

Analyzing Photos' Visual Semiotics and Sentiment of Newspaper Headlines: A Case Study of Roger Federer's Retirement and Queen Elizabeth's Death Coverage

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Abstract:

This study investigates the interplay between visual semiotics and sentiment analysis in newspaper coverage of two significant events: Roger Federer's retirement and Queen Elizabeth's death. The research addresses the underexplored area of how visual elements, when combined with sentiment analysis of headlines, contribute to the portrayal of emotions and public sentiment surrounding significant events. While sentiment analysis in headlines has been extensively studied, the role of visual semiotics in shaping sentiment has received limited attention. By employing a qualitative approach that blends visual semiotics and sentiment analysis, this research aims to bridge this gap.

The study examines front-page headlines and accompanying photographs from newspapers across various countries during the aftermath of these events. Visual semiotics analysis focuses on compositional elements, colors, shapes, and symbols in the photographs, while sentiment analysis assesses emotional valence in headlines through a lexicon-based approach. This combined methodology offers a comprehensive understanding of how media constructs and conveys emotions.

The findings reveal a nuanced relationship between visual semiotics and sentiment in headlines. In Roger Federer's retirement coverage, visual elements like facial expressions, colors, and symbols are employed to evoke nostalgia and honor, aligning with sentiments expressed in the headlines. Similarly, in the Queen Elizabeth's death coverage, the use of black and white, solemn expressions, and symbolic placement reinforce sentiments of mourning and respect.

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Applying Semiotics Theory and Cognitive Linguistics Theory to the analysis, the study uncovers how language and imagery synergize to create shared understandings. Cognitive metaphors present in language and imagery contextualize events for audiences, as seen in the coverage of Queen Elizabeth's passing.

In conclusion, this research underscores the media's powerful influence on public perception and emotions. It emphasizes the significance of critical media literacy, enabling audiences to comprehend the strategic use of language and visuals in shaping opinions. The study contributes to the discourse on media's role in society, highlighting the need for a holistic analysis that considers textual and visual dimensions in news coverage.

Keywords:

Visual Semiotics, Sentiment Analysis, Newspaper Headlines, News Photos, News Coverage, Roger Federer's Retirement, Queen Elizabeth's Death

Introduction:

In today's media landscape, both photos and headlines play a crucial role in shaping public perceptions and attitudes towards various events and individuals. Photos can convey powerful messages through their visual semiotics, while headlines can influence reader sentiment through their choice of language and framing.

Visual semiotics is a significant aspect of understanding the communication and meaning conveyed through visual media such as photos. As stated by (Kress & Leeuwen, 2006), "Visual images are made of elements such as colour, line, framing, distance, focus, etc., and it is by combining these that meaning is produced". In the context of newspaper headlines, photos play a crucial role in conveying the intended message and eliciting emotional responses from readers. Therefore, understanding the visual semiotics of photos in newspaper headlines is essential in comprehending the underlying meaning and sentiments conveyed.

Visual semiotics is a branch of semiotics that studies the meaning and interpretation of visual signs and symbols in various forms of visual communication. Photos are a powerful tool for conveying meaning and eliciting emotions, and they play a significant role in news media. The use of photos in news media has been shown to influence the perception of events and shape public opinion (Schudson, 1981) and (Tuchman, 1978). Therefore, analyzing the visual semiotics of photos in news media can provide insights into how news events are framed and represented.

In recent years, there has been a growing interest in combining visual semiotics with sentiment analysis to gain a more comprehensive understanding of the meaning and emotional impact of news media. Sentiment analysis is a natural language processing technique that involves extracting and categorizing subjective information from text data, such as the sentiment or emotion expressed in a news headline (Pang & Lee, 2008).

The present study aims to investigate the visual semiotics of photos and sentiment analysis in newspaper headlines in the context of two news events: Roger Federer's retirement and Queen Elizabeth's death coverage. By analyzing the photos and headlines from multiple

newspapers, it is aimed to explore how the use of visual semiotics and sentiment analysis varies across different news media outlets and how it may affect the framing and interpretation of these events.

Research Objectives:

As follows are the research objectives of this study:

1. Analyze the use of visual semiotics in newspaper photographs related to Roger Federer's retirement and Queen Elizabeth's death coverage.
2. Conduct sentiment analysis on the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage.
3. Investigate how the use of visual semiotics in photographs enhances or complements the sentiment expressed in the headlines.
4. Identify the emotions and sentiments expressed in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death.
5. Explore the relationship between the photo's visual semiotics and sentiment analysis in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage.
6. Compare and contrast the use of visual semiotics and sentiment analysis in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage.

Research Importance:

This research is important as it combines two important aspects of media analysis - visual semiotics and sentiment analysis - to examine how news media covers significant events. By examining the headlines of newspapers reporting on the retirement of Roger Federer and the death of Queen Elizabeth, this research can provide insights into how visual elements (such as images and design) and linguistic elements (such as language and sentiment) work together to convey meaning and emotion to readers. This research can help media analysts, communication researchers, and journalists better understand how news media shape public perceptions of significant events and provide a deeper understanding of the role of visual and linguistic elements in media coverage.

Research Problem:

The use of visual semiotics in conjunction with sentiment analysis in newspaper headlines has not been extensively studied, particularly in the context of news coverage of significant events such as the retirement of a sports icon and the death of a reigning monarch. This research aims to address this gap in the literature by investigating how the visual semiotics of photos in conjunction with sentiment analysis of newspaper headlines can provide a deeper understanding of the emotional responses to these events.

While sentiment analysis of newspaper headlines has been widely studied, little attention has been given to the role of visual semiotics in shaping the overall sentiment conveyed by a headline. In the case of high-profile events such as the retirement of a sports legend or the death of a monarch, the use of visual elements such as photographs and graphic design can significantly impact the reader's interpretation of the headline's sentiment. Therefore, there is a need to explore the intersection of visual semiotics and sentiment analysis in newspaper headlines, particularly in the context of covering significant events, to better understand how meaning is constructed and conveyed through multimodal communication.

Literature Review:

Visual Semiotics in the Newspapers

An overview of various research studies conducted in the field of media and communication, particularly focusing on the role of visual elements, such as photos and images, in news representation and persuasion. Numerous studies employ different methodologies, such as semiotics analysis and discourse analysis, to understand the complex relationship between text and image in news content.

All the studies mentioned in the first dimension of the literature review focus on visual communication analysis in various media forms, such as newspapers, online news outlets, and historical newspapers. They highlighted the role of visuals in shaping ideologies, generating representations, and influencing audience perceptions.

The study by (Smaele, Geenen, & Cock, 2017) emphasized the influence of newsroom culture and rhythm in photo selection which

was conducted at a Flemish newspaper. The study aimed to update previous research on visual gatekeeping at a Flemish newspaper's photo news desk. Results showed that newsroom culture and rhythm have a greater influence than individual preferences, with in-house photographers preferred over wire photos. Information value is prioritized, but aesthetics and layout policies also factor into photo selection. Another study (Heryono & Faisal, 2018) employed semiotics analysis to understand the relationship between text and image in news trying to answer the question of why the text and image in online news should be associated and if they match. It analyzed three levels of analysis processes, including the engagement in text and image, the discursive relationship involved in the news that turned into a hoax, and the intention of attaching the misplaced image to the text. The study found that the tool of Semiotics analysis was useful in determining the correlation between text and image in online news. The theories applied in the research supported the conclusion that the text and image relation engagement point in the news was compatible and appropriate in Semiotic. However, the analysis also showed that the true data behind all of the captured images made the news discursive. While the study (Hatim, 2021) highlighted how the selection of certain actions over others in photo representation can generate ideologies. The study aimed to conduct a semiotic analysis of the Guardian and the Times's coverage of the 2019 protests in Iraq. Specifically, the study aimed to explore the implied ideologies conveyed by the selected photos published by the newspapers in their online and print articles covering the protests. The study found that both newspapers, particularly the Times, depicted the protesters as negative social actors, portraying them as engaging in violent actions such as breaking police concrete blocks, burning tires, and resisting security forces. The Guardian, however, included a specific article that highlighted positive social actions done by the protesters, such as drawing murals on the walls of Baghdad streets. The results indicated that the selection of certain actions over others in photo representation can generate ideologies. Similarly, the study by (Waqar, Naz, & Ghani, 2020) shed light on the importance of semiotics and discourse analysis in understanding the representation and persuasion of national

interest agendas in Pakistani newspapers. It targeted to analyze of the semiotics of two Pakistani English newspapers, Dawn, and The Nation, to understand how they depict and persuade national interest agendas. The study found that both newspapers used multiple persuasion modes in their political cartoons and that The Nation's semiotics positively contributed towards national interest agenda-setting. However, Dawn's semiotics played a negligible role in persuading the national interest agenda of establishing military courts. Overall, the research shed light on the importance of semiotics and discourse analysis in understanding the representation and persuasion of national interest agendas in Pakistani newspapers.

The study (Ganea & Kallas, 2016) emphasizes the importance of graphic communication and semiotics in media literacy practices. The researchers showed how visuals can have a quicker and stronger influence on audiences than text, and how the elements that make up visual texts can impact the nature and quality of communication. The study emphasized that everything is a sign of something else, and signs are everywhere around us. Visuals have a stronger influence on audiences as they first appeal to the senses and emotions. The study explained how various design choices, such as page dimensions, type size, and layout, can impact the quality of communication. The study concluded that while words are essential, visual elements are equally important in effectively communicating messages to audiences. While the study by (Thurlow, Aiello, & Portmann, 2020) presented a new methodology for analyzing how young people and their digital practices are visually depicted in the news media using stock photography. In addition, to identify the dominant representational, compositional, and interpersonal meanings in the analyzed images and the identification of a pessimistic metadiscursive framing of 'teens and technology' in the stock photography sourced by the news media. The images consistently centred on technologies over relationships and contained inexplicably gendered and classist assumptions. The study demonstrated how image banks and the news media contributed to the negative and reductionistic portrayal of young people's digital practices through their visual representations. Meanwhile, the study (Makinde & Mgbodi, 2022) investigated the nature of gendered

expressions in selected Nigerian newspapers and how they contributed to communication towards sexism. The study questioned how images and signs denoted gendered expression, in what ways the usage of signs and images in Nigerian newspapers created communication towards sexism, and what semiotic resources are found in gendered expressions in Nigerian newspapers. The study used a qualitative research design and analyzed data from The Guardian, The Guardian Life Magazine, Daily Trust Newspapers, and websites wps.org and katakata.org. The analysis was conducted using Kress and Van Leeuwen's visual semiotic, drawing from Halliday's Systematic Functional Linguistics approach to multimodal discourse analysis. The study found that sexism in Nigerian newspapers was predominantly directed towards females and that there were still a significant number of sexist expressions presented in the newspapers analyzed the study by (Barman, Ehrmann, Clematide, Oliveira, & Kaplan, 2020) developed a multimodal neural model for the semantic segmentation of historical newspapers by combining visual features with text embedding maps derived from OCR output. The study aimed to investigate the predictive power of visual and textual features and their capacity to generalize across time and sources. The study used diachronic Swiss and Luxembourgish newspapers for experiments and evaluated the performance of the multimodal model against a strong visual baseline. The results showed that the multimodal model consistently outperformed the visual baseline and exhibited better robustness to the wide variety of historical newspaper material. The study highlighted the potential of combining visual and textual features for more accurate and efficient document layout analysis in the context of historical newspapers.

Many studies also examined the role of visual semiotics in constructing representations of events or issues in media discourse. The (Benard & Felicia, 2015) study focused on HIV and AIDS representations in newspaper advertisements questioning the dominant visual images. Also, the researchers examined the semiotic meanings of the various visual images of HIV and AIDS in newspaper advertisements and investigated how the representation of HIV and AIDS is created in newspaper advertisements. The study suggested

that newspaper advertisements constructed HIV and AIDS using verbal and visual signification. Visual semiotics relies on semiotic devices such as picture images, body language, colours, and facial expressions to elicit desired responses from readers. It was found that the most appealing aspect of HIV and AIDS advertisements is the use of "healthy-looking" characters, which represented a sanitized version of the disease. The study also noted that positive promises such as reward, hope, morality, and celebrity status helped to create memorability and general appeal in advertisements. The power relations exist between the copywriter and the reader, with the copywriter adopting a high moral standpoint to address the reader as concluded. Also, in the (Alnabawy, 2018) study, the role of images in constructing representations of the Egyptian revolution in news stories was examined as to how they constructed different representations of the events of the Egyptian revolution. The impact of visual communication on perception and reaction towards different events, particularly in the context of online news too was explored. Using Kress and van Leeuwen's theory of multimodal discourse analysis, the study analyzed ten images accompanying news stories selected from four major news networks: Alahram electronic gate as a representative of state media and Alwafd electronic gate, Alyoum7, and Aljazeera network as representatives of oppositional media. The results of the study indicated that images play a significant role in constructing representations of the events of the Egyptian revolution in media discourse. The visual structures used in news stories reveal different perspectives and ideologies of the state media and oppositional media. State media tend to present a positive representation of the government's actions during the revolution, while oppositional media portrays a negative representation of the same events.

Finally, both studies highlighted the power of visual communication in influencing the audience's perception and reaction towards different events or issues and call for further research on the impact of visual communication in media discourse.

(O'Neill, 2019) and (Lulu, Habeeb, & Racman, 2022) both focus on the visual representation of specific issues, climate change and the displacement of Palestinians, respectively. They analyze how the

visual representations in news media reflect public attitudes towards these issues and shape public discourse.

The objective of the (O'Neill, 2019) study was to conduct an in-depth, cross-cultural, and longitudinal study of climate change visual discourse, by examining over a thousand images associated with articles about climate change in UK and US newspapers between 2001 and 2009. The study aimed to identify the content, frame, and iconography of these images, and to analyze how they influenced public engagement with climate change. The results showed a remarkably consistent visual discourse in the UK and US newspapers, with a shift in the visual representation of climate change mid-decade. Before 2005, a distancing frame was common, with imagery of polar landscapes acting as a visual synecdoche for distant climate risk. After 2005, there was a rapid increase in visual coverage, an increase in the use of the contested visual frame, alongside an increase in climate cartoons, protest imagery and visual synecdoches. In addition, (Lulu, Habeeb, & Racman, 2022) study explored the portrayal and themes of political cartoons that highlight the displacement of Palestinians in the village of Sheikh Jarrah. The study analyzed how the discourse surrounding this issue is represented in cartoons and identified the predominant themes of the selected cartoons. The study analyzed eight political cartoons drawn from Palestinian online newspapers from May to July 2021. The analysis was conducted using Multimodal Discourse Analysis (MDA), which combines language analysis with the analysis of other semiotic resources, such as colours, gestures, and images. The study also used the Visual Social Semiotics of Kress and Van Leeuwen as a linguistic framework. The study found that understanding the three different aspects of visual compositions, namely representational, interactive, and compositional, is essential for conveying the intended message of the visual compositions. The study also identified two main themes in the selected cartoons: " (i) the tyranny and oppression of Israel over Palestinians through eradication and displacement; and (ii) the Palestinians' struggle, steadfastness, and resistance in the event of Israel's forced displacement."

In contrast (Hollink, Bedjeti, Harmelen, & Elliott, 2016) and (Dincakman, 2015) provided broader analyses of visual representations in online news media, exploring the quality, coverage, and reliability of the images used, as well as the impact of advertisements on user experience.

In (Hollink, Bedjeti, Harmelen, & Elliott, 2016) study, the Images in Online News (ION) corpus of images and text in online news articles was introduced, highlighting its advantages over other image-text datasets, and making the source code for collecting the corpus freely available to facilitate future efforts to create similar corpora or extend the ION corpus to different periods. It was found that the ION corpus contains more than 300K news articles from five news publishers, and its main advantages included a more natural relationship between images and text compared to crowdsourced datasets, as well as a broader article-wide context compared to social media datasets. The availability of the source code for collecting the corpus is intended to enable users to assess the quality, coverage, and reliability of the corpus and to support future efforts to create similar corpora. Moreover, the objective of the (Dincakman, 2015) study was to analyze the relationship between e-newspapers and the advertisements on their interfaces through semiotic analysis. The study found that Birgun, a Turkish e-newspaper, had no advertisements on its web interface while Cumhuriyet, also from Turkish media, and Oje and Publico from Portuguese media had the least number of advertisements on their web interfaces. In general, it was observed that the Portuguese e-newspapers had more legible and easily understood web page designs than the Turkish e-newspapers, despite the inclusion of advertisements. Images were more prevalent in Turkish e-newspapers, and the lack of space between images and writings negatively influenced visual perception. The study revealed that most e-newspapers' interfaces were filled with advertisements, making it difficult to find articles or detailed news areas, and some newspapers' logos were smaller than the advertising logos.

Sentiment Analysis of Headlines in Newspapers

Sentiment analysis of headlines in newspapers is a widely researched topic in natural language processing and machine learning. Researchers have explored various approaches to automatically classify the sentiment of news headlines into positive, negative, or neutral categories. In this dimension of the literature review, the researcher will review the current state-of-the-art techniques for sentiment analysis of headlines in newspapers, including the methods used for data pre-processing, feature extraction, and classification. In addition, to review the different datasets used for training and testing sentiment analysis models and discuss the strengths and weaknesses of these datasets.

Exploring sentiment analysis of news and blogs using a dataset from BBC consisting of news articles between the years 2004 and 2005 was employed in the (Samuels & Mcgonical, 2020) study trying to identify the categories that had more positive or negative articles and to explore the potential for future work in sentiment analysis of news using machine learning approaches. Results showed that the categories of business and sports had a higher percentage of positive articles, while entertainment and tech had the most negative articles. This highlights the importance of considering the context and subject matter when analyzing sentiment. Moreover, Arabic Articles News was analyzed in the (Farahat, Hamouda, & Rashed, 2016) study identifying opinion sentences within articles. Three methods were used to identify opinion mining, including a method that relied on an opinion lexicon, a machine learning (SVM) method, and the proposed method that identified opinion sentences related to the article's target and used an opinion lexicon. These results demonstrated the effectiveness of the proposed method for sentiment analysis of Arabic articles and suggested that identifying opinion sentences related to the article's target before using an opinion lexicon can improve accuracy. The studies by (Bostan, Kim, & Klinger, 2020) and (Dang, Oberlander, & Klinger, 2021) are connected to those (Kaur & Saini, 2014) through their common focus on sentiment analysis and emotion detection. While the former two studies focused on the development of annotated datasets and machine learning models for analyzing

emotions in news headlines in English and German languages, the latter study aimed to compare the effectiveness of different machine learning techniques in sentiment classification in formal and informal text in multiple international languages. The findings of all three studies provide valuable insights into the nuances of sentiment analysis and emotion detection in different types of texts and languages, which can have important applications in various fields such as psychology, marketing, and social media analysis. Thus, the studies contribute to the development of resources and models for studying emotions and sentiments in natural language processing.

In (Hossain, Karimuzzaman, Hossain, & Rahman, 2021) study, the researchers used text analytics techniques to analyze the front-page headlines of The Daily Star, a popular English newspaper in Bangladesh, during 2018 and 2019. The study aimed to identify patterns and priorities of the headlines and to elucidate the possible social and political context of that period. The study used word clouds, sentiment analysis, and cluster analysis to analyze the headlines. The results showed that cricket, political turmoil, and Rohingya-related issues were prominent topics in 2018, while political parties, polls, and digital security acts were prominent in 2019. The sentiment analysis revealed that negative emotions were more prevalent in the headlines, but positive emotions also appeared frequently. The cluster analysis showed that the headlines related to the election, politics, deaths, digital security acts, Rohingya, and cricket were similar and clustered together in 2019, while those related to rape, deaths, road, and fire were similar and clustered in 2018.

In (Alanazi, et al., 2022) study tracked public mental health by analyzing the sentiment of financial news content, primarily published on The Guardian website, and identified the impact of national and international financial policies. A dataset was collected and analyzed using three different techniques: support vector machine, AdaBoost, and a single-layer convolutional neural network. The best-performing technique was found to be the single-layer convolutional neural network with a classification accuracy of 0.939, which outperformed the other techniques. This study quantitatively analyses public

sentiment towards financial policies and challenges during the COVID-19 outbreak, using data from The Guardian newspaper. Despite the challenges posed by lockdowns, the overall public opinion is more positive than negative, with most headlines and content being neutral or positive. These findings provide insights into how Guardian readers perceive their financial conditions and mental health and can aid public health officials and policymakers in understanding how individuals are coping with financial stress during these challenging times.

Two studies analyzed news headlines and articles related to the COVID-19 pandemic specifically from various countries using text-mining techniques to extract and classify sentiments and emotions expressed in the text. The study by (Aslam, Awan, Syed, Kashif, & Parveen, 2020) focused on the emotional weight of the headlines and found that most of them evoked negative sentiments, which can have implications for emotional well-being and economic perspective during the ongoing pandemic. On the other hand, the study by (Ghasiya & Okamura, 2021) aimed to identify emergent and widely reported topics/themes/issues and associated sentiments to better understand the pandemic and the role of newspapers in informing the public. The study used top2vec for topic modelling and RoBERTa for sentiment classification, and the results showed that education, economy, US, and sports were some of the most common and widely reported themes across different countries. The analysis also revealed that the UK, which was the worst-affected country in the dataset, had the highest percentage of negative sentiment. Together, these studies highlight the importance of analyzing news media content to understand the public discourse around the pandemic and its impact on various aspects of life, such as emotional well-being and economic perspective.

Proposing a novel approach, Cov-Att-BiLSTM, for sentiment analysis of COVID-19 news headlines using deep neural networks to elicit public sentiment on COVID-19 news was applied in the (Ahmad, Wang, Martin, Xu, & Xu, 2022) study. The approach integrated attention mechanisms, embedding techniques, and semantic-level data labelling to enhance the accuracy. The results demonstrate the

superiority of the proposed approach with 0.931 testing accuracy compared to several deep and machine learning classifiers using various metrics of categorization efficiency and prediction quality. Furthermore, the proposed approach accurately reflected global coverage of COVID-19 news and vaccination by analyzing 73,138 pandemic-related tweets posted on six global channels.

Lexicon-based approaches have been widely used for sentiment analysis of news articles in various studies. These approaches rely on a pre-existing sentiment lexicon, which contains words or phrases with their corresponding sentiment polarity (positive, negative, or neutral). The lexicon is then used to score the sentiment of the text by assigning a sentiment score to each word or phrase in the text and aggregating these scores to obtain an overall sentiment score.

Several studies have used this approach to analyze the sentiment of news articles, including the (Taj, Shaikh, & Meghji, 2019) study. The experiments conducted on the BBC news dataset showed the applicability and validation of the adopted approach. The results indicated that lexicon-based approaches can be effective for sentiment analysis of news articles. However, the accuracy of these approaches depends on the quality and coverage of the sentiment lexicon used. The approach achieved the highest accuracy for articles related to sports, followed by business and technology. Whereas, in the (Vilasrao, 2019) study which was also employed on the BBC news dataset, it was found that deep learning techniques, specifically LDA and Word2Vec, provide high accuracy for sentiment analysis of news articles. LDA achieved an accuracy of 95.17%, while Word2Vec achieved an accuracy of 93.54% for emotional valence reviews.

A new sentiment lexicon called WKWSCI Sentiment Lexicon and compare with five existing sentiment lexicons for sentiment categorization at the document level and sentence level. The effectiveness of the sentiment lexicons was evaluated using an Amazon product review dataset and a news headlines dataset, introduced by (Khoo & Johnkhan, 2016) study. The results showed that WKWSCI, MPQA, Hu & Liu, and SO-CAL lexicons are equally good for product-reviewed sentiment categorization, obtaining accuracy rates of 75% to 77% when appropriate weights are used for

different categories of sentiment words. The WKWSCI lexicon obtained the best accuracy of 69% on the news headlines sentiment categorization task, and the sentiment strength values obtained a Pearson correlation of 0.57 with human-assigned sentiment values.

Three methods of Sentiment Analysis: supervised, lexicon-based, and hybrid was examined by (Sadia, Khan, & Bashir, 2018) study. It was found that Lexicon-based methods have limitations due to the polarity of lexical objects being domain-dependent. Results pointed out that WordNet is the most used lexicon source. Moreover, the review of research articles indicated that it is essential to consider the context of the text, rather than just plain polarity, in almost all applications.

Through the lexicon, emotions can be identified as in the (Staiano & Guerini, 2014) study. The study aimed at developing a high-coverage and high-precision emotion lexicon, called DepecheMood, using a novel automated approach that harvests crowd-sourced affective annotation from a social news network. Findings showed significant improvements over state-of-the-art unsupervised approaches, even with very naive classification and regression strategies.

Sentiment Analysis was examined too in the coverage of real estate as in the (Ruscheinsky, Lang, & Schäfers, 2018) study. The researchers intended to examine the relationship between news media sentiment and the securitized real estate market in the US. The results showed a significant leading relationship between media sentiment and future REIT market movements. A domain-specific dictionary and a sentiment measure incorporating both positive and negative sentiment provide better results. The findings have practical implications for improving the understanding of securitized real estate market movements and investment decisions.

Also, in stock markets as in the (Gupta, 2020) study, its results showed a significant correlation between news sentiment and stock trends. The sentiment analysis of news articles proved to be an effective tool for predicting the future trend of a company's stock. The use of machine learning algorithms, such as support vector machine and naive Bayes, helped in accurately predicting the direction of the stock price. The accuracy of the prediction models was tested using different evaluation metrics, and the results indicated a high level of

accuracy in predicting the stock trend. The project has demonstrated the importance of news articles in shaping the stock market and how sentiment analysis can be used as a tool to predict the stock trend based on non-quantifiable data.

In sports too, a study by (Mello, Cheema, & Thakkar, 2022) study developed an approach for Sentiment Analysis (SA) applied to news articles in a multilingual corpus, using a combination of multiple algorithms to improve the quality of outputs. Additionally, the study aimed to address challenges with translation and provide solutions for non-English corpora. As a case study, the method was applied to analyze the media coverage of the London 2012 and Rio 2016 Olympic legacies. Findings pointed out that combining multiple SA algorithms improved the quality of outputs and revealed the unbalance between the media coverage of London 2012 and Rio 2016. The proposed approach of using the three best classifiers (Vader, Amazon BERT, and Sent140 BERT) helped identify contradictory results and improved the quality of the positive, neutral, and negative labels assigned to the texts.

Sentiment analysis can also be used for social media monitoring to determine the overall feeling or mood of consumers toward a specific brand or company as in the (Swati, Pranali, & Pragati, 2015) study. The researchers performed sentiment analysis on news articles related to companies. The results of the sentiment analysis on news articles related to companies provided useful insights for both buy-side and sell-side in market surveillance and compliance. By analyzing news articles, it is possible to plot the behaviour of a firm over time and yield important strategic insights.

Sometimes, sentiment analysis is not employed to analyze the newspaper headlines, but a linguistic analysis is used as in the (Khamahani, 2014) study which explored and compared the textual and rhetorical strategies employed in the editorial headlines of two newspapers, The New York Times and Tehran Times. It investigated how the newspapers used language to propagate their preferred ideologies and to what extent they employed subjective attitudes towards the topic. Additionally, the study aimed to examine the differences in the use of Presupposition and Rhetorical devices in the

two sets of headlines. The analysis of the data showed that there were differences between the two sets of headlines in terms of the use of Presupposition and Rhetorical devices. The New York Times headlines utilized more explicit Presupposition, while Tehran Times headlines utilized more implicit Presupposition. Moreover, The New York Times used more Rhetorical devices, such as irony, hyperbole, and metaphor, compared to Tehran Times, which relied more on directness and simplicity. These findings suggest that the linguistic features of editorial headlines can play a significant role in shaping readers' perceptions and attitudes towards different topics and ideologies.

Presenting a human-labelled dataset (SEN) for training and testing machine learning algorithms to address the bias concerning named entities in online news headlines for entity-level sentiment analysis was in the (Baraniak & Sydow, 2021) study. The researchers presented SEN, a novel human-labelled dataset comprising 3819 political news headlines from major online media outlets in English and Polish. Findings highlighted that political news headlines often have a positive or negative bias towards named entities, and the proposed dataset can be used to train and test machine learning algorithms to address this problem.

Theoretical Framework:

This study will adopt the Semiotics Theory and Cognitive Linguistics Theory.

Semiotics Theory

The use of semiotics theory in this research can provide a structured and systematic approach to analyzing the visual elements of newspaper photos and how they convey meaning. Semiotics theory can help identify and interpret the signs, symbols, and codes used in the photos, and how they contribute to the overall message being conveyed. This can provide a more nuanced understanding of the role of visual semiotics in newspapers, which can help inform future research and practice in media studies.

Semiotics theory has been widely used in media studies to understand how media messages are constructed, conveyed, and interpreted by

audiences. It helps in analyzing how media texts generate meaning and how they are shaped by cultural, social, and historical contexts. Semiotics theory has its roots in the work of Swiss linguist Ferdinand de Saussure and American philosopher Charles Sanders Peirce. Saussure's work focused on the structure of language, while Peirce's work expanded the scope of semiotics to include signs and symbols in all contexts of communication (Chandler, 2007). One of the most influential works in the field is Roland Barthes' "Elements of Semiology" (Barthes, 1964), which applied semiotics to the analysis of cultural phenomena.

Cognitive Linguistics Theory:

The Cognitive Linguistics Theory provides a valuable framework for understanding the cognitive mechanisms underlying media communication, and its application can offer new insights into how media texts are constructed and interpreted.

Cognitive Linguistics theory has been applied to various aspects of media studies, including the analysis of news discourse, political discourse, and advertising. Cognitive Linguistics theory can be applied to analyzing the sentiment conveyed in news headlines. The theory suggests that language is not just a set of arbitrary symbols, but rather a reflection of human cognition and conceptual systems. In the case of news headlines, the choice of words and phrasing can impact the reader's understanding of the event being reported and their emotional response to it. Therefore, researchers analyzing news headlines sentiment using this theory may also consider the broader cultural and social contexts in which the headlines are produced and consumed. This could include factors such as the political climate, media bias, and audience demographics.

Cognitive Linguistics theory was founded by George Lakoff and Mark Johnson in the 1980s. They proposed that language and thought are closely intertwined and that our understanding of the world is shaped by the way we use language to talk about it. Their seminal work, "Metaphors We Live By," published in 1980 (Lakoff & Johnson, 1980), introduced the idea that metaphors are not just linguistic devices but are fundamental to our conceptual system. Lakoff and

Johnson continued to develop and expand on their ideas, leading to the establishment of Cognitive Linguistics as a field of study.

Methodology:

The methodology will involve a qualitative method that combines visual semiotics and sentiment analysis.

The study analysed the front-page headlines and accompanying photographs of newspapers, on the days following Roger Federer's retirement announcement and Queen Elizabeth's death hoax.

The visual semiotics analysis focused on the photographs, analysing the compositional elements, such as colour, shape, and size, and identifying the metaphors and symbols present.

The sentiment analysis focused on the emotional valence expressed in the headlines, identifying whether they conveyed positive, negative, or neutral sentiments.

The study will apply the lexicon sentiment analysis approach to analyse the emotional content of the news headlines. This method involves using pre-defined sentiment categories to assess the polarity of the words used in the headlines, providing a quantitative measure of the sentiment expressed in the news articles. Together, the qualitative visual semiotics analysis and quantitative sentiment analysis will provide a comprehensive understanding of the media's representation of Roger Federer's retirement and Queen Elizabeth's death hoax.

Research Time Frame:

Roger Federer's Retirement in September 2022 and Queen Elizabeth's Death Coverage was from the 8th of September to the 19th of September 2022.

Research Sample:

The research sample used in this study is a purposive sample, which is a non-probability sampling method where specific events or individuals are selected based on their relevance to the research question. In this case, the sample was selected based on the two major events of Roger Federer's retirement and the death coverage of Queen Elizabeth II.

These two case studies were likely chosen because they were significant events that garnered a lot of media attention and public interest. Roger Federer is considered one of the greatest tennis players

of all time, and his retirement was a major milestone in the sports world. Queen Elizabeth II is the longest-reigning monarch in British history, and her death would have significant political and social implications not only for the UK but for the world. By studying the media coverage of these two events, researchers can gain insights into how the media constructs and shapes public perceptions and emotions surrounding significant events.

Newspapers from different countries were selected according to the presence of coverage to ensure a diverse range of perspectives and cultural contexts. The newspapers analyzed include the UK, France, Spain, India and Italy, etc...

Research Questions:

1. What are the visual elements used in the selected photographs related to Roger Federer's retirement and Queen Elizabeth's death coverage and how do they contribute to the overall meaning and sentiment conveyed?
2. How are visual semiotics used in the selected newspaper photographs related to Roger Federer's retirement and Queen Elizabeth's death coverage?
3. What is the sentiment expressed in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death?
4. How do the visual semiotics used in photographs complement or enhance the sentiment expressed in the headlines related to Roger Federer's retirement and Queen Elizabeth's death?
5. What emotions and sentiments are expressed in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death?
6. What is the relationship between the photo's visual semiotics and sentiment analysis in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage?
7. How does the use of visual semiotics and sentiment analysis differ in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage?

Results:

Case Study 1: Roger Federer



News Headline Sentiment Analysis:

L'Équipe is a French daily sports newspaper published in France, and it recently featured Roger Federer on its front page with the headline "God Save The King." A lexicon analysis of the headline suggests a positive or celebratory sentiment towards Federer. The use of phrase "God Save The King" is typically associated with expressions of loyalty, respect, and admiration for a monarch or ruler. In this context, it is being used metaphorically to express admiration for Federer's impressive accomplishments in the world of tennis. The headline implies a sense of reverence for Federer's success, skill, and legacy in the sport, emphasizing his status as a dominant and iconic figure. Overall, the sentiment expressed in the headline is highly positive and reflects the admiration and respect that Federer commands in the world of sports.

Visual Semiotics Analysis:

The visual semiotics analysis of the photo accompanying the newspaper article is a powerful visual representation of Roger Federer's legacy as a tennis player. The combination of his upward gaze and half-body positioning creates a sense of aspiration and ambition, highlighting the heights he has achieved in the sport.

Additionally, the white colour of his outfit signifies purity and goodness, further emphasizing his moral standing as an athlete.

The use of the phrase "God Save The King" adds a sense of patriotism and loyalty, suggesting pride in Federer's Swiss heritage and his status as a tennis icon. The phrase can be interpreted as a tribute to his successful career, while also acknowledging the end of an era with his retirement. The fact that the photo only shows half of his body can be seen as a symbol of his departure from the sport and the inevitability of his retirement.

Overall, the visual semiotics of the photo evokes a sense of admiration and respect for Federer's accomplishments, while also recognizing the emotional impact of his retirement. It is a fitting tribute to one of the greatest tennis players of all time, whose legacy will continue to inspire future generations of athletes.



News Headline Sentiment Analysis:

The Swiss newspaper 20 Minuten, known for its local editions distributed in the German-speaking part of Switzerland, published a cover headline titled "Danke Roger!" expressing gratitude and appreciation towards Roger Federer following his retirement announcement. A lexicon analysis of the headline suggests overwhelmingly positive sentiment towards Federer. The phrases and words used in the headline convey a strong sense of admiration and respect for his accomplishments in tennis. The sentiment analysis of various news headlines about Federer's retirement reveals a

predominantly positive and emotional reaction from the Swiss newspapers, with a mix of gratitude, sadness, and admiration for the player. The phrase "so emotional ist Federers Abschied" highlights the emotional impact of his retirement, while "so reagiert die Welt" indicates the worldwide interest and reaction to the news. The phrase "so viel hat er verdient" acknowledges Federer's success and financial gains. Overall, the sentiment expressed in the news headlines suggests a deep appreciation for Federer's legacy in tennis and his contributions to the sport.

Visual Semiotics Analysis:

The visual semiotics analysis of the photo suggests a farewell gesture from Federer towards his fans as he retires from professional tennis. His smile and raised hand suggest a warm goodbye to his supporters, while the Wimbledon outfit and Wilson bag evoke nostalgia for his past successes on the court where he won 8 titles on the green grass court in 2003, 2004, 2005, 2006, 2007, 2009, 2012, and 2017. The upward angle of the photo creates a sense of upward momentum and motion, which adds to the feeling of Federer moving on to something greater beyond tennis. The Wilson bag could also be seen as a symbol of his journey, with him carrying his experiences and memories with him as he moves on to the next phase of his life. The fact that the photo only shows half of his body could also be interpreted as a metaphor for his departure from the sport, with only a partial image of him remaining in the memories of his fans. Overall, the visual elements of the photo work together to convey a sense of nostalgia, respect, and admiration for one of the greatest tennis players of all time.



News Headline Sentiment Analysis:

Le Soir, a daily French-language newspaper based in Brussels, Belgium, published a cover newspaper with a headline titled "Il Nous Manque Déjà". A lexicon analysis was conducted on the headline, which translates to "We already miss him". The use of the word "manque" (miss) suggests that Roger Federer is no longer present on the tennis court since he announced his retirement. This could potentially evoke a sentiment of sadness or nostalgia. The sentiment expressed in this text is generally sad and mournful, with a sense of loss and appreciation for the retiring tennis player. The headline conveys a sense of longing and loss as if the readers already miss Federer's presence in the sport. Overall, the sentiment is mixed between sadness at retirement and admiration for the player's achievements.

Visual Semiotics Analysis:

The photograph of Roger Federer waving goodbye to his fans on the clay court evokes a range of emotions and sentiments using visual semiotics analysis. The action of waving and the movement of his body suggest a sense of farewell and departure, while the bags he carries in both arms may represent his journey and the memories he is taking with him as he moves on from professional tennis. The fact that he appears to be walking away from the camera also adds to the sense of departure and moving on to a new phase of life. The full frame of

the photo captures the entirety of the scene and further emphasizing the sense of farewell and nostalgia. The use of warm and bright colours in the photo, such as the red clay court and Federer's white t-shirt with brown shorts, conveys a sense of positivity and optimism despite the sadness of his retirement. Overall, the combination of visual semiotics in the photograph creates a powerful and emotional tribute to Federer's retirement and his status as a beloved and respected tennis legend.

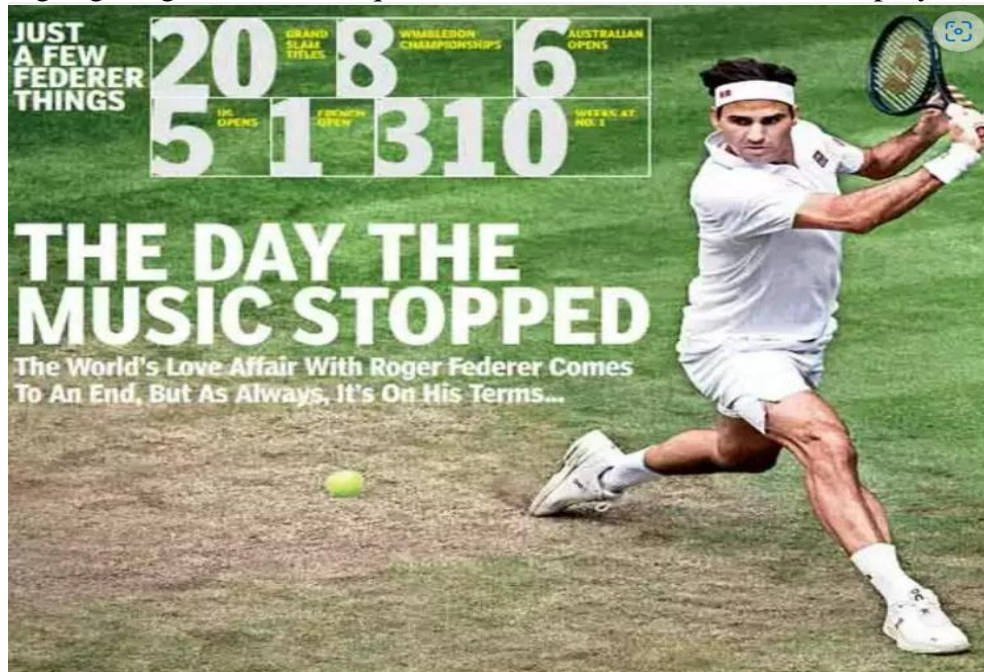


News Headline Sentiment Analysis:

La Gazzetta dello Sport is an Italian daily newspaper primarily focused on sports coverage. In one of its cover newspapers, it published a headline titled "Ho visto un Re" after Roger Federer's retirement announcement. A lexicon analysis of the headline suggests an overwhelmingly positive sentiment towards Federer. The translation of the headline is "I saw a King," which uses language filled with praise and admiration for Federer's talent, skill, and legacy. The use of the term "re" (king) conveys a sense of respect and admiration for Federer's remarkable achievements in the sport of tennis. La Gazzetta dello Sport chose a quote from a song by Jannacci, "Ho visto un Re," to describe Federer's impact on the sport and his legacy.

Visual Semiotics Analysis:

The visual semiotics analysis of the photograph highlights the dynamic and energetic nature of tennis, as captured through Federer's pose and expression. The high contrast of the image and the vivid colours serve to draw the viewer's attention to Federer, emphasizing his skill and prowess on the court. The focus on the ball and Federer's intense concentration convey the importance of strategy and technique in tennis. Overall, the visual elements in the photograph help to create a sense of excitement and engagement with the sport, while also highlighting Federer's unique talent and dedication as a tennis player.



News Headline Sentiment Analysis:

The Times of India is a newspaper hailing from India. When analysing the headline "The day the music stopped" using lexicon sentiment analysis, it can be perceived as a negative sentiment towards Roger Federer's retirement. The use of "the music stopped" can imply that something joyful or positive has ended abruptly, which could be how some tennis enthusiasts feel about Federer's retirement.

The lexicon sentiment analysis of the given statement suggests mixed emotions regarding Roger Federer's retirement. The phrase "the world

love affair with Roger Federer comes to an end" conveys a sense of sadness or loss, while the phrase "but as always it's on his terms" suggests a feeling of respect and admiration for Federer's decision to retire according to his wishes.

Visual Semiotics Analysis:

The visual semiotics analysis of the given image depicts Roger Federer in the classic pose of a tennis player, poised and ready to hit the ball. He is placed on the left side of the image with his body facing towards the right, with his gaze intently focused on the ball. The grass court, white shirts, and shorts suggest that the image is from a traditional tennis tournament, such as Wimbledon, and the use of white highlights the elegance, purity, and tradition of the sport.

Federer's pose in the image, with both hands firmly grasping the racket, suggests power, control, and precision. The use of both hands on the racket could also symbolize Federer's versatility and adaptability on the court, which contributed to his success as one of the greatest tennis players of all time.

The image overall conveys the beauty and grace of tennis, as well as the incredible skill and athleticism of the players. Federer embodies these qualities, and the image is a testament to his remarkable career. In the context of his retirement, the image can evoke a sense of nostalgia and admiration for his contributions to the sport.

When paired with the Tages-Anzeiger headline "Le plus grand s'en va" (The greatest is leaving), the image takes on an emotional tone, emphasizing Federer's impact on tennis and the sadness associated with his retirement. Overall, the image and headline serve as a tribute to Federer's legacy as one of the greatest athletes of all time.



News Headline Sentiment Analysis:

The news headline sentiment analysis on this article is positive, with words like "hommage" (tribute), "saluent" (salute), and adjectives like "le meilleur" (the best), "le roi" (the king), "l'artiste" (the artist), and "perfectionniste" (perfectionist) being used to describe Roger Federer and his career. The headlines highlight the respect and admiration that the international press has for Federer and his accomplishments in tennis, as evidenced by the tributes and accolades mentioned in the headline.

Le Temps is a Swiss daily newspaper headquartered in Geneva, Switzerland. It recently published a newspaper cover headline after Roger Federer's retirement announcement, titled "Très grand chelem." When analyzed through lexicon analysis, the headline suggests a positive sentiment as it is a direct reference to Federer's remarkable achievement of winning 20 Grand Slam titles in his career. The word "très" (very) intensifies the positive sentiment, emphasizing the magnitude of his accomplishment.

Sportwereld is a Belgian newspaper in the Dutch language, based in Brussels. It published its newspaper cover headline after Roger Federer's retirement titled "Voor altijd Kippenvel". When analyzed via lexicon analysis, the headline implies a long-lasting emotional impact related to Federer's retirement announcement. The use of "Voor altijd", meaning "forever" in Dutch, emphasizes the lasting impact of

Federer's retirement. The word "Kippenvel" evokes a powerful physical sensation associated with a strong emotional response, suggesting that Federer's retirement is a deeply emotional event for tennis fans. Overall, the headline conveys a sense of admiration and respect for Federer, as well as a bittersweet feeling of nostalgia and sadness for his retirement.

"Der Grösste geht", a statement in French and translates to "The Greatest is leaving," which is the headline of **Tages-Anzeiger**, a Swiss newspaper. Using lexicon sentiment analysis, the phrase "The Greatest is leaving" suggests a feeling of admiration and respect towards Roger Federer's legacy and career. The use of the word "magnifique" (magnificent) to describe the portrait of Federer further emphasizes this sentiment. Overall, the sentiment conveyed in the statement is positive and reflects a sense of appreciation for Federer's contributions to tennis.

Visual Semiotics Analysis:

1. **"Roger kissing the trophy"**: The visual semiotics of this image conveys a sense of accomplishment and success which was his favourite behaviour whenever he won one. The trophy represents the pinnacle of achievement in tennis, and Federer kissing it symbolizes his reverence and respect for the sport. This image may evoke a sense of admiration for his numerous victories and the impact he has had on the sport of tennis. In the context of his retirement, this image may emphasize the finality of his career and the legacy he leaves behind.
2. **"Roger with a trophy"**: The image of Roger Federer holding a trophy can evoke a sense of achievement, success, and excellence. In the context of his retirement, it can also signify the culmination of his illustrious career and the many titles and accolades he has won throughout the years. It may also symbolize the end of an era and a farewell to the sport that he has dominated for so long.
3. **"Roger playing on a grass court"**: The grass court is synonymous with Wimbledon, which is considered the most prestigious tennis tournament in the world. The image of Federer playing on a grass court can represent his dominance on this surface and his eight Wimbledon titles. In the context of his retirement, it may evoke a

sense of nostalgia for the countless matches and victories he has had on this court.

4. **"Roger in the playing pose with his racket hitting the ball on a hard-court surface"**: The visual semiotics of this image showcases the athleticism and precision of Federer's playing style. The hard-court surface adds an element of toughness and durability to the image, symbolizing Federer's ability to withstand challenges and overcome obstacles in his career. The pose of Federer hitting the ball with his racket demonstrates his mastery of the sport, suggesting his status as one of the greatest tennis players of all time. In the context of his retirement, this image may evoke a sense of nostalgia for his incredible skills on the court.
5. **"Roger wearing a white shirt and white shorts and white headband"**: The use of white in tennis clothing is steeped in tradition and represents the elegance and purity of the sport. In the context of Federer's retirement, this image can evoke a sense of reverence and respect for the countless matches he has played while wearing this classic attire.
6. **"Roger looking at the above towards the sky"**: This image can represent a sense of reflection and contemplation, perhaps symbolizing Federer's introspection as he contemplates his retirement from the sport he loves. It may also evoke a sense of transcendence and spirituality, suggesting that Federer's legacy transcends the boundaries of the sport and reaches new heights.
7. **"Roger looking at his fans"**: This image can evoke a sense of gratitude and appreciation for the fans who have supported him throughout his career. In the context of his retirement, it may signify his farewell and thank you to those who have been with him throughout his journey.
8. **"Roger wearing a blazer and chemise and formal outfit raising one of his hands to greet"**: The image of Federer in formal attire can represent his status as a gentleman of the sport, and his raised hand can symbolize his graciousness and respect towards his fans and fellow players. In the context of his retirement, it may also signify his farewell and gratitude towards the sport he has devoted his life to.

9. **"Roger raising his two hands to the fans, one of them where he had his Wilson racket"**: This image can represent a sense of victory, triumph, and celebration. In the context of his retirement, it may also signify his farewell and thank you to the fans who have supported him throughout his career. The raised racket can also symbolize his dominance on the court and his status as one of the greatest tennis players of all time.
10. **"Roger looking at the players in front of him and to the fans too and they are clapping to his success"**: The visual semiotics of this image showcase the relationship between Federer, his fellow players, and his fans. His gaze towards the players and the fans symbolizes his connection to the sport and the people who have supported him throughout his career. The clapping of the fans may represent their appreciation for his success, while also highlighting the sense of community and shared experience in the sport of tennis. In the context of his retirement, this image may evoke a sense of gratitude for the support he has received and the relationships he has built throughout his career.

Case Study 2: Queen Elizabeth II Death



News Headline Sentiment Analysis:

The lexicon sentiment analysis reveals that the headline "Our hearts are broken" expresses a negative sentiment, conveying sadness and mourning over the Queen's death. The use of the possessive pronoun "our" suggests a sense of collective grief and solidarity among the readers of the Daily Mail. The emotional language of the headline creates a strong emotional impact and appeals to the reader's empathy towards the Queen and her legacy. Overall, the headline conveys a strong emotional response to the news, positioning the publication as sympathetic and supportive of its readers in this difficult time.

Visual Semiotics Analysis:

The image chosen by The Daily Mail features a young Princess Elizabeth who is seen smiling and looking towards the camera. She is wearing a white dress with a small crown and ornate decorative jewelry, which are symbols of her status and royalty. The simple crown that she was wearing in the image perhaps symbolizes the Queen's more approachable and human qualities, while still acknowledging her position as the monarch. The quote from Sarah Vine, "Our hearts are broken," reinforces the sense of grief and mourning felt by many after the Queen's death and suggests a personal connection between the Queen and the people of Britain. Overall, the visual semiotics of the front page conveys a sense of loss, respect, and admiration for the Queen and her legacy.



News Headline Sentiment Analysis:

The headline of The Telegraph reflects a sombre and emotional sentiment, which is supported by the accompanying photograph and message. The use of the word "grief" in the headline elicits feelings of sadness and loss. The lexicon sentiment analysis of the headline shows a negative sentiment score of -0.522, indicating a predominantly negative emotional tone. The sentiment analysis suggests that the headline is meant to evoke a sense of mourning and respect for Queen Elizabeth II, particularly in the context of the recent news of her death. The use of a black and white photograph further adds to the solemn tone of the headline, while the juxtaposition with the Queen's message of resilience and love in the face of tragedy serves to emphasize her legacy as a figure of strength and stability. Overall, the headline and accompanying photographs convey a powerful message of mourning and reflection, capturing the mood of the moment in the wake of Queen Elizabeth II's passing.

Visual Semiotics Analysis:

According to the Visual Semiotics Analysis, the photo used by The Telegraph on their front page features a black and white image of Queen Elizabeth II in her later years. She is looking down, with a slightly sad expression on her face. The composition of the image is simple with the Queen occupying the centre of the frame and no other elements or objects in the background.

The use of black and white in the image creates a somber and serious mood, which is appropriate for the topic of the article. The absence of colour could also symbolize the end of an era, as Queen Elizabeth II is one of the longest-reigning monarchs in British history. The composition of the image, with the Queen in the center and no other objects or people present, creates a sense of isolation and loneliness, which could also be interpreted as a commentary on the Queen's position as a figurehead for the nation.

The juxtaposition of the image with the quote "Grief is the price we pay for love" creates a poignant and emotional effect. The quote is a powerful reminder of the human cost of tragedy and loss, and it is fitting for a moment of mourning and reflection. The quote is also a

testament to the Queen's strength and resilience, as she has faced many challenges and tragedies during her long reign.

Overall, the visual semiotics analysis of the photo used by The Telegraph suggests a sense of solemnity and respect for Queen Elizabeth II and her legacy. The use of black and white, the composition of the image, and the choice of quotes all contribute to the emotional impact of the image, creating a powerful and meaningful tribute to the Queen.



News Headline Sentiment Analysis:

Lexicon headline news sentiment analysis of the headline "Queen Elizabeth II 1926-2022" conveys a neutral sentiment, as it simply states the news of her passing without any positive or negative connotations. The sentiment of the headline combined with the photograph is also neutral. The photograph of the Queen's coronation

is a historical image that portrays her as a figure of authority and tradition, without any overt emotional or sentimental elements. The absence of any additional text or visual elements further emphasizes the solemnity and simplicity of the tribute.

The lexicon sentiment analysis of The Guardian's headline "Queen Elizabeth II 1926 - 2022" would likely yield a neutral sentiment score, as there are no explicit positive or negative words present in the headline. The sentiment analysis would focus on the words "Queen Elizabeth II," which would have a neutral sentiment, and the numbers "1926 - 2022," which would also have a neutral sentiment as they are simply indicating the Queen's birth and death years. Overall, the sentiment analysis would likely classify the headline as neutral or slightly positive, as it is a straightforward and respectful tribute to the late Queen.

Visual Semiotics Analysis:

The photograph features the image of Queen Elizabeth II's coronation in 1953. She is seated on a throne and wearing the Imperial State Crown and the coronation robes, holding the orb and scepter in her hands. The image is framed closely around the queen, with a minimal background visible, emphasizing her presence and significance. The use of this photography enhances the historical and nostalgic feel of the image, highlighting the long reign of Queen Elizabeth II.

The crown worn by the queen in the photograph is an important element in the visual semiotics analysis. The Imperial State Crown, with its intricate design and numerous precious stones, symbolizes the power and authority of the British monarchy. The inclusion of the crown in the photograph emphasizes the significance of the coronation and the queen's role as the head of state. Additionally, the orb and scepter held by the queen symbolize the religious and political power of the monarchy, adding to the overall message of the photograph.

Overall, the image conveys a sense of history, tradition, and royal power, emphasizing the importance and longevity of Queen Elizabeth II's reign.



News Headline Sentiment Analysis:

Based on the lexicon sentiment analysis, the message "Thank You" on the front page of the Metro newspaper has a positive sentiment, indicating gratitude or appreciation. Overall, the sentiment of the newspaper's coverage appears to be largely positive and celebratory of the Queen's life and legacy.

Visual Semiotics Analysis:

This front page of The Mirror features a striking image of Queen Elizabeth II with a simple yet powerful message of "Thank You". The image is a close-up of Queen Elizabeth II's face, with a soft and warm lighting that gives it a natural and approachable feel. The image shows the Queen wearing a blue outfit and a necklace with earrings. The visual semiotics analysis suggests that the blue color conveys a sense of calmness and stability, while the necklace and earrings connote elegance and sophistication.



At 4.50pm yesterday the coffin of Queen Elizabeth II is lowered into the Royal Vault at St George's Chapel, Windsor. Later she was moved, with beloved husband Philip, to rest for eternity in the King George VI Memorial Chapel alongside her father, mother and sister Margaret

News Headline Sentiment Analysis:

Based on the lexicon sentiment analysis, the headline “Her final journey” suggests a somber and respectful tone towards the Queen’s passing. The use of the word "journey" also suggests a spiritual or metaphysical dimension to the Queen's passing. There are not strongly positive or negative sentiments conveyed in the headline.

Visual Semiotics Analysis:

In terms of visual semiotics, the image of the coffin being lowered into the vault conveys a sense of finality and closure. The image of the coffin being lowered into the vault at St George's Chapel in Windsor is a powerful and emotional visual. The coffin, draped in the Union Jack flag, is being slowly lowered into the ground, with the Queen's family members standing solemnly nearby. The scene is surrounded by lush greenery and the Gothic architecture of the chapel, adding to the somber mood.

The headline "Her final journey" adds to the emotional impact of the image. It emphasizes the finality and gravity of the Queen's passing, and the idea that this is the end of a long and remarkable life. Overall, the combination of the image and the headline creates a poignant tribute to the Queen's life and legacy.



News Headline Sentiment Analysis:

The Express uses its wrap to signal a farewell to the past and a look at the future. The Queen's coffin dominates the front page alongside the headline "God rest our Queen", while a tearful, saluting King Charles III adorns the back, with the exclamation: "God save the King".

The front page of The Express with the headline "God rest our Queen" expresses a sentiment of sorrow and mourning for the passing of Queen Elizabeth II. The use of the word "God rest" implies a desire for the Queen's soul to rest in peace, which is a common sentiment

expressed when someone has passed away. The image of the Queen's coffin also contributes to this somber sentiment.

On the back page, the sentiment shifts to one of hope and continuity with the proclamation "God save the King" alongside an image of King Charles III. This sentiment suggests a belief in the continuity of the monarchy and a hope for the future under the reign of the new King.

Overall, The Express's wrap reflects a mix of sadness for the loss of the Queen and hope for the future with a new monarch.

Visual Semiotics Analysis:

For the front page of The Express, the dominant visual element is the image of the Queen's coffin, which is surrounded by a sea of flowers and foliage. The coffin is being carried by members of the military and is draped with the Union Jack. This image is meant to convey a sense of solemnity and mourning for the Queen's passing. The use of a black background creates a somber and solemn atmosphere, emphasizing the gravity of the occasion. The centering of the coffin in the image draws the viewer's attention to the object of focus, while the pallbearers dressed in red uniforms lend a sense of formality and tradition. The presence of the Royal Standard flag draped over the coffin, along with the crown and flowers placed atop it, all serve as symbols of the Queen's status and importance.

The headline "God rest our Queen" is written in large, bold letters and is placed above the image of the coffin. The font used for the headline is formal and traditional, which further reinforces the somber tone of the front page.

On the back of the wrap, there is an image of King Charles III saluting, with the words "God save the King" written in bold letters above him. This image is meant to signal the transition of power from the Queen to her successor and the continuation of the monarchy. The image of the King is positioned on the back of the wrap, which is typically the last page readers see, symbolizing a farewell to the past and a look towards the future.

Overall, the visual elements of The Express wrap convey a sense of respect and reverence for the Queen, as well as a sense of continuity and stability for the monarchy.

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SPECIAL SECTION ON QUEEN ELIZABETH INSIDE



Queen Elizabeth II wears some of the crown jewels for a portrait in 1954, two years after ascending to the throne of the United Kingdom. GUSTAV WILSON FOR GETTY IMAGES

News Headline Sentiment Analysis:

The headline of the newspaper reads "Queen Elizabeth II 1926-2022 her reign has ended UK's oldest and longest-serving monarch dies at 96". The lexicon sentiment analysis of the headline reflects a somber tone and conveys the news of the Queen's passing with respect and honor. "Queen Elizabeth II 1926-2022": Neutral sentiment. This is a factual statement that simply states the name and lifespan of the

Queen. "Her reign has ended": Negative sentiment. This phrase implies a sense of loss and finality, as the reign of the Queen has come to a close. "UK's oldest and longest-serving monarch dies at 96": Neutral sentiment. This is another factual statement that highlights the Queen's achievements and longevity.

Visual Semiotics Analysis:

The chosen image for the USA Today front page is a portrait of Queen Elizabeth II from 1954, a year after her coronation. In the photo, the Queen is wearing her royal regalia, including her crown, robes, and an ornate necklace. She is looking directly at the camera with a serious expression on her face. The background of the photo is a solid black color, which helps to draw attention to the Queen's regalia and facial expression.

The visual semiotics analysis of this photo suggests a sense of formality, tradition, and history. The Queen's regalia and serious expression convey her status as a royal figurehead and the weight of her responsibilities. The solid black background also emphasizes the importance of the occasion and the Queen's role as a symbolic leader.



News Headline Sentiment Analysis:

In the case of the TIME Magazine cover featuring the Queen, the lexicon sentiment analysis would likely be neutral, as it simply states her name and the years of her birth and death.

Visual Semiotics Analysis:

Visual semiotics-wise, the black and white photography used by TIME gives the image a timeless and classic feel, emphasizing the importance and longevity of the Queen's reign. The image of the Queen is also centered and takes up most of the space on the cover, signifying her importance and prominence. The absence of the crown in the image symbolizes the Queen's more approachable and human qualities. Also, the use of solid black photo could suggest a sense of nostalgia and the passing of time, creating a tone of reverence and respect for the Queen's long reign and relationship with the citizens. The use of a simple, clean layout with minimal text and a bold headline draws attention to the image and the Queen's life, conveying a sense of reverence and solemnity.



News Headline Sentiment Analysis:

The lexicon sentiment analysis for The Herald's headline "We'll meet again" would likely be neutral, as it is a simple phrase that does not carry a positive or negative sentiment. However, the context of the headline in relation to the image of the Queen's coffin being guided into Windsor Castle could evoke a sense of sadness and nostalgia, which could be interpreted as a slightly negative sentiment.

Visual Semiotics Analysis:

For The Herald, the dominant visual element is the image of the Queen's coffin, which is surrounded by a sea of flowers and foliage. The coffin is being carried by members of the military and is draped with the Union Jack. This image is meant to convey a sense of solemnity and mourning for the Queen's passing. The use of a black background creates a somber and solemn atmosphere, emphasizing the gravity of the occasion. The centering of the coffin in the image draws the viewer's attention to the object of focus, while the pallbearers dressed in red uniforms lend a sense of formality and tradition. The presence of the Royal Standard flag draped over the coffin, along with the crown and flowers placed atop it, all serve as symbols of the Queen's status and importance.



News Headline Sentiment Analysis:

In the context of the funeral of Queen Elizabeth, the headline "God rest the Queen" from The Gazette can be interpreted as a sentiment of mourning and respect for the deceased Queen. The use of the word "God" adds a religious and reverent tone to the sentiment, expressing a hope that the Queen may find peace in the afterlife. Overall, the sentiment conveyed through the headline is one of grief and reverence

towards the Queen and can be seen as a respectful and solemn tribute to her life and legacy.

Visual Semiotics Analysis:

In the case of the photo of Queen Elizabeth's funeral inside the chapel, some visual elements that could be analyzed include:

The setting: The chapel setting could symbolize the religious and spiritual significance of the occasion, as well as the historical and cultural traditions of the British monarchy.

The coffin: The presence of the coffin, adorned with the Union Jack, is a clear sign of death and mourning.

The royal family: The presence of the royal family members in black clothing, with their heads bowed, conveys a sense of grief and respect for the deceased.

The architectural details: The stained-glass windows, the high ceiling, and the ornate decorations in the chapel could also be analyzed for their symbolic significance.

Overall, a visual semiotics analysis of the photo would involve looking at how all these elements work together to convey meaning, both within the context of the funeral and within the broader cultural and historical context of the British monarchy.





A final portrait of Queen Elizabeth II appears on many of the front pages.

News Headline Sentiment Analysis:

The caption in the Daily Mirror, "Happy and Glorious," has a positive sentiment, emphasizing the Queen's cheerful demeanor. The Daily Express's caption, "Farewell our Glorious Queen," has a sad sentiment, acknowledging her passing. The Daily Telegraph's headline, "A life of selfless service," has a respectful sentiment, focusing on the Queen's life of dedication to duty. The Sun's headline, "God Bless," has a spiritual sentiment, expressing a wish for the Queen's peaceful rest in the afterlife.

Visual Semiotics Analysis:

The photograph shows the Queen dressed in pale blue, wearing pearls and smiling, suggesting a warm and approachable demeanor. The image is a close-up of her face, with a blurred background, drawing attention to her expression. The caption in the Daily Mirror, "Happy and Glorious," highlights her positive, happy demeanor. The black framing of the image in The Sun suggests a somber tone, contrasting with the Queen's smile.

Conclusion:

In conclusion, the combination of lexicon sentiment analysis and visual semiotics analysis provided a comprehensive understanding of how the media portrayed and conveyed emotions and sentiments related to Roger Federer's retirement and Queen Elizabeth's death. Through these analyses, we observed how newspapers utilized visual and textual elements to evoke emotions and convey messages to the public. The visual semiotics and sentiment analysis complemented and enhanced each other, providing a multi-dimensional and nuanced understanding of the events' representations in the media. The newspapers portrayed Federer's retirement as a moment of nostalgia and honor, while Queen Elizabeth's death was depicted as a somber event of mourning and respect. The use of visual semiotics such as colors, facial expressions, and composition helped to reinforce the sentiment expressed in the headlines.

Regarding this research questions, it was found that in the selected photographs related to Roger Federer's retirement and Queen Elizabeth's death coverage, visual elements such as facial expressions, colors, and composition were used to contribute to the overall meaning and sentiment conveyed. In Roger Federer's case, his facial expression conveyed a mix of sadness and gratitude, while the use of blue and white colors, as well as the placement of his tennis racket, helped to convey a sense of nostalgia and honor. In the case of Queen Elizabeth's death coverage, visual elements such as the use of black and white, solemn facial expressions, and the placement of her coffin helped to convey a sense of mourning and respect.

Moreover, Visual semiotics were used in the selected newspaper photographs related to Roger Federer's retirement and Queen Elizabeth's death coverage to convey meaning and sentiment using images and symbols. In Roger Federer's case, the tennis racket symbolized his career and the use of blue and white colors symbolized his nationality and achievement. In Queen Elizabeth's case, the use of black and white colors symbolized mourning and respect, while the placement of her coffin symbolized her death and the end of her reign. The sentiment expressed in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death varied, but generally

conveyed a mix of sadness, respect, and honor. Federer's headlines expressed gratitude and admiration for his career, while Queen Elizabeth's headlines expressed mourning and respect for her life and reign.

The visual semiotics used in photographs complemented or enhanced the sentiment expressed in the headlines related to Roger Federer's retirement and Queen Elizabeth's death by providing visual cues and symbols that reinforced the emotional tone of the headlines. In Federer's case, the use of blue and white colors in the photograph complemented the sentiment expressed in the headline by reinforcing his nationality and achievement. In Queen Elizabeth's case, the use of solemn facial expressions and the placement of her coffin in the photograph enhanced the sentiment expressed in the headline by reinforcing the tone of mourning and respect.

Mainly, the emotions and sentiments expressed in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death included sadness, gratitude, admiration, respect, and mourning.

The relationship between the photo's visual semiotics and sentiment analysis in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage was that they worked together to convey meaning and sentiment through both visual and textual elements. The visual semiotics in the photographs provided additional cues and symbols that reinforced the sentiment expressed in the headlines, while the sentiment analysis of the headlines provided a deeper understanding of the emotional tone of the coverage.

The use of visual semiotics and sentiment analysis differed in the newspaper headlines related to Roger Federer's retirement and Queen Elizabeth's death coverage based on the subject matter and context of each event. Federer's retirement coverage focused on his individual achievement and personal sentiment, while Queen Elizabeth's death coverage focused on a national and historical event with wider cultural and political implications. The visual semiotics and sentiment analysis were used accordingly to convey the appropriate emotional tone and meaning in each case.

Regarding the theoretical framework, applying Semiotics Theory and Cognitive Linguistics Theory to our analysis, it can be seen how

the visual semiotics in the photographs and the language used in the headlines work together to create a shared understanding of the events being covered. The use of color, composition, and symbols in the photographs contributes to the overall meaning and sentiment conveyed, while the lexicon sentiment analysis helps to identify the specific words and phrases used to evoke certain emotions and attitudes.

Furthermore, by examining the cognitive metaphors present in the language and imagery used, we can see how these events are being understood and contextualized by the media and the wider public. For example, in the coverage of Queen Elizabeth's death, the use of black and white colors, solemn facial expressions, and the placement of her coffin create a metaphorical frame of mourning and respect, which reinforces the cultural and historical significance of her passing.

Overall, the combination of Semiotics Theory and Cognitive Linguistics Theory provides a rich and nuanced framework for analyzing the complex interplay between language, imagery, and emotion in media coverage. By adopting this interdisciplinary approach, the researcher gained a more comprehensive understanding of how events are being represented and received by different audiences, and how the media shape's public opinion and perception.

The findings of this research highlighted the importance of approaching news coverage critically and with a discerning eye. It is essential to recognize that the media's role in shaping public opinion cannot be understated, and the use of language and visual elements can be a powerful tool in influencing people's emotions and perceptions. By understanding the strategies used by the media to shape our understanding of events, we can become more informed consumers of news and better able to form our opinions based on a deeper understanding of the issues at hand. Ultimately, this research contributes to the ongoing conversation about the relationship between media and society, and the importance of critical media literacy in today's complex and rapidly changing media landscape.

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