Climate Change in Articles from the *New York Times*: A Discourse Analysis

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ABSTRAKT

Tato bakalářská práce se věnuje diskurzivní analýze článků v tisku. Konkrétně se jedná o analýzu výrazu *klimatická změna* ve článcích *New York Times* od roku 1990 do roku 2020. Teoretická část se skládá z pěti kapitol, které rozebírají obecně noviny, *New York Times*, klimatickou změnu, diskurz a v neposlední řadě kritickou diskurzivní analýzu. Praktická část této práce obsahuje kapitolu o vzniku korpusu článků z *New York Times* a následně diskurzivní analýzu identit, modálních sloves a klíčových slov, které v sestaveném korpusu souvisejí s klimatickou změnou. Závěry práce přináší zjištění, že *New York Times* volí převážně neutrální a nezaujatá slova týkající se klimatické změny.

Klíčová slova: diskurzivní analýza, diskurz, klima, klimatická změna, *New York Times*, identita, modální slovesa, přídavná jména

ABSTRACT

This Bachelor's thesis deals with discourse analysis of newspaper articles. Specifically, it is an analysis of the *climate change* phrase in the *New York Times* articles from 1990 to 2020. The theoretical part consists of five chapters discussing the newspapers in general, then the *New York Times*, climate change, discourse analysis, and finally, critical discourse analysis. The practical part of this thesis includes a chapter on building the corpus of the *New York Times* articles followed by a discourse analysis of the identities, modal verbs, and adjectives from the corpus pertaining to the climate change phrase within the corpus. The findings of this thesis suggest that the *New York Times* chooses neutral, unbiased words regarding the topic of climate change.

Keywords: discourse analysis, discourse, climate, climate change, *New York Times*, identity, modal verbs, adjectives

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I hereby declare that the printed version of my Bachelor's thesis and the digital version of my thesis deposited in the IS/STAG system are identical.

CONTENTS

INTRODUCTION

Today's world continuously faces problems associated with climate change. Consequently, climate change is an increasingly common topic in newspapers. Over the decades, it has gradually become a more discussed topic, with political figures being a vital part of it. The question that this thesis addresses is how the topic of climate change has changed and evolved over the course of thirty years, specifically from 1990 to 2020 in the articles from the *New York Times*. A significant change can be indicated by the fact that the number of articles in given years has noticeably increased. While in the year 1990 the number of articles mentioning climate change in the *New York Times* was two, in 2020 the number was unbelievably high, precisely six hundred and sixty more than in 1990.

This thesis is divided into theoretical and practical part. The theoretical part consists of five chapters. The first one is dedicated to newspaper. Furthermore, the objectivity of newspaper is discussed in this chapter. The following chapter deals with the *New York Times* more closely, since the corpus of this thesis consists of articles from this newspaper. The third chapter focuses on climate change, and the fourth chapter deals with discourse. Critical discourse analysis, its limitations and selected tools of discourse analysis are discussed in the last chapter. The practical part starts with methodology and follows with the analysis, which is divided into three chapters, the analysis of identities, modal verbs, and adjectives pertaining to the phrase of *climate change*. The choice aims at items that may throw light on emotional colouring of the topic.

In conclusion, the goal of this work is to conduct a discourse analysis which addresses the issues above by analysing identities, modal verbs and adjectives in this corpus that are linked to the climate change. An essential part of this thesis is working with AntConc software. Word frequencies are key in analysing certain phenomena in the corpus and they were easier to detect thanks to this software.

I. THEORY

1   NEWSPAPERS

According to Merriam-Webster Dictionary, the term newspaper means "a paper that is printed and distributed usually daily or weekly and that contains news, articles of opinion, features and advertising." Moreover, the Cambridge Dictionary defines the term in these words: "a regularly printed document consisting of large sheets of paper that are folded together, or a website, containing news reports, articles, photographs and advertisements." The second definition states that a newspaper can be a website, which indicates that newspapers are adapting to the digital era by having an online form.

Additionally, it is important to note that a newspaper consists of a team of people, primarily made of journalists and editors, but also including marketing experts and lawyers among others (Barnhurst and Nerone 2001, 2).

1.1 Types of Newspapers

According to Avalos-Rivera (2020), newspapers can be divided according to different criteria. One of the primary criteria is size, where two types are typically distinguished: broadsheet and tabloid. Broadsheets typically cover serious issues with an unbiased approach, and they are typically half as big as the tabloids. Tabloids, on the other hand, are often known for publishing news that includes scandal and bias, and they are usually half the size of the broadsheets. Another criterion is whether the newspaper is local/regional or national. National newspapers are sold countrywide, while local and regional newspapers are more region-specific. The last criterion of newspapers is their frequency of publishing. Newspapers can be published daily, biweekly, triweekly, weekly, or even monthly (Avalos-Rivera 2020). BBC uses the same division based on size (broadsheets and tabloids), further adding that tabloids cover a wide range of topics, including world events and entertainment news often including celebrities. Tabloids tend to include more images than broadsheets. Broadsheets focus on more in-depth and informative news. They feature longer sentences and paragraphs and one notable example of a broadsheet is the *New York Times*. Broadsheets are typically more expensive than tabloids, and they often have a smaller circulation (BBC, 2015).

The University of North Florida describes newspapers as follows: text in the newspapers is organized into columns, and the news about major events are placed in the beginning of newspapers. Newspapers are further distinguished into sections, such as national/international, local, editorials, entertainment, and sports (University of North

Florida, 2021). Furthermore, newspapers also cover topics like business and world catastrophes happening at that time.

1.2 History of Publishing

The process of developing newspapers into the form we know today took many centuries. With the focus on the USA, the first newspapers emerged thanks to colonial printing trades. In the early stages, printers got their information in either spoken form or through letters. They hardly ever expressed their opinions in the newspaper. This fact started to change at the beginning of the nineteenth century with the role of editors (Barnhurst and Nerone 2001, 15). According to Barnhurst and Nerone, the development of the form of newspapers can be divided into three types, which are named after "dominant position in its production": printer's paper, editor's paper, and publisher's paper (14, 2001). Each type is associated with a different time period and has different ideals as illustrated in the table below.

The printer's paper was a distinct type of newspaper because its primary focus was not on writing the news but on production. For instance, they often used newspapers that were mailed to them or even letters as source material (Barnhurst and Nerone 2003, 436). As for the editor's paper and the publisher's paper, they were influenced by different factors. One of these factors was the expansion of mass politics, and the other was the increase in periodic publication (Barnhurst and Nerone 2003, 437). These circumstances led to the editor's paper becoming more focused on politics, while the publisher's paper later covered a broader range of topics (Barnhurst and Nerone 2003, 438).

Table 1 – Formations of newspapers (Barnhurst and Nerone 2001, 15)

Formation	Printerly				Partisan				Victorian		
Year	1780	1790	1800	1810	1820	1830	1840	1850	1860	1870	1880
Style	Federal		Transitional		Partisan		Imperial		Victorian		
Type	Printer's paper				Editor's paper				Publisher's paper		
Ideal	Town meeting				Courtroom				Marketplace		

1.3 Bias in Newspapers

Bias and objectivity are inseparable from the field of journalism. Johnson-Cartee states that everyone perceives the world subjectively. Everything people know about the world is influenced by the experiences they have gained in the course of their lives. Due to this fact, it is impossible that two individuals would perceive the world in the same manner as each other. Subjectivity is inherent in human beings, and it is impossible to change this fact (Johnson-Cartee 2005, 113).

The objectivity of newspapers can be seen as unachievable. The *New York Times* published an article called *Can Journalist Be Objective?* It provides opinions of readers on objectivity. One of the readers, Allen J. Davis, notes that editors greatly influence the objectivity of newspaper, as it is up to them to decide who will write certain articles and decide where the article will be placed, whether the article is worthy of the front page or should be placed in the back, for example. Another reader, John G. Cottone, describes the importance of journalists recognizing their own biases to provide information of good quality (The New York Times, 2023).

According to Avalos-Rivera, achieving objectivity in journalism is a difficult matter, considering the fact that newspapers are businesses whose goal is to make money. Furthermore, writers are individuals who want to report data and facts as unbiased as possible, but they are just human beings with their own opinions and biases. Due to these reasons, it is challenging to find completely unbiased news (2020).

1.4 Power of Newspapers

Newspapers have a powerful role in society. Journalists are trained to work according to the watchdog theory, which in practise means that newspapers have to take steps to ensure honesty and prioritize public interest. Newspapers hold power against any wrongdoing by having the power to expose various views such as the intentions of politicians and covering their political history, which can affect them in the eyes of the public (Johnson-Cartee 2005, 77).

Newspapers can be described as the fourth estate. This is an indication that newspapers do much more than provide collected information. It is up to newspapers to present what is going on in the political sphere. Journalists write about people's attitudes on certain topics, and they decide in which light they will present these. Journalists explain the intentions and actions of politicians. Additionally, they write about possible impacts on individuals or society (Johnson-Cartee 2005, 78).

1.4.1   Journalist's Tendencies

The job of a journalist is to provide information in a concise manner and the text should be straightforward and easily understandable for most people. Journalists deliver difficult messages that reflect the impact of certain governmental actions that will influence the day-to-day lives of people (Johnson-Cartee 2005, 77).

2   THE NEW YORK TIMES

The *New York Times* was founded in 1851 in New York City. According to Britannica, even though NYT never had the highest circulation, it built a strong reputation for in-depth professional journalism. The *Times* has won more than 120 Pulitzer Prizes, including one for articles related to the 'Pentagon Papers' (2021).

2.1.1   History of the *New York Times*

According to the New York Times Company (2023), the *New York Times* was founded by Henry Jarvis Raymond and George Jones. The first issue of the *New York Times* was published in 1851. Ten years later, the *New York Times* became the 'official receiver' of news that were connected to the war, delegated from the government. In 1912, the *New York Times* was the first newspaper to inform that Titanic was sinking. The *Times* provided a great number of articles relating to World War I for which they won their first Pulitzer Prize. In 1950 the *Times* introduced their typical crossword puzzle, for which they are still very popular even today. From 1980, with the advent of globalization, they started a national edition of the *New York Times*. In 1996 the *Times* introduced its webpage to make it possible to read the *Times* from anywhere in the world. In 2018, articles from the *Times* won the Pulitzer Prize for revealing pieces of sexual harassment in many industries. In 2017, the *Times* came up with The Daily podcast (The New York Times Company 2023).

2.2 The Evolving Environment of the *New York Times*

The *New York Times* is a prestigious paper with a great tradition (Britannica, "The New York Times"). With the advent of the Internet age, it has become obvious that newspapers must adapt to the online sphere and the *New York Times* wanted to remain competitive. The crucial term within this transformation is 'interactivity' (Usher 2014). Interactivity encourages more involvement with the readers. From the point of view of a journalist, this shift towards the online environment might have been complicated. Some of them adapted to online settings quickly and they experimented with different methods of telling a story. On the other hand, for numerous journalists, this represented difficulty in their work life (Usher 2014, 152). Understanding the evolving context of present-day articles is an essential part of this thesis.

One of the purposes behind incorporating 'interactivity' is to make a profit, for which it is essential that the reader spends time on the the *New York Times* website (Usher 2014, 153). It seems possible that the money-making aspect of using an online setting and connecting more with the reader is a crucial part of journalism in today's world.

Today, the *New York Times* also presents information on their accounts on various social media. For instance, their account on Instagram has 18 million followers, and the *New York Times* has more than 55 million followers on Twitter.

2.2.1 Tendencies of the *New York Times*

Why the Readers See The Times as Liberal? This is the title of an article written by Liz Spayd on the *New York Times* webpage. It primarily addresses reader emails regarding perceived bias. The author interviewed a few journalists and inquired about bias related to left-wing politics. They answered: "All sides hate us. We are tough on everyone. That's nothing new here." (Spayd 2016) An interesting point raised by Spayd is that the information and the total number of political preferences among the *New York Times* readers are confidential (Spayd 2016).

The fact that the *New York Times* published this article shows openness to the topic of bias, which is tightly connected to the environment of newspapers.

3 CLIMATE CHANGE

This chapter focuses on defining what climate change is. Next, it seeks to explain how society deals with climate change and what it means for our daily lives.

Climate Change is directly related to global change. The typical feature of climate is that it is still changing, and its variability compared to weather differs significantly. Weather is changing quickly in time (Marek 2022, 33).

Moreover, in the present-day world, some mathematical models can predict how the climate will react to changes made by people (Marek 2022, 33). Climatology as a science interferes with other fields, such as biology. Climate change has a role to play in a variety of fields that affect our everyday lives, such as agriculture. It also plays a significant role in politics (Marek 2022, 34).

3.1 Effects of Climate Change

Climate change is an ongoing change in the environment. In the present day, climate change means uncertainty even in areas concerning food or energy supply. An example of a weather change caused by climate change is drought (Marek 2022, 185). Another noteworthy consequence of climate change is wildfires. The number of climate-related cases of wildfires is increasing (Marek 2022, 118). These changes have a massive impact on the ecosystems on our planet (Marek 2022, 185).

Climate change has a huge impact on lives in the cities. In 2007, more than half of people in the world lived in a city (Marek 2022, 131). There are plenty of surfaces in the cities that differ from nature, such as asphalt roads. These surfaces react differently to sunlight and as a result, they heat up more quickly. Due to the heating, the temperature is higher even at night (Marek 2022,132).

For an extended time, humanity has been dealing with climate change consequences. Extremes concerning weather and climate are becoming more common than they were before (Marek 2022, 107).

3.2 Reactions and Different Attitudes on Climate Change

The First World Climate Conference was held in Toronto, Canada in 1988 in reaction to rising CO_2 levels. The conclusion from the conference was emphasizing the urgency of the situation and the immediate need for action. The Intergovernmental Panel on Climate Change (IPCC) was created in the same year with the goal of providing information about climate change every five years. Despite these efforts, some people were still sceptical about

climate change (Behringer 2010, 260). In some areas, the glaciers did not melt, due to intense rainfall, they even grew, and this information supported their concerns. During the 1990s there were a lot of different attitudes concerning climate change (Behringer 2010, 261).

3.3 Context Summary of Climate Change

In contrast to what most climatologists believe today, some climatologists did not consider the Intergovernmental Panel on Climate Change (IPCC) report from 1990 as alarming as it is considered now. Climatologists dedicated quite a lot of energy to global cooling, possibly due in part to a few colder years and possibly the Little Ice Age (Behringer 2010, 9–10).

The first IPCC report, created in 1990, attracted a lot of attention (Behringer 2010, 260). This report was one of the topics at the United Nations conference in Rio de Janeiro in 1992 along with the United Nations Framework Convention on Climate Change, which was also created there. Another conference, called the Conference of Parties (COP 1) took place in Berlin in 1995 (Behringer 2010, 261). The Kyoto Protocol, which aimed to reduce greenhouse gas emissions was created at COP 3 in Kyoto, Japan in 1997 (Behringer 2010, 262).

In 2001 IPCC report provided forty different scenarios of what could happen in this century concerning climate change (Behringer 2010, 263). The report emphasized the urgency of the situation and mentioned the importance of politics. In 2001, George W. Bush won the presidential election in the USA, and he prioritized other questions over climate change. Following the September 11 attacks in New York City, the focus of American politics was on fighting terrorism rather than prioritizing reducing greenhouse emissions. In 2005, the Kyoto Protocol came into effect after 141 countries, including Russia, signed the protocol (Behringer 2010, 264–265). China and the United States did not sign the Kyoto Protocol, even though these two countries are the biggest producers of CO_2 (Britannica, 2022). IPCC provided another report in 2007 which was densely covered by newspapers. The report stated that climatologists are 90% sure that people are responsible for global warming. This report got a lot of attention in sections of newspapers concerning politics (Behringer 2010, 266).

In 2015, the Paris Agreement was adopted, replacing the Kyoto Protocol. 195 countries signed the Agreement with the goal to reduce greenhouse gas emissions, therefore the temperature would not increase more than 2 °C than was the level of temperature before the Industrial Revolution (Britannica, 2022). The United States was a part of the Paris Agreement until President Donald Trump was elected, and he believed that joining the

Agreement was not a good decision for the American economy. The United States left the agreement in 2020 and joined back in 2021 after Joe Biden was elected the President (Lark, 2022).

In 2021 at COP26, the result of the conference was the Glasgow Climate Pact. Some of the decisions made were providing financial help for developing countries and using this current decade for necessary actions (UNFCCC, n.d.).

4 DISCOURSE

Language is undoubtedly an essential aspect of everyday life. Often, people do not even notice that it surrounds us, for example, in symbols, words or even thoughts. However, discourse goes further than the language as "it is the social and cognitive process of putting the world into words, of transforming our perceptions, experiences, and communication, through language and other semiotic resources." Example of semiotic resources might be silence gaps or gestures (Strauss, Feiz 2014,1–2). Discourse has evolved into a necessary element in various fields, ranging from political science and media studies to sciences, for example engineering (Strauss, Feiz 2014, 3). In alignment with Strauss and Feliz, Gee also supports the view that discourse analysis is applicable across many other fields. When it comes to meaning, people are able to analyse almost everything (17, 2014a).

According to Widdowson, discourse is the force behind the creation of a text. However, it is up to the receiver of the text (either written or spoken) to extract meaning from it. In this sense, the meaning of a text act as a middle between discourses (Widdowson 2007, 6–7). When considering this statement about discourse, it is not only about the intended message by the creator of the text but also how the received message is understood (Widdowson 2007, 7).

Gee describes discourse as "the sequence of sentences." Discourse is the manner in which sentences are connected and how they build upon each other, with meaning being built through this process. Gee also emphasizes that he does not perceive sentences as merely tied to the written form. Sentences behave differently in written and spoken form. However, in spoken form, certain boundaries are not as tightly defined as in written form, for example, syntax (Gee 2014a,18).

4.1.1 Media Influence on Discourse

It is worth mentioning that media significantly changed at the end of twentieth century, adopting to the digital era. For instance, newspapers transitioned from paper sheets to the online form. Additionally, media adopted to instant feedback online from readers or the visual aspects and made archives accessible online or SEO (search-engine optimization). Due to these rapid changes, the number of demanded employees decreased compared to the past. However, the combination of new technologies and social media has opened up space for new job opportunities, such as freelancing in journalism (Cotter 2015, 795).

4.2 Discourse Analysis

After defining the term discourse, it is necessary to explain the term discourse analysis which is the use of discourse in practise. The primary purpose of conducting discourse analysis is to explore the form and meaning of given materials (Waring 2018, 9).

Discourse analysis can also be defined as a method of language analysis that takes into consideration both the aspect of language but also "social and cultural contexts" (Paltridge 2012, 1). The first person to come up with the actual name 'discourse analysis' was Zellig Harris in 1952. He was interested in the language further than just the bare text. He focused on the "relationship between linguistic and non-linguistic behaviour" (Paltridge 2012, 2).

Jones, Chik and Hafner suggest that, to some extent, every discourse analysis has to include the following four components: text, context, action and interaction, power and ideology (2015, 4).

- *Text*

There is a debate among researchers regarding the term text, and what qualifies as a text. The question is what criteria must be met for it to be a text. Researchers agree that the answer is texture. Texture is achieved through to cohesion and coherence. Cohesion refers to factors like syntax, and how words are linked. On the other hand, coherence refers to a way of organizing the text that it makes sense and convey meaning (Halliday and Hasan 1976, Schegloff and Sacks 1973, as cited in Jones, Chik and Hafner 2015, 5).

- *Context*

Context is an essential part of discourse analysis. Without context, the analysis would not be discourse analysis; it would be an analysis of isolated aspects of a text (Jones, Chik and Hafner 2015, 8). For discourse analysis, context means both material and social situations in which the text is produced and in which it is used (Jones, Chik and Hafner 2015, 4).

- *Action and interaction*

Action and interaction mean "what people do with text, especially what they do with and to each other" (Jones, Chik and Hafner 2015, 4).

- *Power and ideology*

This component uncovers the topic of creating ideologies and the use of text in terms of power. Furthermore, an interesting point is made by Jones Chik and Hafner: researchers agree that in the so-called new media, it is possible to identify speculations and biases similar to those found in the old ones (2015, 13).

4.3 Selected Tools of Discourse Analysis

This subchapter is mainly based on the book How to Do Discourse Analysis: A Toolkit by James Paul Gee (2014) since the tools presented in the book will be used in the analysis of this thesis.

4.3.1 Significance

People determine whether certain information is significant to them or not. When it comes to the Significance Building Tool, there is one grammatical aspect that can help identify which information is significant in a sentence: the distinction between main and subordinate clauses. The main clause contains the more critical information, and the subordinate clause contains the "background information" (Gee 2014b, 98).

The Significance Building Tool will be used specifically when analysing modal verbs. Thanks to this tool it was possible to discover interesting facts about the usage of modal verbs within the corpus.

4.3.2 Identity

People have specific roles and identities. Everyone is a part of several communities, and in every one of them, the person's identity might change.

For this particular discourse analysis, I focus on identities presented in the corpus. Identities are essential to explore since they provide meaningful insight and a deeper understanding of the topic. This Bachelor's thesis focuses on how identities are created by the *New York Times*.

4.3.3 Working with the Corpus

Corpus studies deal with the occurrence of certain phenomena in discourse, such as frequencies and collocations. It is possible to analyse either language as a whole or specific part of some concrete topic/scope (Paltridge 2012, 144). There are two types of corpora: general and specialized (Paltridge 2012, 145).

A specialized corpus is used in this thesis because the analysis addresses the question of whether the language related to climate change is changing and how, a type of research for which this corpus type is essential (Paltridge 2012, 145).

4.3.4 Connotations

In the process of creating a text, the author has many possibilities of what words to use. Since there are many options, Machin and Mayer suggest that the author's choice of words may be "for their own motivated reasons" (2012,32). Machin and Mayer describe this concept by contrasting the example of "an address" as opposed to "family home," both of these examples refer to the same location but carry different connotations (2012,32).

Readers might perceive these expressions differently and have different connotations for each of these examples. This implies that the way the article is written may cause a different picture of the situation being described.

5 CRITICAL DISCOURSE ANALYSIS

"Language both shapes and is shaped by society." This is a shared view on language held by researchers in the field of critical discourse analysis (CDA). CDA is not concerned with language alone, it also delves into the understanding of a world influenced by culture, among other factors (Machin and Mayr 2012, 4).

For instance, power is expressed through discourse (Machin and Mayr 2012, 4). The kind of text that is often used for CDA is in newspapers or advertisements. The text that may seem normal may hide bias/assumption for some purpose unknown to the reader. CDA reveals what is behind the text (Machin and Mayr 2012, 5).

Moreover, Fairclough has defined the typical characteristics of this kind of analysis. "It is part of some form of systematic transdisciplinary analysis of relations between discourse and other elements of the social process." Also, the analysis should be well organized (Fairclough 2013, 10). In addition, CDA should highlight the injustices identified and focus on ways to improve the situation (Fairclough 2013, 11).

5.1 Limitations of Critical Discourse Analysis

It is crucial to mention the limitations of critical discourse analysis to address the potential issues. One of the first problems is that the critical discourse analysis is comparable with the stylistic analysis (Paltridge 2012, 198). Moreover, the reader of the text is not taken into account, this is not the case with all discourse analysis (van Noppen, as cited in Paltridge 198). Another point regarding limitations is that in the case of these analyses, it is the opinions of the author of the analysis on which the analysis is based (Cameron, as cited in Paltridge, 199).

II. ANALYSIS

6 BUILDING THE CORPUS

For the corpus, I chose thirty-five articles from the *New York Times*. I accessed the *New York Times* database through the Tomas Bata University library website, where it is available via ProQuest Central. Furthermore, I typed in 'climate change.' The database found more than 32,000 results. I decided to use filters available in the database. I sorted the articles from the oldest to the most recent. Another filter was Type of Source and I used the only available option, a newspaper. Another filter was the Publication Date; it became very helpful to me later when I sorted the articles by year to know precisely how many articles were written in that particular year. I selected the first and last day of that particular year, and the database showed me how many articles were written that year with these filters. The next filter was Subject; hence I confirmed the subject climate change. For another filter called Type of Document, I selected news. For the last two filters, Language and Title of the publication, I selected English and the *New York Times*; these were the only options available.

6.1 Time Frame of Corpus Articles

I have decided to select articles starting from the year 1990. The main reason is that articles about climate change were not frequent before 1990, and some of the articles found by filters were not about climate change. From 1984 to 1988, no articles can be found using the filters I mentioned. Even in 1990, from which I started selecting articles, there is an excellent example of the coincidence of words. Article with the title:

(1) Art View; Gifts that Can Change the Climate of a Museum. The New York Times
    (Russell 1990)

While creating the corpus, I omitted this article, but I found it interesting that it can still be included in my search results with the criteria applied.

In total, I have chosen 35 articles from 1990 to 2020. The last year from which I decided to use articles is 2020. The first reason behind this decision was to examine the last 30 years of climate change articles in the *New York Times*. The second and primary reason was that the number of articles on the topic nowadays increases rapidly, making it difficult to come to exact conclusions without regular updates.

6.2 Guidelines Used When Creating the Corpus

Before selecting articles, I set two guidelines when establishing the corpus. The first was to pick some of the longer articles with 500 words minimum. Even though some of the shorter articles were worth mentioning, articles with 200 words seem too short for my corpus. The second rule was to pick one article in a year with fewer than one hundred articles per year. Then I selected two articles for the years with more than one hundred articles per year. The milestone for reaching more than one hundred articles per year with my selected filters was in 2009, with a specific number of 142 articles. During the process, there might have been some exceptions, but they tended to be rare. My goal was to create the corpus with a reasonable number of articles but also with enough material to examine the corpus.

6.3 The Process of Selecting Individual Articles

The process of picking the articles started with selecting filters in the database and then selecting the first and last day of the particular year within the filter called Publication Date to get the exact number of articles about climate change published that year. Then my strategy was to find the article with the highest number of words. I checked the articles; therefore, no coincidence of the words 'climate' and 'change' occurred within the articles in the corpus. I used this strategy for the corpus until the year 2006. In 2006, the number of articles was 24. As a result, up to this year, I selected articles with the highest number of words. In 2007 the number of articles was 88, and it became unsustainable and complicated to search for the highest number of words. In the year 2020, the number of articles was 662. Hence, I decided to use a different strategy starting from the articles from 2007, and it had to be a random selection. Therefore, I selected two articles randomly from each year when the number of articles was higher than one hundred, and I checked the number of words to be approximately 500 words minimum.

6.4 Some of the First Findings within the Corpus

In my opinion, the selection process revealed that older articles about climate change are distinct from those commonly read today. An example of that can be one of the titles of an article from my corpus. This article was published in 1992, and the title was:

(2) Washington May Change Its Position On Climate. The New York Times (Stevens 1992)

In my opinion, the use of the modal 'may' is not as common in recent articles about climate change because it seems possible that the word indicates uncertainty. From my perspective, the majority of newer articles do not speculate much about what could happen in several

years; they are also certain that the crisis is right now, and people have to act quickly. A lot of the articles are closely related to politics and different forms of crisis.

While reading the articles, I started creating a list of key words which caught my attention. This happened during the process of corpus creation; I do not yet consider it an analysis. Here is the list of the key words: pollution, challenge, critics, politician, debate, conference, urgency, senate, legal, judge, officials, concern, risk, extreme, voters, President, candidate, government, congress.

Table 2 – Number of articles (own creation)

Year	Number of Articles
1990	2
1991	0
1992	1
1993	2
1994	0
1995	0
1996	0
1997	2
1998	4
1999	2
2000	11
2001	30
2002	22
2003	19
2004	24
2005	25
2006	24
2007	88
2008	79
2009	142
2010	85
2011	67
2012	56
2013	90
2014	156
2015	221
2016	223
2017	416
2018	359
2019	587
2020	662

6.5 Purpose of Building the Corpus

The purpose of creating this corpus is to study how language in the news articles about climate change has changed. The goal is to study the usage of certain words in these articles, for instance, words from the field of politics. The topic of climate change and politics tend to blend in the articles from the corpus. The use of words has been changing throughout the years, and the topic of climate change is developing swiftly. The number of articles on climate change in the *New York Times* has been increasing rapidly over the years.

6.5.1 Connotations

There is no doubt that the articles deliver numerous connotations, both positive and negative. The usage of negative connotations can be demonstrated in an example from the article:

(3) Panel Tells Bush Global Warming Is Getting Worse; *A panel of top American scientists declared today that global warming was a real problem and was getting worse.* The New York Times (Revkin and Seeley 2001)

Or another example from the article: Panel Tells Bush Global Warming Is Getting Worse

(4) If Climate Changes, It May Change Quickly; *the climate has undergone drastic changes in temperature and rainfall patterns in the space of a human lifetime, in a decade or in even less time.* The New York Times (Stevans 1998)

Even though negative connotations occur abundantly within the topic of climate change, some of the articles also have positive connotations. An example of positive connotation can be found in article called:

(5) Science Teachers Lag on Climate Change (2016); even if the title has a negative connotation, a positive connotation can be found within the text. Example*: Still, climate science has increasingly become part of lesson plans, and is likely to become more prominent.* The New York Times (Schwartz 2016)

When judging solely by the title, the article is not positive. However, the text itself has a positive connotation signalling hope. This example demonstrates diversity. Articles about climate change are not all negative; there is room for positive connotations.

6.6 Limitations

It is essential to mention the limitations of this work. The selected articles contain abstracts and metadata, such as details about the place of publication, type of the document, and others, which may interfere with the results of frequencies in the analysis. It is noteworthy to mention that readers of the articles and their viewpoints are not included in the analysis

as I find this hard to attain from a retrospective standpoint. It is also important to mention that the results of the analysis of connotations are based on my personal judgment, which may influence the results of this analysis.

7 IDENTITIES

Identities are a crucial part of this analysis. It depends on whose views are presented in the articles and how they are portrayed by the *New York Times*.

I employed the Word tool in the AntConc software to uncover the most frequently used identities. After loading the corpus into this software and using the Word tool, all words used in the corpus are displayed and arranged from most to least used. The total number of words in the corpus was 6041, and within the first hundreds of these words, I discovered the following:

Table 3 – Frequency of keywords (own creation)

Word	Frequency
Scientists	197
Dr.	142
Mr.	107
President	71

In the table above, the frequency column indicates how many times the word was used in the whole corpus. These particular words caught my attention in the perspective of identities for the high occurrence. "Dr." and "Mr." are not identities alone. They can signal or add significance when the article's author uses these words to address people and present their views.

For the broader idea, the overall most frequently used words in the corpus were:

Table 4 – The five most frequent words (own creation)

Word	Frequency
the	3508
of	1562
to	1145
in	1135
a	1076

7.1 U.S. Presidents

U.S. presidents play a significant role in the analysis of social actors. In the timeframe of this analysis (1990–2020), the following five presidents were in office: George H. W. Bush, Bill Clinton, George Walker Bush, Barack Obama and Donald Trump. Over time, the frequency of the name of the current President increased. It is important to note that the analysis timeframe does not cover the entire term in office of the first president on the list, George H. W. Bush, who served as President from 1989 to 1993. The corpus includes only 3 articles from 1990–1993; the one from 1993 is from July when George H. W. Bush was no longer the President. Mr. Trump was the President until January 2021, majority of his presidency is covered in the corpus. The analysis of US presidents' identities will focus on Donald Trump and Barack Obama since their names were the most frequently used among other presidents.

Table 5 – Frequency of the U.S. Presidents (own creation)

Word	Frequency
Clinton	2
Bush	27
Obama	29
Trump	42

Overall, the name Obama was used 29 times and Trump 42 times across all articles, as shown in Table 5. When addressing Presidents Obama and Trump, the *New York Times* has chosen to use these word phrases, among others.

Table 6 – Addressing the selected Presidents (own creation)

	Frequency
Mr. Obama	13
President Obama	6
Barack Obama	2
Mr. Trump	30
President Trump	6
Donald Trump	0

Table 6 shows that the *New York Times* decided to address both Presidents most frequently with the marker "Mr." The usage of the word "President" is the same frequency in both Obama and Trump cases. However, the *New York Times* chose to address Barack Obama by name two times; Mr. Trump was not addressed by his full name at all in the articles.

7.1.1 Donald Trump

The frequency of mentions of Mr. Trump's name was the highest among other presidents in office throughout the corpus. In the context of this analysis, the potential influence behind this could be attributed to the increased politicization of climate change over the years and certain controversies surrounding Mr. Trump.

Table 7 presents the connotation results associated with using the name "Trump" in the corpus. The context size was set to fifteen tokens from both the left and right in the KWIC (keywords in context) Tool in AntConc.

Table 7 – Connotations of Mr. Trump (own creation)

Connotations	Positive	Negative	Neutral
Frequency	1	15	26
Percentage (%)	2.4%	35.7%	61.9%

The *New York Times* does not extensively use words that are emotionally coloured when describing Mr. Trump. The results from Table 7 show that Mr. Trump's most frequent connotations on climate change were neutral. Positive connotation is evident in the following example:

(6) *And climate skeptics Sunday night cheered Mr. Trump's remark.* The New York Times (Friedman 2018)

The word "cheered" gives the impression of a positive connotation. Considering the context size was set to 15 tokens from both sides of the word, larger scale might change the connotation. Overall, the sentence appears to be positive based on this content size.

An example of a negative connotation could be:

(7) As the agency's skill at avoiding the political spotlight was eclipsed by Mr. Trump's refusal to admit that he was wrong. The New York Times (Flavelle 2019)

The words "refusal" and "wrong" have a negative connotation. This example shows that Mr. Trump denied admitting his own mistake.

Lastly, no examples in the corpus describe Mr. Trump with highly negative or positive adjectives, such as "terrible" or, on the other hand, "praised." The *New York Times* seems to choose more neutral expressions.

7.1.2 Barack Obama

Barack Obama served as President from 2009 to 2017, a significant period covered in this corpus. Within the corpus, Obama was mentioned 29 times, the second most frequent count after Trump, who was mentioned 42 times.

Regarding connotations, the context size was set to fifteen tokens in the KWIC (keywords in context) Tool in AntConc, as with previous connotations. Table 8 provides the frequencies of connotations of Mr. Obama. Neutral connotations dominate the results with the number of 58.6%.

Table 8 – Connotations of Mr. Obama (own creation)

Connotations	Positive	Negative	Neutral
Frequency	4	8	17
Percentage (%)	13.8%	27.6%	58.6%

The following example presents a positive connotation:

(8) *At the summit meeting in Paris beginning Nov. 30 and sponsored by the United Nations, Mr. **Obama** will try to broker a historic accord that would commit every nation to policies to halt climate change.* The New York Times (Davenport 2015)

The example (8) shows another positive connotation. By the term "will try," it is possible to observe a sincere attempt to achieve this accord that could obligate countries to take action to improve the situation concerning climate change.

(9) Mr. Obama has come under criticism from leaders of dozens of countries. The New York Times (Broder 2009)

Example (9) illustrates Obama facing criticism, which gives a negative connotation to the actions of Obama in this example.

Overall, in the case of Mr. Obama, the *New York Times* did not choose to use highly emotional language to describe Obama or his actions. The *New York Times* seems to avoid using this type of word, as was the case in the analysis of the connotations regarding Mr. Trump.

7.1.3   Comparison of Trump and Obama

This analysis examined the connotations of Mr. Trump and Mr. Obama in the context of articles discussing climate change. The Figure below provides a percentage comparison of the results for Mr. Trump and Mr. Obama. Figure 1 presents the percentage results of connotations regarding Mr. Trump and figure 2 presents percentage results of connotations of Mr. Obama.
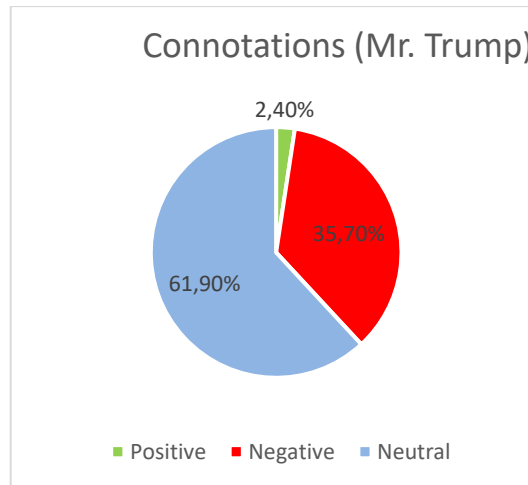

Figure 1 – Connotations (Mr. Trump)
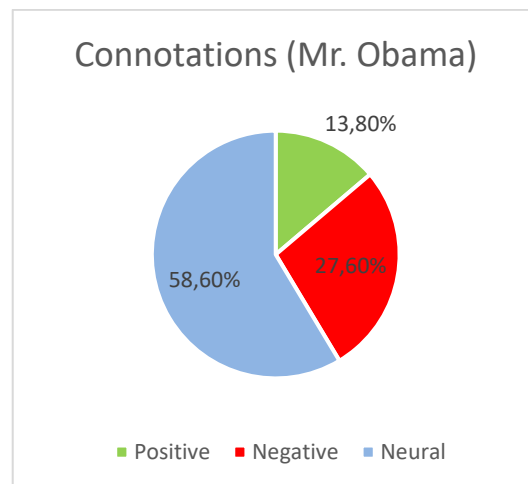
Figure 2 – Connotations (Mr. Obama)

A noticeable difference in the results lies in the positive connotations, which demonstrate different views on climate change between the two Presidents. The results of negative and neutral connotations are similar in their percentage. As mentioned earlier, the *New York Times* did not choose to use emotionally coloured words extensively for either of the presidents. Instances of words that help determine the connotation present in the examples include: "deny," "refusal," "dismantle," "cheered."

An interesting observation is the choice of organization of the article in the example below, where the *New York Times* wrote a fact about climate change below Mr. Trump's statement.

(10)   **Mr. Trump***, who has previously speculated about global cooling, went on to tell his interviewer, Lesley Stahl, "I'm not denying climate change, but it could very well go back."*
The facts
Climate change will not reverse itself. The New York Times (Friedman 2018)

The article is written in a manner that presents facts about climate change, leaving little room for the reader to interpret it differently. Global cooling was previously mentioned in the theoretical part of this thesis; thus, the statement by Mr. Trump can depend on the fact that climatologists had studied global cooling, which, however, did not mean reversing the climate.

The selected examples show a visible difference in those two presidents' attitudes towards climate change. While analysing the examples in this corpus, I have not found an article in which the author would write climate change facts below statements of President Obama, contrasting how the *New York Times* presented climate change facts in connection with Mr. Trump.

(11) *Mindful of the intense political resistance to his plan, President* **Obama** *is emphasizing its health benefits.* The New York Times (Grady 2014)

In this example, Mr. Obama focuses on the benefits of limiting carbon emissions, even though he recognizes "intense political resistance." This example shows his beliefs regarding climate change and the probable disapproval of other politicians.

(12) *As President, Mr. Trump has moved swiftly to dismantle former Mr. Obama's climate policies, making it all but impossible for the United States to meet its current commitments under the Paris deal.* The New York Times (Davenport and Shear 2017)

This example is from a period when Mr. Obama was no longer the President, and President Trump, at that time, was taking steps to withdraw from climate commitments. Additionally, by using the word "swiftly," we can see how quickly Mr. Trump acted. This again confirms the different views on climate change of these former U.S. presidents and certain disapproval of the actions of the former President.

To conclude the chapter, Mr. Obama is portrayed as a proponent of pro-climate change throughout the articles and fights for a change. In comparison, Mr. Trump speculates about the topic quite a lot, trying to undo some of the progress done so far, and has a negative view

of climate change. Despite many neutral examples throughout the corpus, their attitudes towards climate change are evident.

7.2 Scientists

This chapter aims to explore the presence of scientists in the corpus of this thesis. The frequency of the word "scientists" throughout the corpus is 197. Scientists, as identities, play an important role because they provide evidence-based facts. This aspect is crucial, especially when discussing topics such as climate change. Over the years, there has been an ongoing discussion about climate change and whether it is an issue that should get a lot of attention. At the same time, the topic of climate change has developed a lot over the years, and this topic needs public attention. However, the question remains: Is it enough?

It is crucial to examine how the scientists are treated in this corpus, whether their views are treated with respect, or they are being neglected. From my observation, the authors of these articles do not assume inaccuracies from the side of scientists, as they are taken as a valuable part of the discourse on climate change.

To gain a deeper understanding of the usage of the word "scientists," I used the collocate tool in AntConc to explore what other words occur near the word "scientists." The table below presents the results of three selected collocates from the corpus. The third column presents the overall frequency; the fourth shows the frequency from the left side of the word, and the fifth column shows the frequency from the right side. The window span in AntConc was set for five words from the left and five from the right.

Table 9 – Collocates (selected results from AntConc)

Collocate	Rank	FreqLR	FreqL	FreqR	Range
mainstream	2	9	9	0	4
rising	4	11	3	8	8
believe	6	7	0	7	7

An interesting result from the collocate tool was the collocate *mainstream.* The synonym of this word is *conventional*, which appears to mean a widely accepted opinion by scientists in this context. This word seems to add credibility to the information presented. From the results, it is visible that this concrete collocate was used nine times but only appeared on the left of the word *scientists*; hence the context of these collocates was explored.

(13) ***Mainstream scientists*** *say that the whistle is getting louder all the time, that many signs of a changing climate are already evident.* The New York Times (Stevans 1997)

Example (13) uses the expression "the whistle is getting louder," which signifies that the issue of climate change is becoming more serious and "mainstream scientists" are warning the public about this. Another interesting point about the example is the date of publication from the year 1997, which indicates that people have known about this problem and that the topic has been getting more extensive for a long time.

The collocation *rising* was used eleven times. The context of this collocation includes information concerning "rising seas" (in six instances), "rising temperatures" (in four cases), and one example of "rising frequency of rains."

Figure 3 – Examples of collocations of "rising"

6	ProQuest...	most striking findings concerned the	rising	frequency of torrential rains.
7	ProQuest...	coastal cities to deal with	rising	sea levels, for example.
8	ProQuest...	to be surrendered to the	rising	seas. Scientists at Columbia

Here are three examples of the collocations of "rising" in AntConc. None of the 11 excerpts were used in a different context from changes in nature. An example of that could be *rising issue* in the context of political debate, for instance.

The last selected collocate is the word *believe*, which was used seven times. These examples express a concern towards climate change. They do not neglect the issue of climate change, as demonstrated in the example below.

(14) *Many scientists believe that no matter what action is taken in Kyoto, some substantial measure of future warming is already assured.* The New York Times (Stevens 1997)

The high frequency of the word "scientists," which is 197 throughout the corpus, signals that scientists are a significant part of the debate about climate change, as they should be.

7.3 Conclusion of the Analysis of Identities

To conclude this chapter, connotations connected to Mr. Trump and Mr. Obama have been analysed. The results show the difference mainly for positive connotations. In the case of Mr. Trump, there was only one positive connotation, whereas four positive connotations were found in connection to Mr. Obama. Although there is no significant difference, the results show how the *New York Times* wrote about these Presidents and set personal biases behind them. The *New York Times* presents Mr. Trump as more hesitant to take action to

improve the climate change situation, whereas Mr. Obama's view in the articles demonstrates that he is pro-climate change.

The role of scientists was explored in this part of the analysis. The word "scientists" was used 197 times in the corpus. The frequency of occurrences indicates that scientists are a significant part of climate change discourse.

8 DISCOURSE ANALYSIS OF SELECTED MODAL VERBS

In this chapter, I will analyse modal verbs in the articles from my corpus. The premise for this analysis is primarily to see if it is possible to confirm that modal verbs that are more direct will be used more as time goes by within the corpus.

First, I examined the frequencies of modal verbs. There are significant variations in the use of modal verbs. At first glance, the modal verb, such as "may," is more frequent in the articles than "must." Individuals in this field may be afraid to make promises they cannot keep in the future, leading to low usage of certain modal verbs. This view will be explored further using context later in this chapter.

In this section, I analyse the modal verbs with the highest and the lowest frequencies in the corpus, "would" and "must."

According to Merriam-Webster Dictionary, the modal verb "would" is frequently "used in auxiliary function to express plan or intention," and "must" often means "be commanded or requested to" or for example, "be obliged to**:** be compelled by social considerations to."

Table 10 – Frequencies of selected modal verbs (own creation)

Modal verb	Frequency
Can	84
Could	108
Must	8
May	63
Should	38
Would	135
Might	47

8.1 Modal Verb Must

"Must" is the modal verb with the lowest frequency among other selected modal verbs. As was previously mentioned, "must" is connected to obligation. This subchapter will further explore the context of the usage of "must" and the publication dates of the articles that include this concrete modal verb.

The table below shows the year of publication of articles that mention "must."

Table 11 – Years of publication of "must" (own creation)

The year of publication of articles including "must"	The frequency within article
1992	2
1999	2
2000	1
2006	1
2009	1
2017	1

This data challenge the initial assumption that this modal verb would appear later in the corpus, for example, in the last five years (2015–2020). There is only one example of "must" from this period.

(15) *Mr. Trump's message on the environment to the leaders on Friday made clear which option would win if the United States **must** choose between its economic well-being or staying in the Paris climate agreement.* The New York Times (Shear and Davenport 2017)

Example (15) includes, among "must," the modal verb "would," which is used for potential situations. This means the verb "must" serves only as a possible scenario that can happen, not an obligation happening directly in the situation.

(16) *He is also under fire from numerous environmental advocates <u>who say the United States, the world's second-largest emitter, **must** take a credible commitment to Copenhagen to ensure that the talks do not fall apart.</u>* The New York Times (Broder 2009)

In example (16), the pronoun "he" refers to Barack Obama, who is criticized in this case, as evident from the phrase "under fire." This part of the example is the main clause, and the underlined part of the example is the subordinate clause. According to Gee and his Significance Building Tool, the subordinate clause is the one that carries the "background

information" (Gee 2014b, 98). The subordinate clause includes the modal "must." This finding means that the article's author decided to put the information, including "must," in the subordinate clause because, in terms of importance, it was not the most pressing information of the example.

8.2 Modal Verb Would

This modal verb is the most frequent in the corpus of this thesis. Therefore, this subchapter will be devoted to the analysis of this modal.

In terms of frequency, "would" was used 135 times. The range of the word is 29, which means that "would" is used in 29 articles out of the total 35. The Plot tool in AntConc helped me to uncover this information. The Cambridge Dictionary describes the modal as being "used to refer to future time from the point of view of the past" or, for example, "used to refer to an intention from the point of view of the past."

Remarkably, the article with the highest number of words, "would," is the article from the corpus from 1997 called: *Experts on Climate Change Pondering: How Urgent Is It?* The "would" is used 22 times in this article.

*(17) But many effects **would** be adverse, including intensified cycling of water through the ocean-atmosphere system that **would** result in both more frequent and severe floods and droughts; it **would** rain harder but things **would** dry out more and faster between storms.* The New York Times (Stevens1997)

Here is one of the examples of how "would" was used by the author within the article. Throughout the article, much attention is devoted to the possible effects of climate change in the future and potential situations. Therefore, it is sensible why "would" was so frequently used. It is important to note that even before 2000, there was a debate about climate change and its urgency in the *New York Times*.

*(18) <u>Andrew Light</u>, who was a senior climate change adviser at the State Department under President Barack Obama, <u>said the other leaders at the summit meeting</u> - representing the G7 members Canada, France, Germany, Italy, Japan, and the United Kingdom, along with the European Union – **<u>would go home frustrated</u>** "if Trump blows this thing up and continues to sit on the fence."* The New York Times (Davenport and Shear 2017)

In example (18), the choice of words puts "would" into the main clause, which carries the essential information of this example. It is the opposite of the situation in example (20), where "must" was in the subordinate clause.

8.3 Conclusion of the Analysis of Modal Verbs

To conclude, the analysis of the modal "must" negates the hypothesis that the usage of this modal will be higher within the last five years of the corpus. The analysis of frequencies of this modal shows quite the opposite. While reading all the articles, there was a sense of urgency, but the modal "must" was mentioned only a few times. The usage of this modal is not rising. Meanwhile, the analysis of "would" showed that the issue was pressing and debated a lot even before the year 2000.

9 DISCOURSE ANALYSIS OF SELECTED KEYWORDS

This chapter discusses the last part of this analysis, which analyses selected keywords. The main focus will be on highly used adjectives in the corpus, their use and context, as well as other keywords. Moreover, I will focus on whether these words signal emotionality to gain a deeper understanding of the vocabulary that the *New York Times* chooses to use regarding the topic of climate change.

The keywords were selected during the early stages of the analysis while reading through the corpus articles. The next step of this analysis was using the Word tool in AntConc to discover frequently used adjectives. The Word tool displays all the words in the corpus, which means words in all different parts of speech. The total number of words in this corpus is 6041. Within the first hundred, I carefully chose three adjectives that will be further analysed.

The first selected keyword from the methodological part of this analysis is the word "challenge." The word "challenge" was used six times within the corpus, with the *New York Times* opting to use three instances in direct speech. Table 8 details the frequency of the keyword across the corpus, and its usage has been relatively evenly distributed over the thirty years.

Table 12 –Years of publication of "challenge" (own creation)

Year	Frequency of the word
2001	2
2009	3
2017	1

	File	Left Context	Hit	Right Context
1	ProQuest...	talks at the meeting will	challenge	climate orthodoxy. But some
2	ProQuest...	week after week, understanding the	challenge	that we face in
3	ProQuest...	Dr. Kotcher said "it does	challenge	the conventional wisdom that
4	ProQuest...	was expressly designed as a	challenge	to the reports from
5	ProQuest...	Square hotel this week to	challenge	what has become a
6	ProQuest...	I would dare say -- dare	challenge	you to find a

Figure 4 – Results from AntConc "challenge"

The results were obtained using the KWIC (Keywords In Context) tool in AntConc, with the context size set to 5 tokens (five from the left and five from the right). These excerpts are taken from meetings, conferences, and panels. Three of these examples use the word "challenge" in the sense of a dare, while the other uses it in the sense of questioning. The excerpts question climate orthodoxy, standard wisdom, and skeptics questioning scientific and political consensus. The keyword appears as both a noun and a verb in the examples.

The second selected keyword is "urgency." It was used six times within the corpus. The usage was consistently distributed throughout the corpus, similar to the previous case with the word "challenge." The table below shows the frequency of the keyword throughout the years.

Table 13 – Years of publication of "urgency" (own creation)

Year	Frequency of the word
1997	2
2008	1
2010	1
2014	1
2019	1

	File	Left Context	Hit	Right Context
1	ProQuest…	history to the scale and	urgency	of effort needed, she
2	ProQuest…	all efforts to gauge the	urgency	of the climate problem.
3	ProQuest…	for our children. As for	urgency	about the planet we'
4	ProQuest…	drum up a sense of	urgency	among Americans about climate
5	ProQuest…	acknowledgment of "global warming's	urgency"	but would have little
6	ProQuest…	there is little or no	urgency.	The potential Achilles' heel

Figure 5 – results from AntConc "urgency"

The results from AntConc were also obtained using the KWIC tool. This keyword was used only once in direct speech. In the case of this keyword, the broader context in which the keyword was placed is mentioned to demonstrate how the *New York Times* chose to use it. The broader contexts of these excerpts are as follows: activists urging for action, opinions of scientists being presented, postponement of the issue of climate change, a White House

report stressing the importance of the problem to Americans, a lawyer's opinion on the small impact regarding helping polar bears, and an opinion by a skeptic who believes that the issue does not require urgency. These results give the impression of ambivalence of views regarding the issue of climate change in the *New York Times* articles. The adjective "urgent" was used 11 times in the corpus, which also seems to show how the *New York Times* uses words with a lot of emphasis in its articles. At the same time, the word is not used regularly. The first analysed adjective is "global;" the total frequency of "global" is 194, with 120 of these examples being part of the well-established phrase "global warming." Among the 74 instances left, other uses include global threat, global efforts, and global target. The *New York Times* used these examples only once in the corpus.

(23) *International negotiations designed to address the sweeping global threat of climate change will quite likely be delayed by a full year because of the coronavirus pandemic.* The New York Times (Sengupta 2020)

In example (23), the adjective stands before the word "threat." "Threat" appears to indicate danger and has a negative connotation. Also, the words "quite likely" seem to signal probability by the *New York Times*.

Examples of adjectives that were not used at all in the articles by the *New York Times*, which would likely convey emotionality include: "horrible," "suspicious," and "arrogant."

9.1.1 "New" and "United"

"New" and "united" have separate subchapter because they are both major components of the metadata in the corpus. The most frequently used adjective in the corpus is "new," which appears 384 times. However, its high frequency can be attributed to the fact that all the articles are from the *New York Times*, which is based in New York City. Consequently, it is also heavily used in metadata due to these reasons. The number of occurrences when the phrase "new york" is ignored is 91.

This example represents the other cases when the adjective "new" was used.

(19) *The **new** report emphasized that people should not expect global warming to happen at a steady pace, nor at the same rate throughout the country.* The New York Times (Gillis 2014)

In example (19), the adjective "new" stands independently, not part of a noun referring to a city or institution. The word "emphasized" signifies urgency in this example as it highlights the issue's importance. The example appears to have a negative connotation.

The adjective "united" was frequently used in the articles within the corpus. The total number of frequencies of "united" is 154. The occurrence of the phrase "United States" was the most frequently used. It is worth noting that this example is often part of the metadata in the corpus as the place of publication, which may have contributed to its frequency, similar to the usage of the adjective "new." The number of occurrences when the phrase "United States" is ignored is 39. No example in the corpus would present the adjective "united" considering different contexts, such as signaling the emotionality of unity. It was used only in these cases: "United States," "United Nations," and "United Nations Intergovernmental Panel on Climate Change," "United Kingdom," and "United Nations climate change meeting."

9.2 Conclusion of the Analysis of Keywords

In light of the above, the analysis of keywords that were not highly used provided insight into how the *New York Times* chose to use them. It presented the opinions of both people who are sceptical of climate change and those who support it. Furthermore, frequently used adjectives in the corpus did not show signs of sizeable emotionality. Overall, they were neutral. This might be because the analysis is based on frequencies, and emotionality is unlikely to be a significant factor in discussions about climate change. This finding was not unexpected, similar to the results of the analysis of modal verbs.

CONCLUSION

Climate change is a long-discussed societal problem that is constantly growing. This thesis aims to address how the topic changed throughout the thirty years (1990–2020) in the articles from the *New York Times*. The change is evident simply from the number of articles that mentioned climate change, which increased from two articles in 1990 to six hundred and sixty-two articles in 2020.

The theoretical part of this thesis deals with newspapers, climate change, and the topic of discourse and discourse analysis. In the practical part, the building of the corpus is described. This leads to the discourse analysis of identities, modal verbs, and adjectives. U.S. Presidents were one of the key identities analysed. The number of mentions of the Presidents rose over time. The phenomenon described above might be one of the reasons behind the shift in this topic and a sign that the current climate situation is worsening, leading to an increase in public interest. The articles are not purely environmental but political as well. On the other hand, the analysis of modal verbs goes against the hypothesis that the usage of more direct modals, such as "must," would be greater among more recent articles in the corpus. The modal verb "must" is mentioned in an article from 2017, and this is the only use of this modal verb in the last five years of the corpus, which resulted unexpectedly. From the analysis of frequently used adjectives, such as "new" and "united," in the corpus, it is apparent that the most used adjectives are neutral and do not show any emotionality regarding climate change.

In conclusion, the topic of climate change shifted; however, the discourse analysis showed that the *New York Times* mainly chose neutral words to describe the situation. I believe that this topic will continue to change in the years to come.

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LIST OF TABLES

LIST OF FIGURES

APPENDICES

Appendix – Corpus

APPENDIX – CORPUS

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