilities, practices, and norms entailed in the production of news.

2.2.1 Traditional Journalism

Information is conventionally distributed via printed materials, including newspapers, and broadcasting devices, including television and radio.

2.2.2 Online Journalism

In the context of online journalism, the journalist or writer composes his or her articles on a weblog. A number of online correspondents are independent writers who are not affiliated with any media organization. Additionally, some online journalists

generate no revenue from their articles. In the realm of online journalism, readers are provided with the opportunity to promptly provide comments or feedback on specific articles or other written content. Online journalism is an advancement and publication has become even simpler.

2.3 Graphic Journalism: A Visually Engaging Face of Journalism

The future of journalism is currently unknown. The proliferation of the internet has led to a reduction in traditional forms of journalism such as print and broadcast media. Despite this, there is still a significant demand for high-caliber journalism. As a result of the growth of online journalism, there are many new ways for people to get their news. One of such medium that is rapidly gaining popularity is graphic/visual journalism. Both terms graphic and visual journalism can be used interchangeably. Graphic journalism has been around since the nineteenth century and has a long and illustrious history. However, it is in recent years that it has begun to compete with more traditional forms of journalism. This can be attributed to the propagation via Internet, which has made it less difficult for graphic journalists to communicate with a bigger audience.

2.3.1 Joe Sacco: The Pioneer of Graphic Journalism

Joe Sacco is the pioneer of making this nexus between graphics and journalism through his works like *Palestine* (1993), his innovative and revolutionary works in the field of journalism which ultimately gained more recognition via more of his outstanding productions like *Safe Area Gorazde* (2000), *The Fixer* (2001) and *Footnotes in Gaza* (2009) and many more. The medium has mostly been used to depict war-stricken, devastating and grave subjects but gradually news about every kind of subject like animal rights to feministic movements, culture, environment, health, history, racism, politics and climate change are expertly drawn to tell the story to reader in way that is more emotionally stimulating and has visceral impact. Every subject has been drawn and carved in a beautiful way to tell the stories themselves in an interesting way that attract reader and keep him stuck.

Joe Sacco is largely acknowledged as the individual who first introduced and popularized the concept of visual journalism. The series titled "Palestine" produced in 1991 is widely acknowledged as a seminal work in the field of graphic journalism,

playing a crucial role in legitimizing this style of journalism. Sacco's body of work is distinguished by its comprehensive investigative journalism and its utilization of graphic narratives as a means to convey narratives pertaining to intricate and frequently challenging subject matters. The individual in question has extensively addressed a diverse array of topics, encompassing the Bosnian War, the Iraq War, and the refugee crisis. Sacco's artistic contributions have garnered acclaim due to their veracity, empathy, and capacity to vividly portray challenging narratives.

2.4 Evolution of Graphic Journalism as a Medium

Dowling in 1999 investigated the usage of visual journalism in Australia's colonial period, which occurred during the nineteenth century. Dowling (1999) contends that during this time period, graphic journalists had a contradiction between the need to tell the truth and the necessity to make artistic and visually pleasing images. This conflict prevented graphic journalists from telling the truth as often as they could have liked. The foremost thing that this research discuss is an overview of the history of visual journalism in Australia. In the 1830s, Australia saw the first publication of graphic newspapers for the general public. Woodcuts were used as illustrations in these magazines to formulate news pieces. The 1840s saw the introduction of lithography to Australia, which led to a considerable improvement in the overall quality of visual journalism in the country. The researcher then moves on to analyze the tension that exists in visual journalism between art and the facts. He contends that graphic journalists frequently had the challenge of accurately depicting complicated and contentious events in a manner that was also aesthetically appealing. This was a challenge that they constantly faced. In order to avoid upsetting readers, comic book journalists regularly found themselves in the position of having to choose between depicting violent or other upsetting situations in a realistic manner or using more artistic license. Dowling (1999) studied the work of three of the most important graphic correspondents in colonial Australia in 1800s: John Leech, William Strutt, and John Hennings. According to him, the work of these journalists was capable of achieving a harmony between artistic expression and reporting the facts. They worked to sway public opinion on a range of important subjects while producing visuals that were truthful and artistically appealing at the same time. The study of visual journalism is advanced considerably as a result of the contributions made by Dowling's article. It presents a thorough history of graphic journalism in colonial Australia and investigates the conflict that exists within this type

of journalism between the need to tell the truth and the desire to create art. This research gives a thorough summary of this medium of journalism. In addition, the paper explores the opportunities and difficulties that graphic journalists encountered in the nineteenth century, both of which are still relevant in the twenty-first century.

A study investigates graphic journalism from the perspective of the narrative strategies that are utilized in conjunction with the interaction that exists between text and image in order to offer journalistic coverage of a significant topic. According to the findings of the study by Afshan and Din (2018), the form of literary journalism also known as visual journalism is becoming increasingly popular. The investigation covered four different kinds of visual journalistic works. As part of the analysis of the sample, the Footnotes of Gaza, In Jennifer's Room, Inside Death Row, and Nisoor Square Shooting were analyzed. The traditional methods that are utilized by print journalism are the focal point of the investigation, and the revolutionary use of technology to generate graphical methods that are utilized to convey a story is the primary topic of the study. In order to have a better understanding of the graphic journalism's visual narratives, the theoretical framework of visual rhetoric was applied. The investigation leads one to the conclusion that each of the graphic pieces offers a more satisfying experience for the purpose of conveying a tale than the vocabulary used in prose journalism, which has lost part of its atmosphere and impact. Afshana and Din (2018) state that the medium is influential and propose the establishment of a visual narrative theory to comprehend graphic journalism in order to broaden the use of the medium in literary journalism. This would allow for the expansion of the usage of the genre in literary journalism.

2.5 Graphic Journalism: A Text-Image Relationship

Schack (2014) in his study described graphic journalism as a text-image relationship; nevertheless, it is not normal because the juxtaposition of text and image is what generates an extraordinary and potent response from the reader. In the course of the inquiry, the investigators made use of the field of graphic journalism. Schack (2014) investigated the formalistic components of Dreamland, a piece of visual journalism written by Charles Bowden. Dreamland was chosen for this investigation because it serves the purpose for which it was designed. The study aimed to investigate how the placement of text and images in visual journalism contributes to an increased sense of

emotional immediacy in the reader as well as an additional layer of meaning. According to Schack (2014), visual journalism accomplishes something that traditional ways of journalism frequently fail to do because of linguistic barriers. This is because the meanings, perspectives, tools, and juxtaposition of various semiotic strategies in graphic journalism are multimodal, multidimensional, and designed to appease a wide variety of audiences. In the graphic nonfiction novel, he examined three levels: the emotional immediacy, the adhesion, and the mnemonic value of the material. The novel's descriptive imagery whisks the reader away to the situation at hand, making them feel as though they have been dropped into the action psychologically. The capacity of the visuals to drive the reader to read all the way to the finish, despite the fact that the conclusion is distressing, constitutes the second layer of adhesive. On the other hand, uniqueness is said to be the defining characteristic of a true journalistic article by Schack (2014). *Dreamland* is a documentary that focuses on the border between the United States of America and Mexico. The narrative component of the film examined how the combination of images and text in a true story permits a work to be defined as journalistic, much like in *Dreamland*, which centers on this topic.

Therefore, the findings of the study present a compelling case for the proposition that graphic journalism is an important component of literary journalism and has the potential to offer more than prose journalism. A similar study by Picardo (2015) was conducted on a graphical journalistic work 'Le Photographe' by Guibert, Lefèvre and Lemerchie (2009) in which the researchers analyzed photographs, images where the creators have worked to tell a story via images. Thus, the study is a clear advocacy of how graphic journalism is a fruitful addition to literary journalism and can offer more than prose journalism. The analysis by Picardo (2015) shows the power that graphic journalism holds in the sense that it immediately affects readers who feel obligatory to read till the end. Moreover, the images are a proof in the form photographs in order to solidify what is being told is true and impartial.

2.6 Graphic Journalism: Objectivity and Credibility

Weber and Rall in 2017 highlights objectivity in works of graphical journalism. They discovered that the designers of these works use visual techniques to provide the impression that their work is objective. In 2017, Weber and Rall conducted a qualitative content analysis of twenty different comic books to investigate elements that highlights

objectivity in med. The primary objective of the research was to determine which graphic conventions, analogous to those used in television reporting, convey an air of objectivity. The study stated that one of the methods that the authors used to encourage objectivity was the presence of the author within the work itself. This can be seen in the work of Sacco as well in which the author is a participant in the comic. After presenting information in an objective manner while the author is still there, funny representations of actual participants will follow. In addition, the photograph-like illustration acts as a reminder that the concept being spread is true rather than fake, which is another function of the illustration. The inclusion of statistical information in the comics provides evidence that the event being described actually occurred, and the figures lend credence to the truthfulness of the matter. The idea of transparency in journalism was investigated in this study. Transparency in journalism refers to the practice of a journalist citing his sources, ideas, and viewpoints in an objective manner so that the audience can have faith in the material.

Weber and Rall (2017) take a new perspective and present a number of features that allow readers and viewers to dispel their concerns and read it in a way that makes them aware that the prose journalism is objective. These features allow readers and viewers to dispel their doubts and read it in a way that makes them aware that the prose journalism is objective.

In a multimodal study by Hiippala in 2016 exploited digital journalism. The researcher claimed in the study that longform journalism involves the use of a multimedia platform to transmit a particular journalistic story. This platform may include text, audio, photographs, loophole films, images, maps, and locations. As a result, the genre incorporates a wide variety of semiotic systems for the aim of communication. The investigator chose twenty extended pieces of writing that published between 2012 and 2013. The examination of both verbal and nonverbal (visual) form is done. In order to determine the spatial positioning of photographs, images, texts, and other semiotic systems, the analysis described the characteristics of page flow, image flow, and text flow, in addition to the format of the entire article. This is done in order to determine the flow of each individual page. Longform journalism, which is comparable to graphical journalism with the distinction that it does not employ cartoon imagery of events and includes genuine photographs, maps, and graphics, can

be thought of as being analogous to longform journalism. The study by Hiippala (2016) provides an intriguing approach to understanding the language of longform journalism. The study presents a set of analytic features and makes suggestion that a modification to the technique for corpus annotation and analysis may produce more exciting results.

A similar investigation of the use of data visualization in journalism is presented in Weber (2019). According to the findings of the study, data graphs and numerical data are utilized in the field of journalism as a means for establishing the credibility of the journalist's work. The method of data visualization as well as the message that it sends to the audience is the primary emphasis of this article. This line of inquiry makes use of a social semiotic framework. The study highlights the importance of influence of data visualization on the interpretation and point of view construction of observers. The audience's ability to interpret is made possible by the combination of traits from a variety of semiotic systems. Comprehension is aided in various ways, including by the size, color, layout, and graphs. The researcher also mentioned that data inventorying can be of assistance in its practical validation in political conditions. Hence, like traditional journalism, graphic journalism also carries objectivity and credibility as various elements plays this role. Therefore, it is a reliable medium to dissipate news and information and can attract a wider audience.

2.7 Representation of Social Issues in Graphic Journalism

A research by Walker's (2010) investigates the topic of visual journalism and its influence on society. The study aims to depict a vivid portrayal of injured and devastated individuals in Bosnia and Palestine. In his study, Walker (2010) investigated the beginnings of comic book writing and how Joe Sacco, a current pioneer in graphic journalism, introduced the medium as verified to voice out and depict all kind of social issues around the world. Joe Sacco is considered to be the person who first brought graphic journalism to the stage. The study included a review of Joe Sacco's travel comics, which were based on real events. According to Walker (2010), throughout the time period of the Victorian era in Britain, the middle class became increasingly interested in reading comic books as a kind of entertainment. In addition to the rise of a large number of critics who are anti-comics, the apparent themes of these works revolve around distinct social issues like criminal activities and violent acts. However, despite the fact that there were stringent restrictions placed on the printing and distribution of comics, a large

number of underground comics that were later labeled as x-comics began to appear and were subsequently the focus of a great number of legal proceedings due to the vivid portrayals of obscenity and vulgarity that they included. Later on, a trend of travelers documenting their adventures in autobiographical comics began to emerge, and many published their works based on their own experiences in a variety of countries. These autobiographical comics were often drawn by the travelers themselves. Hence, the medium was readily opted to convey and depict all kind of social issues that the journalists and creators wanted.

2.7.1 Israel-Palestine Conflict

During the time spent traveling through Bosnia and Palestine, Joe Sacco was one of the travelers who produced a series of graphic books and published them. According to the analysis of 'Palestine' (2003), Sacco has portrayed in his books that the American media is misinforming the public and that the conflict between Israel and Palestine is a complex one. This is supported by the assertion that the conflict between Israel and Palestine is multifaceted. Contrary to widespread opinion, Palestinians do not participate in violent resistance. In a similar manner, he portrays the tension in Yugoslavia and the unfiltered cruelty against Muslims in his work titled "Safe Area Gorazde," which was published in the year 2000. The researcher explores the shape, font, and style that Sacco employs in his work. He also discusses the panels of comics and the way that Sacco uses closure to signal that a tale or notion has been ended and spread. As a result, Sacco is considered a trailblazer in the field of non-fiction comics, which is a genre that focuses on reporting narratives of real-world events. The name "graphic wound" was given to Sacco's research project as a result of the severity and realism of his examination of the plights of Palestine and Bosnia. Hence, the social issue of war and conflict is explicitly reported and conveyed via medium of graphic journalism

2.7.2 Gaza-Israel War

A multimodal study of visual and textual modalities investigates online coverage of the Israel-Gaza war in 2014. Jungblut (2014) carried out the study with the purpose of analyzing the journalistic mode of online media reporting on internet. It featured content that was both visual and written in nature. In total, there were 219 photos and 150 sentences that were scrutinized for their meaning. The objective of the research was to establish whether or not the meanings conveyed by words and pictures are same and to

what extent do they cooperate with one another? The subject matter and point of view of two distinct mediums were called into doubt. The possibility of a story presented the inquiry with its greatest challenge. The research revealed that the intended narratives of the photographs were about the conflict that was taking place between Israel and Palestine, and these images were captured during the conflict. They had the same information as the texts. On the other hand, a distinction was made when considering the possibility that language could be more vocal or foregrounded. Even though the photographs portrayed the same scene of Gaza and Israel as do the images however the words served to describe the problem and suggest a solution. In addition, the images depicted the same scenario. However, this was not the potential of images, and the outcomes were purely graphic in nature.

The findings of the study by Jungblut (2014) state that even though the subject matter of an image and its accompanying words may be the same, the potential for images to say something may be larger than that of texts containing the same information. However, graphic journalism is a media that manages to strike a balance between independence and interdependence. The text and the graphics work together to create a cohesive whole. When images and text were evaluated independently from one another, this possibility was not uncovered. Because of this, the research only offers a semiotic approach to language and visuals, which involves examining themes to establish whether or not the same subject is emphasized. Hence, this is how the social issue of war and conflict in Gaza and Israel is reported more vividly via medium of graphic journalism.

2.7.3 The Case of Ferguson Firsthand and Nisoor Square Mosque Shooting

Schlichting (2016) chose to use a piece of Dan Archer's work as a case study for her investigation on the interactive component of graphic journalism. The research made a differentiation between graphic journalism and comic journalism. The Nisoor Square Mosque Shooting and Ferguson Firsthand are the two case studies by Archer for study. According to the findings of the research, web-based comic journalism can be differentiated from sequential art-framed comic journalism. In addition, Schlichting (2016) looks into how people engage with each other in her research. She describes it as a connection with a computer or some other type of machine. Therefore, given the context in which she has chosen to discuss them, they are examples of interactive works of art with which the user may immediately engage and provide comment. The Nisoor

square shooting (2010) comic is not the same as Ferguson Firsthand. In the latter, Archer gives an overview of the entire location in the form of a Google map, explaining the 15-minute event through a succession of photographs with their precise placement on the map. This is in contrast to the Nisoor square shooting (2010) comic, which just provides a general overview of the location. Archer has fashioned the Michael Brown (2015) murder comic into the format of a game, in which the entirety of the incident is replayed within the environment, and witness statements are included. The comic book acts in a manner comparable to that of Dan Archer's reconstruction of the full event and provides viewers and readers with an exhaustive guide.

The study sheds light on an innovative strategy for visual storytelling that can be utilized while simultaneously carrying out journalistic responsibilities. The investigation is centered on approaches that journalists might take to ensure that readers get an experience that is as engaging as is humanly possible. The findings of this study offer fresh perspectives on the medium of visual journalism that offers to report on every kind of social issue as news and information.

2.7.4 Representation of Climate in Graphic Journalism

Climate change, which is currently the most significant challenge of our era, necessitates persuasive narratives that effectively convey its critical nature and intricate nature. Although scientific data and policy reports possess their own merits, graphic journalism proves to be an exceptionally potent instrument when it comes to concretizing abstract concepts. By fusing the fields of art and reportage, illustrated essays, graphic novels, and comics provide nuanced, human-centric viewpoints on a worldwide crisis, thereby encouraging compassion, comprehension, and ultimately, proactive behavior.

The profound impact of visual narrative enables readers to establish a connection with the human toll associated with the transformation of our planet. One illustrative instance is the graphic novel "Me + You" by Pia Guerra (2014), which recounts the ordeal of a climate exile compelled to abandon her domicile in the Pacific Islands as a consequence of the escalating sea levels. Guerra employs personal anecdotes and intimate illustrations to compel readers to confront the human tragedy that lurks beneath the statistics.

Graphic journalism offers an avenue to amplify the perspectives of diversity, which are frequently marginalized in dominant climate narratives. "Chief Joseph:

"Guardian of the Wallowas" by Michael Nicoloff (2014) effectively conveys the narratives and viewpoints of indigenous communities, who have historically occupied their territories and endured the most severe consequences of environmental deterioration. Through its emphasis on underrepresented perspectives, graphic journalism serves to contest prevailing narratives and promote a more comprehensive comprehension of the climate crisis.

The distinctive fusion of art and reportage in graphic journalism provides a compelling perspective for examining the climate crisis. By effectively connecting data and emotion, promoting the expression of diverse perspectives, and motivating individuals to take action, it facilitates a more comprehensive and focused comprehension of this central dilemma. In light of the huge challenge of addressing climate change, graphic journalism serves as a poignant reminder that narratives possess the ability to not only alter our perception of the world but also our motivation to take action within its confines.

2.8 Royce Intersemiotic Complementarity and Graphic Journalism

Terry D. Royce uses a framework from Systemic Functional Linguistics (SFL) in his study titled "Intersemiotic Complementarity in Legal Cartoons: An Ideational Multimodal Analysis," in which he examines the Intersemiotic complementarity in a legal cartoon. According to Royce, the cartoon employs a wide variety of linguistic and visual tactics in order to realize the Intersemiotic complementarity between the verbal and visual forms of communication that he identifies as being present in the work.

Royce examines and satirizes the demands that are placed on an ordinary citizen jury while they deliberate a case in the Crown Court using a cartoon from the United Kingdom. In the cartoon, individual members of the jury can be seen holding up pieces of evidence as they deliberate. The narration of the cartoon states that the jury is still considering the evidence at this time. Royce believes that there are three primary forms of complementary Intersemiotic interaction present in the cartoon. The first level of meaning is ideational meaning, which focuses on how people have different ways of thinking about the world. Royce is of the opinion that the verbal and visual components of the caricature portray the jury's deliberations in a realistic manner. The written language provides a concise summary of the events that took place, but the visual text illustrates in greater depth the interior thoughts and feelings of the jurors.

Interpersonal meaning is the second level of Intersemiotic complementarity, and it investigates the interactions that exist between different talkers. Royce contends that the verbal and visual representations of juror relationships in the caricature are complementary to one another, which is an argument that he uses to support his position. A sense of empathy is created for the jurors in the visual text by the use of close-ups and expressions on the faces of the characters, yet in the voice text, a sense of distance is created between the reader and the jurors through the use of comedy. Textual meaning is the third level of Intersemiotic complementarity, and it focuses on the overall structure and coherence of the text. Royce thinks that the verbal and visual modes of expression that are present in the cartoon work together to produce a coherent whole. The spoken text serves as the framework for the cartoon, while the visual text presents the same information in a way that is more emotionally engaging and compelling to the viewer.

In conclusion, Royce's interpretation of the animation exemplifies how verbal and nonverbal modes of communication can complement and strengthen one another to produce more effective results. Researchers and practitioners of multimodal discourse can benefit greatly from making use of this article as a valuable resource. The contribution that Royce's article makes to the field of multimodal discourse analysis is not restricted to the one cartoon that he investigates specifically. It is possible to conduct a methodical investigation into the Intersemiotic complementarity of multimodal texts by using Royce's SFL paradigm. Comic books, ads, and magazine articles are just a few examples of the types of multimodal texts that can be examined with the use of this paradigm.

The assessment of the relevant literature notes that research on graphic journalism has only been conducted since the field's inception in the latter half of the 20th century. The reader is left unclear of what to interpret first, which can be a waste of time when combined with the fact that language itself gives its own meaning. The purpose of this study is to analyze a pattern in graphic journalism that is suggested by the idea that a comic communicates through semiotic systems that work together to complement one other for the purpose of achieving seamless message and meaning transitivity. In addition, an examination of visual journalism does not take into account the conceptual framework and design that were suggested by T.D. Royce's theory. Additionally, the sample that was taken is rather varied. The data for graphic journalism have not been explored in terms of their identification, function, or semantic behavior among Intersemiotic modes. The medium of graphic journalism with reference to reporting on

climate change is not exploited. This is the gap that has to be filled, and the study try and do just that. The research endeavors to address a discernible void that has not been examined domestically or globally. The research will provide insights to raise awareness about this medium, which is more adaptable and appealing, and which Pakistani news agencies should implement immediately due to public ignorance. The study functions as a manual for embracing the medium, which contributes to its underutilization within Pakistani journalism.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The chapter addresses the research approach, research paradigm, research design, research methods, sample of the study, and the theoretical underpinnings to validate the research groundings of various semiotic systems in the medium of graphic journalism. This current study follows the qualitative research approach in terms of analyzing the qualitative case studies of the semiotic systems of graphic journalism. Additionally, qualitative data has been collected through the observation of the semiotic representation in graphic journalism, which supports the argument of the qualitative research approach of the study by linking it to the real-life experiences of the individuals and the interpretation of the meanings associated with the particular data of graphic journalism. The present research study follows the social constructivist research paradigm as a philosophical worldview to study the semiotic elements of graphic journalism by associating it with individual understandings of lived experiences and the meanings particularly attached to certain verbal and nonverbal semiotic resources. The social constructivist research paradigm also takes into consideration that how the editors construct the multiple modes of semiotic resources to convey the inter-semiotic play of text and image for climate reporting by employing meta-functions.

3.2 Research Design

This research followed the paradigm of qualitative research, as it is the most suitable in terms of achieving the objective of the research, which is to explore the underlying concerns and motives. So, the qualitative research method is representative of the research study.

The current research study follows the case study research design under the qualitative research paradigm as it studies the real-world issues of climate reporting through the use of semiotic resources in graphic journalism. This study analyzes the multiple modes of semiotic research data in the form of text and images by linking them to the real-life experiences of an individual. The meanings associated with certain modes of communication are subjectively highlighted and inquired into with

the help of a theoretical framework. The present research study evaluates the in-depth contextual meanings associated with each mode of inter-semiotic system to convey their climate reporting. Furthermore, the study explores the theme of climate reporting in graphic journalism.

3.3 Research Sample

The online graphic articles by journalists from all the countries in which graphic journalists produce comics in various languages and forms for journalistic services are taken into account for the sample. Specifically, the reporting of climatic conditions and happenings around the world, captured in graphic journalism, is the main source of data collection. All of the graphic journals published in *Drawing the Times*, *Cartoon Movement*, *Graphic Journalism*, and *The Nib* during the time period of July 2021 to July 2022 constitute the population of the study.

This study takes the data from the online resources of websites by following the purposive research sampling technique. This study only uses graphic journals that meet the research objectives of the study. The journalistic articles from four famous websites are selected in order of their popularity and readership ("Top 5 Best Comics Journalism," n.d.). These are: *Drawing the Times*, *Cartoon Movement*, *Graphic Journalism*, and *The Nib*. These websites are the most popular platform for graphic journalism, and famous journalists and illustrators use the platform to voice their opinions in a visual format. A whole variety of places that offer the viewers the opportunity to form their opinions by reading and interpreting in a far more interesting medium of graphic journalism. The theme of the articles selected is climate reporting. For this, all kinds of reportage done on climate that are real-time non-fiction happenings and news are selected within the time period of July 2021 to July 2022. A total of 35 articles were selected from all the graphics posted at the websites on subject of climate change, its impacts, conferences, official statements, the backlash, and much more. They are visual articles that constitute the use of both visual and literary texts, which makes them hybrid and non-fictional in nature.

3.4 Data Collection

The data for the present research study has been collected through online resources, such as the official websites of the journalists. The data for the study

has been taken from secondary resources already published on the official websites. The researcher has used the Internet Download Manager (IDM) tool to download the graphic journals in image form. The Snippet Tool has also been used to take a screenshot of a particular area of the screen window to capture specific data. Additionally, the data has been attached in the appendices section (see appendix).

3.5 Data Analysis Method

Semiotic analysis has been used to analyze the semiotic modes of communication in the graphic journal articles. The textual and image forms of the data have been analyzed with the help of the theoretical underpinnings of the study. In research, certain postulates are derived for analysis from the distinct theory of Intersemiotic complementarity by T.D. Royce (1998) to analyze the medium of graphic journalism as authentic to be used for journalistic function as any other medium is. The data analysis method is the semiotic analysis of graphic journalism. It is done to study the workings and collaborations of various semiotic systems in the medium of graphic journalism. In line with the topic selected and research method opted for, the study setting is natural, as no experiment was conducted and data was collected in a natural environment from the selected sources.

3.6 Theoretical Framework

The theory of Intersemiotic T.D. Royce (1998) in his book *"New Directions in the Analysis of Multimodal Discourse,"* published complementarity was presented by in 2007. The theory of Intersemiotic complementarity serves as the theoretical framework of the present research study. He took inspiration from the work of Halliday and Hassan (1985) and Kress and Van Leeuwen (1996). This theory is a take on understanding the projection of meaning via visual modes in linguistics. He states that visual and verbal modes semantically complement each other to produce a single textual phenomenon.

Royce (1998; 2007), in chapter two of his book, proposes a model for multimodal discourse analysis. The framework derives its implications from the Systemic Functional Model of Halliday (1985) and Kress and Leeuwen's Visual grammar (1996). The metafunctions in SFL were subjected to the analysis of language to examine its ideational, communicative, and compositional structures

to decipher meaning. However, in Intersemiotic complementarity, the metafunctions are devised in a way to carve out meaning where more than one semiotic system is at work. The term complementarity makes sure that the systems are dependent on each other for understanding by the reader. Reading and viewing a visual at the same time allow multiple signs to work simultaneously; however, the metafunctions of ideational, interpersonal, and compositional function in the same way in visual examination as in language. In Royce's (1998) theory, the metafunctions are called the representative participant, interactive participants, and coherent structural elements. The interactive participants are the participants who are interacting with each other in the act of reading a visual. This category represents the social relations between the viewer and the visual. As well as these two kinds of participants being active simultaneously in the viewing process, there are also visual compositional features, or the ways elements in a visual or a text are arranged to give a sense of structural coherence. The term compositional has been used instead of Halliday's term textual, because it seems to capture more fully the sense of two modes within one page interacting with each other to provide a coherent Intersemiotic message. Composition deals not only specifically with layout on a page surface but also with the text's positioning within a whole magazine or book as well as in a particular section or department.

The basic elements of purpose that carry the message or meaning are called VMEs, or Visual Message Elements. These elements are visual features that carry semantic properties, and these semantic properties or meanings are potentially realized by a variety of visual techniques at the disposal of the visual designer. Each of the metafunctions contains some attributes recognized as EVMs for the analysis of the visual. In this research framework, the working of visual means as a medium for dissipation of a unitary message is actualized with the analysis of real-time non-fiction stories in graphic journalism.

For data analysis, theoretical framework will be applied in accordance with the units of analysis from each metafunction. Intersemiotic complementarity employs three distinct metafunctions. For ideational metafunction, Visual Message Elements or VME's include elements of analysis to explore semantic properties as in representative participants highlighting attributes, activities and circumstances that follows them in the graphics. The semantic sense relations are formed among

verbal and visual modes in the form of a table as shown in table 3.1.

Table 3.1

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME's)	Intersemiotic complementarity	Verbal elements (VE's)
	Intersemiotic Synonymy	
	Intersemiotic Antonymy	
	Intersemiotic Hyponymy	
	Intersemiotic Meronymy	

For interpersonal metafunction analysis parameters of Modality, Mood, Visual --Address, Level of Involvement and Power Relations are used. The nature of the graphic as to what type of feat is being performed through visual address of the illustration identifies the mood. The level of involvement means whether the reader is an active participant of the graphic or just a passive entity absorbing information. In parameter of power relations, the viewers and the represented participants positioning and angle of the representative participants with that of viewers is identified. To analyze whether the viewer is at eye-level to the representative participant to show equality or looking down at the viewer as it depicts sense of status and power. In compositional metafunction analysis, the elements of Information Value, Visual Salience and Inter-visual synonymy in each of the graphic will be examined. Information value will assess the verbal to visual ratio in each of the graphic whether the visual mode is prominent or the verbal mode. Visual Salience refers to relative sizes of the visuals compared to the verbal aspect of the text in relation to the space taken up by each on the page. Inter-visual synonymy is a relation concerned specifically with the degrees of semblance in form across visual modes that work to present a kind of cross-modal harmony among all illustrations in a graphic

CHAPTER 4

RESEARCH ANALYSIS

4.1 Introduction

The analysis of the graphic editorials is done under the parameters from the theoretical framework. The three metafunction, ideational, interpersonal and compositional are analyzed while keeping in view both verbal and visual modes. In ideational metafunction, the visual semiotics involves identification of all the Visual Message Elements (VME's). These VMES"s include the **represented participant(s)**, the **attributes** of that participant(s), the **activity/process** that follows and the **circumstances** stimulating the action. Semantic relation among the verbal and visual modes are highlighted to give evidence for Intersemiotic complementarity. Moreover, the interpersonal metafunction is investigated via parameters of **Modality, Mood, Visual Address, Level of Involvement** and **Power Relations**. Furthermore, in compositional analysis the parameters for the analysis of compositional elements are **Information Value, Visual Salience** and **Inter-visual synonymy**. All the graphics are analyzed according to these postulates selected from each of the metafunction. Out of 35 graphics in which 9 graphics constitute to tell one story on climate change. They are named as graphic 3-11. Moreover, two graphics numbered as graphic 33-34 in analysis is part of sample. Together, 35 graphics are analyzed for the purpose of this study.

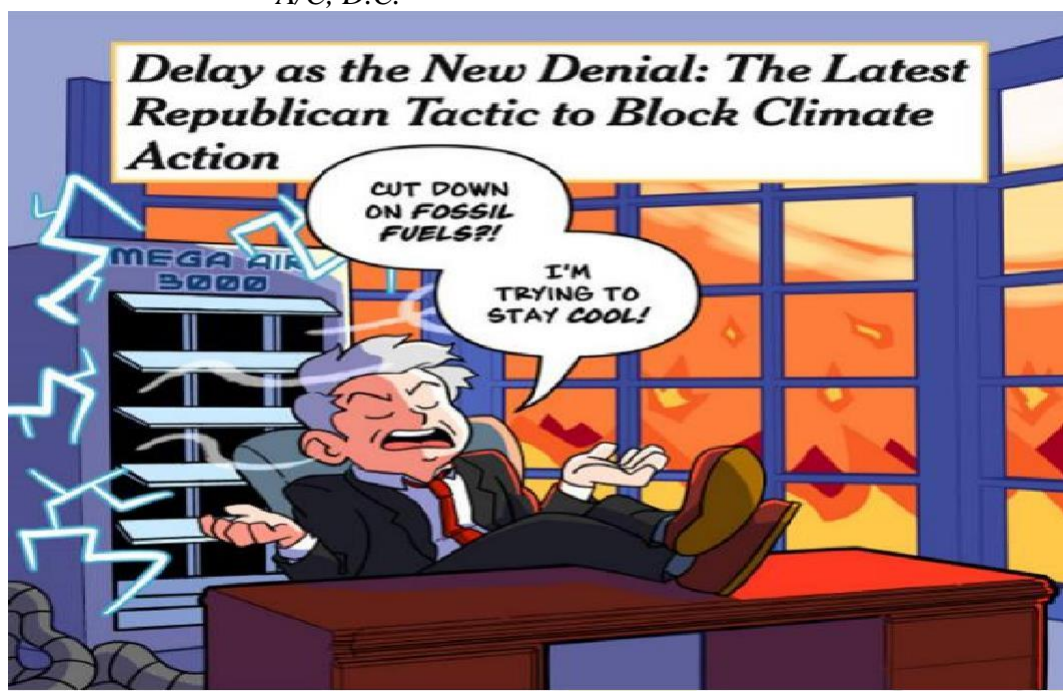
4.2 Metafunction Analysis of Graphics

Graphic no. 1

Graphic: A/C, D.C. By Headlines

Scenario: The graphic created by Headlines and posted at THE NIB on July 22, 2022, recreates The New York Times' July 20, 2022 article. This graphic journalism interprets Republican Senator Mike Crapo's response to harsh temperatures in the US and Europe.

Figure 1
A/C, D.C.



Ideational Intersemiotic Complementarity

In figure 1, the main visual represented participant is a caricatured Senator Mike Crapo, with his attributes of an office wear and silver-grey hair. The senator seems to be unbothered by his gestures with open hands to show as if he is unable to do anything or is not interested to take the matter into consideration. The circumstances that follow is a mega air-conditioning working with written 'Mega Air 3000' shows that high power A.C. use electricity as fuel to run as shown through silver thunderstorms like pattern around it. Moreover, the room seems to be an office room with windows open and no blinders to vividly show fire-like weather outside meaning extreme hot weather

The verbal elements in figure 1 is a headliner " Delay as the New Denial: The Latest Republican Tactic to Block Climate Action" at the top. Two speech bubbles in the middle of the graphic tell what the person is trying to say. The bubble on the top in figure 1 seems to be a statement that the senator said in the past and the bubble below says 'I'm trying to stay cool!' The exclamation tells that he wants to make a pressing point. The words 'Mega Air 3000' on top of air conditioning talks about it being a huge fuel consumption appliance.

In figure 1, the visual and verbal elements complement in many ways to tell that fire-like weather outside shows adverse effects of climate as written in the headline that

no climate action is taken. The figure 1 highlights unbothered behavior of the senator with his legs on the table and the headliner saying that republicans are not delaying rather denying to give climate change any attention. This tells that it is not just one person from government rather the present government in U.S. is the one doing so. Thus, an **Intersemiotic collocation** (Royce,1998) is depicted with the senator sitting in an office and the headline statement talking about Republicans, as he is also one of them. The verbal utterance 'CUT DOWN ON FOSSIL FUELS?!' and the air conditioning with 'Mega Air 3000' indicates **Intersemiotic synonymy** (Royce,1998) as it is running on electricity (a fuel) generated from fossil fuels. Moreover, the hot weather outside and the verbal statement "stay cool" indicates an **Intersemiotic antonymy** (Royce,1998). The extreme hot weather and the working of a high-power air conditioning for senator so he can keep cool to minimize the effect and block climate action, all these indicates **Intersemiotic meronymy** (Royce,1998) because all of them complement each other. These semantic relations are highlighted in table 4.1. Ideational metafunction (Royce,1998) is analyzed in figure 2 to depict an Intersemiotic behavior among the visual and verbal modes.

Table 4.1

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME's)	Intersemiotic complementarity	Verbal elements (VE's)
'Mega Air 3000' indicates air conditioning is running on huge supply of fuel	Intersemiotic Synonymy	Lexical reference: ...Fuels?!
Hot fire-like weather outside the windows	Intersemiotic Antonymy	Lexical reference: ...stay cool?
The white haired caricaturized a government official as a Republican	Intersemiotic Hyponymy	Lexical reference: The latest Republican....
Extreme fire like visual show extreme heats	Intersemiotic Meronymy	Lexical references: climate action..., stay Cool, AC with 'Mega Air 3000'....

Intersemiotic Interpersonal Complementarity

The verbal and visual elements in figure1 indicates that graphics exchange some social meaning. These meanings can be discovered via parameters of Modality, Mood,

Visual Address, Level of Involvement and Power Relations. In figure 1, the statements in headliner " Delay as the New Denial: The Latest Republican Tactic to Block Climate Action", 'Cut down on fossil fuels' and 'I'm trying to stay cool!' are declarative sentences. The first statement as a media headliner and the other two contrasting shows that they are said by people of power to the viewer who is a citizen of country and can do nothing about it. The statement in headline and in speech bubbles are true as they are delivered by the republicans when media confronted them for lack of action on climate change. Thus, they have high modality. Moreover, the level of Involvement from point of view of a reader/viewer is minimum to none as he/she is just absorbing information on the current affair of government reaction to extreme weather and climate change.

The analysis indicates that the viewer/reader shows a mocking attitude on the ironic and contradictory response of government and its official's attitude. Thus, showing attitudinal dissonance (Royce,1998). However, the headliner with lexical reference as 'block climate action and visual message elements showing extreme heats depicts reinforcement of address.

Intersemiotic Compositional Analysis

The parameters for the analysis of compositional elements are Information Value, Visual Saliency and Inter-visual synonymy (Royce,1998). In figure 1, the information value is given to the headliner in large bold font, a verbal element and its congruency by showing caricaturized senator, a visual element in the center of the frame. Hence, both the statement and the cartoon complement the thought and fact. Also, it shows that the ignorance to climate issue and its visual representation via caricaturized senator in the middle of the frame holds the visual saliency. Additionally, the equally big picture of extreme heat everywhere from a big window is depicted outside. Therefore, this unequal verbal and visual ratio to visually highlight the theme of irresponsible behavior of government to climate change. Thus, highlighting inter- visual synonymy. Moreover, the graphic designer in figure 1 did justice to the theme via more visual semiotic than verbal to illustrate the true story which a common person can never see. The giant air conditioning eating up large amount of fuel also holds visual saliency to show ironic and unjustified behavior of government. Hence, it depicts inter-semiotic synonym taken in consideration by the creator while composing this graphic editorial.

Graphic No. 2

Graphic: Eye of the Polluter by Headlines

Scenario: Another graphic created by Headlines and posted at THE NIB on October 8, 2021 covers The New York Times' October 7, 2021 report on quantity worldwide.

Figure 2

Eye of the Polluter



Ideational Intersemiotic Complementarity

In figure 2, the main visual represented participant is a caricatured political representative dressed in a formal wear. The officer seems to be making a statement but its demeanor show a more careless attitude. He is illustrated as one with the power and as the one responsible for the actions that resulted in adverse effects of climate change. The circumstances show a kind of harmful and toxic spillage from ships followed by the smoke and carbon emissions from factories and industries. Also, in figure 2 the verbal elements include a speech bubble that show an asserted statement 'A LOT' IS SUBJECTIVE. The statement is aligned with the name of the comic 'Eye of the Polluter' where the leaders of the world responsible for such disastrous outcomes of the climate change states a justification of their deeds. The word 'A LOT' is emphasized as if to debate that how much or not much coral reefs might have become victim of climate. The stance is to disperse the agenda that the situation might not be serious. Moreover, at the top center of the graphic, the statement declares 'A new report shows just how much climate change is killing the world's coral reefs. It tells about the theme and agenda of the graphic.

The verbal and visual elements in figure 2 work in sync to report on the sudden

bleaching of the coral reefs that led to a massive decline. However, the graphic is more of a mock than report on coral reef situations. The table 4.2 highlights the semantic relations in figure 2. It analyzes the ideational metafunction between the two modes that make this graphic editorial an Intersemiotic entity.

Table 4.2
Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
Factories disposing harmful and killing substances in water bodies	Intersemiotic Synonymy	Lexical reference:climate change killing world's coral reef.
Water body, a habitat for coral reefs is shown	Intersemiotic Meronymy	Lexical reference: world's coral reef....

Intersemiotic Interpersonal Complementarity

Through the reinforcement of address, the complementarity between the visual and verbal semiotic cues is illustrated in Figure 2. The headline segment situated atop in a rectangle bubble, as reported by the media, comprises a climate-related assertion that possesses a high moral standing. Additionally, the bubble encapsulates the assertion that "A LOT" is subjective. In addition to complementing the tone of the statement and the visual representation of the cause of climate change, the visual elements illustrate industrial and factory waste in bodies of water. Therefore, both the verbal and visual components convey a comparable viewpoint. Furthermore, an attitude of dissonance (Royce,1998) exists due to the fact that the statement "A LOT IS SUBJECTIVE" is presented as a debatable topic, and the image of factories as the primary source of pollution is an ironic addition to the statement. The stance taken by the political representative contradicts that of an industrialist, as evidenced by the manner in which he is depicted in an authoritative sitting gesture over the industries. As a result, the graphic designer has designed the layout to engage readers through the contrast between verbal and visual components, thereby facilitating their comprehension and active participation in the information-gathering process.

Intersemiotic Compositional Analysis

The analysis of the graphic's compositional characteristics reveals that numerous visual and verbal components complement one another. The graphic information assigns

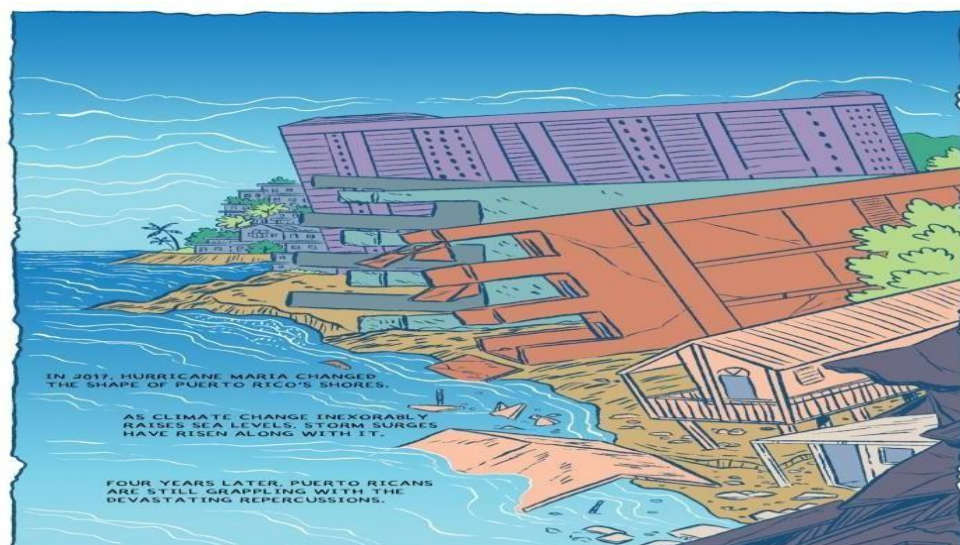
significance to the person who is caricatured, while its representation is rendered in monotonous black and white and is proportionately larger than other visual elements. Additionally, the headline is positioned at the graph's midpoint in a formal manner to convey the information as factual and serious. The speech bubble, on the other hand, contains a statement in a distinct font, which conveys an informal and lighthearted tone. The central placement of the verbal element serves to rationalize the transition from a visual to a verbal format. The visual representation serves as a parody of the verbal declaration. The statement in the speech bubble is enlarged to provide a counter-argument through a comprehensive visual depiction of the environment in which coral reefs reside, which is heavily influenced and exposed to the factors that are causing their demise. In the graphic, visual components are collaborating to create an inter-modal harmony. This graphic editorial demonstrates that the designer considered inter-semiotic synonymy (Royce,1998) during its composition.

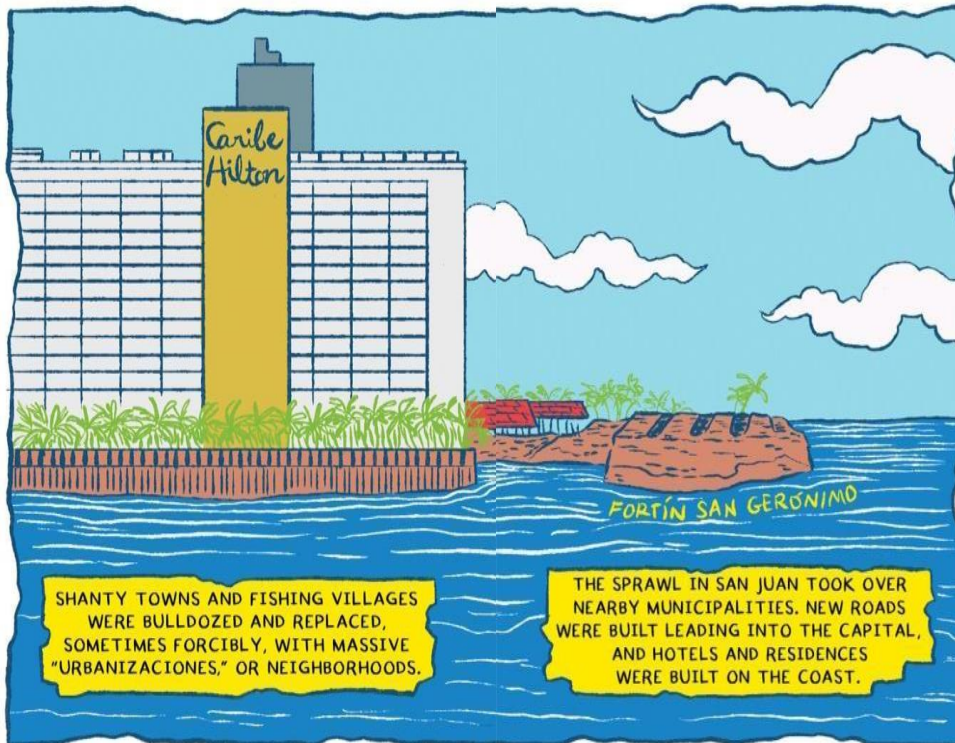
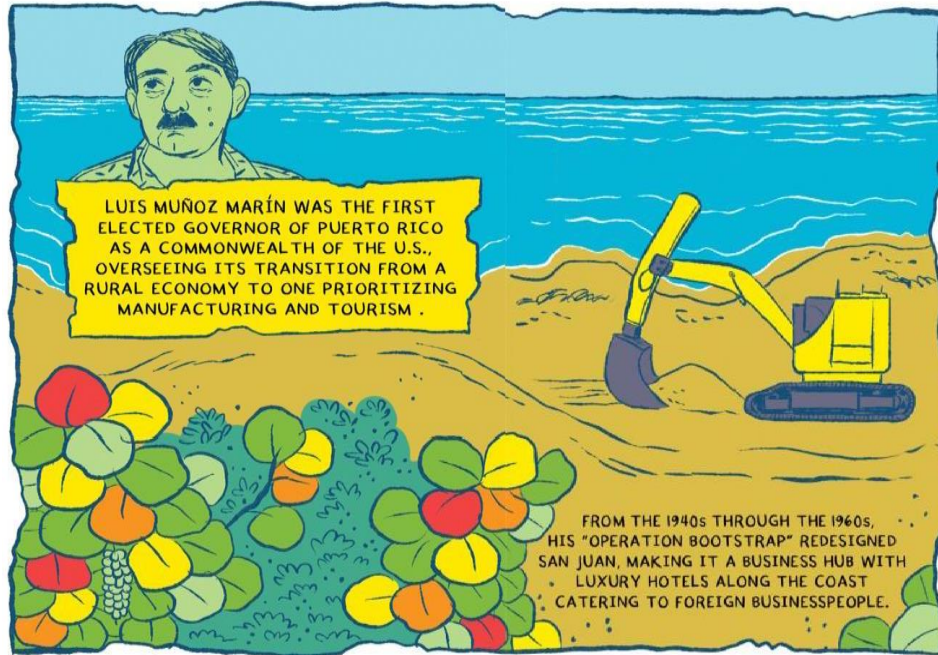
Graphic No. 3-11

Graphic: Coastal Collapse by Rosa Colon

Scenario: This graphic created by Rosa Colon and posted at THE NIB on March 21, 2022 covers terrifying truth of how climate change and unchecked real estate development eroded Puerto Rico's coastline. The comic strip uses a moving story to bring attention to the critical need for environmentally responsible laws and practices to safeguard this delicate ecosystem. The rapid erosion of Puerto Rico's coastline as a result of rising seas and more frequent storms is aptly described by the metaphor of "coastal collapse."

Figure 3
Coastal Collapse

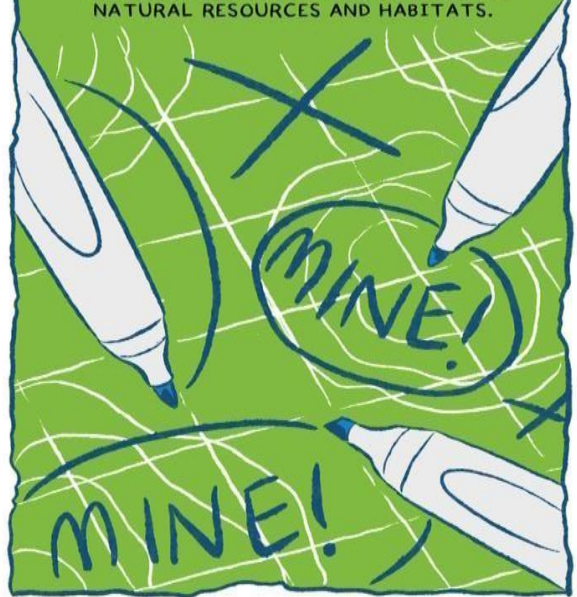




IN PUERTO RICO, BEACHES ARE PUBLIC, AND ACCESS TO EVERYONE IS SUPPOSED TO BE GUARANTEED. THUS THERE ARE MANY ENVIRONMENTAL REGULATIONS IN PLACE TO SAFEGUARD THE COASTS.



BUT THIS DOESN'T MEAN DEVELOPERS DON'T CIRCUMVENT RULES. RECENTLY, ZONING LAWS HAVE BEEN REEVALUATED IN FAVOR OF DEVELOPERS LOOKING TO ENCROACH ON NATURAL RESOURCES AND HABITATS.



PUERTO RICO IS AN ARCHIPELAGO, WHICH MEANS ITS VERY BORDERS ARE VULNERABLE TO THE EFFECTS OF CLIMATE CHANGE. COASTAL EROSION BROUGHT BY RISING SEA LEVELS AND STRONG HURRICANES HAS REDRAWN THE NORTHERN COAST. IN RINCON, BUILDINGS THAT COLLAPSED INTO THE OCEAN DURING MARIA STILL LIE IN RUINS.



NEARBY, ZONING PERMITS HAVEN'T CAUGHT UP TO THE NEW COASTLINE, AND THE PUBLIC BEACH NOW OVERLAPS WITH THE RUINS OF A RESIDENTIAL POOL. ACTIVISTS ARE CURRENTLY FIGHTING TO SAVE CAREY TURTLE NESTS FROM THE CONSTRUCTION SITE AS THE PROPERTY OWNERS ATTEMPT TO REBUILD.



Ideational Intersemiotic Complementarity

The initial window in figure 3 depicts the representative participants and their descent into the water through the use of architectural elements such as houses and structures. They appear to be carried away by a natural calamity. Information regarding the representative participant's identity, the activity, and the subsequent circumstances is provided through the verbal elements situated on the left side of the graphic. By complementing one another, the visual and verbal components provide the reader/viewer with a unified narrative. Justifying that the graphic is in harmony with one another and discussing the repercussions of Hurricane Maria in 2017, the sense relations of inter-semiotic synonymy and inter-semiotic meronymy are presented in table 4.3.1. The ideational metafunction is analyzed in table 4.3.1 to highlight the Intersemiotic nature of this graphic.

Table 4.3.1

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
A disaster like situation is shown with building falling and sinking	Intersemiotic Synonymy	Lexical reference: In 2017, hurricane Maria.... Lexical reference: storm surges have risen along with it
A shore of a territory	Intersemiotic Meronymy	Lexical reference: the shore of Puerto Rico's

The second graphic window in figure 3 is comprised of two sections that are positioned in parallel but are interconnected and discuss a common theme and narrative. The graphic designer connected two segments in order to create the illusion of a single wide frame. In figure 2, the visual represents an individual who served as the governor of Puerto Rico. Beneath the image is a rectangular speech box that provides details regarding the individual and his contributions to the land of Puerto Rico. In their entirety, the visual and verbal components are harmonized in a logical fashion and mutually reinforce one another. The dependent behavior of semiotic elements by sense relations such as Intersemiotic collocation, Intersemiotic synonym, and Intersemiotic repetition (Royce,1998) is represented in table 4.3.2. The table depicts the

complementary nature of both modes that working to deliver coherence in the second graphical window of figure 2.

Table 4.3.2

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
Caricaturized picture of Luis Manoz	Intersemiotic Repetition	Lexical reference: Luis Manoz Marin was the first elected governor of Puerto Rico.....
A backhoe is present on the shore of a coast scrapping earth to show that construction is started.	Intersemiotic Synonymy	lexical reference: his OPERATION BOOTSTRAP' redesigned San Juan making it a business hub with luxury hotels along the coast
A construction vehicle is shown to show some development is about to happen	Intersemiotic Collocation	Lexical reference: making it a business hub with luxury hotels....

Within the third graphical window of figure 3, a fusion of two windows presents a unified scenario that illustrates the progress made in San Juan at the shore. The illustrator depicts enormous structures constructed to an enormous scale. The visual and verbal signals are highly complementary in providing comprehensive information to the reader or viewer. Repetition and Intersemiotic synonymy (Royce,1998) are relationships that indicate the semiotic elements' complementary behavior as represented in table 4.3.3

Table 4.3.3

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements VE's
Huge buildings common to be seen in an urbanized territory are shown as built on expanded land	Intersemiotic Synonymy	Lexical reference: massive urbanizations
Huge buildings like hotels on expansive areas seen built along the shore	Intersemiotic Repetition	Lexical reference:and hotels and residencies were built on the coast.....

The fourth graphic window figure 3 illustrates two separate narratives through two distinct panels. The first pane depicts public beaches, while the pane that runs parallel to it depicts the unauthorized occupation of coastal land. The visual and verbal sign in graphics is complementary in nature, as they address the same subject matter. The interdependence of the visual and verbal cues in both graphics aids comprehension and enables the reader/viewer to more readily relate to and comprehend the information being conveyed. After observing the sense relations of Intersemiotic synonymy (Royce,1998) as highlighted in table 4.3.4, the dependent behavior of both semiotic signs is determined.

Table 4.3.4

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
People are seen enjoying on a beach	Intersemiotic Synonymy	Lexical reference: In Puerto Rico beaches are public and access to everyone.....
A green base to show land area followed by markings of 'mine' in blue color to show occupation of coastal areas and its resources	Intersemiotic Synonymy	Lexical reference: developers looking to encroach on natural resources and habitats.

The fifth visual window of figure 3 depicts a pair of panels. Nevertheless, both sources detail the catastrophic consequences of climate change in Puerto Rico. The vulnerability of Puerto Rico to the effects of climate change is alluded to in one frame as observed via sense relationship of Intersemiotic synonymy (Royce,1998) between visual and verbal message elements. Furthermore, the second window, parallel to the first, portrays the devastated remains of Maria, the hurricane, and how developers are encroaching upon these remnants, endangering the nests of Carey turtles. By utilizing the sense relation of Intersemiotic synonymy (Royce,1998), the dependence of semiotic signs for the dissemination of a single narrative is demonstrated in table 4.3.5.

Table 4.3.5*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The visual message elements show destroyed buildings flowing as ruins in water	Intersemiotic Synonymy	Lexical reference:buildings that collapsed into the ocean during Maria still lie in ruins.
A turtle is seen making his way through ruins towards the water	Intersemiotic Synonymy	Lexical reference: Carey turtles' nests.....

Intersemiotic Interpersonal Complementarity

The graphic editorial reports a story on Puerto Rico's coastal areas. In terms of visual address (Royce,1998) in figure 3, the illustrations like hurricane Maria after-effects and the ruined buildings, urbanization in the form of huge buildings and endangered turtle species provide a real tactile insight to the viewers. The viewer is just acknowledging the work of its constructor or either making a judgement on it. All these visuals and their interpretations are complemented by the verbal support in the speech bubbles that adds up to the interpretations of the viewer. For instance, in fifth window of figure 3, the turtle Carey nests that are endangered due to rebuilding after the hurricane Maria by property owners is complemented by the picture of a turtle shown in a frame swimming towards their nest. The viewer/reader can either just acknowledge the information, make a judgement or just casually go through just like any other news report.

The level of involvement (Royce,1998) of the reader/viewer is of a silent observer/reader. The report is a continuous story spread over nine frames in total. They are arranged like a comic where the reader just read, see, relate and then move to next frame to find where is it leading. The reader/viewer has no active participation and the constructor of this graphic editorial has made it in such way. Again, the reader/viewer is just offered to interpret, acknowledge it, make a judgment and agree or disagree. The graphic has high modality as all the information provided are factual and real in nature. The power relations (Royce,1998) between the representative participants of the graphics and the viewer are on eye-level so no one is placed inferior or superior to one another. Thus, the visual projects number of visual message elements that are credible

and aligned to the attitude of representative participants. Thus, the graphic holds attitudinal congruence where verbal and visual elements in nine frames have somehow corroborate each other

Intersemiotic Compositional Analysis

The Intersemiotic compositional analysis of first window of figure 3 highlights the information value in the form of maximum use of visuals in frame followed by verbal statements in black color and small font. The statements on left side of the illustration explain what the visual is about. Figure 3 show destroyed buildings and the verbal statements explain that it is by hurricane Maria in Puerto Rico. Moreover, the size of visual imagery of Hurricane Maria as compared to the lexical statements. Thus, visual covers most part of the graphic therefore visual salience in the graphic is observe. Moreover, the inter-visual synonymy (Royce,1998) is depicted in the graphic as the buildings and houses are seen falling in the water coast near.

The second window graphic of figure 3 is composed by dividing one graphic into two panels. Both the panels are merged as to complete one story as verbal and visual signs are extended in both panels. The image curated is a water coast where the land is being plowed by a construction vehicle that's shows some construction is about to happen. Also, a caricature of a person is placed at top-left side of the pane The verbal statements provide specific information that the person is a governor of Puerto Rico and the rest of the image discuss about his plan to build hotels and buildings near coastal areas during time of 1960's. Thus, the information value (Royce,1998) in verbal offering complements the image designed. Moreover, the ratio of visual to verbal is not equal as the image is spread through most of the graphic. The verbal statements are saturated in a box. Although, they give information about the image but the visual offerings are given more salience as it spread throughout the page. Furthermore, the visual of the governor of Puerto Rico and its coastal areas are sketched in a way that balance the visual signs and supplement each other, thus showing inter-visual synonymy.

The third graphic window of figure 3 is also composed by dividing one graphic into two panels. Both the panels are merged to complete one story as verbal and visual signs are stretched to both panels. The image sketched of a coastal area and huge buildings constructed are supplemented by verbal information. Therefore, the

information value (Royce,1998) in verbal offering corroborates with the image designed. Moreover, the verbal statements are present in speech boxes at the bottom of the graphic of both panels. However, the image covers rest of the panel therefore the visual ratio is more. Therefore, on the page visual salience (Royce,1998) is more in comparison to the verbal statements. Also, the visuals depict a complete sketch of the Puerto Rico and the process of urbanization it has gone through. Therefore, an inter-visual synonymy is (Royce,1998) observed in the graphic editorial.

The fourth graphic of figure 3 window covers distinct stories but is placed parallel to each other. The first frame constitutes an image of a public beach where people are enjoying and the statements at the top provide information about Puerto Rico beaches and their environmental hazards. Thus, the information interpreted through visual corroborates with the verbal offerings and add to the knowledge of the reader/viewer. The second panel shows an image of map of Puerto Rico retaining the coastal resources by constructors. The verbal statements are supplementing the sketch of the panel. Therefore, the information value (Royce,1998) of both the signs complements each other. The image in both the panels is spread throughout thus showing major visual to verbal ratio. Therefore, visual signs held salience on page as compared to verbal signs. Moreover, the visuals are completely sketched in a way that show a similar view thus showing inter-visual synonymy.

The fifth graphic window of figure 3 also contains two panels that covers two different stories but are placed parallel to each other. In figure 3, the left panel depicts a situation after disaster like Hurricane Maria where the verbal statements at the top of panel supplements the visual through lexical references. Whereas, the panel on right depict a picture of turtle spread throughout and some verbal information supplements the sketch through verbal information. In both panels, the visual sketch held more value as it grabs viewer attention and then make him read the accompanied information to interpret. Therefore, the information value (Royce,1998) on page is grasped through visuals. Moreover, most of the page is illustrated via images and illustrations as visual ratio is more in both panels as compare to the verbal. Henceforth, this also highlights visual salience (Royce,1998) in the graphic composition. Furthermore, the images are connected to each other in both panes to depict one single narrative completely, therefore, it also shows that inter-visual synonym (Royce,1998) is taken into consideration by the constructor while composing this graphic editorial.

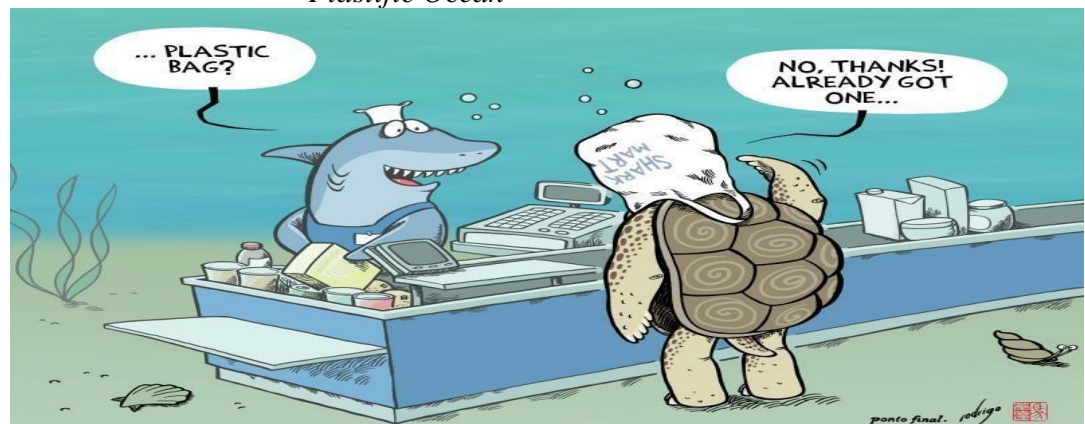
Graphic no. 12

Graphic: Plastific Ocean by Rodrigo de Matos

Scenario: Rodrigo de Matos published an insightful cartoon at Cartoon Movement on July 14, 2021 does a great job of summarizing the ecological crisis we're in, one in which our oceans are being suffocated by plastic. This one picture says it all about the critical importance of addressing this worldwide problem. Even the name, "Plastific Ocean," is a play on words. It's a portmanteau of "plastic" and "pacific," implying that our once-calm oceans have become a battlefield for plastic trash.

Figure 4

Plastific Ocean



Ideational Intersemiotic Complementarity

Figure 4 is the illustrator's vision at hands that he created. A vast ocean with a cartooned portrayal of a shark and a turtle. The shark is supposed to be a cashier at counter and the turtle is one of the customers. The grocery store is shown at the bottom of the ocean to particularly portray the subject matter of excessive usage of plastic with extreme sarcasm. The verbal elements are the statements in speech bubbles among the two animals that let the readers know what is the theme of conversation. The photograph is both heartbreaking and intriguing. The backdrop of the huge ocean highlights the scale of the subject at hand. The oceans, which are famous for their breathtaking beauty, are spoiled by the pervasiveness of plastics, showing that this environmental problem affects every part of the planet. The soothing sound of the waves on the ocean belies a pervasive feeling of pollution and hopelessness.

Matos's visual critique in figure 4 revolves around a solitary turtle. This well-

known marine animal symbolizes the dangers that plastic pollution poses to marine ecosystems. Many marine creatures, including turtles, suffer from plastic ingestion or entanglement. The artist's choice to depict a turtle suffocating in a plastic bag is a heartbreaking allegory for the suffering of wild animals. The figure 4 is reflecting the plight of marine life in the face of plastic waste. These animals have been unjustly affected by a disaster brought on by humans. Their daily fight for existence is a direct result of our careless plastic use and disposal. Figure 4 forces viewers to feel compassion for the aquatic animals and acknowledge their role in this ecological disaster. The sense relation of Intersemiotic synonymy (Royce,1998) is observed among visual and verbal message elements as they coordinate with each other as highlighted in table 4.4

Table 4.4

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The plastic covering the face of turtle	Intersemiotic Synonymy	Lexical reference: plastic bag?

Intersemiotic Interpersonal Complementarity

In terms of visual address, the figure 4 visual elements complement the verbal aspects of it. Thus, the constructor of the graphic has not directly addressed the viewer/reader to participate. The viewer is just an observer who is interpreting the scenarios and absorbing the situation. The level of involvement of the viewer/reader is of a silent observer of situation who is given information on excessive plastic usage and its dreadful consequences for water bodies and life in them to ponder over. The viewer/reader is not invited for an active participation. Moreover, the representative participants of the graphic and the viewer is on eye-level so no one is given superior position to another and vice versa in terms of power relations. The verbal and visual elements support a similar attitude and subject matter thus depicting attitudinal congruence (Royce,1998). The elements of graphic possess high modality (Royce,1998) because excessive plastic usage has played its role in pollution and

climate change hence the scenario portrayed is a real one that is very much a reality in the world,

Intersemiotic Compositional Analysis

The compositional analysis of figure 4 highlights that the visual is stretched throughout the graphic. This is why the visual attracts the viewer through its interesting display of information. The verbal references in speech bubbles connects the image in a way that it depicts a harmonious multimodal display of excessive plastic use and its hazards. Therefore, the information value (Royce,1998) is coordinated throughout the graphic via inter-connected composition of multi-modal signs. Moreover, the verbal statements are minimal compared to the ration of visual spread throughout the page. It shows that verbal elements hold salience on page as compare to any other mode in the graphic. Also, the visual is inter-connected by display of water animals in a water body that gives a complete sense of information. Thus, the constructor of the graphic maintained inter-visual synonymy (Royce,1998) to give a sense of compositional unit and inter-modal consistency in the graphic.

Graphic no. 13

Graphic: Climate Games by Rodrigo de Matos

Scenario: On November 7, 2021, Matos published his thought-provoking and visually stunning piece, titled "Climate Games." This piece of art represents the culmination of debates at COP26, the United Nations Climate Change Conference, held in Glasgow, United Kingdom. Matos's work is a nexus where art and activism meet. The 26th Conference of the Parties (COP26) was largely seen as a turning point in our joint effort to combat climate change. The artwork sends a powerful statement about the seriousness of the issue.

Figure 5
Climate Games



Ideational Intersemiotic Complementarity

In figure 5, a person dressed in significant pink dress from the famous series of Squid game is standing on a hill. Several other people are standing at a lower level looking up towards the person. These people are addressed by the person who is about to announce something. The subject matter being climate but the graphic designer has seemed to be making a fun out of it by comparing climate talks equivalent to games, this is done with the intention to show how climate talks and management is likewise treated in a non-serious attitude similar to games. The sense relation of Intersemiotic hyponymy (Royce,1998) binds this theme by coordination of its verbal and visual cues as highlighted in table 4.5

Table 4.5

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The person dressed in the same clothes from series of squid games, where they used to direct people about games just as in the picture	Intersemiotic Hyponymy	Lexical reference: For the next game, keep.....

The man with a gun in his hand Whether to kill or save	Intersemiotic Collocation	Lexical reference:climate survivors.....
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Intersemiotic Interpersonal Complementarity

The Intersemiotic interpersonal analysis of figure 5 portrayed visual elements that features the representative participants which resonates with the verbal elements. Thus, the visual address is a source of information for the reader/viewer. There is no direct address to the reader/viewer and he/she is a silent observer of the whole situation. The level of involvement is then zero to none and the reader/viewer is just present to acknowledge what is being conveyed or make a judgment. Also, the verbal and visual signs depict a similar attitude thus constituting attitudinal congruency (Royce,1998). Moreover, the climate situation where people are being played about the measures taken to counter climate challenges is to a great extent real situation thus the graphic has high modality.

Intersemiotic Compositional Analysis

Figure 5 illustrates inspiration from famous squid games, a popular series to grab viewer attention to the graphic. The visual statements corroborate in a way that highlight climate issue as a game just like squid game. Thus, the verbal and visual modes show unity to convey a unit narrative of reporting climate as a petty matter to discuss. Therefore, the information value (Royce,1998) on the page is reserved through collaborative play of both modes. Also, the graphic is stretched throughout with visual modes, The visual ratio is like an invasion on the page in comparison to other modes. Therefore, the visual modes hold salience than verbal modes. Furthermore, the visuals are very much composed in a complementary way to complete a vision. Thus, the illustrator maintained inter-visual synonymy (Royce,1998) in composition of this graphic.

Graphic no. 14

Graphic: Burnt world by Rodrigo de Matos

Scenario: This graphic by Rodrigo published in CARTOON MOVEMENT is a kind of mock on global efforts to tackle climate change by efforts like reducing deforestation and urging forestation for future generations to live and breathe in fresh air.

Figure 6
Burnt World



Ideational Intersemiotic Complementarity

The ideational analysis of figure 6 depicts earth as a ruined and devastated state with trees and branches devoid of any green and leaves. A person more like a representation of world leaders is standing with his hands stretched wide as if to assure that he has big plans and ideas. The COP 26 written underneath the man says that the theme of discussion for plans and ideas is about climate. Also, the man seems to be talking to a baby who is crawling and is in diapers. This tells that the big plans are estimated around time when he will be a teen. Also, the statement in speech bubble assures what is he talking as in statement "DON'T WORRY KID! EVERYTHING WILL BE SORTED OUT BY 2030" supports the visual cues in figure 6 as Intersemiotic synonymy (Royce,1998) is working among both the semiotic signs. The semantic analysis highlighted via ideational metafunction (Royce,1998) are mentioned in table 4.6

Table 4.6

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The person standing on a ruined and devoid of trees place, most probably the earth talking to a kid in panties about some big ideas that he has about climate change and saving earth with COP 26 written underneath them	Intersemiotic Synonymy	Lexical reference: "DON'T WORRY KID! EVERYTHING WILL BE SORTED OUT BY 2030

Intersemiotic Interpersonal Complementarity

The interpersonal analysis of figure 6 highlights the situation where the reader/viewer is conveyed and shown the effects of climate change and its consequences for future generations. In terms of visual address, the representative participants don't engage the viewer in any conversation. The reader/viewer is an observer of the situation, interpret it and make a judgment. The level of involvement is none where the constructor has illustrated the editorial to convey information regarding the climate summit. The editorial has high modality as it reports on the 26th summit on climate. The reader/viewer and the participants are not superior or inferior to each other as they are placed at eye-level. The visual and verbal elements report a similar subject matter thus show attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

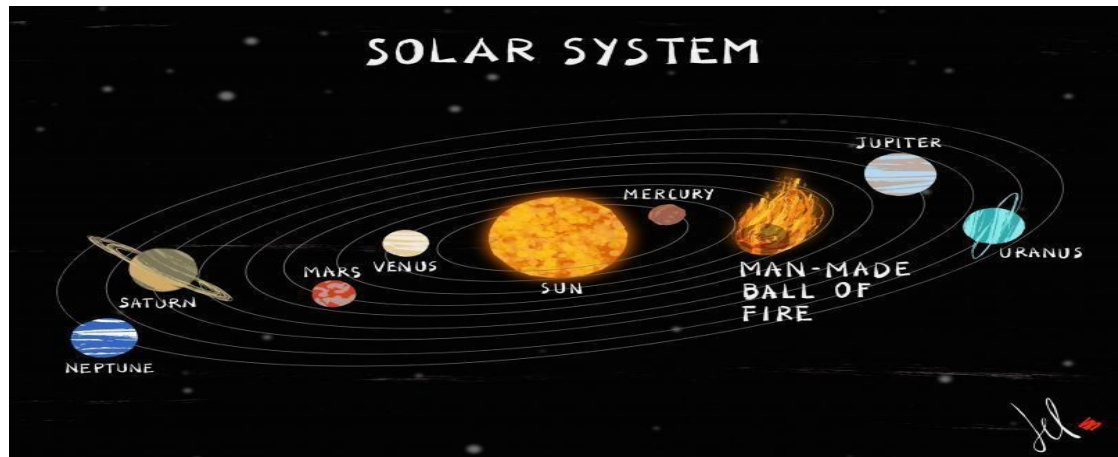
Figure 6 is composed to depicts both modes working in collaboration with each other in the graphic editorial. The image of a burnt world with no trees and vegetation is shown. It is complemented by verbal statements that promises a better future and world. This is how careless attitude and actions and its effects on world are conveyed to the reader/viewer. Thus, together both the modes hold information value (Royce,1998) in the graphic. Moreover, the visual modes have invaded most of the graphic therefore the visual modes hold salience. The images area also curated in a way to convey a similar narrative. This is illustrator way to maintain inter-visual synonym (Royce,1998) to show an intermodal coherent graphic editorial.

Graphic no. 15

Graphic: Solar System by Emanuele Del Rosso

Scenario: This graphic by Emanuele Del Rosso posted on 19th of July, 2022 at CARTOON MOVEMENT is a illustrators work of imagination to portray extreme heat waves as a result of climate change all over the world and specifically in Europe

Figure 7
Solar System



Intersemiotic Ideational Complementarity

The graphic as figure 7 is a portrayal of the solar system with all the planets aligned in a proper manner and place. Also, all the planets are positioned correctly with their names except one, the Earth. It is named as "MAN-MADE BALL OF FIRE", the only one among all in the dark galaxy. The planet is visually portrayed as a ball literally on fire. This is to tell the extreme hot weather that the earth and its inhabitants are facing. The Intersemiotic synonymy (Royce, 1998) relation make sure that the verbal and visual signs are in harmony with each other. It is represented in table 4.7.

Table 4.7

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The hot fire ball still a blazed is shown in place of earth, while rest of the planets are moving in accord.	Intersemiotic Synonymy	Lexical reference: "MAN-MADE BALL OF FIRE"

Intersemiotic Interpersonal Complementarity

In terms of visual address, the visual elements and the representative elements of figure 7 corroborate with the verbal statements. However, the reader/viewer is not compelled for any active participation. Rather he/she is just absorbing the information and interpreting it. Also, there is no power struggle depicted between the reader/viewer and the participants of the graphic. The graphic reports on the heatwaves and increased

temperature of earth hence having high modality. The visual and verbal instances depict a similar address of subject matter; thus, attitudinal congruency (Royce,1998) is observed.

Intersemiotic Compositional Analysis

In the graphic, information value (Royce,1998) is maintained by visual and verbal collaborative work to convey a narrative. In figure 7, visual hold the viewer attention and verbal offerings supplement the images. This is how both the modes hold value in the graphic to convey information on abnormal temperatures, heatwaves and wildfires observed on earth. Moreover, the visual is spread throughout graphic that is why it hold salience as compare to verbal modes. Moreover, the image is designed and displayed in a complete manner. The whole picture of solar system in galaxy gives a complete image to the viewer as it becomes feasible for him/her to interpret. Thus, the creator maintained inter-visual synonym (Royce,1998) as well as inter-modal unity in the graphic editorial.

Graphic no. 16

Graphic: The Sceptic by Wilfred Hildonen

Scenario: This graphic by Wilfred Hildonen posted on 15th of July, 2022 at CARTOON MOVEMENT is a depiction of extreme climate change and its consequences on which blatantly a blind eye is turned.

Figure 8
The Sceptic



Intersemiotic Ideational Complementarity

Figure 8 illustrates a situation of a house with a man on the window. Also, wildfires seem to surround the house. This graphic is representation of extreme fires observed in European countries like France, Spain, Greece, Italy and Portugal. These

fires destroyed acres of residential and field area causing destruction at of huge proportions. The visual elements of graphic depict the climate change and its effects in the form of wildfires whereas the verbal elements seem to highlight the inconsiderate behavior to the worsening climate conditions. It delves into the difficulties of climate change skepticism and the necessity of encouraging constructive debate and collaborative action in a world struggling to cope with the urgent implications of global warming. As climate change evidence mounts, "The Sceptic" illustrates the obstacles faced by climate scientists, campaigners, and policymakers in trying to get the public's attention. "The Sceptic" reflects a mindset that has been a stumbling block in the worldwide effort to address climate change successfully. The semantic relation Intersemiotic antonymy (Royce,1998), an opposite attitudinal experience is observed where despite a dangerous situation depicted through visual elements, the verbal elements seem to show a contrasting attitude via statement "HA! I DON'T FALL FOR IT". The statement shows a mocking and inconsiderate attitude towards a serious situation like fire opposite of an expected experiential attitude. The semantic relation via ideational metafunction (Royce,1998) analysis is highlighted in table 4.8.

Table 4.8

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
Fire around the house completely with man stuck in it. The situation is dangerous and should be frightening for the man stuck in fire	Intersemiotic Antonymy	Lexical reference: HA! I don't fall for it.

Intersemiotic Interpersonal Complementarity

The figure 8 interpersonal analysis reveals that image portrayed is a source of information for the reader that the reader/viewer is to interpret and make sense out of it. He/she is not addressed or compelled to engage for any interaction. The level of involvement of a silent observer. Also, the graphic a\contains a high modality as it portrays the wildfires and human incompetency to address climate change as a serious issue. The difference in attitude of verbal and visual elements where the man is being

denying of the fire situation despite the illustration of it shows an opposition of attitude. Hence, attitudinal dissonance (Royce,1998) is observed.

Intersemiotic Compositional Analysis

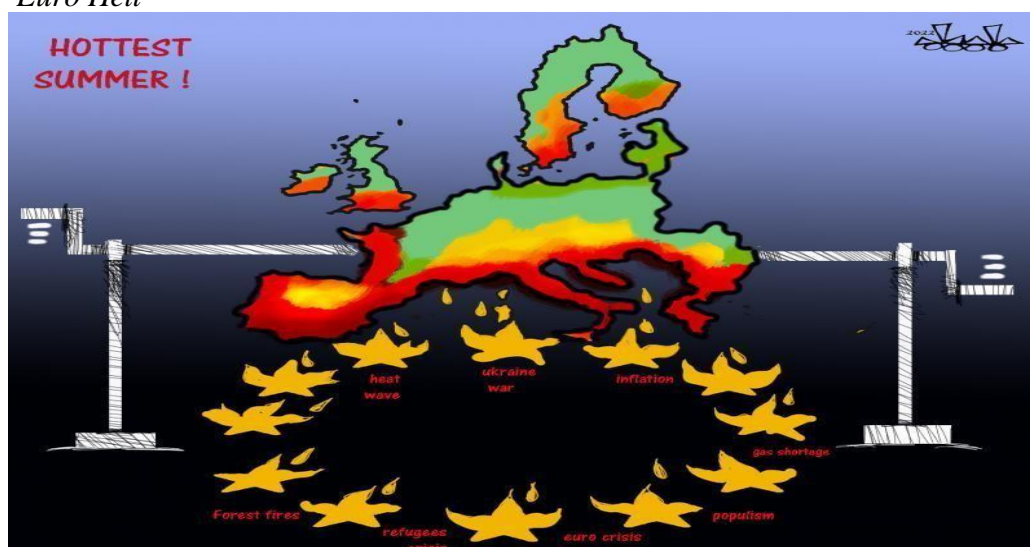
In figure 8, a visual sketch depicts a picture of land on fire with a person stuck in the house, however, the verbal statements highlight that he/she is not mindful of what is causing it. Thus, both the modes coordinate to supplement each other so that the reader/viewer can interpret. Therefore, the verbal and visual modes held equal value in dissipating information. Also, the images and drawing of fire has invaded the who graphic. This is why the visual mode has more salience in this graphic then verbal mode. The visual modes are drawn in a way that gives a complete picture to the viewer. This is because the creator used technique of inter-visual synonymy (Royce,1998) as to maintain an intermodal harmony and coherence while composing it.

Graphic no. 17

Graphic: Euro Hell by Hassan Bleibel

Scenario: This graphic by Hassan Bleibel posted on 19th of July, 2022 at CARTOON MOVEMENT is a depiction of situation being faced by European countries where the hottest summers in history of Europe are observed followed by wildfires and heat waves.

Figure 9
Euro Hell



Intersemiotic Ideational Complementarity

The visual elements of figure 9 contain a map of Europe in the middle. It is illustrated like a piece of meat on a burner being grilled under the fire. Stars like images

under the map show fire burning. Most of the bottom of the map is colored in orange and yellow shades while some part at the top of map is also filled with same colors. The verbal elements include a header at left corner of the image in red color to connote for fire or burning. The 12 stars imaged as a reference for burning fire are a reference for the major dilemmas that are observed in the year 2022. These stars are named as Ukraine war, Inflation, gas shortage, populism, Euro crisis, Refugee crisis, Forest fires, heat waves. The semantic relation of Intersemiotic synonymy and Intersemiotic hyponymy (Royce,1998) among visual and verbal elements presents their depending and coordinating behavior. They are represented in table 4.9.

Table 4.9

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The map of Europe drawn on a skewer being grilled on the fire. The orange and blue colors show the countries affected by forest fires and heat waves.	Intersemiotic Synonymy	Lexical reference: Forest fires and heat waves written under star images
Most of the Europe shown in red and orange color shows that increased temperature is observed.	Intersemiotic Collocation	Lexical reference: HOTTEST SUMMER!

Intersemiotic Interpersonal Complementarity

The interpersonal analysis of figure 9 reveals the visual addressing corroboration with the verbal references. Also, the level of involvement (Royce,1998) of the reader/viewer is of a silent observer to take information and interpret it. The power relations show reader/viewer at eye level to the elements of the graphic. Moreover, the verbal elements complement the attitude of visual elements thus showing high modality due to factual reportage and attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The compositional analysis of figure 9 highlights visual and verbal modes at work. The visual modes depict a map of European countries being grilled on fire. The verbal modes convey that it reports on the wildfires that happened through most of countries in Europe. Also, it highlights climate challenges faced in this part of the world. So, both the modes complement each other for a complete dissipation of information.

This tells that both modes hold grate value to aid reader/viewer to interpret and grasp the information in this graphic. Also, the ratio of visual signs is maximum as compared to the verbal ones. Therefore, the visual modes hold salience in the graphic. Moreover, the creator has balanced the play of visuals through their careful and complementary drawings thus maintaining inter-visual synonym (Royce,1998). This is to maintain this graphic as Intersemiotic unit in its composition.

Graphic no. 18

Graphic: Climate, fire in Europe: profits versus climate by Lupo

Scenario: This graphic is by Lupo posted on the platform of CARTOON MOVEMENT on 20th July, 2022. This illustration presents the climate conferences happening for the last 26 years. The graphic editorial reports that this conference is just a familiarity with no major outcomes while the world keep on facing the terrible effects of climate change.

Figure 10

Climate, fire in Europe: profits versus climate



Intersemiotic Ideational Complementarity

The visual elements in figure 10 constitute a man that seems to be playing hide and seek while the tree on which he is leaning to count is on fire. Dark and thick smoke is coming out of it filling the whole sky. Behind the man is a wave of water containing a house and a tree. The wave of water is to show natural disaster, tsunami. Also, at the far end, more like the background of this whole graphic shows factories or industries in black as representative smoke is coming out, typical to factories is coming out of it. The verbal elements of the graphic include a statement in a bubble "COP 24,25, 26....". Just like how children count for the play of hide and seek, the man is counting all the previous

conferences. The semantic relation between the visual and verbal elements shows Intersemiotic complementarity (Royce,1998) as highlighted in table 4.10. Overall, the editorial is about one subject matter.

Table 4.10

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The man seems to be playing a children game 'hide and seek while serious incidents of tsunami, fires and heat waves are happening around the world. Also, he is counting the number of conferences held on climate till now. This act tells that he is one of the representatives of these conferences and just like all consider it a game, a non-serious matter to worry about	Intersemiotic Meronymy	LEXICAL REFERENCE: "COP 24,25, 26....".

Intersemiotic Interpersonal Complementarity

In terms of visual address (Royce,1998), figure 10 doesn't indulge reader/viewer in any conversation. The level of involvement is none as the reader/viewer is just an observer who is absorbing information and might be forming a judgment. No power supremacy is shown among the reader/viewer and the representative participants of the graphics. There is high modality as it reports on the climate summits and their zero actions to counter climate challenges. The verbal and visual elements validate the theme via each other thus creating attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The composition of analysis highlights use of two modes, verbal and visual in figure 10. The image depicts a scenario of trees on fire and thick black smoking spreading in the atmosphere. A big wave of Tsunami with wrecked houses and trees tells that it is carrying ruins of places destroyed by it. The verbal references to 24th, 25th, 26th climate summits complement the visual modes. Together, the graphic report on the ineffective outcomes of climate conferences with zero actions while the world is in continuous turmoil of climate change. Therefore, both the modes hold equal value in

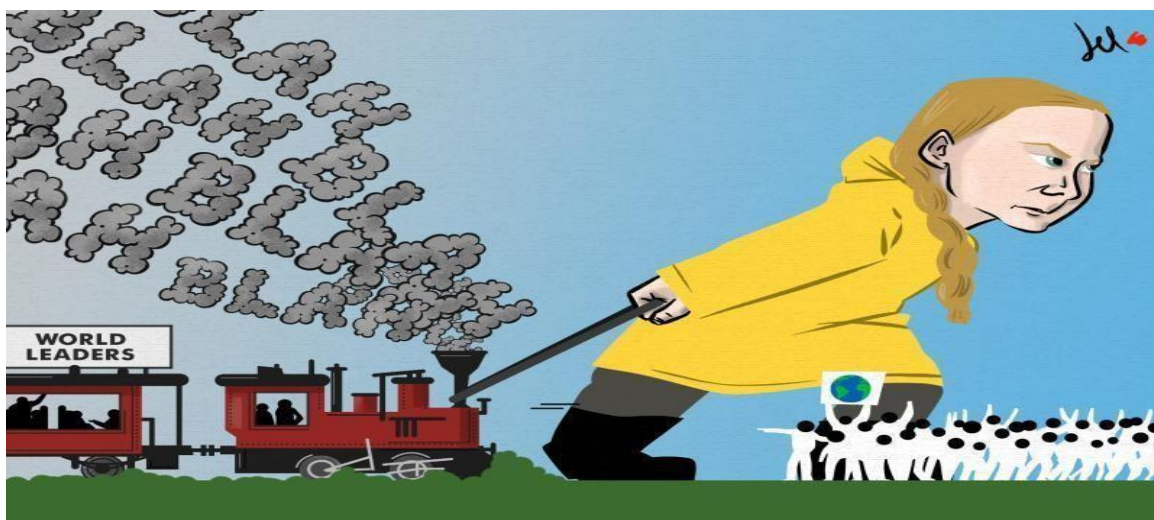
dissipating information to the reader/viewer. The visuals are spread throughout the graphic hence the visual modes hold salience as compared to the verbal mode. Furthermore, the author has effectively managed the interplay of visuals by employing complementary and meticulous illustrations to depict climate challenges and the consequences, thereby preserving the inter-visual synonymy (Royce,1998). This is to preserve the Intersemiotic nature of this graphic within its composition.

Graphic no. 19

Graphic: Blah blah blah by Emanuele Del Rosso

Scenario: This graphic editorial by Emanuele Del Rosso named Blah blah blah posted on 30th September, 2021 on the platform of CARTOON MOVEMENT. The graphic is about a popular and young climate activist Greta Thunberg who speaks openly about the world leader's ignorance and incompetence regarding measures and actions for climate change and its causes. The teenage Swedish climate campaigner Greta Thunberg has become a leading figure in international climate change discussions. She has inspired young people all around the world to take action on climate change and has captured the attention of the public with her tireless advocacy. Thunberg's powerful "blah blah blah" speech at the United Nations in 2019 has become a symbol of the anger many people feel against world leaders for their lack of action on the climate catastrophe. Considering the current climate crisis, her statements serve as a sobering warning that strong action from world leaders is required to tackle climate change and save the planet for future generations.

Figure 11
Blah blah blah



Intersemiotic Ideational Complementarity

The visual elements of figure 11 depict a large caricatured Greta Thunberg in her signature yellow raincoat who is sketched as dragging a train. The train seems to be carrying the world leaders and Greta is dragging them. The train from its whistle exclude words like 'BLAH BLAH BLAH BLAH' in the shape of smoke instead of real smoke. At the forefront of Thunberg, some people are seen in white body and black hair to represent real people with one of them carrying a banner with an earth shape on it. All the people are cheering on her. The verbal elements just include a banner on train with 'WORLD LEADERS' written on it and the words "BLAH BLAH BLAH" coming out from whistle of the train. The semantic relation of Intersemiotic synonymy and Intersemiotic meronymy (Royce,1998) explain this inter-harmonious dependability between the two semiotic systems. They are represented in table 4.11.

Table 4.11

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The train in the graphic seems to carry some people as they can be seen in black silhouettes. They are world leaders that are basically the addressee of Greta in all her speeches	Intersemiotic Synonymy	Lexical reference: The banner in white color on top of the train with words "WORLD LEADERS' on it.

The words "BLAH BLAH BLAH BLAH" coming out from the whistle of the smoke are the words from Greta's famous speech in UN.

Intersemiotic
Meronymy

Lexical reference:
The word 'BLAH BLAH BLAH BLAH'

Intersemiotic Interpersonal Complementarity

The word 'BLAH BLAH BLAH BLAH' The interpersonal analysis of figure 11 highlights the visual address in the form of visual participants of the graphic that corroborates the verbal references. The level of involvement shows reader/viewer again just taking up the information, interpreting it and forming a judgment. The reader/viewer is not addressed in any way and the representative elements of the graphic is on eye-level to each other. The graphic has high modality as it portrays Greta Thunberg's resolve on climate, her famous speech in UN and calls for world leaders to work for it. Also, the visual and verbal elements depict a complementary behavior among each other thus supporting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 11, the visual modes illustrate a large caricaturized image of Greta Thunberg dragging a train while people cheer for her. The verbal offerings are enlarged and spread throughout one side of the panel. The words 'BLAH BLAH BLAH BLAH' said by Thunberg in the UN assembly shows that the two different modes complement each other in a very creative manner. Thus, both modes held equal value to convey information to the reader/viewer. Also, both the modes held equal salience as there is equal spread of verbal and visual information throughout the graphic editorial.

Furthermore, the visual express Thunberg's stance on pushing world leaders to take climate action in an interesting manner. The artist has achieved a harmonious and complimentary visual composition by carefully balancing their designs, thereby preserving inter-visual synonymy (Royce,1998). The purpose to preserve the integrity of this picture as a cohesive Intersemiotic entity is achieved via careful composition.

Graphic no. 20

Graphic: Greta and change by Maarten Wolterink

Scenario: This graphic editorial reports the COP26 climate summit in Glasgow, the world once again experienced the astonishing presence of Greta Thunberg, the young Swedish climate activist who has become an image of change in the battle against global calamity. This graphic by Maarten Wolterink was posted on 26th October, 2021 on the platform of CARTOON MOVEMENT

Figure 12

Greta and change



Intersemiotic Ideational Complementarity

The visual elements of figure 12 include a large caricatured picture of Greta Thunberg. Her open mouth and an angry and resolved face depict that she is making a remark or statement in great anxiousness. Her pointed finger seems to accuse someone of a charge. The backdrop shows a large number of people gathered as audience. The verbal elements include a declarative statement by Greta as " IT'S BEEN ALMOST TWO YEARS! AND NOTHING HAS CHANGED! Also, the statements in a smaller size under the main heading can be seen. They seem to emerge from the audience and are as "WELL, YOUR HAIR LOVE! AND "NO BRAIDS, RIGHT?" Moreover, COP 26 written in green color with a shade and misty effect tells that Greta seems to be speaking at some conference on subject of climate. The semantic relation of Intersemiotic synonymy and Intersemiotic meronymy (Royce,1998) as highlighted in table 4.12. explain this inter-harmonious dependability between the two semiotic systems.

Table 4.12

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
Caricaturized Greta is shown in adult form with her hair black	Intersemiotic Synonymy	Lexical reference:
and open unlike two years ago when she first emerged as a young girl in braids. Greta face full of angst and stress with an open mouth tells that she is making a serious statement while her pointed finger seems to be accusing someone. This image shows her making a speech at COP 26	Intersemiotic Meronymy	The words "...YOIR HAIR... " and "NO BRAIDS RIGHT" Lexical reference: The statement " IT'S BEEN ALMOST TWO YEARS! AND NOTHING HAS CHANGED! is just a part of her whole speech given at COP26.

Intersemiotic Interpersonal Complementarity

The interpersonal analysis of figure 12 highlights that the graphics visual participants resonate with the verbal references. Thus, the visual address complements the lexical play of words and statements. The level of involvement (Royce,1998) is none as the reader/viewer is just an observer. The information is absorbed by him/her and no active participation is required. The representative participants of the graphic and the reader/viewer are in no place to compete for power supremacy over each other. The graphic reports on a real and true situation of Greta's address in COP 26 thus containing high modality. Also, the verbal and visual complements each other to convey a similar subject matter hence showing attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The composition of analysis emphasizes the utilization of both visual and verbal modalities in figure 12. The image of Greta Thunberg is sketched and her facial expressions depict a resolved attitude with many people depict as an audience. The verbal statements supplement the image by giving information on climate resolve of her. Therefore, both the modes hold equal value for reader/viewer to interpret the graphic editorial. Moreover, in comparison of verbal-to-verbal ration, the visuals have invaded the graphic. Therefore, visual modes have more salience on the page. Moreover, the visual are designed in a way that sketch the scenario of Greta's speech and presence in the summit completely. Through careful balance of their designs, the artist has successfully accomplished a visually harmonious and complementary

composition, thus maintaining inter-visual synonymy (Royce,1998). The objective of maintaining the cohesion of this image as an Intersemiotic entity is accomplished through meticulous composition.

Graphic no. 21

Graphic: Petroberculosis by Rodrigo de Matos.

Scenario: This graphic by Rodrigo de Matos published in October, 2021 reports the Fuel consumption around the world was severely impacted by the COVID-19 epidemic. As a result of lockdowns, travel restrictions, and economic uncertainty, energy demand plummeted, and manufacturing and transportation ground to a halt. Combining the words "petroleum" and "tuberculosis," "Petroberculosis" is a metaphor for the sickness that hit the energy industry at the time. The graphic is representation of the slump felt in fuel consumption and also manifest that in future earth need measures for its sustained environment and climate.

Figure 13

Petroberculosis



Intersemiotic Ideational Complementarity

The visual elements of figure 13 represent earth in a hospital room coughing and looking sick. A doctor can be seen standing in front of earth with his pointed fingers upward, more liking advising earth about its condition. The room is in dull green color whereas earth is in symbolic blue and brown color. Black spots seem to cover the earth These spots are as the remnants of oil and grease. The verbal elements include a statement from doctor “I ADVISE YOU TO STOP OILING!” in a speech bubble. Also, the words “COF COF” emerge in air as earth is coughing. The semantic relation of Intersemiotic hyponymy (Royce,1998) as shown in table 4.13 between the two semiotic signs confirms one narrative being constituting this graphic editorial.

Table 4.13*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
Earth covered with black spots is grease and oil remnants shows that fuel consumption and its effect on earth are broader theme of discussion	Intersemiotic Hyponymy	Lexical reference: The words "..... stop oiling!"

Intersemiotic Interpersonal Complementarity

The interpersonal analysis of figure 13 highlights the visual address in which the images corroborate with the verbal elements of the graphic. The earth in a gruesome and sick condition is credited with the editorials verbal offering. Also, the level of involvement called for the reader/viewer is none and the constructor of the graphic has produced it as a source of information. The reader is to interpret the situation and activities followed by acknowledging it, accepting/denying or forming any judgments. The power relations (Royce,1998) among representative participants (Royce,1998) of the graphic and the reader/viewer is on equal grounds as they are placed on eye-level to each other. Moreover, the graphic has high modality as it reports the excessive use of fossil fuels like oil, coal and their harming effects for planet earth. Thus, the verbal and visual elements highlight a similar theme of discussion highlighting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The compositional analysis of figure 13 editorial highlights two modes at work in this graphic editorial, visual and verbal. The visual modes resonate with the verbal reference so the reader/viewer can interpret. So, in terms of information value (Royce,1998), the multimodal signs functions for dissipation of thought in the graphic. However, the visual mode hold salience on page due to its invasion throughout the graphic where the verbal offerings are squeeze in small black font in a speech bubble at the top. Moreover, the images are designed and illustrated in a way that shows them as a unit. This is because of the inter-visual synonymy (Royce,1998) that allows the visual spread to depict one single scenario. The goal of preserving the unity of this image as a multi-modal entity is achieved by careful arrangement.

Graphic no. 22

Graphic: Flooding caused by climate change by Chris Madden

Scenario: The graphic by Chris Madden was published on July 21, 2021 on the platform of CARTOON MOVEMENT is an effective visual representation of the complex problems caused by flooding and climate change; it serves as a sobering reminder that this is not a subject that can be put off indefinitely. The connections between floods, climate change, and global warming highlight the far-reaching effects of our altering climate. floods have evolved into a constant and potentially catastrophic risk for populations all over the world. The accompanying picture is a perfect visual for this story's theme. Rising water levels have given new meaning to the idiom "We'll cross that bridge when we come to it," which is usually used figuratively to indicate readiness to cope with situations as they occur.

Figure 14

Flooding caused by climate change



Intersemiotic Ideational Complementarity

The graphic as figure 14 is one frame divide into two panes horizontally to represent two different scenarios. The visual signs in the top pane include a person reading some file or report. The sign board at the back of person says that it's a climate forecasting institute and the person reading a report is an official person who works in this department. The verbal elements constitute a sign board with CLIMATE FORECASTING INSTITUTE written in it and two speech bubbles. The bubble at the top is statement related to the report that person is reading as it states "ACCORDING TO THIS REPORT, GLOBAL WARMING MAY CAUSE SERIOUS FLOODING!"

Moreover, the speech bubble under it is a statement of opinion from the person with an idiom “WELL. WE’LL CROSS THAT BRIDGE WHEN WE COME TO IT”. The semantic relations between the two sign systems confirms Intersemiotic complementarity.

In the second pane, two person are seen standing hopelessly at the start of the broken bridge. Under that bridge now broken by fast-flowing floods is water still at its quick pace of flow. The verbal elements only include a sign board falling behind the men with words “FLOOD “written on it. Again, in this pane as well both the elements work in collaboration as to show dependency of these two semiotic systems. The semantic relations under ideational metafunction analysis by Royce (1998) are highlighted in table 4.14

Table 4.14

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The person reading a report on climate as he works in the office of climate forecasting institute	Intersemiotic Synonymy	Lexical reference: The words "...GLOBAL WARMING..... SERIPUS FLOODING”
Two persons standing at the start of a broken bridge with a need to cross the bridge	Intersemiotic Synonymy	Lexical reference: The statement "cross that bridge....”
In the bottom window, a situation of serious floods is depicted	Intersemiotic Repetition	Lexical reference: The sign board with the sign ‘FLOOD’ written on it.

Intersemiotic Interpersonal Complementarity

The visual address of graphic 14 presents a situation of floods and climate effects which goes in sync with the verbal offer of information. Moreover, the level of involvement (Royce,1998) of a reader/viewer is none and he/she is just offered to make interpretations and form some judgments. The reader/viewer is placed at eye-level to the representative participants (Royce,1998) of the graphic so that no one is at superior level. The graphic has high modality because it’s a factual graphic editorial on the excessive floods observed throughout the world as a result of climate change. Furthermore, the verbal statements and visual offerings resonates and complements each other to highlight same subject matter being delivered thus

showing attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The compositional analysis of figure 14 editorial reveals the presence of both visual and verbal modes. The visuals in the image clearly depicts the two scenarios as one window is divided onto two panes horizontally. Both of them illustrate a different setting and thought however, the bottom scene depicts the consequences of top panel. This is interpreted by the supplemented verbal information in both the panes. So, in terms of information value (Royce,1998), both the modes are vital for reader/viewer to comprehend the graphic. Also, the visuals are aligned in a systemic way to present a complete setting so that the viewer can better understand. This can be seen in as the persons presence in an office can be known by his formal dress and the situation of flood is accentuated by a torn bridge from the mid and a signboard with the words ‘FLOOD’ on it. This is how the illustrator imposed inter-visual synonymy by Royce (1998) in the graphic. Through meticulous arrangement of graphic layout, the objective of maintaining the cohesion of this image as a multi-modal entity is accomplished.

Graphic no. 23

Graphic: Climate action distraction by Peter Sully

Scenario: This graphic editorial by Peter Sully posted at the platform of CARTOON MOVEMENT on November 1st, 2021 reports the Australia's climate policies. The graphic is a sarcastic but factual take on Australian Prime Minister, Scott Morrison statement on reducing carbon emissions to zero by 2050. He put too much responsibility for reducing emissions on businesses and people without correspondingly strong government actions or legislation for it.

Figure 15

Climate Action Distraction



Intersemiotic Ideational Complementarity

In figure 15, the graphic visual elements show caricatured Australian PM, Morrison dressed in blue suit and red tie followed by a news reporter with long hair and yellow shirt. The mic in his hand pointed to Morrison depicts his profession of being a news reporter. The visual elements contain multiple statements. They are asked in the pattern of Question./Answers where the reporter is asking and Morrison is answering. The visual and verbal elements of the graphic editorial synchronize with each other and depend on each other for dispersion of a unified narrative. Table 4.15 highlights the semantic relation in figure 15

Table 4.15

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The caricatured image of Australian Prime Minister Morrison is shown and he is the one answering questions in an interview	Intersemiotic Hyponymy	Lexical reference: The words "The MORRISON GOVERNMENT....."

Intersemiotic Interpersonal Complementarity

The Intersemiotic analysis of figure 15 highlights that the visual address is synchronized with the verbal offerings. The graphic contains an image of Morrison,

the PM of Australia, and his public statements on climate actions that corroborates a similar happening. Therefore, the graphic has high modality as it's a factual reportage of a political happening. The reader/viewer involvement in the graphic is none as he is just taking in the information conveyed via visual and verbal signs juncture. Moreover, the reader/viewer is set on an equal level to the participant of the graphic as to show no power or dominance over each other. The verbal offerings highly resonate with the images visual elements thus depicting an attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

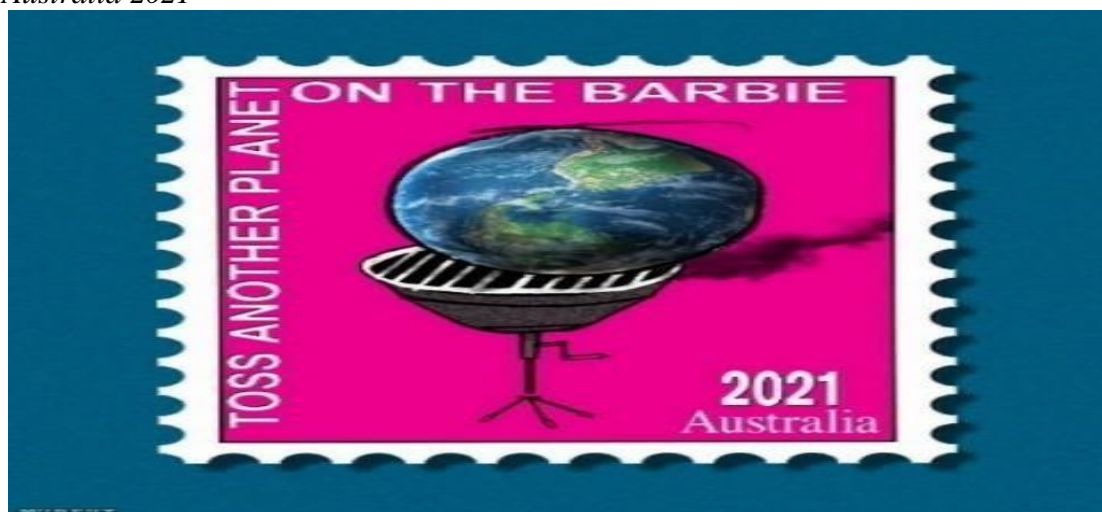
The graphic editorial compositional analysis identifies two modes, visual and verbal at work in this editorial. In figure 15, the images of Prime Minister Morrison and a reporter are supplemented by linguistic references. These statements supplement the missing context as to what is being talked about. Therefore, both the modes hold information value in this graphic. Moreover, the visual to verbal ration in this graphic is equal. There is equal invasion of both modes spread on the page. Each of the repeated caricature is being supplemented by the verbal statements. Also, the images are arranged systematically to show the interview and the response to every answer. Hence, the illustrator of graphic maintained inter-visual synonymy (Royce,1998). By employing careful structuring of visual composition, the aim of preserving the unity of this image as a multi-sensory entity is successfully achieved.

Graphic no. 24

Graphic: Australia 2021 by Daniel Murphy

Scenario: This graphic by Daniel Murphey posted on 27 October, 2021 at the platform of CARTOON MOVEMENT represent the situation of Australia through most of the year 2021. Throughout year, Australia has tolerated the distressing effects of climate change in the form of worst forest fires.

Figure 16
Australia 2021



Intersemiotic Ideational Complementarity

In figure 16, the visual elements of the graphic constitute a stamp with its conventional borders curated on the theme of earth facing climate challenges. The background is bright pink with a barbecue grill placed in the mid and earth tossed on it. Smoke is coming out of the griller to show that earth is being cooked. The verbal elements are a statement “TOSS ANOTHER PLANET” written in a longitudinal manner where in the top mid “ON THE BARBIE” is written. Altogether, it is a one statement “TOSS ANOTHER PLANET ON THE BARBIE” broken into two. At the bottom right corner of the stamp “AUSTRALIA 2021” is written. The visual and verbal elements of the graphic show a depending attitude to report the climate challenges faced by Australia. The semantic relations are highlighted in table 4.16.

Table 4.16

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The pink color in the background is symbolic for character of barbie. Planet earth is shown being barbecued on a grill.	Intersemiotic Repetition Intersemiotic Synonymy	Lexical reference: The word “.....BARBIE” Lexical reference: The statement “TOSS ANOTHER PLANET FOR A BARBIE”
The smoke is a reference for fire that once happened. In the graphic smoke is coming out of one part of	Intersemiotic Meronymy	Lexical reference: The words “AUSTRALIA 2021” on the graphic.

earth. This is Australia's forests
that burnt throughout year.

Intersemiotic Interpersonal Complementarity

In visual address of figure 16, the graphics representative participants (Royce,1998) like earth shown to be burning on a griller and the verbal references like Australia 2021 convey a similar attitude and subject matter of forest fires and extreme temperatures being addressed. The level of involvement of the reader/viewer is none as he/she is just an observer of everything happening and taking information. The participants of image and the reader/viewer are on eyelevel so no supremacy over one another is shown. The graphic has high modality as it reports on a real happening of wild fires and hot temperature being observed in Australia. Moreover, both the verbal and verbal offerings constitute a same theme thus depicting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The compositional analysis (Royce,1998) of figure 16 reveals the presence of both visual and verbal modes. The sketch of earth being burned on a griller is supplemented by the lexical reference. The statements stretched throughout the graphic informs the reader/viewer about specific idea being conveyed. The wildfires of Australia throughout the year 2021 is dispersed by the image to give a more visceral experience of what earth is going through. Therefore, both the modes collaboratively make it possible for reader/viewer to comprehend the graphic editorial. Moreover, the image of earth on a griller is the first thing that caught viewer attention. This is why visual modes hold more salience in this graphic. Also, the visuals are arranged and composed carefully with display of earth on a griller and graphics outlook in the form of a stamp to indicated fires of Australia as an important and memorable incident. Thus, the creator maintained an inter-visual synonymy (Royce,1998) as well. The goal of preserving the unity of this image as a multi-modal entity is achieved effectively by means of careful design of the graphic layout

Graphic no. 25

Graphic: Earth stove 2021 by Steve Greenberg

Scenario: This graphic by Steve Greenberg posted on 11 November, 2021at

the platform of CARTOON MOVEMENT reports on COP26 Climate Summit in Glasgow where despite growing evidence of the critical need to tackle climate change, world leaders looked to be at a loss as to how to make the difficult choices required to take meaningful action in response to this global calamity. The summit was a critical occasion for world leaders to discuss and negotiate ways to lessen the effects of global warming. Extreme weather events, rising sea levels, and ecological disruptions have all become increasingly prevalent as a result of climate change, that raised expectations for the summit.

Figure 17

Earth stove 2021



Intersemiotic Ideational Complementarity

In figure 17, the visual signs illustrate the picture of a large stove with an equally large pan on it. Part of earth is seen inside the pan where the knob of the pan is like a meter showing distinct situations and happenings being faced by earth. The stove is lit and fire in orange color can be seen. The knob of the stove is pointing towards Glasgow climate summit. The graphic reports the 26th climate conference. The verbal elements include number of situations around the knob of stove from LOW, SIMMER, MEDIUM, HOT, ALARMING HOT to subjects that need to be discussed in the summit that earth is going through now as TARGET GLOBAL TEMPERATURE RISE, TOO-LITTLE TOO LATE NEXT CLIMATE SUMMIT and PARIS CLIMATE ACCORD. Together, these verbal and visual elements complement each other to report on Glasgow climate summit as highlighted via semantic relation in table 4.17

Table 4.17*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The planet earth shown as being on fire and cooked refer to the number of heatwaves, increased temperatures and forest fires faced by earth due to climate change.	Intersemiotic Synonymy	Lexical reference: The words " TARGET GLOBAL TEMPERATURE RISE, SIMMER, MEDIUM, HOT, ALARMING HOT"

Intersemiotic Interpersonal Complementarity

The interpersonal analysis (Royce,1998) of figure 17 highlights the visual address with the representative participants in the form of earth placed on stove and the verbal offerings accentuate the theme of the graphic. This shows high modality of the graphic for reporting on realistic situation of climate challenges that world is facing. The level of involvement of reader/viewer is of an observer who interprets the information and form judgements. Moreover, the participants of the graphic are at eye- level to the reader/viewer. Therefore, the verbal and visual offerings convey a similar thought and information thus highlighting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 17, two modes, visual and verbal are demonstrated to be in operation in the graphic editorial through compositional analysis (Royce,1998). The image of earth in pan with fire lit underneath the stove is not a general depiction of a thought. Rather it is supplemented by the stove knob various levels to indicate the dilemmas and problems faced by earth. Therefore, both the modes hold equal information value. Also, the sketch invades most of the graphic and grabs the viewer attention. So, visual modes held salience in the editorial. Furthermore, the sketch shows pictures of stove, fire, pan, earth in one that complements each other. This is done by creator with an aim to maintain inter-visual synonymy (Royce,1998) in the graphic. By skillfully ordering the graphic composition, the goal of preserving the unity of this image as a multi-modal entity is successfully achieved.

Graphic no. 26

Graphic: COP 26-Time for Action

Scenario: This graphic editorial by Gezienus Bruining published on 3 November, 2021 at the platform of CARTOON MOVEMENT report the Climate Change (COP26) was set to take place in Glasgow, Scotland from 31 October to 12 November, 2021. The editorial depicts that a practical action and implementation of measures is needed instead of just talks and long discourses on this subject matter.

Figure 18

COP 26-Time for Action



Intersemiotic Ideational Complementarity

In figure 18, the visual elements of the graphic illustrate a mouth open with teeth to show that with extreme effort something is being said. There is a hand loudspeaker with COP 26 written on it to tell that the topic of discourse is the climate summit. A large and bulky hand coming out from the speaker and fist closed show a resolved attitude that plans on countermeasures for climate change need to be put into action. The verbal elements of the graphic include a statement “TIME FOR ACTION” in bold red color to highlight the demand for action. Another statement “TALK IS CHEAP” in black color at the beginning of arm in a small font is written. The words “COP 26” are written on the loudspeaker. The verbal and visual sign depends on each other in this graphic to show a complementary behavior as highlighted in table 4.18.

Table 4.18*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The mouth in the graphic shows that it is talking about something. Also, the hand loudspeaker is used to talk so that voice can be forward to many ears.	Intersemiotic Meronymy	Lexical reference: The word "TALK IS CHEAP"
A big bulk hand is shown with fist close to show resolve for a practical work.	Intersemiotic Meronymy	Lexical reference: The statement "TIME FOR ACTION"

Intersemiotic Interpersonal Complementarity

The interpersonal analysis (Royce,1998) of figure 18 highlights visual address in which the representative participants validate the verbal offering. The image of a mouth speaking through a loudspeaker with COP 26 written on it and the statements on the image of arm insinuate the matter of climate awareness and the movements regarding it globally. Thus, it has high modality. The level of involvement of the reader/viewer is of an observer who takes in information and agrees or disagrees with what he/she interprets. Also, elements of graphic like the representative participants (Royce,1998) are on eye-level to the reader/viewer. The visual and verbal elements convey a similar thought and information thus highlighting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 18, the compositional analysis (Royce,1998) of graphic editorial reveals the presence of both visual and verbal modes. The image sketched in colors is incomplete and coordinates with lexical references for complete comprehension. Therefore, both the modes hold information value. Also, the visual to verbal ratio is more in the editorial. So, visual modes possess salience. Furthermore, in graphic the mouth, loud speaker, hand and the resolved fist resonates with each other to dissipate a resolved image for climate action. This is how inter-visual synonymy (Royce,1998) is achieved in this editorial. The objective of maintaining the cohesion of this image as an Intersemiotic entity is accomplished through meticulous composition.

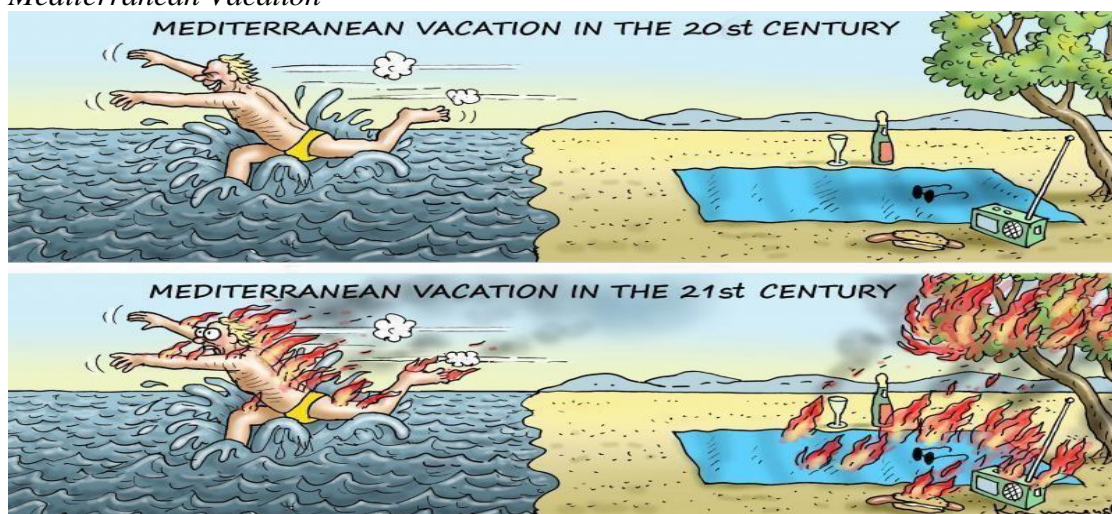
Graphic no. 27

Graphic: Mediterranean Vacation by Marian Kamensky

Scenario: This graphic by Marian Kamensky posted on 6 August ,2021 at the platform of CARTOON MOVEMENT depicts the contrasting situations of two centuries that how people spent their leisure time at beach. The graphic editorial presents a visual reprieve and a chance to escape to the peaceful shores of the Mediterranean.

Figure 19

Mediterranean Vacation



Intersemiotic Ideational Complementarity

In figure 19, the above graphic editorial is divided into two panel horizontally. Both the windows depict same place in some mediterranean country. A sea-coast is shown where people come to enjoy nature and have fun. The visual elements illustrate a picnic display with a blue blanket and food shown. A man is seen running towards water in shorts. The difference lies in the mood of both panes. In the top window, the man is running excitedly towards water. Whereas, in the bottom window, the same man is shown in horror and engulfed in fire running towards water to put it out and get to a safe zone. The verbal elements include a statement on them that highlights that two panes show time period. These statements are “MEDITERRANEAN VACATION IN THE 20th CENTURY” and “MEDITERRANEAN VACATION IN THE 21st CENTURY”. The verbal and visual sign complement each other to depict their dependent behavior on each other to tell meaning. The semantic relation in figure 19 are highlighted in table 4.19.

Table 4.19*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The scenario of a sea-side tells that it's in a mediterranean country where people enjoy sea coasts as beach.	Intersemiotic Synonymy	Lexical reference: The word: "MEDITERRANEAN"

Intersemiotic Interpersonal Complementarity

In terms of visual address, the representative participants of figure 19 and the verbal offerings corroborates with each other to convey information on same subject matter. The same place shown with distinct climatic conditions are accentuated by the combine play of images and statements thus working in sync. The level of involvement of the reader/viewer is to interpret the graphic editorial and form a judgement. Also, the elements of the graphic are at eye-level to the reader/viewer thus placing both at the same level. The graphic report on the wildfires observed in mediterranean countries thus it contains high modality. Also, the verbal and visual offerings visual offerings convey a similar thought and information thus highlighting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 19, the investigation of the graphic editorial reveals the presence of two distinct modes: visual and verbal. The image gives an idea to what is represented in the image however, the lexical offering supplement the visual. Hence, both the modes hold information value. Also, the visual invades most of the graphic in both panes thus having visual salience. Also, the visual display of a beach with water and man wearing shorts represent a complete scenario. This highlights an inter-visual synonymy (Royce,1998) in the graphic. The objective of maintaining the integrity of this picture as a coherent Intersemiotic entity is attained by careful composition.

Graphic no. 28

Graphic: Climate Crisis: Climageddon by Timo Essner

Scenario: This graphic by Timo Essner posted on 3 August, 2021 via the platform of CARTOON MOVEMENT captures the dire urgency and impending disaster of the climate dilemma. The artwork depicts a clock against a backdrop of a smoldering earth to emphasize the urgency of the current moment in terms of climate change. Climageddon is

a book that gives data and information on global warming in a way that can be most understood by the people. It gives the most realistic illustrations of the impacts and possible consequences in the long-run if anything is not done soon.

Figure 20

Climate Crisis: Climageddon



Intersemiotic Ideational Complementarity

In figure 20, the visual elements of the graphic include a burnt and destroyed earth. Half of the earth is turned to dust. Two people can be seen sitting in a chair that seems to control the movement of earth like a spaceship. Flames in orange have engulf the earth from the sides. The earth is shown in worst of its condition. The verbal elements include a speech bubble with a statement “HURRY UP, ITSNOTREAL IS CLOSING IN” by a person sitting behind the other who is driving the earth. The semantic relations between the semiotic systems as highlighted in table 4.20 depict complementary behavior between the semiotic signs.

Table 4.20

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The earth driven as a destroyed ship by two persons as in fictional movies with fire and destruction everywhere	Intersemiotic Synonymy	Lexical reference: The words “... ITSNOT REAL”

Intersemiotic Interpersonal Complementarity

The Intersemiotic analysis (Royce,1998) of figure 20 highlights the visual address that corroborates with the verbal offerings. The representative participant of the graphic that is a destroyed earth and driven like a destroyed spaceship in a game complements the verbal statements “ITSNOTREAL” like a fictional movie scenario. The graphic is a source of information for the reader/viewer as it makes them realize about the consequences of avoiding climate action thus containing high modality. The level of involvement by reader/viewer is of an observer who interprets and then form judgements. The elements of graphic are placed at eye-level to the reader/viewer. Together, the verbal and visual signs convey a similar thought and information thus highlighting attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

Visual and linguistic modes are brought to light in the compositional examination (Royce,1998) of figure 20. The image of earth in a devastated condition and rode by two persons is complemented by verbal statements in a speech bubble. The verbal mode is a lexical reference to earth’s condition in future if climate change is not dealt as a serious issue. Thus, both the modes hold value to convey complete information to the reader/viewer. Moreover, the visual invades the whole graphic while the ratio of verbal mode is low. So, visual mode is more salient in this editorial. It also maintains inter-visual synonymy (Royce,1998) by coordinating the visual elements systematically. The objective of maintaining the integrity of this picture as a coherent Intersemiotic entity is attained by careful composition.

Graphic no. 29

Graphic: World climate report by Marian Kemesky

Scenario: This graphic by Marian Kemesky posted on 27 October, 2021 at the platform of CARTOON MOVEMENT represent the consequences of industrialization that has taken most of the land. The trend of urbanization was revolutionary one but it is becoming a major cause of climate change. Gases and waste produced and eliminated unprocessed. Rural lifestyle and land are minimizing day-by-day and factories has taken up most of our urban areas

Figure 21*World climate report***Intersemiotic Ideational Complementarity**

In figure 21, the visual elements of the graphic depict a large amount of area covered by huge buildings. These buildings seem to be factories as smoke can be seen coming out from their top. Factories and mills have pushed houses and residential area to the edge. A man from one of the buildings can be seen standing in its window saying something. Nature has little or no place to grow and survive. At the edge, rural lifestyle with animals grazing and smoke from burning coal can be seen. The verbal elements of the graphic include three questions from the man towards the people who are still living with a rural lifestyle. These are stated as “HEY YOU! YOU’RE STILL HEATING WITH COAL? WHERE ARE YOUR SOLAR PANELS? AND WHAT’S WITH THE METHANE EMITTING COWS?” The verbal and visual elements of the graphic complement each other to deliver one thought and subject matter. The semantic relations highlighted in figure 21 are presented via table 4.21.

Table 4.21*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)

Smoke coming out from the house tells that some fossil fuels like coal is used for heating purposes.	Intersemiotic Synonymy	LEXICAL REF*ERENCE: “...HEATING WITH COAL....”
Animals like sheep and cows are seen grazing grass	Intersemiotic Synonymy	LEXICAL REFERENCE: “..... COWS?”

Intersemiotic Interpersonal Complementarity

In terms of visual address, the figure 21 visual offerings complement the information conveyed via verbal statements in speech bubble. The graphic talks about industrialization and emission from factories that are polluting the environment and lexical references mock the rural way of living. The verbal offerings are a mock to the industrialists and urbanized way of living. Thus, the graphic depicts high modality. The level of involvement of reader/viewer is of an observer who is absorbing information and making judgements. The reader/viewer is on an eye-level to the representative participants of the graphic editorial. Also, the visual and verbal offerings highlight an Intersemiotic attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 21, both visual and linguistic forms are at work as revealed by compositional analysis. The image somehow speak for itself but the verbal offerings clarify the agenda. The verbal information states the modern ways being a huge cause of pollution and major stakeholder of climate change. Thus, the verbal and visual modes complement each other to convey information. Also, the visual is spread throughout the editorial and he verbal offerings a reduced to a statement in speech bubble, this is why visual modes is more salient in the editorial. Also, the image of huge and numerous industries releasing different colored hazardous gases and the contrasting rural way of living complements each other. This highlights use of inter-visual synonymy (Royce,1998). Thus, the objective of maintaining the cohesion of this image as an Intersemiotic entity is accomplished through meticulous composition.

Graphic no. 30

Scenario: This graphic by Mr. Baltic on 15 January, 2022 at the platform of CARTOON MOVEMENT highlights the widespread hypocrisy seen in the approach to addressing global warming. The graphic is a satirical representation of

the obvious hypocrisy of countries and corporations who claim to support climate action while secretly engaging in practices that contribute to climate change. The word "hypocrisy" in the title draws attention to the fact that despite the critical nature of the climate problem, there is still a wide chasm between rhetoric and action.

Figure 22

Global Warming Hipocrisy



Intersemiotic Ideational Complementarity

Figure 22 depicts the Earth's continual struggle with rising greenhouse gas emissions, symbolized by a globe releasing carbon dioxide from its core. The world is covered in a whirling cloud of carbon dioxide responsible for the cause of global warming. To fully grasp the meaning of the artwork, it is necessary to identify the key characters and symbols depicted therein. The graphic shows a juxtaposition between the U.S. strategy to ban use of plastic straws while still being the second largest polluter in the world. The graphic depicts a person with a hat that is colored in colors and pattern of American flag. The person is directed towards the reader with his pointed finger. In the background, an insane amount of smoke is coming out of large combustors and smoke chimney. The American military seems to be using these combustors as "U.S ARMY" is written on one of the combustors. Three silhouettes of helicopters can be seen flying in the sky. The verbal signs include a statement "STOP USING PLASTIC STRAWS" at the bottom of the illustration. The visual and verbal elements complement each other through various semantic relations as highlighted in table 4.22.

Table 4.22*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
Helicopters coming from the vicinity of combustors that is in the U.S. army possession as written on one of them tells that they are army helicopters.	Intersemiotic Synonymy	Lexical reference: The words "U.S ARMY"
The pointed finger of the man depicts a warning sign for someone to stop doing something.	Intersemiotic Synonymy	Lexical reference: "STOP....."

Intersemiotic Interpersonal Complementarity

The interpersonal complementarity (Royce,1998) in figure 22 includes analysis of visual address, level of involvement, modality and power relations (Royce,1998). In terms of visual address, the representative participants (Royce,1998) of the graphic corroborate with the verbal references. The visual elements report U.S. military being the highest polluter of the world. However, the verbal elements convey U.S. counter-strategy by shunning the use of plastic. Therefore, it has high modality The contrasting information via both elements however make the reader/viewer to understand the thought being conveyed by the constructor of the graphic editorial. The representative elements of the graphic are set at eye-level to the reader/viewer but the person's eye-contact and pointed finger tells that the reader/viewer is addressed. The readers are asked to carry out action of shunning use of plastic that also involves the reader/viewer into a feat. Altogether, the verbal and visual elements offer highlights an Intersemiotic attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

Compositional examination of figure 22 reveals the presence of both visual and verbal modes. The image of a person in a hat with colors and pattern of American flag and the choppers and huge burners releasing smoke is complemented by a contrasting statement to shun use of plastic straws. The image utilizes the lexical references to help reader/viewer to comprehend the mockery and sarcasm behind it. Hence, both the modes are vital to convey information. Also, the visual covers most of the graphic. Although, the statement is in large font and cap but in verbal to visual ratio, the visual

elements hold majority. Thus, visual mode holds salience on the page. The aim of preserving the unity of this image as an Intersemiotic entity is achieved by employing careful composition.

Graphic no. 31

Graphic: COP 26 by Amorim

Scenario: This graphic by Amorim posted on 22 November, 2022 on the platform of CARTOON MOVEMENT reports the climate summit COP 26. The graphic embodies the global aspirations, complexity, and geopolitical factors surrounding the conference. To assure a sustainable future for future generations, the image serves as a strong icon of the vital duty to battle climate change while balancing the different interests of nations.

Figure 23

COP 26



Intersemiotic Ideational Complementarity

In figure 23, the visual signs are pictures of three men dressed in black formal wears, however, their faces are caricatured. Pictures of earths replace their faces to rather stress on them talking about earth life and its sustenance in future. A recycling bin is seen in which one person has a stack of papers in one hand while with other hand he is putting one paper in the recycler as it is shredding down to pieces. The verbal signs include one speech bubble with “PAPER RECYCLE!” in it said by one person and ‘COP 26’ written on the paper about to be shred. The semantic relations among the visual and verbal signs as highlighted in table 4.23 affirm their Intersemiotic relation.

Table 4.23

Ideational Intersemiotic complementarity

 IDEATIONAL METAFUNCTION

Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
One man putting paper in a bin that is shredding into pieces. The logo on it shows that it is used as a recycler for paper	Intersemiotic Repetition	LEXICAL REFERENCE: The words “PAPER RECYCLER”
The heads in place of faces wearing formal suits tells that they have gathered to talk about earth.	Intersemiotic Synonymy	LEXICAL REFERENCE: The words “COP 26”

Intersemiotic Interpersonal Complementarity

In terms of visual address, the representative participants in figure 23 shows three men with earth in place of their faces recycling paper and the lexical references offer the similar set of information. They are a source of information for the reader/viewer. The involvement of the reader/viewer is of an observer who acknowledge and interprets the graphic editorial and agrees or disagrees. The graphic editorial has high modality as it reports on the 26th climate summit. Also, the elements of the visual are at eye-level to the reader/viewer so there is no sense of superiority of multimodal signs in over reader/viewer and vice versa. Hence, a similar sense of information is conveyed through collaborative work of visual and verbal thus showing Intersemiotic attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

The compositional analysis of figure 23 reveals the presence of both visual and verbal modes. The image is supplemented by verbal references to vividly explain objective behind the graphic editorial. Therefore, both the modes hold value to dissipate information. Also, the visual to verbal ratio justifies more visual elements stretched throughout the graphic. Thus, the visual mode is more salient than verbal mode. Moreover, the sketch comprises of picture of people dressed formally, some papers, a paper recycler and earths as faces of gentlemen standing complements each other, they give viewer the idea that for earth’s cause recycling is urged. Hence, it is done via technique of inter-visual synonymy (Royce,1998) by the illustrator. The goal of preserving the unity of this graphic editorial as a multimodal entity is achieved by careful composition.

Graphic no. 32

Graphic: Assault on the planet by Arcadio Esquivel

Scenario: This graphic editorial by Arcadio Esquivel posted on 1 November, 2021 at the platform of CARTOON MOVEMENT reflects the urgency and intensity of the climatic disaster we are confronting. There are several fronts in this war, including the never-ending struggle to cut carbon emissions and switch to renewable energy, the defense of essential ecosystems, and the acceptance of the changes that are happening.

Figure 24

Assault on the planet



Intersemiotic Ideational Complementarity

Figure 24 contains both visual and verbal signs. The visual message elements include image of a man dressed in a suit and wearing glasses. A caricature of earth with hands and legs is shown who is standing at the edge of the cliff with teeth clenched and a frightful expression on its face as the man in pointing gun at it. The man has stretched his arm with open hand in a way that seem to be asking for something from earth. The verbal elements include a speech bubble that contain a statement from the man as “GIVE ME ALL YOUR RESOURCES!”. Both the signs depict semantic relations as shown in table 4.24 that confirm their Intersemiotic behavior.

Table 4.24

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION

Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
The person shown with a stretched and open hand asking for something Earth is filled with a lot of energy resources, natural and precious reserves that makes the most of the resources from which humans' benefits.	Intersemiotic Synonymy Intersemiotic Collocation	Lexical reference: The words "GIVE ME ..." Lexical reference: The words "...RESOURCES!"

Intersemiotic Interpersonal Complementarity

The Intersemiotic analysis of figure 24 highlight the parameters of visual address, modality, level of involvement and power relation. In terms of visual address, the representative participants of the graphic offer visual offers that complements the information via lexical information of the graphic. The graphic is a source of information for the reader/viewer. The level of involvement of reader/viewer is of an observer and interpreter. As the graphic reports on the excessive use of natural resources which is a real dilemma globally so it has high modality. Moreover, the visual participants are placed at eye-level to the reader/viewer, thus showing no power supremacy over one another. Hence, the visual information and verbal offerings complement each other to report on the same subject matter depicting Intersemiotic attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

According to the compositional analysis (Royce,1998) of figure 24, there are two forms of communication that are exploited in this graphic editorial: visual and verbal. The image of earth horrified and a person threatening it with a gun is somehow comprehensible by the viewer. But it is through verbal offering, the reader gets to know the specific idea that the creator of this editorial wants them to exploit. The resources of earth that needs to be preserved are snatched from earth for personal interests by people of this planet. This idea is comprehended by the complementary behavior of both modes in the editorial. Thus, both modes hold value to convey correct information to reader/viewer. Also, the verbal to visual ratio tells that visual elements are spread throughout thus holding more salience on the page comparatively. Furthermore, the caricature of earth, the fearful expression, the surrendering hand gestures and the man holding a gun and demanding in the sketch depicts an inter-visual synonym (Royce,1998). A complete thought is formulated through the nexus

of images and other visual elements. Hence, the objective to sustain the cohesion in this image as an Intersemiotic entity is achieved through meticulous composition.

Graphic no. 33-34

Graphic: WHERE THE GRASS GROW by Yorgos Konstantinou

Scenario: This graphic editorial is written by Yorgos Konstantinou posted at the platform of DRAWING THE TIMES in July 2022 report the contrasting situations in same city of Greece at two different time periods. It tells the story of how the climate of city was before any of pollution, global warming and heatwaves. The Pindos graphic contain illustrations while reporting the story in fun and appealing way for readers to practically read, view and feel the change that Pindos mountains and the premises has faced because of climate challenges.

Figure 25

WHERE THE GRASS GROW



Intersemiotic Ideational Complementarity

Figure 25 by Yorgos Konstantinou is divided into two frames but both are interconnected externally by a bar that starts in green color from the top window and ends in skin-yellow hues and connect it with the bottom one. The top window depicts many windows in one that express a different information in each one. The top frame constitutes many sub-windows. One of them show rain at the mountains. Another one illustrates a man who is standing with stretched hands to show his joy in this place. The mountains are filled with sheep who are grazing. The whole frame is in one monotonous color green to show the nature that flourishes here. The verbal elements contain a number of statements in speech bubbles and in the form of statements under windows as additive information.

The bottom pane is filled with skin and yellow hues as of Autumn. The visual elements depict number of sub-windows that depict the situation of July 2021 and July 2022 at the Pindos mountains. The mountains are bare of any grass and sheep are hungry. A cart carrying food for sheep is going up mountains. High temperature is seen with a person sweating from his face. The verbal elements are statements and information that adds up to the situations illustrated through images. The verbal and visual message elements in both the frames work in collaboration to express and convey meaning in this graphic editorial via semantic relations as shown in table 4.25.1. and 4.25.2

Table 4.25.1

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
A mountainous region is shown filled with green grass and sheep on it.	Intersemiotic Synonymy	Lexical reference: "THE MOUNTAINS" PINDOS
A grandma is shown pulling blankets on a child.	Intersemiotic Repetition	Lexical reference: "...FAT BLANKETS..."

Table 4.25.2

Ideational Intersemiotic complementarity

IDEATIONAL METAFUNCTION

Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
A man is seen sweating due to high temperature.	Intersemiotic Synonymy	Lexical reference: "...TOO HOT."
Sheep are climbing up the mountains	Intersemiotic Repetition	Lexical reference: "...40,000 sheep on the mountain."

Intersemiotic Interpersonal Complementarity

In terms of visual address of figure 25, the visual and verbal elements convey similar information to the reader/viewer. The visual and verbal offerings complement each other. The graphic is a report on the climate change of Mount Pindos throughout years due to climate change and global warming. Therefore, it depicts high modality. The reader/viewer is not directly involved in the graphic. Rather he/she is an observer who is assessing the information and acknowledging it. The reader/viewer can either agree or disagree to it. The elements of the graphic are placed at eye-level to the reader/viewer thus showing no struggle of power between the reader/viewer and the visual offerings and vice versa. Hence, the visual and verbal sign complements each other and depict an Intersemiotic attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 25, visual and linguistic modes are both brought to light in the compositional examination of graphic editorial. The visual and verbal modes in both the windows connected exteriorly are spread throughout. The visual images and signs are effectively supplemented by verbal offerings in the form of statements, linguistic cues and speech bubbles. Every picture, image and situation are complemented by some verbal offerings. This is why both the modes hold equal value to convey correct information to the reader/view for comprehension. Moreover, the verbal to visual ration is equal. Although, both modes are spread unevenly throughout the windows but at a glance, this division can be summarized as equal. So, both the modes hold salience on the page, Furthermore, the images are related in the sketch, the mountains, sheep grazing, the rain, cold climate, people in pullovers, increase temperature, sweaty people, less rain and many more visual signs promise a complementary attitude. This is done by maintaining inter-visual synonym (Royce,1998) in the graphic. Hence, careful and crafted

composition serves the objective of maintaining the picture's integrity as a unified Intersemiotic entity.

Intersemiotic Compositional Analysis

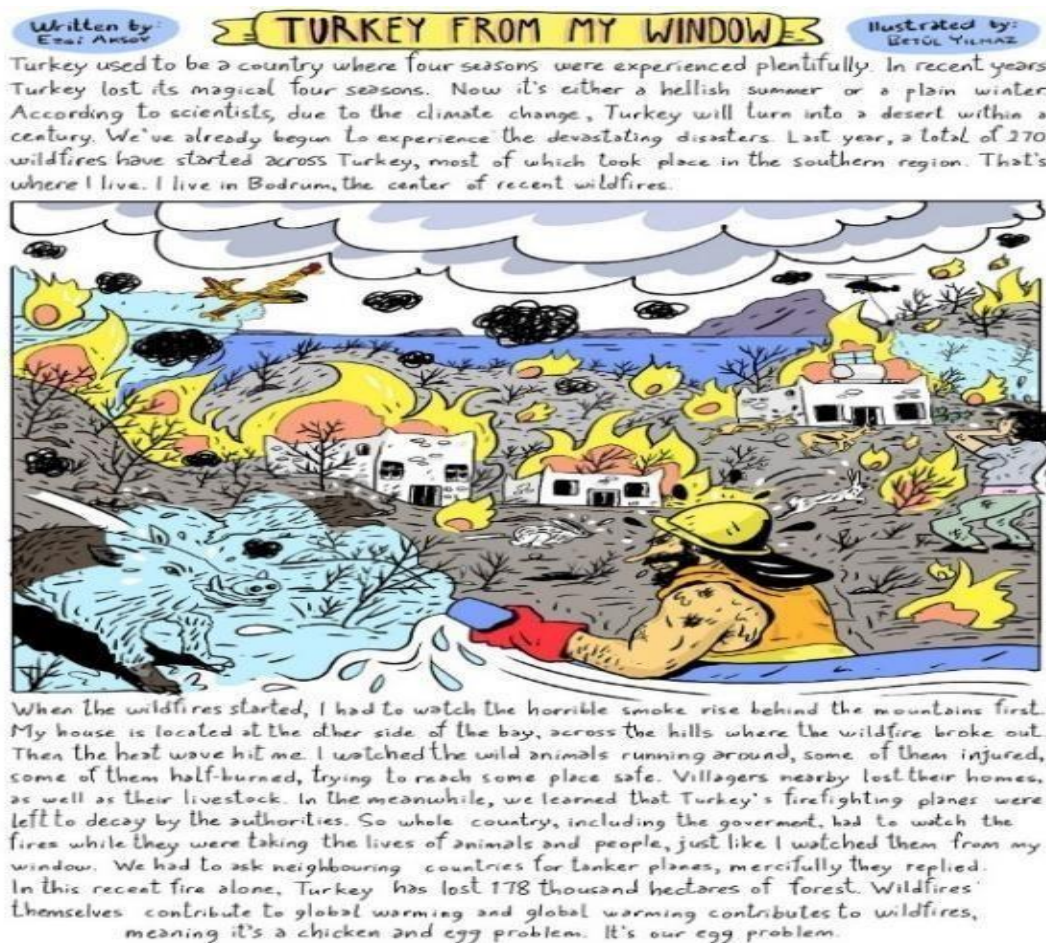
In figure 25, visual and linguistic modes are both brought to light in the compositional examination of graphic editorial. The visual and verbal modes in both the windows connected exteriorly are spread throughout. The visual images and signs are effectively supplemented by verbal offerings in the form of statements, linguistic cues and speech bubbles. Every picture, image and situation is complemented by some verbal offerings. This is why both the modes hold equal value to convey correct information to the reader/view for comprehension. Moreover, the verbal to visual ration is equal. Although, both modes are spread unevenly throughout the windows but at a glance, this division can be summarized as equal. So, both the modes hold salience on the page, Furthermore, the images are related in the sketch, the mountains, sheep grazing, the rain, cold climate, people in pullovers, increase temperature, sweaty people, less rain and many more visual signs promise a complementary attitude. This is done by maintaining inter-visual synonym (Royce,1998) in the graphic. Hence, careful and crafted composition serves the objective of maintaining the picture's integrity as a unified Intersemiotic entity.

Graphic no. 35

Graphic: TURKEY FROM MY WINDOW by Ezgi Aksoy

Scenario: This graphic editorial is written by Ezgi Aksoy and illustrated by Betul Yilmaz. It was posted at the platform of DRAWING THE TIMES during the timeline in August,2021. This graphic editorial reports the wildfires that Turkey experienced in year 2021. The writer is an eye-witness to these fires as she used to live there. Through the visuals and verbal report, Aksoy and Yilmaz has tried to give a real experience to its reader and viewers.

Figure 26
TURKEY FROM MY WINDOW



Intersemiotic Ideational Complementarity

In figure 35, the window comic contains an illustration of a wildfire observed in the south region of Turkey that is Bodrum. The visual sign shows fires spread everywhere in orange and yellow hues that has covered all the houses and the plants and trees around. People and animals seem to be running in dread, horror and panic. A firefighter with red gloves and a helmet is seen carrying a waterpipe. He is throwing water on animals and trees. Animals like a rabbit, pig and deer painted in black and white are seen running away from fire. Planes throwing water for blue illustrated I blue color can be seen to put out fire. The verbal elements include a detail editorial on the illustration explaining the whole situation and blaming climate change for this disastrous situation to happen. There are various semantic relations s shown in table 4.26 that complement the verbal and visual message elements and affirms an Intersemiotic complementarity (Royce,1998) between the signs.

Table 4.26*Ideational Intersemiotic complementarity*

IDEATIONAL METAFUNCTION		
Visual message elements (VME'S)	Intersemiotic complementarity	Verbal elements (VE'S)
A landscape of Turkey is shown as fires engulf it all. The situation of wild fires surrounding anything and everything	Intersemiotic Synonymy	Lexical reference: "...270 wildfires started" "... recent wildfires" "...wildfires started..." "... wildfire broke out." "...contributes to wildfires..."
Planes carrying water to put out fire	Intersemiotic Repetition	Lexical reference: "... firefighting planes..." "...tanker planes..."
Animals are seen running in fright away from fires	Intersemiotic Repetition	Lexical reference: "...wild animals..." "... livestock."

Intersemiotic Interpersonal Complementarity

The Intersemiotic analysis of figure 35 highlights the parameters of visual address, modality, level of involvement and power relations (Royce,1998). For visual address, the representative participants of the graphic and verbal offering convey same information to the reader/viewer. The graphic editorial reports on the wildfires in Turkey therefore it has high modality. The illustration displays the horrific scene at times of wildfires in Turkey while the verbal offerings is a report on the incident. Thus, the verbal and visual elements of the graphic editorial complement each other. The involvement (Royce,1998) of the reader/viewer is none while he/she is an observer who is taking in information and forming a judgement. The visual elements are placed on eye-level with the reader/viewer so no power supremacy is seen among the visual participants and reader/viewer. Hence, the visual and verbal elements corroborate the same narrative thus depicting Intersemiotic attitudinal congruency (Royce,1998).

Intersemiotic Compositional Analysis

In figure 35, the compositional analysis (Royce,1998) focuses on two ways of communication: the visual mode and the verbal mode to be more specific. The image is a complete description of the editorial expressed in verbal offerings. The editorial

linguistic cues resonate, complements and supplements the visual illustration at the top-mod of the page. Thus, the verbal and visual mode work collaboratively to dissipate the similar information to reader/viewer. Moreover, the visual to image ration in the editorial is equal. The verbal report and the image spread unevenly on the page but an invade equal amount of space. Therefore, both the modes hold equal level of salience on the page. Moreover, the sketch of an area on fire with houses burning and animals running in panic followed by firefighter and helicopters throwing water from above perfectly complement each other. Thus, the creator effectively maintained an inter-visual synonym (Royce,1998) for viewer to interpret. Hence, the objective of maintaining the integrity of this picture as a coherent Intersemiotic entity is accomplished by meticulous composition.

4.3 Discussion

According to the findings of the analysis, the purpose of the study is to concentrate on bringing attention to the medium of graphic journalism, which is capable of being utilized in order to report on real-life occurrences and events that take place all over the world. This media makes use of a number of different semiotic signs, which is a diversion from the conventional one. This is brought to light by the analysis, which also provides an answer to the first research question. It is concluded that two different semiotic systems are utilized. These are both verbal and visual modes. The combination of these elements results in a picture that is not only easy to understand but also provides the reader with a more vivid picture of the problem or incident reported.

The functions of reporting and transmission are successfully carried out by both modes in a variety of different ways. It answers the second research question of the study as well as both the modes depict an interdependent behavior. For the purpose of meaning-making, they are indispensable to one another and operate together in harmony. In order to emphasize the narrative of the graphic, the modes operate together in a mutually reliant manner. The analysis brings this idea to the forefront because all of the graphics are centered around the topic of climate. On the other hand, each of the graphics discusses a different problem and matter that is associated with climate, and the fact that both modalities made it possible to highlight this fact is clear. One of the analysis constitutes verbal and visual signs that corresponds to this particular subject matter of climate conferences is a graphic as COP. The representation of heatwaves as

a result of climate change is presented solely in the form of a graphic. Within the context of a single tale, this one story is dispersed across. The complimentary behavior of verbal signs that matches to the visual signs in the graphic makes it possible to convey a single narrative to the readers or viewers. This is the reason why it is possible.

Furthermore, this complementary behavior of semiotic signs is explained by the analysis via metafunction analysis of inter-semiotic behaviors, as proposed by T.D. Royce (1998). Ideological, compositional, and interpersonal are the metafunctions. The ideational metafunction analysis reveals that climate-related participants were featured in each graphic, with their pertinent characteristics and the contexts that emphasize climate as the graphic's theme following suit. By comparing the visual message elements in visual mode to the verbal messages in verbal mode, the semantic relationships are discovered. Meronymy, repetition antonymy, Intersemiotic synonymy, and hyponymy are examples of these semantic relationships. The two semiotic systems Intersemiotic repetition and synonymy are predominant, followed by Intersemiotic meronymy, hyponymy, and antonymy. This emphasizes the evident correlation between the components of both modes in every graphic. Furthermore, the interpersonal metafunction emphasizes the correlation between the visual and verbal semiotic systems and their interaction with the audience. The analysis demonstrates the exchange of social meanings regarding climate. The modes do not typically actively engage the reader or viewer. Instead, its purpose is to acknowledge the reader or viewer and endeavor to provide them with a more comprehensive and visceral understanding of climate-related matters. The compositional analysis then demonstrates that the majority of the graphics adhere to a greater visual ratio. Nonetheless, the proportion of verbal modes is relatively high in some of the graphics. Nevertheless, the positioning of both systems in each graphic is executed in a way that strikes a balance and does not impede the reader's or viewer's comprehension. Each graphic is composed of a combination of visual and verbal signals that work in tandem to avoid overshadowing one another. Each visual and verbal sign serves to emphasize a specific aspect pertaining to manners by means of its precise arrangement and positioning within the images. Therefore, as each of the metafunctions proposed by Royce (1998) underscores, graphic journalism can be utilized to disseminate and inform the public about a significant and widely discussed climate issue. It is more captivating and connects with readers/viewers on a deeper emotional level, ultimately enhancing them

comprehension by providing a more accurate portrayal of the catastrophic consequences of climate change and its associated global issues, causes, and events. Graphic journalism fulfills every need and function, or more precisely, exceeds the capabilities of traditional journalism.

CHAPTER FIVE

CONCLUSION

5.1 Introduction

This chapter provides a concise summary of the study in regard to the initially established aims and objectives. The chapter will summarize the results of the analysis conducted and offer solutions to the research inquiries. The utilization of visual journalism represents a significant achievement in the fields of journalism and semiotic studies. It has paved way for an innovative but tactile mean to dissipate information in a complete manner. The study's purpose is supported by the theoretical foundation. An analysis is conducted on the Intersemiotic complementarity in graphic editorials, taking into account the influence of T.D. Royce's (1998) derivation of metafunctions. Metafunction analysis facilitates the multimodal study of these visuals and aids in addressing the formulated research inquiries.

5.2 Findings

The main findings of the discussion are mention below, leading to a discussion on these findings.

1. Graphic journalism is a multimodal medium that takes into account multiple semiotic systems.
2. The medium make use of two modes predominantly, verbal and visual.
3. These semiotic signs are complimentary in nature thus they rely on each other to make and convey meaning.
4. The metafunctions analysis of 35 graphics on the issue of climate highlights the Intersemiotic relation of text and image in the medium of graphic journalism.
5. A review of thirty-five graphics pertaining to the subject of climate reveals that graphic journalism serves its purpose as effectively as any other form of journalism

5.1 Discussion

Climate change is a highly debated topic in the 21st century. The primary aim of the study was to examine how graphic journalism and its creators/illustrators have addressed this issue while ensuring the accuracy and non-fictional characteristics of this form of communication. Analyzed data is

derived from frequently visited and widely popular websites. The analysis is conducted to meticulously examine the components, methodologies, methods of captivating the reader/viewer, fundamental composition aspects, and utilization of semiotic systems to convey a singular idea.

5.1.1 Discussion: The Use of Semiotic Signs

Graphic journalism takes an unconventional approach to reporting. Graphic journalism offers its producers the freedom to manipulate several semiotic signs, in contrast to traditional news stories or editorials. Typically, the editorials utilize linguistic cues as elaborate writings presented in the form of paragraphs and essays. Graphic journalism employs a multimodal approach to both raise awareness and communicate information. The objective of this study was to emphasize the entities used by graphic journalists to create meaning in their work. The examination of 35 graphic editorials reveals that the two predominant techniques of expression are visual and verbal. Visual mode in graphics encompasses drawings, illustrations, sketches, caricatures, colored pictures, and gestures indicating visuals. Verbal mode encompasses statements, speech bubbles, information boxes, and lexical references. No additional sign system is noticed in graphic editorials that complements these two modes or functions as a vehicle for creating meaning. Graphic journalists effectively merge two modalities to deliver information to the audience in a captivating manner that elicits a stronger emotional response. This amalgamation of two modalities has enabled the illustrators to effectively connect with the readers/viewers and involve them in a more inventive form of communication. Within each graphic, both modes predominantly exhibit Intersemiotic characteristics as they synergistically include the reader/viewer in the process of constructing meaning through understanding the relationship between the two modes. Furthermore, the integration of different ways of reporting has introduced an element of innovation when it comes to documenting worldwide incidents. Through this medium, readers are actively participating in gaining knowledge about the globe, particularly about climate issues and events. Furthermore, the art produced by the interaction of these two genres captivates the reader/viewer on a deeper emotional and intellectual level by employing life-like illustrations and visuals.

5.1.2 Discussion: Complementary Behavior of Visual and Verbal Signs

The study also sought to emphasize the role of text and image in graphic editorials. One research purpose is to investigate the correlation between text and images in graphic editorials, specifically how they effectively convey a cohesive narrative to the reader/viewer. The theory of Intersemiotic complementarity, proposed by T.D. Royce, offers a framework to identify the interaction of various modes in a complimentary way to signify the presence of a certain subject. Thus, the study examined how the combination of text and image in graphic design might convey the dispersion of a single theme through the use of metafunctions. The graphics are a construct that serves as a metafunction. This implies that all the elements of the graphics are functioning concurrently to establish the foundation of semantic organization. Thus, the second research issue is resolved by the utilization of metafunctions. The three metafunctions collaborate to facilitate the mutual reinforcement and transmission of a single idea between the two modes. Both visual and verbal modes collaborate in generating a climate discourse during the analysis. While all of the illustrations support the theme of climate, each editorial focuses on a unique sub-theme and corresponding conversation. This is analyzed through the examination of ideational, interpersonal, and compositional metafunctions.

5.1.3 Discussion: Use of Metafunctions for Intersemiotic Relation of Text and Image-

Furthermore, each of the metafunction analysis highlights the elements of graphics that make it feasible for both the modes to show coherence. The metafunctions covers three distinct features of the graphic editorials that any other multimodal entity utilizes. However, through metafunction analysis the non-fiction nature of editorials is verified. They are serving to report real-life incidents and happenings about climate change and consequences around the world. The metafunctions examination allows the research to carefully understand the text/image placement, its importance and engagement of reader/viewer. The second research question of study is catered by the third

research objective. The metafunctions employed in graphics are serving the purpose to justify text and image adherence for meaning-making. Therefore, the metafunctions analysis vividly answer as to what and how the two modes are forming a nexus to report on climate news around the world.

The examination of ideational metafunction focuses on highlighting the individuals depicted in the images, regardless of whether they are living, animate, or inanimate. Furthermore, it enables the discussion of the specific characteristics of these representative participants and the activities in which they are engaged. Therefore, the verbal and visual cues are meticulously analyzed to determine the specific function they serve in the given context. The examination of graphics has revealed the visual and linguistic components that signify climate reporting. The graphics primarily illustrate and portray the consequences of climate change, including wildfires, heatwaves, rising temperatures in Europe, floods, deforestation caused by climate change, climate summits, the stances and speeches of climate activist Greta Thunberg, reports on significant climate changes in a region of Greece, political positions and lack of response to climate action, the detrimental effects of plastic consumption and untreated industrial waste, the U.S. military as the largest emitter of carbon, and fires in Australia and Turkey. The graphic editorials cover several of these themes. It is important to note that these particular instances are actual occurrences that happened in different locations and time periods from July 2021 to July 2022. Therefore, the narratives are interpreted and meaning is derived from each of the visual reports through the ideational metafunction. Furthermore, semantic linkages emphasize the connection between visual and verbal modes. T.D. Royce asserts that the verbal and visual elements of a representation can complement each other through six semantic relationships: repetition, synonymy, antonymy, meronymy, hyponymy, and collocation. The analysis of Graphic editorials inherently involves these semantic linkages. Mainly, an Intersemiotic synonym is seen. The text indicates that the verbal and visual components portray a comparable attitude or experience. In addition, Intersemiotic meronymy, collocation, repetition, hyponymy, and antonymy are also present. Therefore, the existence of these meaningful connections between the two modes serves as proof of their mutual dependency.

During the investigation of the interpersonal metafunction, the visual address and the level of interaction that it generates with the reader or spectator is emphasized. Furthermore, the study identifies the power dynamic that exists between the reader or viewer and the visual and verbal components of the graphic. According to the findings of the investigation, graphic editorials serve as a source of information that effectively engages the reader or viewer in the process of evaluating and forming opinions. It is necessary for the reader or viewer to actively comprehend the images in order to effectively communicate information regarding climate in the same way that other forms of journalism report on events and happenings. Graphic editorials are a viable method of communication. One of the reasons for its appeal is that it piques the reader's or viewer's true attention and provides them with an experience that is both more visually and emotionally engaging. Through graphical analysis, it is evident that climate reportage on many topics and issues influences readers to develop their own opinions, while the visual features facilitate a sense of connection for the spectator. For example, the visual depiction of floods, wildfires in Australian forests, severe heatwaves, and rising temperatures in Europe due to climate change provide the spectator with convenient access to information and allow them to witness these events. It elicits a stronger emotional response in readers/viewers. The concept of interpersonal metafunction serves to enact meaning as action. The visuals achieve this by captivating the reader with their visual appeal and creating a sense of equality between the reader/viewer and the content.

In addition, the compositional metafunction of graphic editorials demonstrates that each image serves as a cohesive means of communication. The modes that constitute the structural foundation of these visuals are consistent. Each graphic conveys a single narrative. An example of this is the graphic editorial that encompasses both verbal and visual forms in reporting on Greta's speech. Therefore, the illustrator maintains a connection among them in order to convey a unified idea to the reader/viewer. A comprehensive inspection of the composition reveals a cohesive relationship between the verbal and visual elements. A single graphic conveys only one narrative. The visual to verbal ratio in all of the graphics is higher in order to capture the viewer's attention. Visual

mode was more prominent and significant than verbal mode in most of the graphic editorials. Furthermore, both modes possess same significance in conveying information. The graphics are meticulously synchronized to portray a specific environment for climate-related concepts such as wildfires, floods, hurricanes, pollution, and climate summits. The images exhibit a high level of certainty as they depict actual events and occurrences.

5.2 Conclusion

Consequently, the study aimed to accomplish each pre-established research target. Graphic editorials are an innovative and versatile mode of communication. Graphic journalism, also referred to as comic journalism, enables illustrators to portray factual narratives of the world in an engaging and dynamic manner, hence improving the visual allure for readers. The lack of academic research on graphic journalism leads to many consequences. Initially, this suggests a reduced understanding of the impact that illustrated journalism has on its viewers. Moreover, there is also diminished accessibility of instruction for journalists who desire to employ graphic journalism as a method of delivering their narratives. Although there is a lack of study, a growing body of evidence suggests that graphic journalism is an effective method of distributing information. Studies have shown that graphic journalism is more effective than traditional journalism in communicating complex information, such as scientific concepts. Moreover, graphic journalism has the ability to evoke empathy in readers and captivate them more efficiently than traditional forms of journalism when it comes to the topics they are reading about.

The objective was to examine this medium and ascertain its intrinsic characteristics utilized for the distribution of journalistic content. Thus, by examining the medium, the emphasis is placed on the collaborative aspect of various forms of production. Metafunction analysis aids in understanding the semantic structures used in these editorials. The climate issue is a matter of extensive debate, hence the data collected on this topic was chosen to evaluate how this platform deals with it. The utilization of visual journalism in climate reporting emphasizes its reliability as a mode of communication.

The objective of this study is to fill the research gap on the emerging field of graphic journalism. This study offers significant insights for scholars and practitioners who are engaged in the examination of multimodal communication. Royce's research on multimodal discourse has a broad impact on the understanding of multimodal discourse, which goes beyond a certain type of visual. In order to systematically analyze the Intersemiotic complementarity of multimodal texts, one can employ Royce's Intersemiotic complementarity paradigm. Comic books, advertising, and magazine articles are instances of multimodal texts that can be analyzed utilizing this paradigm. Graphic journalism is the artistic practice of using different mediums to deliver factual information. It improves the reader/viewer's involvement with news and information by providing a more engaging encounter. Therefore, the study attempted to emphasize this mode of communication that aligns with the current trends and methodologies of the modern world. It presents a captivating method for carrying out journalistic responsibilities that can raise awareness and captivate individuals through its distinctive multimodal interconnected features. Therefore, this study aims to highlight and promote the use of visual journalism as a means to inspire journalists to move away from the outdated practice of just relying on written editorials utilizing linguistic symbols. Graphic journalism can be widely embraced as a prevalent media for reporting news and information in response to evolving times. This study asserts that graphic journalism is a comprehensive multimodal media that should be widely advocated for journalistic discourses promptly.

5.3 Recommendations for Future Research

Following are some of the recommendations for the researchers to make use of this study and explore a variety of other perspectives in relation to the medium of graphic journalism.

1. In contrast to traditional text-based journalism, the effectiveness of graphic journalism can be evaluated through a comparative study where specific context can be selected such as feminism stories or any other using a new theoretical lens.

2. In contrast to other forms of media, the element of audience engagement and comprehension in graphic journalism can be assessed through the lens of memory retention, emotive impact, and visual literacy.
3. Graphic journalism can be researched as a medium that provides inclusivity and engagement to the people who are mute, deaf, non-native speakers or to people with limited literacy.
4. Besides climate, many other social issues in Pakistan and around the world can be selected to highlight the importance of graphic journalism as an innovative medium to perform journalistic duties.
5. The future researchers can conduct a study to highlight lack of awareness and the unavailability of resources in Pakistan to adopt this medium for journalistic purposes besides its immediate and great efficaciousness on audience.

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LINKS OF THE FIGURES

1. <https://thenib.com/gop-climate-staying-cool/>
2. <https://thenib.com/eye-of-the-polluter/>
3. <https://thenib.com/coastal-collapse/>
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