

**SPEECH ACT ANALYSIS OF CLIMATE SPEECHES IN VARIOUS
UN CLIMATE CONFERENCES**



**BANGKOK
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SPEECH ACT ANALYSIS OF CLIMATE SPEECHES IN VARIOUS
UN CLIMATE CONFERENCES



Nazarra Chirakajonwongse

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ABSTRACT

As one of the Triple Planetary Crises, climate change is one of the most pressing global issues. Urgent actions and policies are needed in order to effectively address the problem. However, the current climate actions are not sufficient, and it is not easy to communicate such a complex issue like climate change to the general public. While there are some research and studies on climate communication, they were mostly focused on a message given by a certain group, either a scientist or a politician. The study aimed to explore and compare the usage of speech acts in climate speeches given by representatives of different groups: youth activists, media, academia, and politicians. The climate speeches will be analysed through the application of speech act theory and other suggested techniques for climate communication. It was found that all 4 groups used Searle's representative, expressive, directive, and commissive illocutionary acts, and with the combination of locutionary and perlocutionary acts, 14 actions were performed. Additionally, the findings suggested that speech acts could be used to enhance climate communication strategy in various aspects such as content development, structural format as well as nonverbal cues.

Keywords: Speech Act Analysis, Climate Change, Triple Planetary Crises, United Nations Conferences

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Nazarra Chirakajonwongse

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CHAPTER 1

INTRODUCTION

1.1 Background and Significance

Climate change is one of the Triple Planetary Crises along with pollution and biodiversity loss (United Nations Environment Programme, 2021). Based on various scientific evidence, the impacts of climate change on the survival of humanity are undeniable. The climate crisis severely damages the global, as well as Thai, economy. According to the report of Deloitte Economics Institute (2022), it is expected that, in the next fifty years, the economic loss due to climate change will amount to as much as 178 trillion USD (Deloitte Economics Institute, 2022).

With such devastating impacts, climate change has been put at the top of the global agenda as well as those of several governments in the world, including Thailand. Ranking as the top ninth in the ranking of nations most affected by the long-term impacts of climate change, (Eckstein, Künzel & Schäfer, 2021), the Thai government spends more than 10 billion Thai Baht annually to address climate impacts, such as the vicious drought-flood cycle (Office of Natural Resources and Environmental Policy and Planning, 2022).

On a global scale, The United Nations Framework Convention on Climate Change (UNFCCC) was established in 1992 to address the climate crisis caused by human actions. With all UN member states as parties of the UNFCCC, the United Nations, through various UN climate summits, become the central international body to set up goals, rules, and policy guidelines for all countries to pursue in order to collectively fight climate change.

Those UN climate summits have, therefore, become the venues for representatives of various groups and professions to express their views on climate solutions. Representatives of countries, groups, and professions have the opportunity to raise their views through speech giving, and while different groups used different strategies to communicate, all of the speeches focus on a single issue – climate change.

The united efforts to advocate for climate actions could impact everywhere in the world. It set the trends and focuses for climate action. For example, at COP21, the focus was the adoption of the Paris Agreement as an instrument to implement the UNFCCC. At COP26, the highlighted outcomes included the phase-down of coal and insufficient fossil fuel subsidies. Part of these successes was the result of speeches given to set agendas and influence leaders and the general public.

Such impacts of climate speeches reaffirmed the hypothesis of the speech act theory, in which an utterance is believed to be equivalent to performing an action. With this in mind, this study would like to explore what is the secret behind the communication strategy used in climate speeches to effectively call to action. In this regard, the author sought to look at the key players in climate change whose words and actions could influence the general public, and found 4 groups presented at UN climate summits as follows;

- 1) The climate activists, particularly youth activists as they are often represented in international climate conferences.
- 2) The media, who have expertise in communicating to the general public.
- 3) The academia, who provides evidence and offers solutions to solve the climate crisis.
- 4) The politicians, who shape the global climate agenda and generate large-scale changes.

The speeches selected to represent these 4 groups will be examined in order to identify their use of speech act strategy that enabled them to bring about change.

At present, there has been no research on speech acts theory used specifically in environmental or scientific communications in Thailand. Research on environmental communication in the Thai academic circle seems to focus on aspects of environmental issues that were communicated, such as the research on “Communication of the Environmental Organizations: Comparison of Air Pollution Control Between China and Thailand” by Man and Sereenonchai (2020), and awareness building and media literacy on environmental issues such as the research on “Cooperative Communication for Building Youth Awareness Network on Environmental Issues” by Krishnasuvarna (2022), and on “Media Literacy in Climate

Change News of Urban Lifestyle People: The Relationship among Cognitive Factors” by Dhiensawadj (2022). Speech act analyses were more often used in analysing other contents outside of the environmental sphere such as the research on “Strategies for Translating the Speech Acts of Directives, Rejections, and Inquiries in English Dialogues into Thai” by Klinkajorn (2014), and on “Speech Acts in Patriotic Songs During B.E.2510-2550” by Khraiboot and Kingkham (2016).

On the international level, there were few studies on the use of speech acts in environmental or scientific communications. Among those was the study on “Speech Act Theory and the Multiple Aims of Science” by Paul L. Franco, in which he studied the possible use of speech acts that scientists could use to advocate certain issues (Franco, 2019). More similar is the study “Illocutionary Act in the Speech Act of Hillary Clinton on Climate Change in Miami, 11th October 2016” by Putri and Putu (2016). However, Putri and Putu (2016)’s research focused only on illocutionary acts used in one speech that was given at a Democratic rally, so the focus of the speech was to persuade voters to vote for Clinton rather than to address the climate crisis.

Looking at the current academic research, the author saw the gaps in the application of speech act theory in climate communications. This study, therefore, aims to fill in the existing knowledge gap and perhaps provided some foundation for possible ways to use speech acts to better call for climate actions.

1.2 Research Questions

1.2.1 What was the characteristics and strategies of speech act usage in climate speeches given by different groups? Was there any similarity or difference between the groups?

1.2.2 How the use of speech acts could be used to enhance climate communication strategy?

1.3 Research Objectives

1.3.1 To explore and compare speech act usage in climate speeches given by the representatives of 4 groups; youths, media, academia, and politicians.

1.3.2 To identify possible ways to use speech acts to enhance climate communication strategy.

1.4 Scope of the Research

This study on “Speech Act Analysis of Climate Speeches in Various UN Climate Conferences” is a comparative analysis of speech act usage in the speeches given by Greta Thunberg, as the youth activist representative, Sir David Attenborough, as the media representative, Hoesung Lee, as the academia representative, and Antonio Guterres, as a representative of politician. All of the speeches were given at a UN Climate Summits in the five-year period between 2019 to 2023 (Lee, 2019).

1.5 Definition of Terms

“Climate change” refers to “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods” (United Nations, 1992).

“Greenhouse gases” refer to “those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorbs and re-emits infrared radiation” (United Nations, 1992).

1.6 Research Benefits

A better understanding of characteristics and strategies of speech act usage in climate communication in different key player groups could help future climate speech writers improve their communication strategy and create greater impacts on the audience.

At the same time, this understanding could help fill the gap in the arts of climate communication and provide effective methods for communicating about climate change through speech giving.

Additionally, the understanding of speech act strategy in climate communication may also be adapted in crafting speech on other complex or scientific issues that require global-scale actions.

CHAPTER 2

LITERATURE REVIEW

Related concepts, theories, and literature which have been used as the research framework on “Speech Act Analysis of Climate Speeches in Various UN Climate Conferences” are as follows;

2.1 Speech Act Theory

2.1.1 John Langshaw Austin

2.1.2 John R. Searle

2.1.3 Perlocutionary Acts

2.2 Nonverbal Communication Theory

2.2.1 Dual Coding Theory

2.2.2 Types of Nonverbal Cues

2.3 Relevant Studies

2.3.1 Climate and Environmental Communication

2.3.2 Message Framing on Climate Policy Communication

2.3.3 Speech Acts Analyses

2.3.4 Perlocutionary Acts in Textual Analysis

2.1 Speech Act Theory

The speech act theory was developed by John Langshaw Austin in the late 1950s and early 1960s. In his book “How to Do Things with Words”, Austin introduced the term “performative sentences” or “performative utterances” to “indicate that the issuing of utterances is the performing of an action” and “not just saying something” (Austin, 1962, p. 6-7). In short, “performative utterances” is not merely a statement, but an action of doing something.

The term “performative sentences” and “performative utterances” were later known as “speech acts”, and were classified by Austin and his student, John R. Searle, into 3 categories; locutionary, illocutionary, and perlocutionary acts.

2.1.1 John Langshaw Austin

The speech act theory was developed by John Langshaw Austin in the late 1950s and early 1960s. In his book “How to Do Things with Words”, Austin introduced the term “performative sentences” or “performative utterances” to “indicate that the issuing of utterances is the performing of an action” and “not just saying something” (Austin, 1962, p. 6-7). In short, “performative utterances” is not merely a statement, but an action of doing something.

The term “performative sentences” and “performative utterances” were later known as “speech acts”, and were classified by Austin into 3 categories; locutionary, illocutionary, and perlocutionary acts. For Austin, locutionary acts are a “performance of an act of saying something”. Illocutionary acts are a “performance of an act in saying something” (Austin, 1962, p. 99), and perlocutionary acts are a performance of an act by saying something. Austin’s examples of these 3 types of speech acts can be seen in the table below.

Table 2.1: Examples of Locutionary, Illocutionary, and Perlocutionary Acts based on Austin’s Definition

Act	Locution
Person (A) saying “Water the plant”	
Act	Illocution
Person (A) urged me to water the plant.	
Act	Perlocution
Person (A) made me water the plant.	

Austin also further classified illocutionary acts into 5 categories; verdictives, exercitives, commissives, expositives, and behabitives (Searle, 1979, p.8-9)

Table 2.2: Summary of Austin’s Classification of Illocutionary Acts

Verdictives	Exercitives	Commissives	Expositives	Behabitives
To deliver a distinguishable fact or evident-based/ logical finding.	To give a decision or advocate for or against doing something	To commit to doing something	To explain views, conduct, argue, clarify usage and reference.	To react to others’ actions, conducts, and attitudes.
Acquit, hold, calculate, describe, analyze, estimate, date, rank, assess, and characterize	Order, command, direct, plead, beg, recommend, entreat, advise, appoint, dismiss, nominate, veto, declare closed, declare open, announce, warn, proclaim, and give	Promise, vow, pledge, covenant, contract, guarantee, embrace, and swear	Affirm, deny, emphasize, illustrate, answer, report, accept, object to, concede, describe, class, identify and call	Apologize, thank, deplore, commiserate, congratulate, felicitate, welcome, applaud, criticize, bless, curse, toast drink, dare, defy, protest, and challenge.

Source: Searle, J. R. (1979). *Expression and meaning: Studies in the theory of speech acts*. Cambridge: Cambridge University.

2.1.2 John R. Searle

As a student of Austin, John R. Searle's works also focused on studying illocutionary acts, and he further developed the classification of speech acts.

Austin classified locutionary acts as an umbrella category covering the act of saying something. By Austin's definition, to perform an illocutionary act, one needs to perform the physical act of saying something along with pretended illocutionary act. However, Searle believed that such distinction would not be suitable for analytical purposes, and proposed to divide the acts into 4 categories: (1) utterance acts – the act of uttering words or sentences, (2) propositional acts or propositional content – can be further classified as “referring act” which is “the act of identifying reference of the subject of a sentence” and “predicating act” which is “the act of attributing a property to the reference of the subject of a sentence”, (3) illocutionary acts – “the act that is being done” in saying something, and (4) perlocutionary acts – “the act of the speaker in eliciting a certain response from the hearer, or in making an effect on the hearer” (Mabaquiao, 2018).

Searle found that Austin's classification for illocutionary acts, as summarized in Table 2.2, had several flaws including the lack of clear criteria for classification which led to confusion between “illocutionary acts” and “Illocutionary verbs”, and overlapping between different categories (Searle, 1979, pp. 9-12). Thus, he proposed a new classification of his own.

Table 2.3: Summary of Searle’s Classification of Illocutionary Acts

Representatives (Assertives)	Directives	Commissives	Expressives	Declarations
“Commit the speaker to something being the case.” - While it contains true-false elements, it does not have to be based on scientific fact, but could also include boasting and complaining.	“Attempts by the speaker to get the hearer to do something.”- This could be done in varying degrees.	“To commit the speaker to some future course of action” – This, like directives, could be done in varying degrees.	“To express the psychological state specified in the sincerity condition about a state of affairs specified in the propositional content.”	“The successful performance” leads to “the correspondence between the propositional content and reality, successful performance guarantees that the propositional content corresponds to the world

Source: Searle, J. R. (1979). *Expression and meaning: Studies in the theory of speech acts*. Cambridge: Cambridge University.

With Austin and Searle's disagreement on whether certain verbs could be classified under certain types of illocutionary acts, the author thinks that for the purpose of this study, it would be best to determine whether an utterance is an illocutionary act based on the speaker's intention.

Another focus of Searle's work on speech acts theory also included felicity conditions that would be required for the successful performances of certain illocutionary acts. In his book "Speech Acts: An Essay in the Philosophy of Language", apart from general and content conditions, Searle focused on preparatory, sincerity and essential conditions as important factors for certain illocutionary acts to be effectively performed as seen in Table 2.4 (Searle, 1969).

Table 2.4: Illocutionary Acts and Its Conditions

Illocutionary Acts	Preparatory Conditions	Sincerity Conditions	Essential Conditions
Request	The speaker believes the hearer can perform that action but will not do it without asking. The hearer can perform that action.	The speaker wants the hearer to perform that action.	The utterance must be considered as an attempt to have a hearer perform that action.
Assert/State (that)/Affirm	The speaker has reasons to believe a statement to be true. It is not clear to both parties that the hearer knows this information.	The speaker believes the statement to be true.	The utterance must be considered to have the statement representing the actual state of affairs.

(Continued)

Table 2.4 (Continued): Illocutionary Acts and Its Conditions

Illocutionary Acts	Preparatory Conditions	Sincerity Conditions	Essential Conditions
Question	The speaker does not know the answer. It is not clear to both parties whether the hearer will provide the information without being asked.	The speaker wants the information.	The utterance must be considered as an attempt to get the information from the hearer.
Thank (for)	The speaker benefits from action and believes so.	The speaker feels grateful or appreciative for that action.	The utterance must be considered as an expression of gratitude or appreciation.
Advise	The speaker has reasons to believe the action will benefit the hearer. It is not obvious to both parties that the hearer will perform that action.	The speaker believes the action will benefit the hearer.	The utterance is considered an effort to show that the action is in the hearer's interests.
Warn	The speaker has reasons to believe that the event will occur and will not be good for the hearer. It is not obvious to both parties that the event will occur.	The speaker believes the event will not be good for the hearer.	The utterance is considered an effort to show that the event is not good for the hearer.

(Continued)

Table 2.4 (Continued): Illocutionary Acts and Its Conditions

Illocutionary Acts	Preparatory Conditions	Sincerity Conditions	Essential Conditions
Greet	The speaker has just met the hearer.	None	The utterance is considered a courteous recognition of the hearer.
Congratulation	The event is in the hearer's interests and the speaker believes so.	The speaker is pleased with the event.	The utterance is considered an expression of pleasure at the event.

Source: Searle, J. R. (1969). *Speech acts: An essay in the philosophy of language*. Cambridge: Cambridge University.

While the list of illocutionary acts that Seale used for demonstration in Table 2.4 was limited, it showed that there are various factors required for illocution to be effectively performed, and achieved the desired outcomes.

It should also be noted that though in his book “Speech Acts: An Essay in the Philosophy of Language”, Seale used “types of illocutionary acts” to refer to 8 actions performed using illocutions were to request, to assert, state or affirm, to question, to thank, to advise, to warn, to greet, and to congratulate (Searle, 1969), in his later publications, when discussing the taxonomy of illocutionary acts, Searle still classified them into 5 types; representatives (assertives), directives, commissives, expressives, and declarations. Therefore, to avoid confusion, the author would refer to the 8 “illocutionary acts” as actions, while the original 5 illocutionary act classifications would be referred to as illocutions and illocutionary acts.

2.1.3 Perlocutionary Acts

While perlocutionary acts were included in Austin and Searle's works, the focus of their studies was illocutionary acts, and there was a gap in the study of perlocutionary acts, which linguists at a later time have been trying to address.

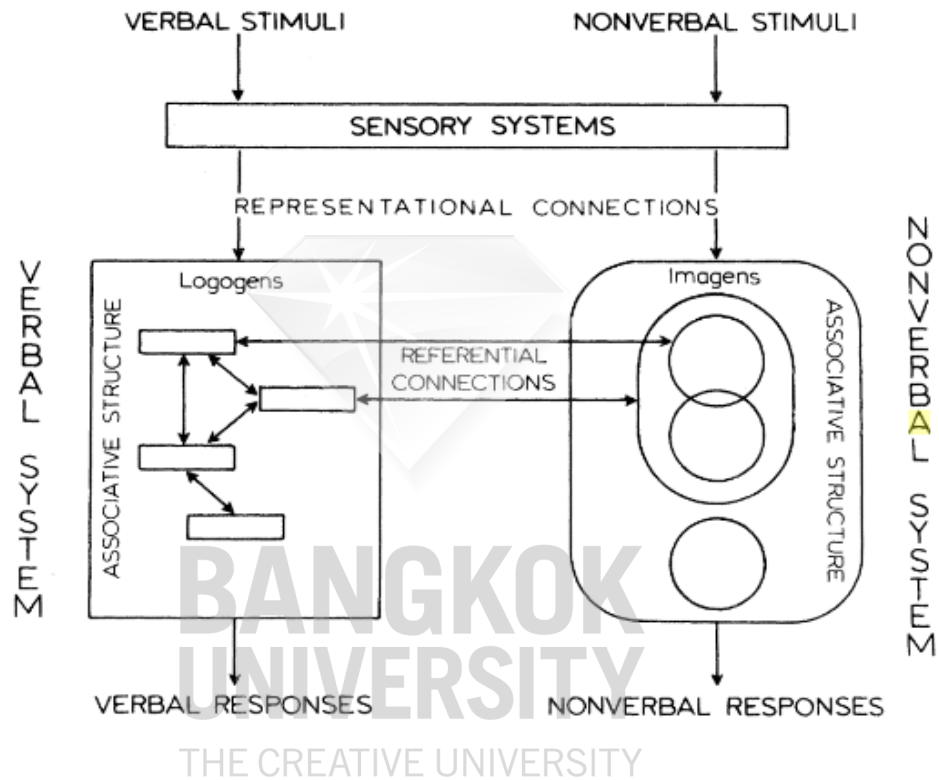
Unlike illocutionary acts, the focus of perlocutionary acts was not on classification, but on whether they exist as part of the speech acts. While Dennis Kurzon (1998) argued that perlocutionary acts are part of the speech act theory, he also admitted that a hearer's reaction to an illocutionary act may not lead to the expected perlocutionary effect (Kurzon, 1998). This is in line with Sbisà and Turner (2013)'s work in which she stated that the important factor in perlocution is the hearer's reaction, not the speaker's intention. An example of this case may be if a speaker announced a piece of good news and the hearer was so excited and tripped. Tripping would be an unintended perlocutionary effect (Sbisà & Turner, 2013).

Considering that the effect of perlocution may not be what a speaker intended, it would be very difficult to measure the effectiveness of perlocutionary acts, especially in cases of speech giving as there were many hearers and their reactions can vary greatly. Therefore, while the author would gather data on perlocutionary acts in the selected speeches, its lack of measurable effectiveness would also be taken into account in the analysis.

2.2 Nonverbal Communication Theory

2.2.1 Dual Coding Theory

Figure 2.1: Paivio's Dual Coding Process



Source: Paivio, A. (1990). *Mental representations: A dual coding approach*.

Ukraine: Oxford University.

In 1970s-1990s, Allan Paivio developed the Dual Coding Theory which suggests that human processes information via 2 different subsystems. One specializes in language information and one in nonverbal information. Each subsystem does not only process incoming information but also create response for each type of information as shown in Figure 2.1 (Paivio, 1990).

As shown in Table 2.5, Paivio (1990) also illustrated how verbal and nonverbal information could be related and correspond to others along the human's basic sensory system: vision, hearing, touching, tasting, and smelling. Therefore,

based on dual coding theories, it could be summarized that nonverbal cues could be used as a tool for communication.

Table 2.5: Relations between Verbal and Nonverbal Subsystems

Sense	Subsystems	
	Verbal	Nonverbal
Vision	Visual words	Visual Objects
Hearing	Auditory words	Environmental sounds
Touching	Writing Patterns	Feel of an object
Tasting	-	Taste memories
Smelling	-	Smell memories

Source: Paivio, A. (1990). *Mental representations: A dual coding approach*.
Ukraine: Oxford University.

2.2.2 Types of Nonverbal Cues

Nonverbal communication can be categorized using many methods. For example;

- 1) Categorized by elements, which is based on the study of Demir (2011) as shown in Table 2.6.

Table 2.6: Nonverbal Communication as Categorized by Müge Demir

Silent Communication	Vocal Communication	Objective Communication
Body Language	Use of Voice	Clothes, Accessories, Colours, Distance, Time, etc.
-Body, especially chest area -Head -Posture -Gestures, especially hands and arms -Mimics, or facial expressions, especially eyes, eyelids and lips -Legs	-Tones of voice -Rhythm -Going up, down or monotonousness -Softness and harshness -Resonance	-Place -Time, including punctuality -Silence -Sit and walk -Colours

Source: Demir, M. (2011). Using nonverbal communication in politics. *Canadian Social Science*, 7(5), 1-14.

2) Categorized by channels of nonverbal communication, which is based on the study of Nowicki, Duke and Martin (1996) classified nonverbal cues into 6 types: rhythm and use of time, interpersonal space and touch, objectics including smell, gestures and postures, facial expression, and paralanguage (Nowicki, et al., 1996).

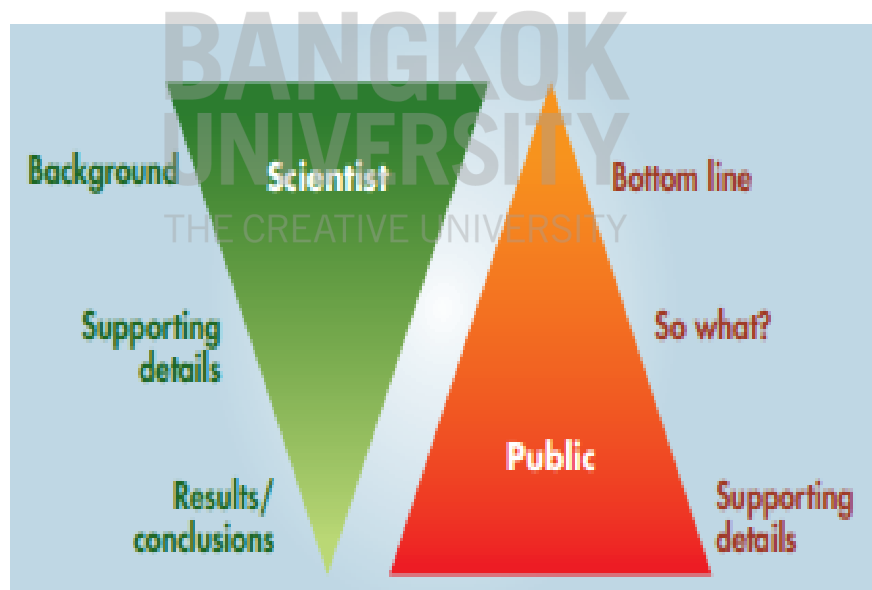
It should be noted that no matter what type of classification, the nonverbal information is transmitted through the 5 senses mentioned in the work of Paivio. For this study, based on the nature of speech-giving settings, only nonverbal cues transmitted through visual and auditory senses shall be used.

2.3 Climate Communication

2.3.1 Structure and Vocabulary

Somerville and Hassol (2011) conducted research on “Communicating the science of climate change” by studying possible ways to improve climate communication to the general public and found that scientists would be able to communicate more effectively by modifying the content structure, switching from academically-popular downward pyramid, which starts with background information and ends with conclusions, to an upward pyramid, which starts with the bottom line conclusions and ends with supporting details. Additionally, scientists should also select appropriate words in order to simplify and reduce ambiguity or misunderstanding. This could help make the communication of complex issues, such as climate change, easier to understand (Somerville & Hassol, 2011).

Figure 2.2: Pyramids for Improved Climate Communication



Source: Somerville, R. C., & Hassol, S. J. (2011). Communicating the science of climate change. *Physics Today*, 64(10), 48-53.

Table 2.7: Word Suggestion

Terms that have different meanings for scientists and the public		
Scientific term	Public meaning	Better choice
enhance	improve	intensify, increase
aerosol	spray can	tiny atmospheric particle
positive trend	good trend	upward trend
positive feedback	good response, praise	vicious cycle, self-reinforcing cycle
theory	hunch, speculation	scientific understanding
uncertainty	ignorance	range
error	mistake, wrong, incorrect	difference from exact true number
bias	distortion, political motive	offset from an observation
sign	indication, astrological sign	plus or minus sign
values	ethics, monetary value	numbers, quantity
manipulation	illicit tampering	scientific data processing
scheme	devious plot	systematic plan
anomaly	abnormal occurrence	change from long-term average

Source: Somerville, R. C., & Hassol, S. J. (2011). Communicating the science of climate change. *Physics Today*, 64(10), 48-53.

2.3.2 Message Framing

Bertolotti and Catellani (2014) conducted research on “Effects of message framing in policy communication on climate change” by studying the effect of message framing on the ability to persuade audiences in climate policy communication. The researchers conducted 2 case studies and found that;

1) Policy messages focusing on the importance of renewable energy were most persuasive when framed with positive impacts gained from the implementation of the proposed policy, and when messages’ contents put economic growth as the biggest concern;

2) Policy messages focusing on greenhouse gas mitigation were most persuasive when framed with negative impacts that could be avoided by

implementing the proposed policy, and when the message's contents put safety as the biggest concern.

Therefore, it can be concluded that the persuasiveness level of messages depends on different message-framing strategies. Different regulatory-focus messages should be framed with different outcomes in order to maximize their persuasiveness. For policy focusing on promotion, messages highlighting positive outcomes are more effective. On the other hand, for policy focusing on prevention, messages highlighting negative outcomes are likely to be more persuasive (Bertolotti & Catellani, 2014).

2.4 Relevant Studies

There are also other studies that could be useful in speech act analysis.

2.4.1 Speech Act Theory in Textual Analysis

The speech act theory was one of the popular tools that various researchers used to analyse texts. For example, Ahmed and Amir (2021) conducted research on "Speech Act Analysis of the Joseph R. Biden, Jr.'s Inaugural Address on 20th of January 2021 as the 46th President of the USA" in which they classified utterances in President Biden's speech into 5 types of Searle's illocutionary act classification as well as whether the acts were direct or indirect, and based on the distributions of types of illocutions used, they could determine, based on statistics, that President Biden's speech had a clear direction and mostly consisted of calls for actions followed by providing information (Ahmed & Amir, 2021).

On the other hand, Kone (2020) also used the speech act theory in his paper on "Speech Acts in UN Treaties: A Pragmatic Perspective" in which he found that Searle's assertive, commissive, and directive illocutions aligned with performing constitutive, commitment, and command acts respectively in the texts of several UN treaties.

Based on these examples, it can be seen that the speech act theory could be used in analysing the structure and characteristics of a text as well as analysing the relations between illocutions and their desired actions.

2.4.2 Illocutions and Their Actions

Apart from using the 5 classifications of illocutions as tools for data analysis, there were also researchers who used Searle's 8 "illocutionary" actions as a basis for

speech act analysis and further developed lists of actions that could be performed using illocutions in texts.

For example, in the work of Angkursinthana (2009) on “A Comparative Study of Indirect Speech Acts in Dialogues in the Different of Thai Novels: A Pragmatic Approach”, she used “to request”, “to question”, “to argue”, “to express negative feelings”, and “to reprimand” performed by illocutions as the criteria for analysing dialogues in Thai novels. It should be noted that among the 5 actions, only 3 were based on Searle’s works. “To express negative feelings”, and “to reprimand” were proposed by other Thai academia; Siriluck Hoonsringam and Wison Sukwisith respectively (Angkursinthana, 2009).

Further developed from the work of Naphat Angkunsinthana as well as Searle and Wison Sukwisith, Adcharaporn Khraiboot and Wilaisak Kingkham, in their work on “Speech Acts in Patriotic Songs During B.E. 2510-2550”, categorized 12 actions that could be performed using illocutions in Thai patriotic songs as follows; affirmative, request, command, warn, promise, threaten, advise, question, express condolences, reprimand, challenge, and wishing (Khraiboot & Kingkham, 2016).

While these analyses may not fit the traditional taxonomy of illocutionary acts, they provide a more modern interpretation of what actions can be performed by uttering certain illocutions, and demonstrate how speech acts remain relevant and could be used in climate action advocacy.

2.4.3 Felicity Conditions and Nonverbal Cues

Examining Searle’s description of felicity conditions in which illocutionary acts could be successfully performed, it could be seen that not all conditions are easily measured or monitored in real-world events. The studies focusing on felicity conditions in illocutionary acts were mostly based on fictional events. For example, in his work on “Speech Act Analysis of British and American Poetry”, Leongkamchorn (2010) looked into the felicity conditions for certain actions in comparison to what happened in the excerpts of the poetry. In his comparison, much of the excerpts from the poetry that matched part of felicity conditions could be regarded as nonverbal cues in communications, such as the appearance of a person and displayed emotions (Leongkamchorn, 2010). In this regard, it could be said that some verbal cues are to be used as providing felicity conditions for certain acts to be performed.

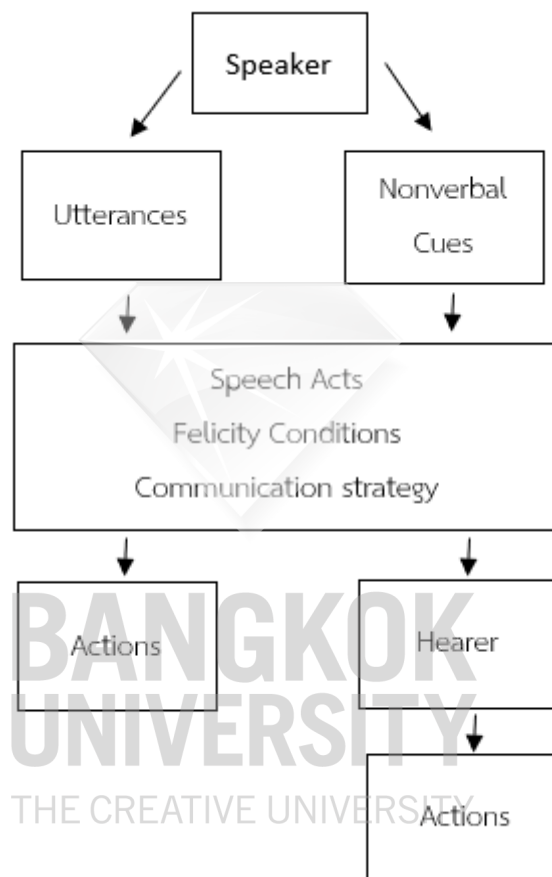
This is in alignment with various studies on nonverbal cues in which body language, facial expressions, or even tone and volume of voices could affect the effectiveness of a speech, in particular leaders' speeches. In Gentry and Kuhnert (2007)'s study on "Sending signals: Nonverbal communication can speak volumes", it was found that nonverbal cues can express deeper, or even conflicting, content than verbal ones. Thus, one of the leaders' communication skills should include the ability to be aware and control the use of their nonverbal cues (Gentry & Kuhnert, 2007). Similarly, Judith Peters and Marieke Hoetjes researched "The effect of gesture on persuasive speech" and discovered that hand gestures can help create positive impacts on the listening of political speeches or statements and that hand gestures can be a persuasive tool, especially in cases in which audiences do not have a significant role in that area (Peters & Hoetjes, 2017). With these findings on the benefits of nonverbal cues on the effectiveness and impacts of speeches, the author believed it would be useful to examine the nonverbal cues of speakers in speech act analysis.

2.4.4 Perlocutionary Acts in Textual Analysis

While perlocutionary acts were mostly used to analyse videos and plays, in which researchers could measure perlocutionary effects visually, it is also possible to use perlocutionary acts in speech analysis as seen in the work of Putri and Putu (2016) on "An Analysis of Illocutionary Act and Perlocutionary Act Towards the Queen Elizabeth's Speech Entitled We Will Succeed and Better Days Will Come", which Queen Elizabeth gave during the COVID-19 Pandemic. However, in this study, the researchers analysed perlocutionary act that were performed by uttering illocutions and did not look into perlocutionary acts separately (Sari & Pranoto, 2022). Nevertheless, the work of Sari and Pranoto (2022)'s work demonstrated the possibility of using perlocutionary act analysis as part of a broader speech act analysis.

2.5 Conceptual Framework

Figure 2.3: Conceptual Framework



CHAPTER 3

METHODOLOGIES

3.1 Methodology

The study on “Speech Act Analysis of Climate Speeches in Various UN Climate Conferences” will comparatively examine the speech act usage in the speeches on climate change given by Greta Thunberg, Sir David Attenborough, Hoesung Lee, and Antonio Guterres, as representatives from the youth activists, media and politicians, by using a mixed methodology between quantitative and qualitative researches.

3.2 Population

The population is all the speeches given by youth activists, media, academia and politicians at all UN leaders’ level conferences on climate change within the 5 years between 2019 to 2023.

3.3 Sampling Techniques

The sampling technique used in this study is a stratified purposive sampling technique, using the following steps.

3.3.1 Gathering lists of speeches given at all UN leaders’ level conferences on climate change within the 5 years between 2019-2023, and based on the positions of speakers, classify speeches into 4 groups, youth, media, academia, and politicians.

3.3.2 Following criteria were set for each group;

3.3.2.1 Climate Youth Activists

- 1) Must be between the ages of 15-24 years, which was the UN definition of youth, at the time the speech was given.
- 2) The speeches must reach at least 200k within 6 months after its being delivered.
- 3) The speaker must have received at least five prizes or awards for their climate or environmental advocacy.

3.3.2.2 Media

- 1) The speeches must reach at least 200k within 6 months after its being delivered.
- 2) The speaker must have received at least five prizes or awards for their climate or environmental advocacy.

3.3.2.3 Academia

- 1) Must have at least a PhD.
- 2) Must be internationally recognized.

3.3.2.4 Politicians

- 1) Must have attended at least 3 UN summits on climate change between 2019-2023.
- 2) The speeches must reach at least 200k within 6 months after its being delivered.
- 3) The speaker must have received at least five prizes or awards for their climate or environmental advocacy.

It should be noted that due to the limited participants of academic speech givers at UN Summits between 2019-2023, the author could not find reach statistics of speeches given by academia representatives, and had to omit reach as a criterion for selecting academia representatives.

Following the 2 aforementioned steps, 4 speeches were selected as the representatives of each group.

- 1) As a representative of youth activist's speech: Greta Thunberg's speech at UN Climate Summit in New York on 23 September 2019 (NPR Staff, 2019).
- 2) As a representative of media's speech: Sir David Attenborough's speech at COP26 in Glasgow on 1 November 2021.
- 3) As a representative of academia's speech: the speech of Hoesung Lee, the chair of the Intergovernmental Panel on Climate Change (IPCC), at COP25 in Madrid on 2 December 2019.
- 4) As a representative of the politician's speech: the speech of the UN Secretary-General, Antonio Guterres, at COP27 at Sharm el-Sheikh, Egypt, on 7 November 2022 (United Nations, 2021).

3.4 Data Collection

Collected data can be categorized as follows;

3.4.1 Primary data which gain from official speeches' transcripts and videos.

The primary data is available on the conference websites.

3.4.2 Secondary data which gain from non-official transcripts is compared against the videos to verify its accuracy.

3.5 Data Analysis

Data collected shall be analyzed by going through 3 stages as follows;

3.5.1 Data categorization: primarily using Searle's speech act classification, Hassol and Somerville's practices for enhanced climate communications, and Mauro Bertolotti and Patrizia Catellani's message-framing technique.

3.5.2 Data visualization: for better understanding.

3.5.3 Data analysis and interpretation to find the selected speeches' similarities and differences.

3.6 Triangulation

To ensure the validity and reliability of the study, the author implemented 3 types of triangulation techniques; data triangulation, method triangulation, and interdisciplinary triangulation. In this regard, the author verified and cross-checked the transcripts of the speeches against the videos when the speeches were actually given. Additionally, the author looked at the text from both the aspects of pragmatic linguists, which is the original source of speech act theory development, and communication arts, which looks into factors affecting communication effectiveness such as overall structure, message-framing as well as nonverbal cues.

CHAPTER 4

RESULTS

In the study on “Speech Act Analysis of Climate Speeches in Various UN Climate Conferences”, the author examined 3 selected speeches given by Greta Thunberg, Sir David Attenborough, Hoesung Lee, and Antonio Guterres, who were chosen as representatives of youth activists, media, academia, and politicians. The author studied the use of speech acts in the selected speech in the following criteria;

- 1) Speech Act Usage: locutionary acts, illocutionary acts, and perlocutionary acts.
- 2) Textual factors affecting climate communication
- 3) Nonverbal cues
- 4) Performed actions

4.1 Greta Thunberg’s speech at the UN Climate Summit in New York on 23 September 2019

4.1.1 Speech Act Usage

4.1.1.1 Qualitative Data Interpretation

The author conducted a qualitative speech act analysis of the utterances contained in Greta Thunberg’s speech at the UN Climate Summit in New York on 23 September 2019 and the findings were demonstrated below.

T.1 “My message is that we’ll be watching you.” –

Commissive.

T.2 “This is all wrong.” – Representative.

T.3 “I shouldn’t be up here.” – Representative.

T.4 “I should be back in school on the other side of the ocean.”

- Representative.

T.5 “Yet you all come to us young people for hope.” –

Locutionary.

T.6 “How dare you!” – Expressive.

T.7 “You have stolen my dreams and my childhood with your empty words.” – Representative.

T.8 “And yet I'm one of the lucky ones.” – Representative.

T.9 “People are suffering.” – Perlocutionary.

T.10 “People are dying.” – Perlocutionary.

T.11 “Entire ecosystems are collapsing.” – Perlocutionary.

T.12 “We are in the beginning of a mass extinction, and all you can talk about is money and fairy tales of eternal economic growth.” – Perlocutionary.

T.13 “How dare you!” – Expressive.

T.14 “For more than 30 years, the science has been crystal clear.” – Representative.

T.15 “How dare you continue to look away and come here saying that you're doing enough, when the politics and solutions needed are still nowhere in sight.” – Expressive.

T.16 “You say you hear us and that you understand the urgency.” – Locutionary.

T.17 “But no matter how sad and angry I am, I do not want to believe that.” – Expressive.

T.18 “Because if you really understood the situation and still kept on failing to act, then you would be evil.” – Directive.

T.19 “And that I refuse to believe.” – Perlocutionary.

T.20 “The popular idea of cutting our emissions in half in 10 years only gives us a 50% chance of staying below 1.5 degrees [Celsius], and the risk of setting off irreversible chain reactions beyond human control.” – Representative

T.21 “Fifty percent may be acceptable to you.” – Locutionary.

T.22 “But those numbers do not include tipping points, most feedback loops, additional warming hidden by toxic air pollution or the aspects of equity and climate justice.” – Locutionary.

T.23 “They also rely on my generation sucking hundreds of billions of tons of your CO₂ out of the air with technologies that barely exist.” – Representative.

T.24 “So a 50% risk is simply not acceptable to us — we who have to live with the consequences.” – Representative.

T.25 “To have a 67% chance of staying below a 1.5 degrees global temperature rise – the best odds given by the [Intergovernmental Panel on Climate Change] – the world had 420 gigatons of CO2 left to emit back on Jan. 1st, 2018.” – Locutionary

T.26 “Today that figure is already down to less than 350 gigatons.” – Locutionary

T.27 “How dare you pretend that this can be solved with just 'business as usual' and some technical solutions?” – Expressive

T.28 “With today's emissions levels, that remaining CO2 budget will be entirely gone within less than 8 1/2 years.” – Perlocutionary.

T.29 “There will not be any solutions or plans presented in line with these figures here today, because these numbers are too uncomfortable.” - Representative.

T.30 “And you are still not mature enough to tell it like it is.” – Expressive.

T.31 “You are failing us.” – Representative.

T.32 “But the young people are starting to understand your betrayal.” – Representative.

T.33 “The eyes of all future generations are upon you.” – Perlocutionary.

T.34 “And if you choose to fail us, I say: We will never forgive you.” – Commissive.

T.35 “We will not let you get away with this.” - Commissive

T.36 “Right here, right now is where we draw the line.” – Representative

T.37 “The world is waking up.” – Representative.

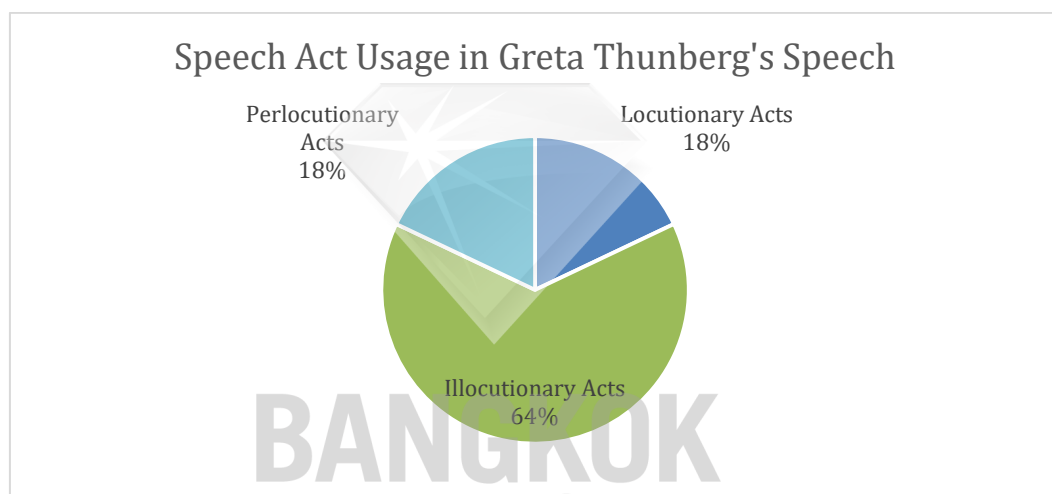
T.38 “And change is coming, whether you like it or not.” – Representative.

T.39 “Thank you.” – Locutionary

4.1.1.2 Quantitative Data Interpretation

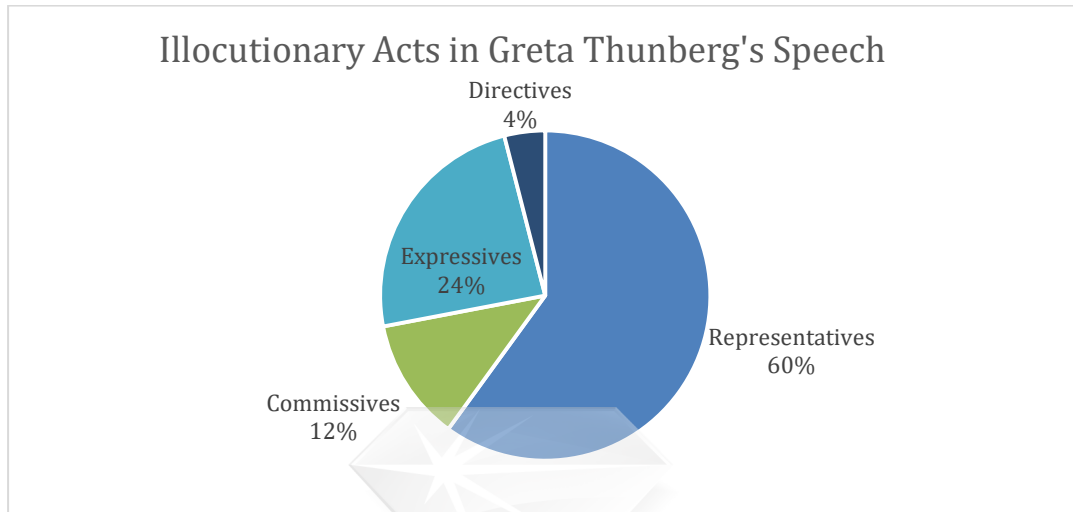
In the quantitative analysis of the data in the above finding, the author found that Greta Thunberg's speech contained 7 locutions, 25 illocutions and 7 perlocutions, which accounted for 18%, 64%, and 18% respectively as shown in Figure 4.1.

Figure 4.1: Speech Act Usage in Greta Thunberg's Speech



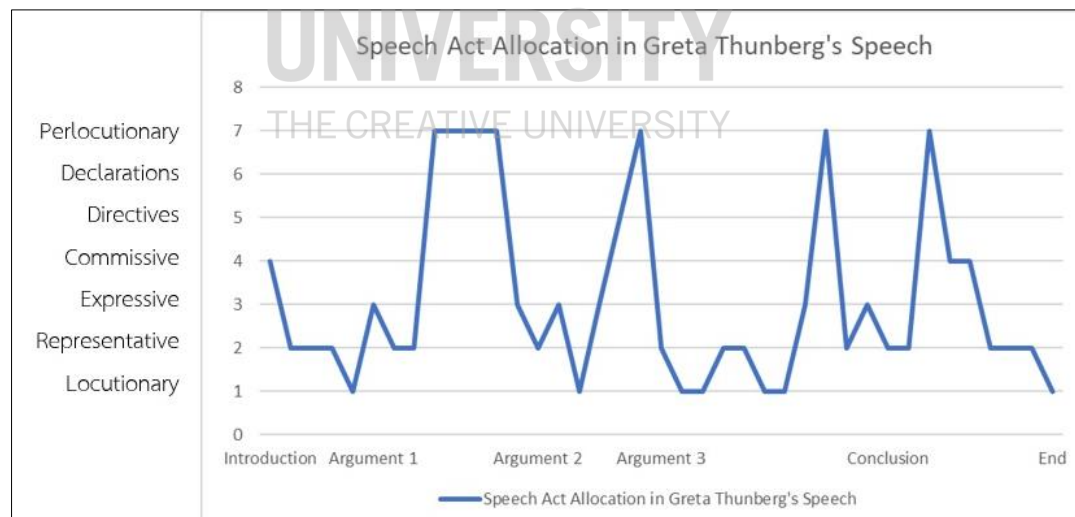
Among all illocutions, it was found that representative illocutions were most used at 60%, accounting for 15 utterances, followed by expressives at 24% or 6 utterances, commissives at 12% or 3 utterances, and directives at 4% or 1 utterance. It should be noted that declaration was not used at all in Thunberg's speech as shown in Figure 4.2.

Figure 4.2: Illocutionary Acts in Greta Thunberg's Speech



4.1.2 Textual Factors Affecting Climate Communication

Figure 4.3: Speech Act Allocation in Greta Thunberg's Speech



If each speech act classification were ranked as valued between 1-7 based on the expected degree of actions to be performed by speakers and hearers, Figure 4.3 would illustrate the allocation of speech acts in Thunberg's speech, and based on the graph above, one could also see the structure of Thunberg's speech act usage, and it

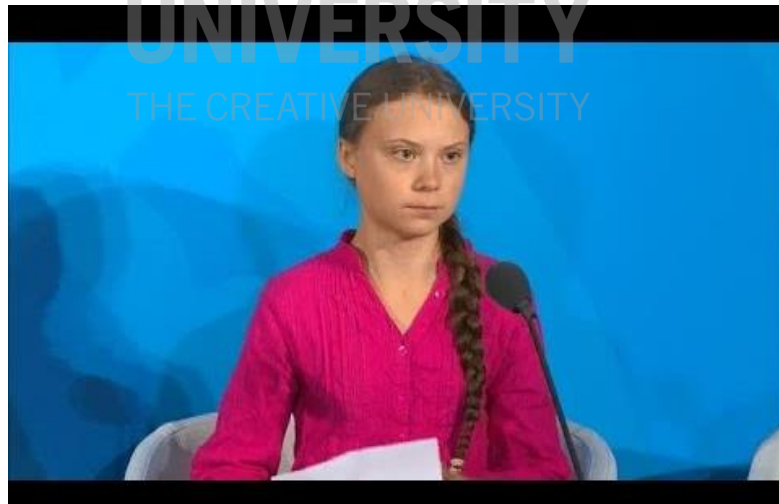
can be seen that Thunberg's speech fluctuated greatly between low-degree of actions to high-degree of actions simultaneously.

Thunberg structured the speech by having an introduction followed by 3 arguments, and a conclusion. If examined in accordance with Somerville and Hassol's structural suggestion, it would be found that the structure of Thunberg's speech was not a single upward pyramid, but a series of small downward pyramids, starting with background and details before ending with actions as bottom lines. Thunberg also used a lot of technical words and cited scientific figures without fully expanding on their meanings. However, her message-framing technique was also in line with Bertolotti and Catellani (2014)'s discovery that it is best to highlight the negative impacts in order to promote the greenhouse gas mitigation policy.

4.1.3 Nonverbal Cues

The author analysed nonverbal cues used in Greta Thunberg's speech as shown in the official video of the UN, which can be accessed here:

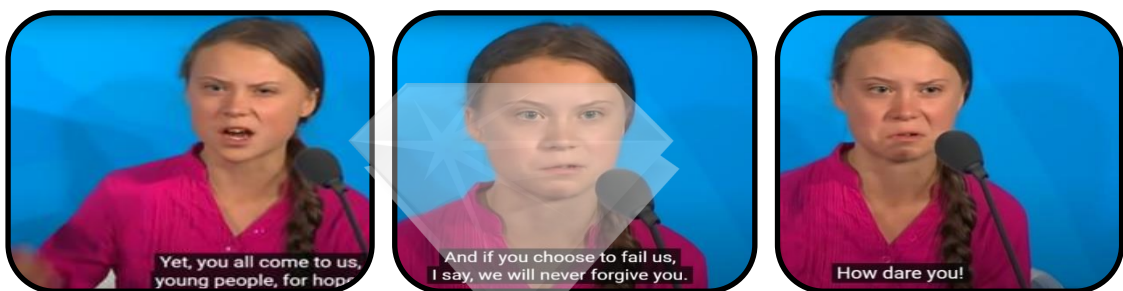
Figure 4.4: Greta Thunberg: Young Climate Activist



Source: United Nations. (2019). *Greta Thunberg (Young Climate Activist) at the Climate Action Summit 2019*. Retrieved from <https://youtu.be/u9KxE4Kv9A8>.

Looking into Thunberg's use of nonverbal cues, it can be found that, while occasionally looking down at the script in her hand; Thunberg used a lot of facial expressions to show her anger, frustration and dissatisfaction, as seen in Figure 4.4. While she did not use a lot of hand gestures, she did use them from time to time to emphasise her utterances as seen in Figure 4.5.

Figure 4.5: Screenshot from Greta Thunberg's speech



Source: United Nations. (2019). *Greta Thunberg (Young Climate Activist) at the Climate Action Summit 2019*. Retrieved from <https://youtu.be/u9KxE4Kv9A8>.

4.1.4 Performed Actions

In her speech, Thunberg performed 6 actions as follows;

1) Threaten

In Thunberg's speech, the acts of threatening were performed twice at the beginning (T.1) and the end of her speech (T.32-38).

Example 1

"My message is that we'll be watching you."

Example 2

"The eyes of all future generations are upon you. And if you choose to fail us, I say: We will never forgive you. We will not let you get away with this."

The above examples demonstrated the acts of threatening in which Thunberg put the leaders and policymakers at the Summit accountable for their actions regarding climate change. It should be noted that Thunberg used several types of speech acts, but mostly commissive illocutions and perlocutions to perform the act of threatening with the support from using representative illocutions.

2) Reprimand

The act of reprimanding appeared most often in Thunberg's speech. With 5 occurrences in T.2-8, T.12, T.15-16, T.27, and T.30-31 It could be seen that this act appeared throughout her speech.

Example 1

“This is all wrong. I shouldn't be up here. I should be back in school on the other side of the ocean. Yet you all come to us young people for hope. How dare you! You have stolen my dreams and my childhood with your empty words. And yet I'm one of the lucky ones.”

Example 2

“How dare you pretend that this can be solved with just 'business as usual' and some technical solutions?”

Example 3

“And you are still not mature enough to tell it like it is. You are failing us.”

The above examples demonstrated the acts of reprimanding, in which Thunberg criticized the leaders and policymakers for their insufficient actions. In these examples, it could be seen that the high-degree of actions were performed using expressive illocutions, but at the same time, representative illocutions or even locutionary acts were also used to support and justify the acts as well as in performing the act of reprimanding itself.

3) Warn

The act of warning directly appeared once in Thunberg's speech in T.9-11.

Example 1

“People are suffering. People are dying. Entire ecosystems are collapsing.”

The above examples demonstrated Thunberg's clear performance of a warning act, in which the utterances could also be used as indirect perlocutionary acts to warn the hearers, leaders and policy-makers, that they need to take more actions to address the climate crisis.

4) Request

The act of requesting appeared only once in Thunberg's speech in T.18-19.

Example 1

“Because if you really understood the situation and still kept on failing to act, then you would be evil. And that I refuse to believe.”

In her performance of the requesting act, Thunberg used a directive illocution, as seen in the first sentence, to indirectly plead with the hearers, leaders and policy-makers, to follow their morality and to take more actions to address climate change. She immediately followed with the use of perlocution in the second sentence, to make another plea on the hearers' morals.

5) Argue

The act of arguing appeared twice in Thunberg's speech in T.20-26 and T.28-29.

Example 1

“The popular idea of cutting our emissions in half in 10 years only gives us a 50% chance of staying below 1.5 degrees [Celsius], and the risk of setting off irreversible chain reactions beyond human control. Fifty percent may be acceptable to you. But those numbers do not include tipping points, most feedback loops, additional warming hidden by toxic air pollution or the aspects of equity and climate justice. They also rely on my generation sucking hundreds of billions of tons of your CO₂ out of the air with technologies that barely exist. So a 50% risk is simply not acceptable to us — we who have to live with the consequences. To have a 67% chance of staying below a 1.5 degrees global temperature rise – the best odds given by the [Intergovernmental Panel on Climate Change] – the world had 420 gigatons of CO₂ left to emit back on Jan. 1st, 2018. Today that figure is already down to less than 350 gigatons.”

Example 2

“With today's emissions levels, that remaining CO2 budget will be entirely gone within less than 8 1/2 years. There will not be any solutions or plans presented in line with these figures here today, because these numbers are too uncomfortable.”

In Example 1, Thunberg performed the arguing act using representative illocutions with several supporting sentences in locutions as well as representative illocutions. However, in example 2, instead of using a locution to support, Thunberg used perlocutionary acts to support the main point contained in a representative illocution.

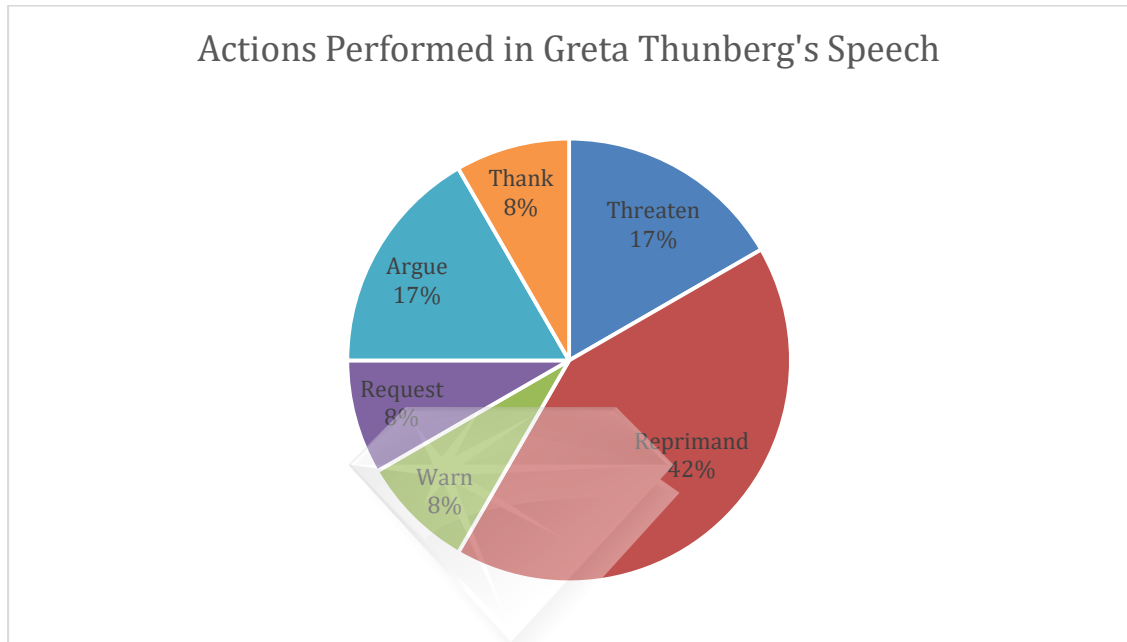
6) Thank

With a simple “Thank you” in T.39, Thunberg performed the act of thanking to traditionally express appreciation for the hearers to spend the time listening to her speech, and this was performed using direct locution.

Table 4.1: Summary of Performed Actions in Greta Thunberg’s Speech

Performed Actions	Number of Times	Main Speech Acts	Supporting Speech Acts
Threaten	2	Commissives, Perlocutionary	Representatives
Reprimand	5	Expressives	Representatives, Locutionary
Warn	1	Perlocutionary	
Request	1	Directives, Perlocutionary	
Argue	2	Representative	Locutionary, Perlocutionary
Thank	1	Locutionary	

Figure 4.6: Actions Performed in Greta Thunberg's Speech



Looking at Table 4.1 and Figure 4.6 above, it could be summarized that most of the actions performed in Thunberg's speech were reprimanding, threatening, and arguing.

4.2 Sir David Attenborough's speech at COP26 in Glasgow on 1 November 2021

4.2.1 Speech Act Usage

4.2.1.1 Qualitative Data Interpretation

The author conducted a qualitative speech act analysis of the utterances contained in Sir David Attenborough's speech at COP26 in Glasgow on 1 November 2021 and the findings were demonstrated below.

A.1 Your excellencies, delegates, ladies, and gentlemen. –

Expressive

A.2 “As you spend the next two weeks debating, negotiating, persuading and compromising, as you surely must, it's easy to forget that ultimately the emergency climate comes down to a single number — the concentration of carbon in our atmosphere.” – Representative

A.3 “The measure that greatly determines global temperatures and the changes in that one number is the clearest way to chart our own story.” – Representative

A.4 “For it defines our relationship with our world.” – Representative

A.5 “For much of humanity's ancient history, that number bounced wildly between 180 and 300 (parts per million).” – Representative

A.6 “And so too, did global temperatures.” – Locutionary

A.7 “It was a brutal and unpredictable world.” – Representative

A.8 “At times, our ancestors existed only in tiny numbers.” – Representative

A.9 “But just over 10,000 years ago, that number suddenly stabilised and with it, Earth's climate.” – Representative

A.10 “We found ourselves in an unusually benign period with predictable seasons and reliable weather.” – Representative

A.11 “For the first time, civilisation was possible and we wasted no time in taking advantage of that.” – Representative

A.12 “Everything we've achieved in the last 10,000 years was enabled by the stability in this time.” - Representative

A.13 “The global temperature over this period has not wavered over this time by more than +/- 1 degree Celsius.” – Locutionary

A.14 “Until now.” – Locutionary

A.15 “Our burning of fossil fuels, our destruction of nature, our approach to industry, construction and learning, are releasing carbon into the atmosphere at an unprecedented pace and scale.” - Locutionary

A.16 “We are already in trouble.” – Representative

A.17 “The stability we all depend on is breaking.” – Representative

A.18 “This story is one of inequality as well as instability.” – Representative

A.19 “Today, those who've done the least to cause this problem are being the hardest hit.” – Representative

A.20 “Ultimately all of us will feel the impact, some of which are now unavoidable.” – Representative- short inserts from other presenters in the video –

A.21 “Is this how our story is due to end?” – Perlocutionary

A.22 “A tale of the smartest species doomed by that all too-human characteristic of failing to see the bigger picture in pursuit of short-term goals.” – Perlocutionary

A.23 “Perhaps the fact the people most affected by climate change are not some imagined future generation, but young people alive today.” – Perlocutionary

A.24 “Perhaps that will give us the impetus we need to rewrite our story, to turn this tragedy into a triumph.” – Directive

A.25 “We are, after all, the greatest problem solvers to have ever existed on Earth.” – Directive

A.26 “We now understand this problem; we know how to stop the number rising and put it in reverse.” – Locutionary

A.27 “We must halt carbon emissions this decade. We must recapture billions of tonnes of carbon from the air.” – Directive

A.28 “We must fix our sights of keeping 1.5 degrees in reach.” – Directive

A.29 “A new industrial revolution powered by millions of sustainable innovations is essential and is indeed already beginning.” – Representative

A.30 “We will all share in the benefits of affordable clean energy, healthy air and enough food to sustain us all.” – Locutionary

A.31 “Nature is a key ally, whenever we restore the wild it will recapture carbon and help us bring back balance to our planet.” – Representative

A.32 “As we work to build a better world, we must acknowledge no nation has completed its development because no advanced nation is yet sustainable.” – Representative

A.33 “All have a journey still to complete so all that nations have a good standard of living and a modest footprint.” – Directive

A.34 “We again have to learn together how to achieve this, ensuring none are left behind.” – Directive

A.35 “We must use this opportunity to create a more equal world and our motivation should not be fear, but hope.” – Directive
- short inserts from other presenters in the video –

A.36 “It comes down to this, the people alive now are the generation to come, will look at this conference and consider one thing: Did that number stop rising and start to drop as a result of commitments made here?” –
Perlocutionary

A.37 “There's every reason to believe that the answer can be yes.” – Perlocutionary

A.38 “If working apart, we are a force powerful enough to destabilise our planet.” – Directive

A.39 “Surely working together, we are powerful enough to save it.” – Directive

A.40 “In my lifetime, I've witnessed a terrible decline.” –
Representative

A.41 “In your lifetimes, you could and should witness a wonderful recovery.” – Perlocutionary

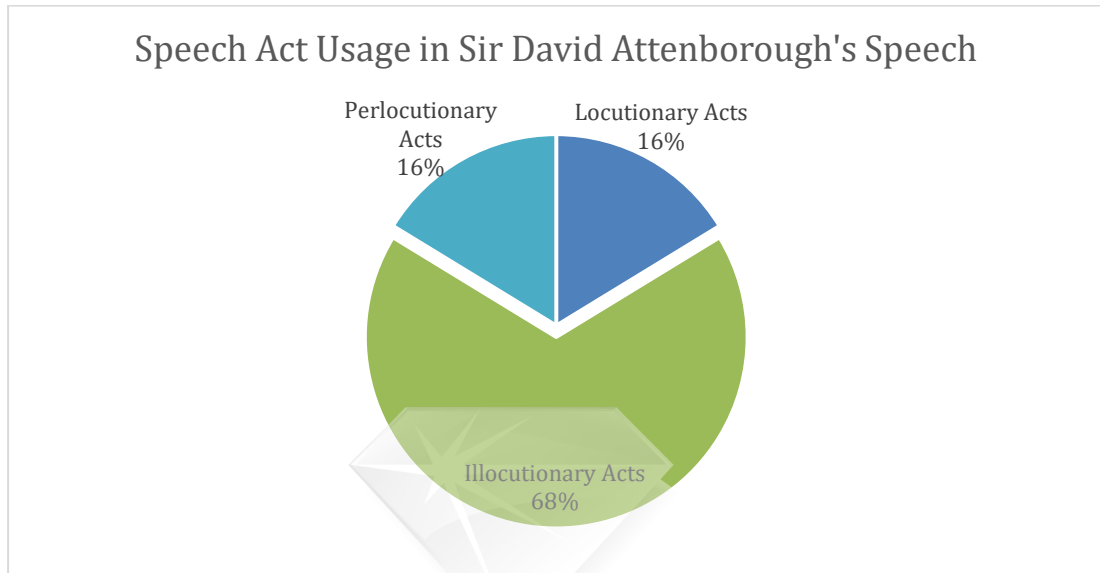
A.42 “That desperate hope ladies and gentlemen, delegates, excellencies, is why the world is looking to you and why you are here.” –
Perlocutionary

A.43 “Thank you.” – Locutionary

4.2.1.2 Quantitative Data Interpretation

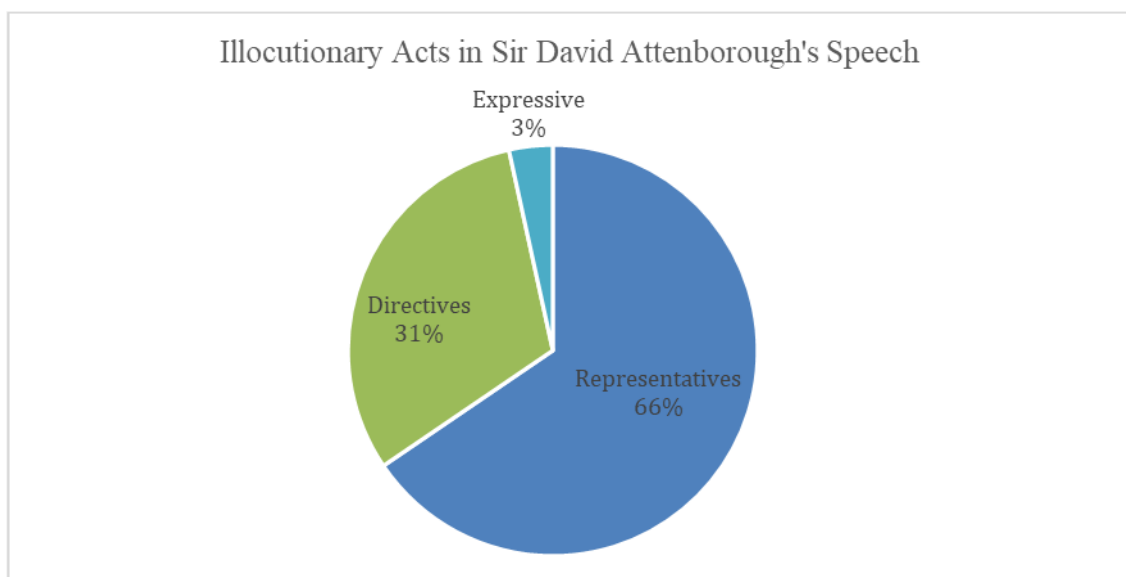
In the quantitative analysis of the data in the above finding, the author found that Sir David Attenborough’s speech contained 7 locutions, 29 illocutions, and 7 perlocutions, which accounted for 16.5%, 67%, and 16.5% respectively as shown in Figure 4.5.

Figure 4.7: Speech Act Usage in Sir David Attenborough's Speech



Among all illocutions, it was found that representative illocutions were most used at 68%, accounting for 19 utterances, followed by directives at 32%, accounting for 9 utterances, and expressive at 3%, accounting for 1 utterance as shown in Figure 4.8.

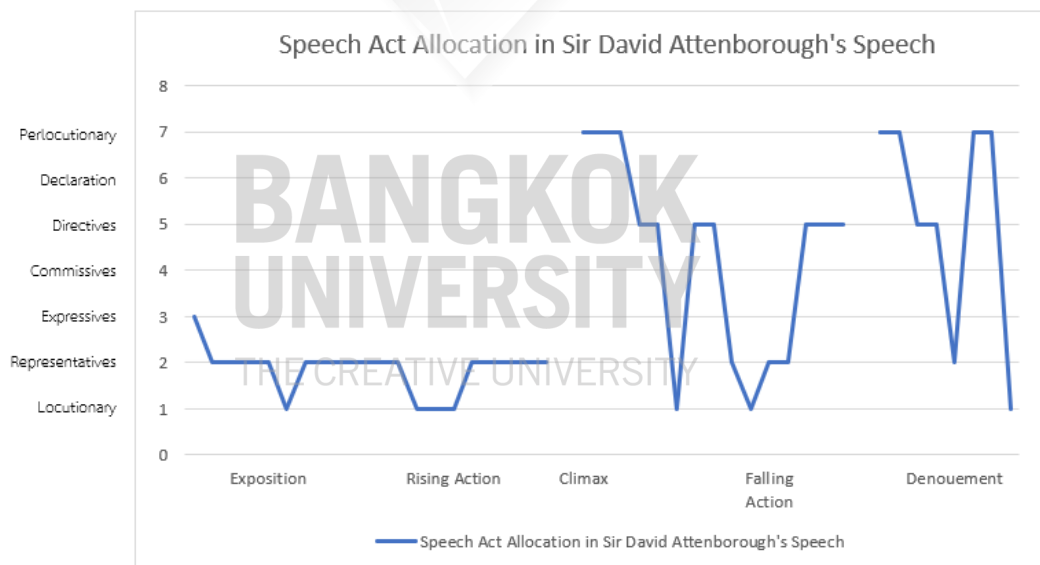
Figure 4.8: Illocutionary Acts in Sir David Attenborough's Speech



4.2.2 Textual Factors Affecting Climate Communication

Upon allocating Sir David Attenborough's into graph based on the expected degree of actions to be performed by speakers and hearers, Figure 4.7 would illustrate the allocation of speech acts in Attenborough's speech, and based on the graph above, one could see the structure of Attenborough's speech act usage. The graph showed that the first half of Attenborough's speech had a low expected degree of actions, while the latter half had a much higher degree. The 2 gaps in the graph were the 2 inserted voices from the video accompanying his speech, though, these gaps were part of his speech.

Figure 4.9: Speech Act Allocation of Sir David Attenborough's Speech



Looking at the content structure of Attenborough's speech in accordance with Somerville and Hassol's structural observation, it would be found that the structure of Attenborough's speech was a single downward pyramid, starting with background information and details before narrowing down to expected actions as the bottom line. While the structure of Attenborough's speech would not match Somerville and Hassol's suggestion for climate communication, it was very similar to a narrative paradigm in which a story is composed of exposition, rising action, climax, falling

action and denouement. On the other hand, Attenborough also used simple words and avoided technical terms as per Somerville and Hassol's suggestion.

In terms of message framing, Attenborough employed both techniques suggested by Bertolotti and Catellani (2014) when he framed greenhouse gas mitigation with the negative impacts on mankind and the use of renewable and climate-friendly policies with the talks about hope and a better future.

4.2.3 Nonverbal Cues

The author analysed nonverbal cues used in David Attenborough's speech as shown in the official video of the UN, which can be accessed here:

<https://youtube/qjq4VWdZhq8>. Nevertheless, it should be noted that as Attenborough's speech was accompanied by a video presentation, it was not possible to observe him fully in the official video.

Figure 4.10: Sir David Attenborough's Address to World Leaders at COP26



Sources: COP26 YouTube Channel. (2021). *Sir David Attenborough's address to world leaders at COP26*. Retrieved from <https://youtube/qjq4VWdZhq8>.

Looking into Attenborough's uses of nonverbal cues, it can be seen that he always looked at the audience as well as turned from left to right on several occasions. He did not look down on any script at all.

It should also be noted that Attenborough used video presentation as an aid to his speech. The video presentation depicted various natural themes as well as focused on humans' relationships with nature as can be seen in Figure 4.11

Figure 4.11: Screenshot from Sir David Attenborough's Speech (1)



Sources: COP26 YouTube Channel. (2021). *Sir David Attenborough's address to world leaders at COP26*. Retrieved from <https://youtube/qjq4VWdZhq8>.

In terms of hand gestures, at the beginning of the speech, Attenborough barely used any hand gestures, however, after his speech reached the climax, Attenborough began to vividly use hand gestures to enunciate points as well as to connect with the audience as can be seen in Figure 4.12

In terms of hand gestures, at the beginning of the speech, Attenborough barely used any hand gestures, however, after his speech reached the climax,

Attenborough began to vividly use hand gestures to enunciate points as well as to connect with the audience as can be seen in Figure 4.12.

Figure 4.12: Screenshot from Sir David Attenborough’s Speech (2)



Sources: COP26 YouTube Channel. (2021). *Sir David Attenborough's address to world leaders at COP26*. Retrieved from <https://youtube/qjq4VWdZhq8>.

4.2.4 Performed Actions

In his speech, Attenborough performed 6 actions as follows;

1) Greet

With a formal “Your excellencies, delegates, ladies, and gentlemen.”

in A.1, Attenborough performed the customary act of greeting to the hearers.

2) State

The acts of stating something appeared 4 times in Attenborough’s speech in A.2-4, A.5-14, A.15-20, A.29-30. This type of action was most frequent in Attenborough’s speech.

Example 1

“As you spend the next two weeks debating, negotiating, persuading and compromising, as you surely must, it's easy to forget that ultimately the emergency climate comes down to a single number — the concentration of carbon in our atmosphere. The measure that greatly determines global temperatures and the changes in that one number is the clearest way to chart our own story. For it defines our relationship with our world.”

Example 2

“Our burning of fossil fuels, our destruction of nature, our approach to industry, construction and learning are releasing carbon into the atmosphere at an unprecedented pace and scale. We are already in trouble. The stability we all depend on is breaking. This story is one of inequality as well as instability. Today, those who've done the least to cause this problem are being the hardest hit. Ultimately all of us will feel the impact, some of which are now unavoidable.”

In both examples, Attenborough performed the stating act using only representative illocutions with occasional use of locutions to support his actions.

3) Challenge

The act of challenging was performed once by Attenborough in A.21-25.

Example 1

“Is this how our story is due to end? A tale of the smartest species doomed by that all too-human characteristic of failing to see the bigger picture in pursuit of short-term goals. Perhaps the fact the people most affected by climate change are not some imagined future generation, but young people alive today. Perhaps that will give us the impetus we need to rewrite our story, to turn this tragedy into a triumph. We are, after all, the greatest problem solvers to have ever existed on Earth.”

In his performance of the challenging act, Attenborough used perlocutions and indirect directives to challenge the hearers to solve the climate crisis.

4) Command

The acts of commanding were performed twice by Attenborough in A.26-28 and A.31-35.

Example 1

“We now understand this problem, we know how to stop the number rising and put it in reverse. We must halt carbon emissions this decade. We must recapture billions of tonnes of carbon from the air. We must fix our sights of keeping 1.5 degrees in reach.”

Example 2

“Nature is a key ally; whenever we restore the wild it will recapture carbon and help us bring back balance to our planet. As we work to build a better world, we must acknowledge no nation has completed its development because no advanced nation is yet sustainable. All have a journey still to complete so all that nations have a good standard of living and a modest footprint. We again have to learn together how to achieve this, ensuring none are left behind. We must use this opportunity to create a more equal world and our motivation should not be fear, but hope.”

In his performance of commanding acts, Attenborough used both direct and indirect directives to tell the hearers to do something, while representative illocutions and locutions were used to support his commands.

5) Request

The acts of requesting were performed 3 simultaneous times by Attenborough in A.36-37, A.38-39, and A.40-42.

Example 1

“If working apart, we are a force powerful enough to destabilise our planet. Surely working together, we are powerful enough to save it.”

Example 2

“In my lifetime, I've witnessed a terrible decline. In your lifetimes, you could and should witness a wonderful recovery. That desperate hope ladies and gentlemen, delegates, excellencies is why the world is looking to you and why you are here.”

In his performance of requesting acts, Attenborough used both indirect directives and perlocutions to perform the actions, while a representative illocution was used once to support the request.

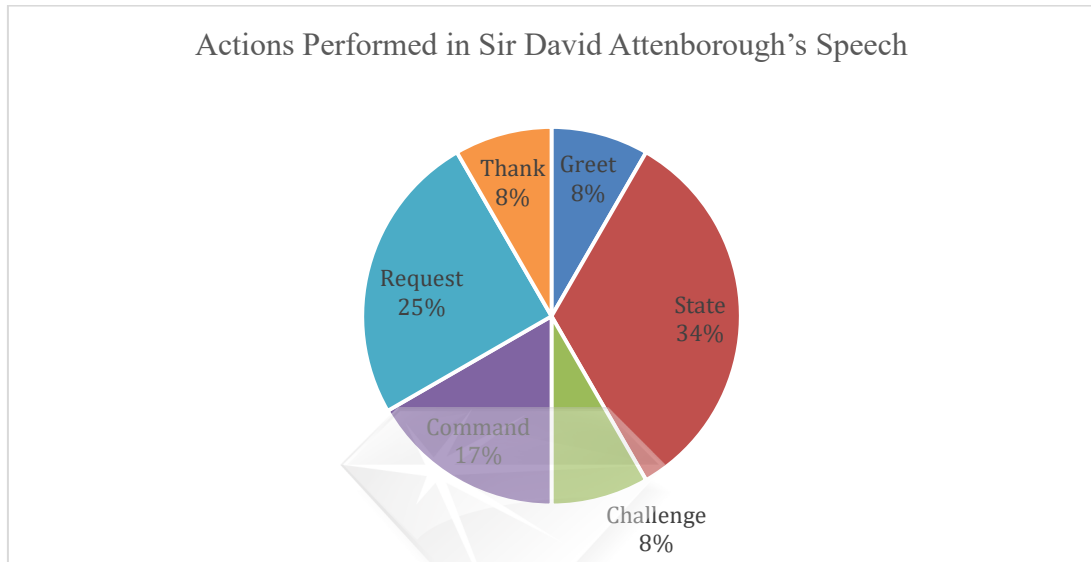
6) Thank

With a simple “Thank you” in A.43, Attenborough performed the act of thanking to traditionally express appreciation for the hearers to spend the time listening to his speech, and this was performed using the direct locution

Table 4.2: Summary of Performed Actions in Sir David Attenborough’s Speech

Performed Actions	Number of Times	Main Speech Acts	Supporting Speech Acts
Greet	1	Locutionary	
State	4	Representatives	Locutionary
Challenge	1	Perlocutionary, Directive	
Command	2	Directives	Representative Locutionary
Request	3	Perlocutionary, Directive	Representative
Thank	1	Locutionary	

Figure 4.13: Actions Performed in Sir David Attenborough’s Speech



Looking at Table 4.2 and Figure 4.13 above, it could be summarized that most of the actions performed in Attenborough’s speech were stating, requesting, and commanding.

4.3 Hoesung Lee’s speech at COP25 in Madrid on 2 December 2019.

4.3.1 Speech Act Usage

4.3.1.1 Qualitative Data Interpretation

The author conducted a qualitative speech act analysis of the utterances contained in Hoesung Lee’s speech at COP25 in Madrid on 2 December 2019 and the findings were demonstrated below.

L.1 “Excellencies, Distinguished Delegates, Ladies and Gentlemen.” –Locutionary

L.2 “It is a great honour for me to address you on behalf of the IPCC at the opening of COP 25.” - Expressive

L.3 “I would like to express our gratitude to the Government of Spain for hosting this important conference, and to the Government of Chile as COP president for all their preparations.” -Expressive

L.4 “Let me start by reminding you that our assessments show that climate stabilization implies that greenhouse gas emissions must start to peak from next year.” –Locutionary

L.5 “But emissions are continuing to increase, with no sign of peaking soon.” –Representative

L.6 “Our three special reports on warming of 1.5 °C, climate change and land, and the ocean and cryosphere in a changing climate indicated that the impacts of current warming are much more severe than previously understood: e.g. accelerating sea level rise and ocean warming, some key ecosystems becoming much more vulnerable, and increasing risks of reaching limits to adaptation.” –Representative

L.7 “Climate impacts now and in the future increasingly challenge the adaptive capacity of society and ecosystems.” -Representative

L.8 “The three special reports reconfirm the urgent need for immediate reductions in greenhouse gas emissions.” -Representative

L.9 “Such immediate reductions would provide the world with more space for cost-effective and sustainable mitigation and adaptation options.” –Perlocutionary

L.10 “Immediate reductions would generate opportunities for investment in innovation and technologies for higher productivity in energy and resource use, in alternative technologies for a world free of human-caused greenhouse gas emissions, and for investment in know-how for achieving equitable transitions.” –Perlocutionary

L.11 These investments would generate powerful benefits spilling over to all sectors of society and the economy, making them cleaner, healthier and more resilient.” –Perlocutionary

L.12 “And they would help achieve societal goals of poverty eradication and sustainable development.” –Perlocutionary

L.13 “Failure to achieve such immediate emission reductions will give the world the opposite of all this, in addition to the cascading impacts of a worsening climate.” –Perlocutionary

L.14 “The world will suffer from stranded assets, the legacy of “business as usual” investment.” - Representative

L.15 “The financial sector above all will face greater uncertainty due to risks from climate change and climate change policy.” - Representative

L.16 “Food security will be threatened as a result of a worsening climate and increased competition for land, arising from the need to use land as a vehicle for mitigation options.” - Representative

L.17 “The world will face increased risks of losses of biodiversity and ecosystem services, and the sustainable development goals such as no poverty, zero hunger and life on land will be compromised”. –Representative

L.18 “There will be little room for ecosystem-based adaptation, blue carbon ecosystems, sustainable fisheries and sustainable land management, as these adaptation options are effective only under low-emission pathways.”
-Representative

L.19 As Executive Secretary Espinosa has said, if we stay on our current path we risk a sharp rise in global temperatures this century, and I quote: “This will have enormous negative consequences for humanity and threaten our existence on this planet. We need an immediate and urgent change in trajectory Meeting it is absolutely necessary to the health, safety and security of everyone on this planet – both in the short and long term.” – Perlocutionary

L.20 “The IPCC findings support your conclusions.”
-Locutionary

L.21 “Later this week we will be discussing our two latest special reports at SBSTA-IPCC special events.” –Locutionary

L.22 “Both confirms that climate change will continue to exacerbate poverty and undermine the livelihoods of the poor and marginalized.”
–Perlocutionary

L.23 “Both point to the need for immediate reductions in greenhouse gas emissions, if we are to stabilize the climate.” – Perlocutionary

L.24 “They should serve as a wake-up call to us all.”
–Representative

L.25 “These reports have had an extraordinary resonance, transforming public awareness of climate change, and highlighting the importance of an “all of society” response.” – Representative

L.26 “We are humbled that our work is reaching beyond you – our core audience of national governments, policymakers and negotiators – and beyond the scientific community, to other stakeholders at the local and regional level: decision-makers in cities, business and industry, civil society as a whole, young people and the public at large.” – Expressive

L.27 “But despite this enhanced understanding of climate change it is clear we are not doing anywhere near enough to tackle it.” - Representative

L.28 “I assure you the IPCC is working hard to deliver the scientific evidence you need.” - Commissive

L.29 “We are now midway through the sixth assessment cycle.” – Locutionary

L.30 “And work is advancing on the main Sixth Assessment Report to be delivered in 2021.” - Representative

L.31 “The Synthesis Report which will integrate the three AR6 reports and the three special reports will be ready in May 2022.” – Representative

L.32 “It will provide policymakers and negotiators with the most up-to-date synthesis of scientific knowledge on climate change as you prepare for the first global stock take in 2023.” - Representative

L.33 “It is my hope that this Synthesis Report will also help integrate our understanding of climate change and the policy response.” - Expressive

L.34 “This will require inputs from both the science and policy communities.” – Directive

L.35 “We appreciate the complexities of taking climate action, arising from the need to address the consequences of action as well as its processes.” – Expressive

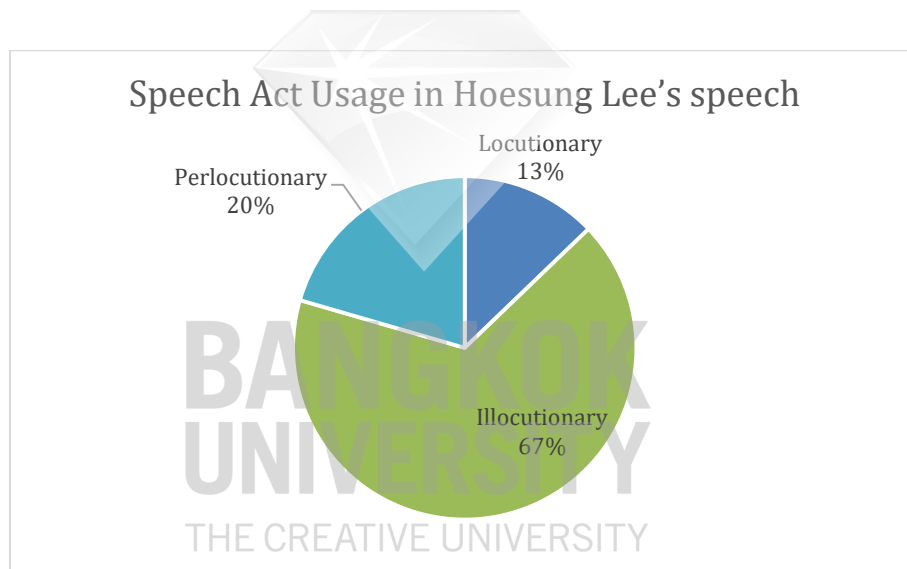
L.36 “We appreciate the challenge you face as a catalyst for the unprecedented change the world will need.” - Expressive

L.37 “Please tell us what you need from us” – Directive

L.38 “And we, the scientific community, will work with you to mend the disconnect between the scientific understanding of climate change and the realities of climate action.” – Commissive

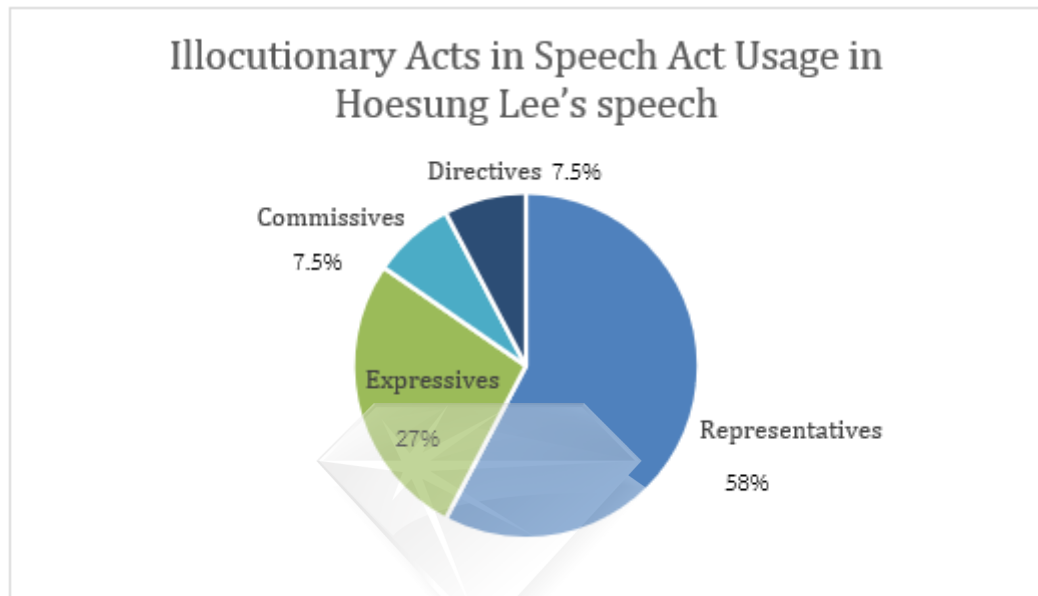
In the quantitative analysis of the data in the above finding, the author found that Hoesung Lee’s speech contained 5 locutions, 26 illocutions, and 8 perlocutions, which accounted for 13%, 67%, and 20% respectively as shown in Figure 4.14.

Figure 4.14: Speech Act Usage in Hoesung Lee’s Speech



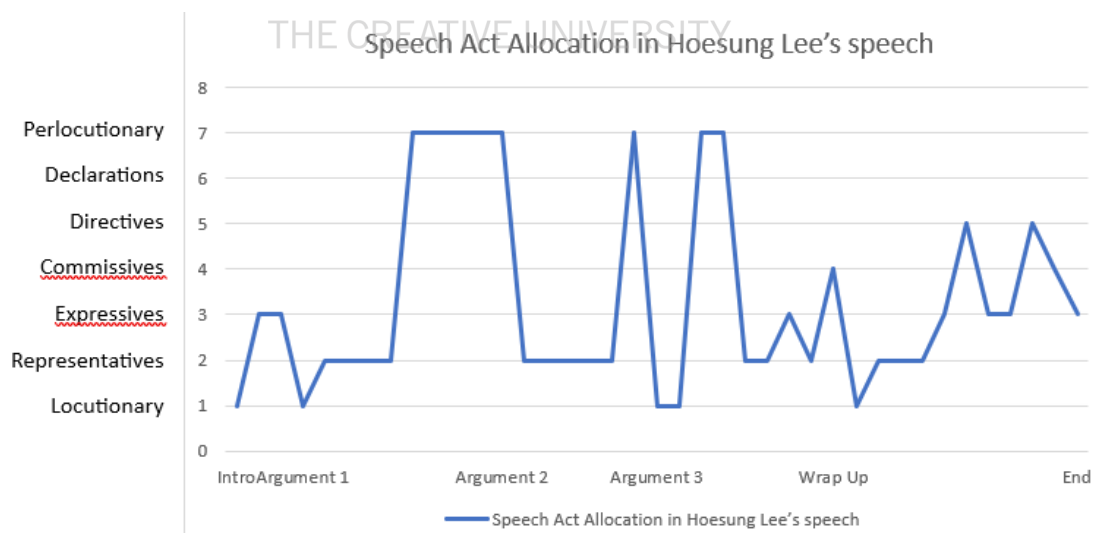
Among all illocutions, it was found that representative illocutions were most used at 58%, accounting for 15 utterances, followed by expressives at 27%, accounting for 7 utterances, commissives and directives equally at 7.5%, accounting for 2 utterances each as shown in Figure 4.15.

Figure 4.15: Illocutionary Acts in Speech Act Usage in Hoesung Lee's Speech



4.3.2 Textual Factors Affecting Climate Communication

Figure 4.16: Speech Act Allocation in Hoesung Lee's Speech



Upon allocating Hoesung Lee's speech into a graph based on the expected degree of actions to be performed by speakers and hearers, Figure 4.16 would

illustrate the allocation of speech acts in Lee's speech, and based on the graph above, one could see the structure of Lee's speech act usage or the lack thereof. Among 4 arguments or points made in his speech, Lee structured the presentation of each argument differently with no uniform pattern. Among the 3 arguments, only argument 2 used Somerville and Hassol's recommendation for an upward pyramid. Additionally, his use of technical terms and long sentences also contradicted Somerville and Hassol's suggestion.

In terms of message-framing, most of Lee's messages on greenhouse gas reduction were framed using negative consequences in line with Bertolotti and Catellani (2014)'s suggestion. However, while Lee mentioned renewable energy and climate-friendly innovations, Lee did not specifically frame these messages with positive consequences but rather mentioned these issues as outcomes of emission reduction.

4.2.3 Nonverbal Cues

The author analysed nonverbal cues used in Hoesung Lee's speech as shown in the official video of the UN, which can be accessed here:

<https://www.youtube.com/live/3fQHpxkI-vc?feature=share&t=379>

Figure 4.17: Hoesung Lee's speech as shown in the official video of the UN



Source: UN Climate Change. (2019). *Opening ceremony UN climate change conference #COP25*. Retrieved from <https://www.youtube.com/live/3fQHpXkI-vc?feature=share&t=379>.

As shown in the video and Figure 4.17, looking into Lee's uses of nonverbal cues, it could be seen that while Lee tried to enunciate his points clearly and looked around the room at the audience. He had to look down at the script quite often, and as part of looking at the script, Lee occasionally stammered and stopped mid-sentence. In terms of hand gestures, Lee also did not use any, partly due to the fact that the lectern covered his body from shoulder level.

Figure 4.18: Screenshot from Hoesung Lee’s Speech



Source: UN Climate Change. (2019). *Opening ceremony UN climate change conference #COP25*. Retrieved from <https://www.youtube.com/live/3fQHpxKI-vc?feature=share&t=379>.

4.3.4 Performed Actions

In his speech, Hoesung Lee performed 8 actions as follows;

1) Greet

With a formal “Excellencies, Distinguished Delegates, Ladies and Gentlemen.” in L.1, Lee performed the customary act of greeting to the hearers.

2) Thank

Apart from the simple “Thank you for your attention” in T.39, Lee performed additional 2 acts of thanking in L.2-3 and L.35-36.

Example 1

“It is a great honour for me to address you on behalf of the IPCC at the opening of COP 25. I would like to express our gratitude to the Government of Spain for hosting this important conference, and to the Government of Chile as COP president for all their preparations.”

Example 2

“We appreciate the complexities of taking climate action, arising from the need to address the consequences of action as well as its processes. We appreciate the challenge you face as a catalyst for the unprecedented change the world will need.”

Apart from the literal locutions, Lee performed the thanking acts using expressive illocutions to show his appreciation.

3) State

Lee performed the highest number of stating acts in his speech, with 6 occurrences in L.4-5, L.6-8, L.20-21, L.26-27, and L.28-32.

Example 1

“We are humbled that our work is reaching beyond you – our core audience of national governments, policymakers and negotiators – and beyond the scientific community, to other stakeholders at the local and regional level: decision-makers in cities, business and industry, civil society as a whole, young people and the public at large. But despite this enhanced understanding of climate change, it is clear we are not doing anywhere near enough to tackle it.”

Example 2

“I assure you the IPCC is working hard to deliver the scientific evidence you need. We are now midway through the sixth assessment cycle. And work is advancing on the main Sixth Assessment Report to be delivered in 2021. The Synthesis Report which will integrate the three AR6 reports and the three special reports will be ready in May 2022. It will provide policymakers and negotiators with the most up-to-date synthesis of scientific knowledge on climate change as you prepare for the first global stocktake in 2023.”

To perform the act of stating, Lee mostly used locutions and representative illocutions to provide the information. However, as in examples 1 and 2, Lee also used commissive and expressive illocutions to begin the act of stating.

4) Advise

Lee performed the act of advising 2 times in his speech in L.9-12 and L.19.

Example 1

“Such immediate reductions would provide the world with more space for cost-effective and sustainable mitigation and adaptation options. Immediate reductions would generate opportunities for investment in innovation and technologies for higher productivity in energy and resource use, in alternative technologies for a world free of human-caused greenhouse gas emissions, and for investment in know-how for achieving equitable transitions. These investments would generate powerful benefits spilling over to all sectors of society and the economy,

making them cleaner, healthier and more resilient. And they would help achieve societal goals of poverty eradication and sustainable development.”

Example 2

“As Executive Secretary Espinosa has said, if we stay on our current path we risk a sharp rise in global temperatures this century, and I quote: “This will have enormous negative consequences for humanity and threaten our existence on this planet. We need an immediate and urgent change in trajectory meeting it is absolutely necessary to the health, safety and security of everyone on this planet – both in the short and long term.”

The acts of advising were performed solely using perlocutions. However, Lee’s advice was given indirectly by providing the positive consequences of greenhouse gas mitigations in example 1 and by quoting others’ suggestions to take action to avoid negative consequences.

5) Warn

Lee performed the act of warning twice in his speech in L.13-18 and L.22-24.

Example 1

“Failure to achieve such immediate emission reductions will give the world the opposite of all this, in addition to the cascading impacts of a worsening climate. The world will suffer from stranded assets, the legacy of “business as usual” investment. The financial sector above all will face greater uncertainty due to risks from climate change and climate change policy. Food security will be threatened as a result of a worsening climate and increased competition for land, arising from the need to use land as a vehicle for mitigation options. The world will face increased risks of losses of biodiversity and ecosystem services, and the sustainable development goals such as no poverty, zero hunger and life on land will be compromised. There will be little room for ecosystem-based adaptation, blue carbon ecosystems, sustainable fisheries and sustainable land management, as these adaptation options are effective only under low-emission pathways.”

Example 2

“Both confirm that climate change will continue to exacerbate poverty and undermine the livelihoods of the poor and marginalized. Both point to the need for immediate reductions in greenhouse gas emissions, if we are to stabilize the climate. They should serve as a wake-up call to us all.”

Lee performed the warning acts by using perlocution and representative illocution to highlight the negative impacts of not taking enough climate actions.

6) Wish

Lee performed the act of wishing only once in L.33 by uttering expressive illocution “It is my hope that this Synthesis Report will also help integrate our understanding of climate change and the policy response.”, he expressed what he would like his report to be used in the future.

7) Request

Lee performed the acts of requesting twice in L.34 and L.37.

Example 1

“This will require inputs from both the science and policy communities.”

Example 2

“Please tell us what you need from us.”

Lee used only a single directive illocution for each request. However, in example 1, the request was made indirectly, while in example 2, Lee directly requested what he needed from the hearers.

8) Promise

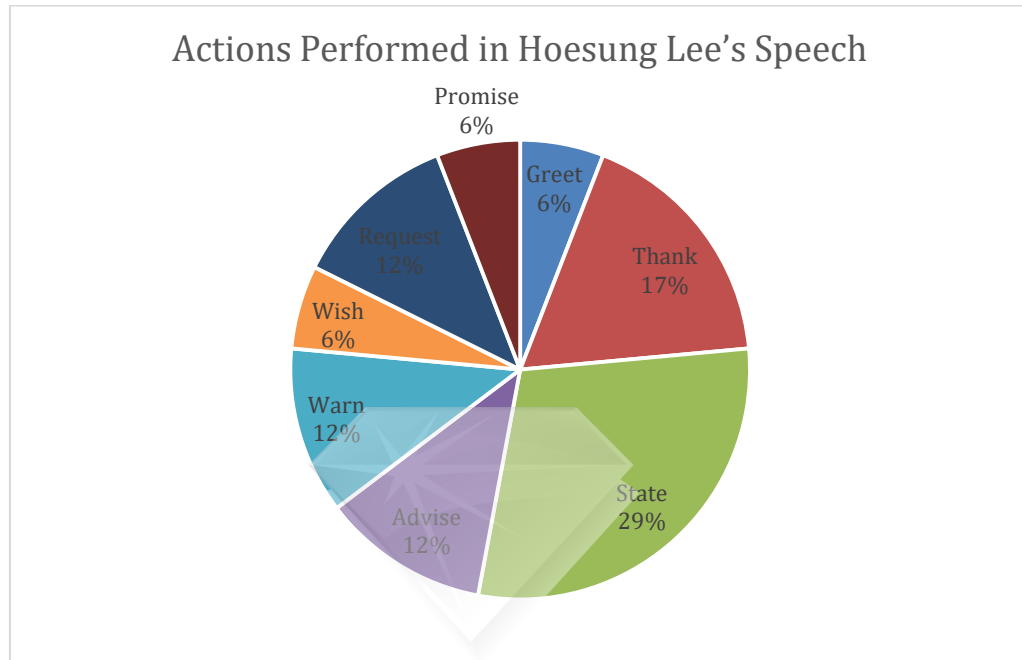
Lee performed the act of promising once in L.38. By uttering commissive illocution “And we, the scientific community, will work with you to mend the disconnect between the scientific understanding of climate change and the realities of climate action”, he promised to work with the hearers.

Table 4.3: Summary of Performed Actions in Hoesung Lee's Speech

Performed Actions	Number of Times	Main Speech Acts	Supporting Speech Acts
Greet	1	Locutionary	
Thank	3	Expressive, Locutionary	
State	5	Representative, Locutionary	Expressive, Commissive
Advise	2	Perlocutionary	
Warn	2	Perlocutionary Representative	
Wish	1	Expressive	
Request	2	Directive	
Promise	1	Commissive	

Looking at Table 4.3 above and Figure 4.19 below, it could be summarized that most of the actions performed in Lee's speech were stating, thanking, advising, warning, and requesting.

Figure 4.19: Actions Performed in Hoesung Lee’s Speech



4.4 Antonio Guterres’s speech at COP27 at Sharm el-Sheikh, Egypt, on 7 November 2022.

4.4.1 Speech Act Usage

4.4.1.1 Qualitative Data Interpretation

The author conducted qualitative speech act analysis of the utterances contained in Antonio Guterres’s speech at COP27 at Sharm el-Sheikh, Egypt, on 7 November 2022 and the findings were demonstrated below.

G.1 “President Al-Sisi, thank you for this wonderful hospitality and for this spectacular organization.” – Expressive

G.2 “COP-27 President Shoukry, your majesties, excellencies, dear friends.” – Locutionary

G.3 “In just days, our planet’s population will cross a new threshold.” – Representative

G.4 “The 8 billionth member of our human family will be born.” – Representative

G.5 “This milestone puts into perspective what this climate conference is all about.” - Representative

G.6 “How will we answer when “Baby 8 Billion” is old enough to ask: What did you do for our world – and for our planet -- when you had the chance?” – Perlocutionary

G.7 “Excellencies,” – Locutionary

G.8 “This UN Climate Conference is a reminder that the answer is in our hands.” – Perlocutionary

G.9 “And the clock is ticking.” – Representative

G.10 “We are in the fight of our lives.” – Representative

G.11 “And we are losing.” – Representative

G.12 “Greenhouse gas emissions keep growing.” – Locutionary

G.13 “Global temperatures keep rising.” – Locutionary

G.14 “And our planet is fast approaching tipping points that will make climate chaos irreversible.” - Representative

G.15 “We are on a highway to climate hell with our foot still on the accelerator.” – Directive

G.16 “The war in Ukraine, other conflicts, have caused so much bloodshed and violence and have had dramatic impacts all over the world.” – Locutionary

G.17 “But we cannot accept that our attention is not focused on climate change.” – Directive

G.18 “We must of course work together to support peace efforts and end the tremendous suffering.” – Directive

G.19 “But climate change is on a different timeline, and a different scale.” – Representative

G.20 “It is the defining issue of our age.” – Representative

G.21 “It is the central challenge of our century.” – Representative

G.22 “It is unacceptable, outrageous and self-defeating to put it on the back burner.” – Expressive

G.23 “Indeed, many of today’s conflicts are linked with growing climate chaos.” – Representative

G.24 “The war in Ukraine has exposed the profound risks of our fossil fuel addiction.” – Representative

G.25 “Today’s crises cannot be an excuse for backsliding or greenwashing.” – Directive

G.26 “If anything, they are a reason for greater urgency, stronger action and effective accountability” – Directive

G.27 “Excellencies,” – Locutionary

G.28 “Human activity is the cause of the climate problem.” – Locutionary

G.29 “So human action must be the solution.” – Representative

G.30 “Action to re-establish ambition.” – Directive

G.31 “And action to rebuild trust – especially between North and South.” – Directive

G.32 “The science is clear: any hope of limiting temperature rise to 1.5 degrees means achieving global net zero emissions by 2050.” – Representative

G.33 “But that 1.5 degree goal is on life support – and the machines are rattling.” – Representative

G.34 “We are getting dangerously close to the point of no return.” – Representative

G.35 “And to avoid that dire fate, all G20 countries must accelerate their transition now – in this decade.” – Directive

G.36 “Developed countries must take the lead.” – Directive

G.37 “But emerging economies are also critical to bending the global emissions curve.” – Representative

G.3 “Last year in Glasgow, I called for coalitions of support for high-emitting emerging economies to accelerate the transition from coal towards renewables.” – Locutionary

G.39 “We are making progress with the Just Energy Transition Partnerships – but much more is needed.” – Representative

G.40 “That is why at the beginning of COP27, I am calling for a historic Pact between developed and emerging economies – a Climate Solidarity Pact.” – Directive

G.41 “A Pact in which all countries make an extra effort to reduce emissions this decade in line with the 1.5-degree goal.” – Directive

G.42 “A Pact in which wealthier countries and International Financial Institutions provide financial and technical assistance to help emerging economies speed their own renewable energy transition.” - Directive

G.43 “A Pact to end dependence on fossil fuels and the building of new coal plants – phasing out coal in OECD countries by 2030 and everywhere else by 2040.” - Directive

G.44 “A Pact that will provide universal, affordable, sustainable energy for all.” – Directive

G.45 “A Pact in which developed and emerging economies unite around a common strategy and combine capacities and resources for the benefit of humankind.” - Directive

G.46 “The two largest economies – the United States and China – have a particular responsibility to join efforts to make this Pact a reality.” - Directive

G.47 “This is our only hope of meeting our climate goals.” – Perlocutionary

G.48 “Humanity has a choice: cooperate or perish.” – Perlocutionary

G.49 “It is either a Climate Solidarity Pact – or a Collective Suicide Pact.” - Perlocutionary

G.50 “Excellencies,” – Locutionary

G.51 “We also desperately need progress on adaptation -- to build resilience to the climate disruption to come.” – Directive

G.52 “Today, some three-and-a-half billion people live in countries highly vulnerable to climate impacts.” - Representative

G.53 “In Glasgow, developed countries promised to double adaptation support to \$40 billion a year by 2025.” – Locutionary

G.54 “We need a roadmap on how this will be delivered.” –

Directive

G.55 “And we must recognize that this is only a first step.” –

Representative

G.56 “Adaptation needs are set to grow to more than \$300 billion dollars a year by 2030.” - Locutionary

G.57 “Half of all climate finance must flow to adaptation.” -

Directive

G.58 “International Financial Institutions and Multilateral Development Banks must change their business model and do their part to scale up adaptation finance and better mobilize private finance to massively invest in climate action.” - Directive

G.59 “Countries and communities must also be able to access it – with finance flowing to identified priorities through efforts like the Adaptation Pipeline Accelerator.” – Directive

G.60 “Excellencies,” – Locutionary

G.61 “At the same time, we must acknowledge a harsh truth: there is no adapting to a growing number of catastrophic events causing enormous suffering around the world.” - Perlocutionary

G.62 “The deadly impacts of climate change are here and now.” – Representative

G.63 “Loss and damage can no longer be swept under the rug.” – Directive

G.64 “It is a moral imperative.” – Perlocutionary

G.65 “It is a fundamental question of international solidarity -- and climate justice.” – Perlocutionary

G.66 “Those who contributed least to the climate crisis are reaping the whirlwind sown by others.” – Representative

G.67 “Many are blindsided by impacts for which they had no warning or means of preparation.” – Representative

G.68 “This is why I am calling for universal early warning systems coverage within five years.” – Directive

G.69 “And it is why I am asking that all governments tax the windfall profits of fossil fuel companies.” – Directive

G.70 “Let’s redirect that money to people struggling with rising food and energy prices and to countries suffering loss and damage caused by the climate crisis.” – Directive

G.71 “On addressing loss and damage, this COP must agree on a clear, time-bound roadmap reflective of the scale and urgency of the challenge.” – Directive

G.72 “This roadmap must deliver effective institutional arrangements for financing.” - Directive

G.73 “Getting concrete results on loss and damage is a litmus test of the commitment of the governments to the success of COP27.” – Perlocutionary

G.74 “Excellencies, Friends,” – Locutionary

G.75 “The good news is that we know what to do and we have the financial and technological tools to get the job done.” - Perlocutionary

G.76 “It is time for nations to come together for implementation.” – Directive

G.77 “It is time for international solidarity across the board.” – Directive

G.78 “Solidarity that respects all human rights and guarantees a safe space for environmental defenders and all actors in society to contribute to our climate response.” – Directive

G.79 “Let’s not forget that the war on nature is in itself a massive violation of human rights.” - Representative

G.80 “We need all hands on deck for faster, bolder climate action.” – Directive

G.81 “A window of opportunity remains open, but only a narrow shaft of light remains.” - Perlocutionary

G.82 “The global climate fight will be won or lost in this crucial decade – on our watch.” – Perlocutionary

G.83 “One thing is certain: those that give up are sure to lose.”

– Perlocutionary

G.84 “So let’s fight together– and let’s win.” – Directive

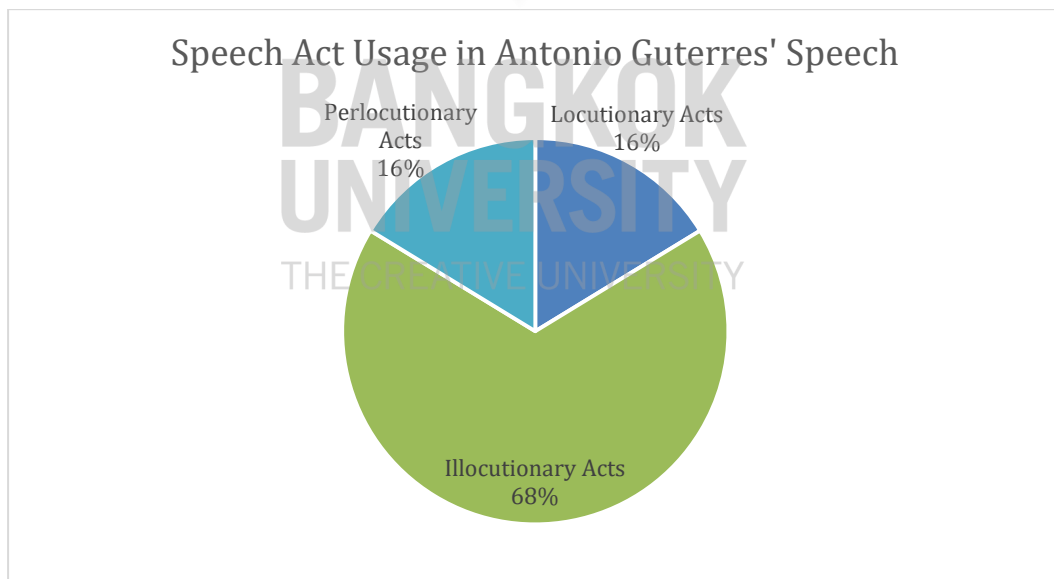
G.85 “For the 8 billion members of our human family – and for generations to come.” – Perlocutionary

G.86 “Thank you.” – Locutionary

4.4.1.2 Quantitative Data Interpretation

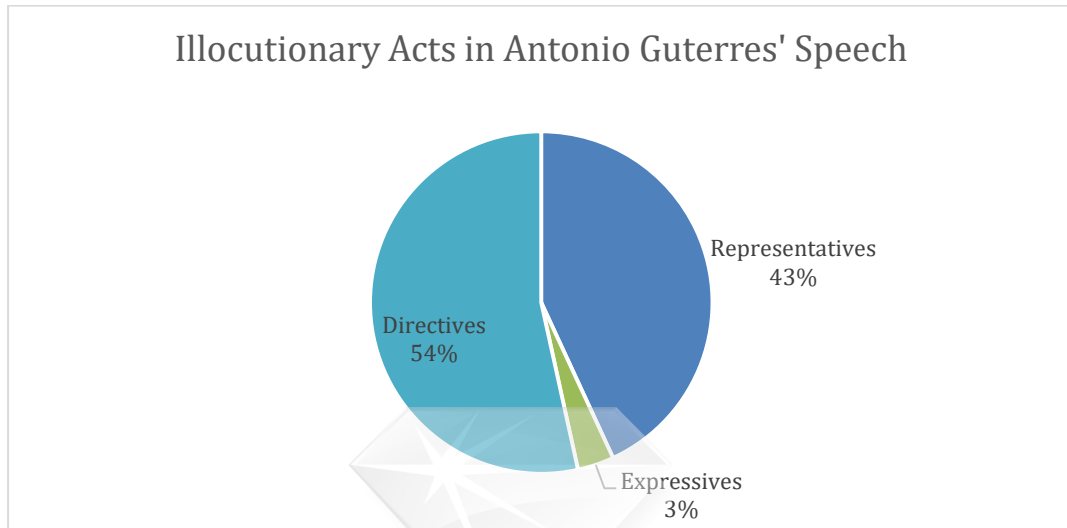
In the quantitative analysis of the data in the above finding, the author found that Antonio Guterres’ speech contained 14 locutions, 58 illocutions, and 14 perlocutions which accounted for 16%, 68%, and 16% respectively as shown in Figure 4.20.

Figure 4.20: Speech Act Usage in Antonio Guterres’ Speech



Among all illocutions used in Guterres’ speech, directive illocutions were most used at 54%, accounting for 31 utterances, followed by representatives at 43%, accounting for 25 utterances, and expressives at 3%, accounting for 2 utterances as shown in Figure 4.21 below.

Figure 4.21: Illocutionary Acts in Antonio Guterres' Speech



Another interesting point is that while Guterres' speech mentioned a lot of technical terms that attending leaders would understand but the general public will not.

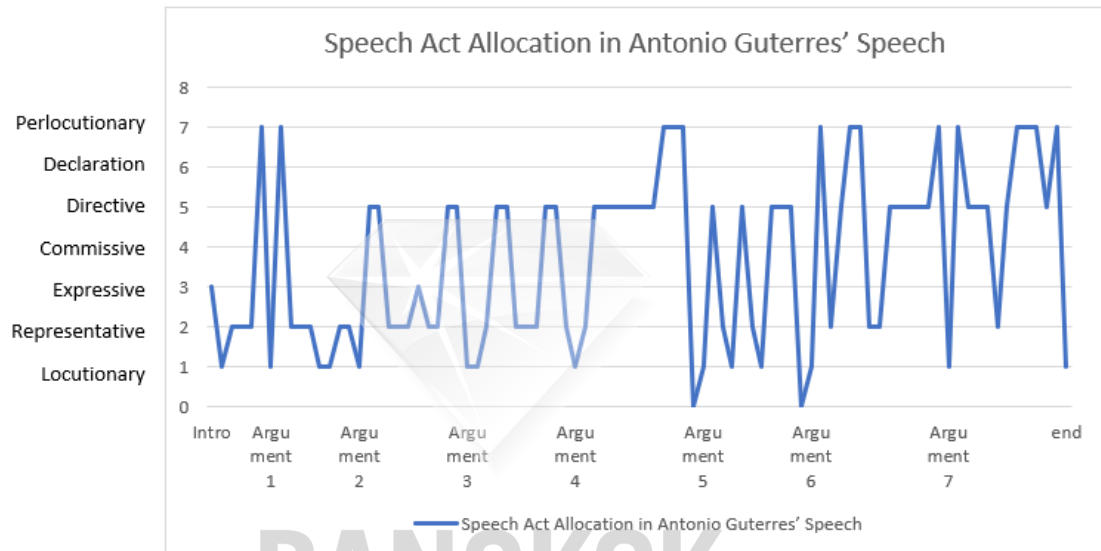
4.4.2 Textual Factors Affecting Climate Communication

Upon allocating Antonio Guterres' speech into a graph based on the expected degree of actions to be performed by speakers and hearers, Figure 4.15 would illustrate the allocation of speech acts in Guterres' speech, and based on the graph above, one could see the structure of Guterres' speech act usage. It should be noted that, in the delivered version, Guterres delivered argument 5 in French, before switching back to English in argument 6.

The graph showed that Guterres always used locutions to begin new arguments before going directly to the bottom lines of what should be done. He also ended arguments with directive locutions or perlocutions. However, in terms of Somerville and Hassol's suggested structure, some of his arguments, such as arguments 1-3, could be said to follow Somerville and Hassol's suggested upward pyramid structure. Guterres' arguments 4-6 did not seem to follow this pattern. Additionally, in terms of vocabulary usage, Guterres used a lot of technical terms used in climate negotiation, which would make it difficult for the general public to

understand, and, thus, was not in accordance with Somerville and Hassol's suggestion.

Figure 4.22: Speech Act Allocation in Antonio Guterres' Speech

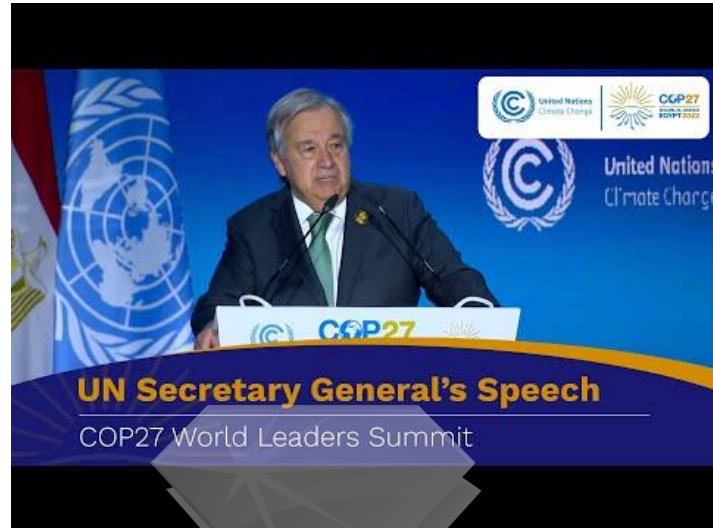


Additionally, with several policies proposed in his speech, Guterres' message-framing technique was not clearly illustrated. While he used the negative impacts to highlight the need for greenhouse gas mitigation in line with Bertolotti and Catellani (2014)'s study, he did not frame the message on renewable energy with its possible positive impacts as they suggested.

4.4.3 Nonverbal Cues

The author analysed nonverbal cues used in Antonio Guterres' speech as shown in the official video of the UN, which can be accessed here:
<https://youtu.be/YAVgd5XsvbE>

Figure 4.23: UN secretary general António Guterres at the opening ceremony



Source: UN Climate Change. (2022). *UN secretary general António Guterres at the opening ceremony of the world leaders summit | #COP27*. Retrieved from <https://youtu.be/YAVgd5XsvbE>.

Looking at Guterres' use of nonverbal cues, it can be seen that he always looked at the audience as well as turned from left to right on several occasions. He did not look down on any script at all. However, in terms of hand gestures, Guterres' hands moved only slightly as his hands mostly held onto the lectern as can be seen in Figure 4.24.

Figure 4.24: Screenshot from Antonio Guterres' Speech



Source: UN Climate Change. (2022). *UN secretary general António Guterres at the opening ceremony of the world leaders summit | #COP27*. Retrieved from <https://youtu.be/YAVgd5XsvbE>.

4.4.4 Performed Actions

In his speech, Guterres performed 9 actions as follows;

1) Thank

Guterres performed the thanking act at the beginning and the end of his speech in G.1 and G.86, using expressive illocution of “President Al-Sisi, thank you for this wonderful hospitality and for this spectacular organization.” And a simple locution of “Thank you” Respectively.

2) Greet

With a formal locution of “COP-27 President Shoukry, your majesties, excellencies, dear friends” in G.2, Guterres performed the customary act of greeting to the hearers.

3) State

In Guterres' speech, the acts of stating something were performed 3 times in G.2-5, G.23-24, G.38-39

Example 1

“Indeed, many of today's conflicts are linked with growing climate chaos. The war in Ukraine has exposed the profound risks of our fossil fuel addiction.”

Example 2

“Last year in Glasgow, I called for coalitions of support for high-emitting emerging economies to accelerate the transition from coal towards renewables. We are making progress with the Just Energy Transition Partnerships – but much more is needed.”

In his speech, Guterres used representative illocution and locutions to perform the stating acts.

4) Challenge

The act of challenging was performed once in Guterres’ speech. By using the perlocution of “How will we answer when “Baby 8 Billion” is old enough to ask: What did you do for our world – and for our planet -- when you had the chance?”, he challenged the hearers to do something for the next generations.

5) Warn

In Guterres’ speech, the acts of warning something were performed 3 times in G.8-15, G.32-34, and G. 61-62.

Example 1

“This UN Climate Conference is a reminder that the answer is in our hands. And the clock is ticking. We are in the fight of our lives. And we are losing. Greenhouse gas emissions keep growing. Global temperatures keep rising. And our planet is fast approaching tipping points that will make climate chaos irreversible. We are on a highway to climate hell with our foot still on the accelerator.”

Example 2

“The science is clear: any hope of limiting temperature rise to 1.5 degrees means achieving global net zero emissions by 2050. But that 1.5 degree goal is on life support – and the machines are rattling. We are getting dangerously close to the point of no return.”

While Guterres most used representative illocutions to perform the warning act, he also used locutions and perlocutions to support the warning as seen in Example 1.

6) Reprimand

While the act of reprimanding was performed once in Guterres' speech, he used a lot of utterances in G.16-22.

Example 1

“The war in Ukraine, other conflicts, have caused so much bloodshed and violence and have had dramatic impacts all over the world. But we cannot accept that our attention is not focused on climate change. We must of course work together to support peace efforts and end the tremendous suffering. But climate change is on a different timeline, and a different scale. It is the defining issue of our age. It is the central challenge of our century. It is unacceptable, outrageous and self-defeating to put it on the back burner.”

As seen in example 1 above, the exact wording of the reprimand occurred only in the last sentences, but Guterres used locutions as well as directive and representative illocutions to support his reprimand.

7) Advise

In Guterres' speech, the acts of advising were performed 3 times in G.25-26, G.28-31, and G.51-55.

Example 1

“Today's crises cannot be an excuse for backsliding or greenwashing. If anything, they are a reason for greater urgency, stronger action and effective accountability”

Example 2

“Human activity is the cause of the climate problem. So human action must be the solution. Action to re-establish ambition. And action to rebuild trust – especially between North and South.”

Guterres performed the advising acts mainly using directive illocutions. However, as seen in example 2, locutions and representative illocutions could also be used to support the performance of the actions.

8) Introduce a new idea

In Guterres' speech, he used the locution of “Excellencies” and “Excellencies, Friends” 4 times when he introduced a new idea into his speech, as seen in G.27, G.50, G.60, and G.74

9) Request

In Guterres' speech, the acts of requesting the hearers to do something were performed 10 times in G.35-37, G.40-49, G.56-59, G.63-66, G.67-68, G.69-70, G.71-73, G.75-77, G.78-79, and G.80-85. It should be noted that while some utterances were made simultaneously, the requests were made on different issues, and thus, counted separately.

Example 1

“Adaptation needs are set to grow to more than \$300 billion dollars a year by 2030. Half of all climate finance must flow to adaptation. International Financial Institutions and Multilateral Development Banks must change their business model and do their part to scale up adaptation finance and better mobilize private finance to massively invest in climate action.

Countries and communities must also be able to access it – with finance flowing to identified priorities through efforts like the Adaptation Pipeline Accelerator.”

Example 2

“Many are blindsided by impacts for which they had no warning or means of preparation. This is why I am calling for universal early warning systems coverage within five years.”

As seen in the examples above, while the main utterances used to perform the requesting acts were directive and perlocutionary respectively, locutions and representative illocutions could also be used to support the main utterances.

Table 4.4: Summary of Performed Actions in Antonio Guterres' Speech

Performed Actions	Number of Times	Main Speech Acts	Supporting Speech Acts
Thank	2	Expressive, Locutionary	
Greet	1	Locutionary	

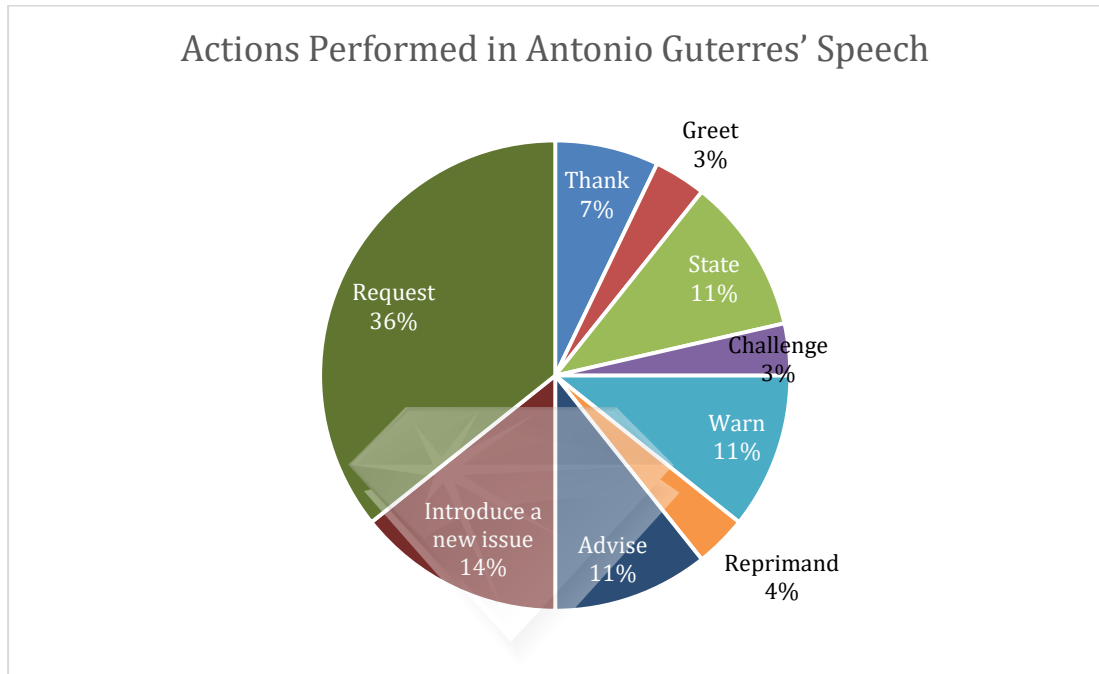
(Continued)

Table 4.4 (Continued): Summary of Performed Actions in Antonio Guterres' Speech

Performed Actions	Number of Times	Main Speech Acts	Supporting Speech Acts
State	3	Representative, Locutionary	
Challenge	1	Perlocutionary	
Warn	3	Representative	Locutionary, Perlocutionary
Reprimand	1	Expressive	Directive, Representative, Locutionary
Advise	3	Directive,	Representative, Locutionary,
Introduce a new issue	4	Locutionary	
Request	10	Directive, Perlocutionary	Representative, Locutionary

Looking at Table 4.4 above and Figure 4.25 below, it could be summarized that most of the actions performed in Guterres's speech were requesting, introducing a new issue, advising, warning, and stating.

Figure 4.25: Actions performed in Antonio Guterres' Speech



4.5 Comparative Analysis

Based on the above outcome, the 4 selected speeches could be comparatively analysed in various aspects demonstrated below;

4.5.1 Speech Acts Usage

Looking at Figure 4.26, It could be seen that in all 4 groups, illocutions were most used in all of the speeches. Additionally, the equal ratios between locutions and perlocutions in each speech were the same, with a slightly different ratio in Lee's speech.

Figure 4.26: Comparative Speech Act Usage among 4 Speakers

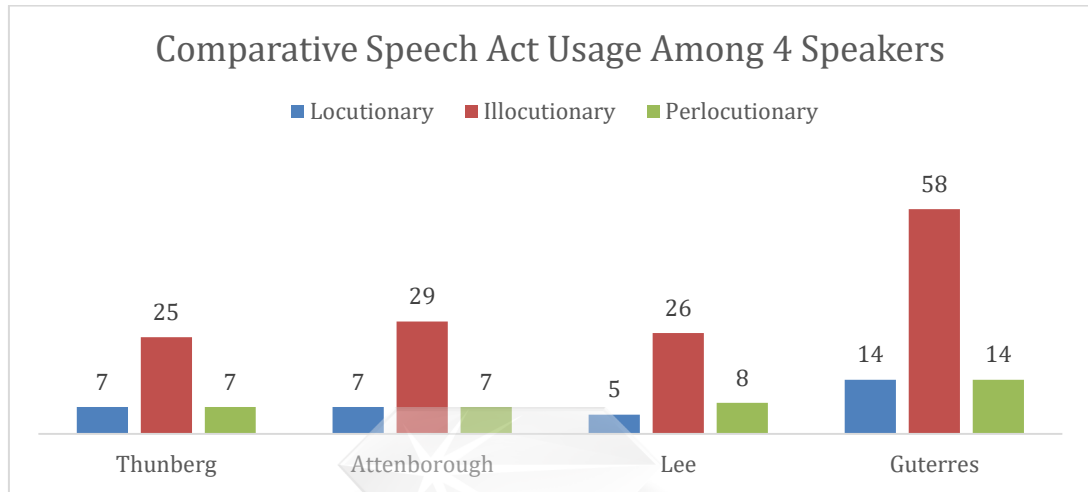
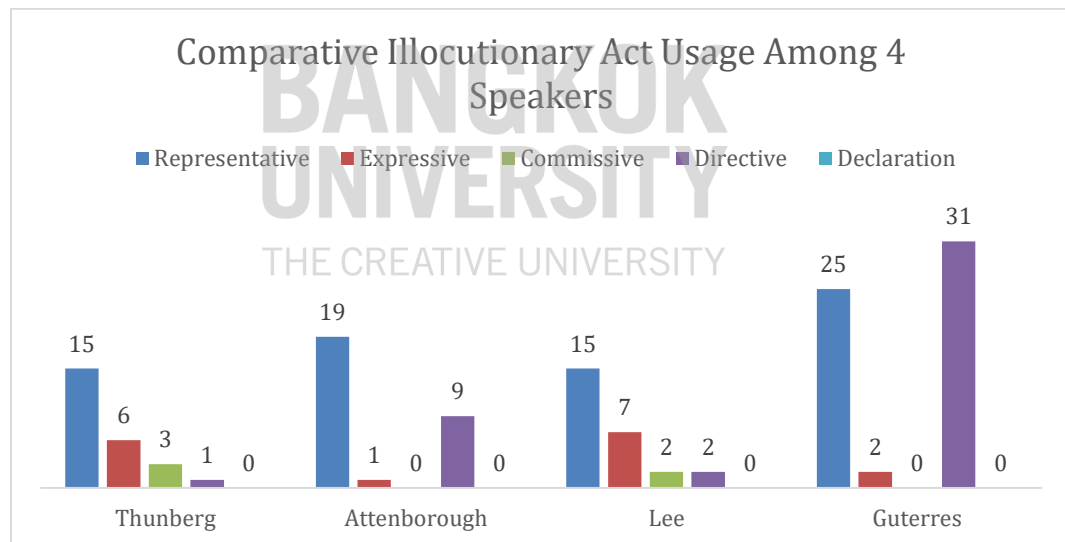


Figure 4.27: Comparative Illocutionary Act Usage among 4 Speakers

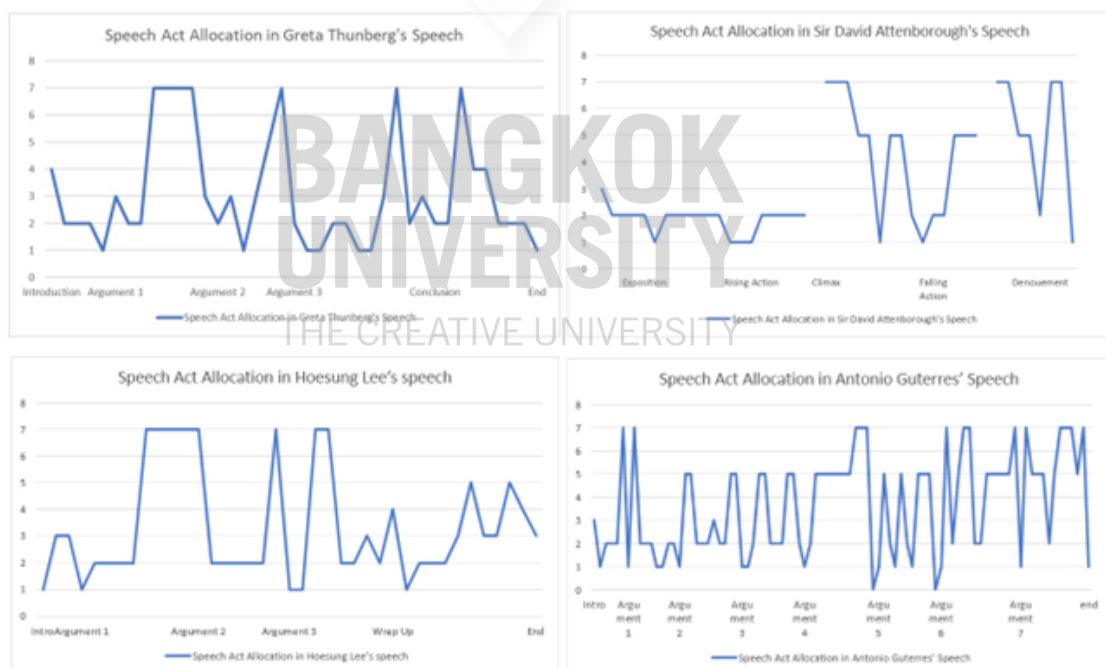


Examining the use of illocutionary acts, it could be found that representative illocutions were used a lot in all speakers, ranking highest in 3 and second-highest in 1. Similarly, expressive illocutions were sporadically used in all 4 speakers. Directive illocutions were used very little or not at all in all the 4 speeches. However, there was a great difference in the number of directive illocutions used among the 4 groups.

4.5.2 Comparative Textual Factors Affecting Climate Communication

Looking at the speech act allocations and structures used in the 4 speeches, as shown in Figure 4.28, it could be seen that Attenborough's speech act allocation and structure was the most different with the use of narrative paradigm in the speech instead of more academic writing of presenting several arguments in the speech like other speakers. While at a glance, the allocations of Lee's and Guterres' may look similar, within the argument, Guterres was the most consistent in the ways he organized each argument. Thus, among all 4, it could be said that Somerville and Hassol's suggestion for structuring climate communication was used frequently only in the speech of Guterres'.

Figure 4.28: Comparative Speech Act Allocation Analysis



Continuing on Somerville and Hassol's suggestion on the usage of non-confusing words and easy-to-understand terms for climate communications, Attenborough's speech was the only one that used easy-to-understand vocabulary and limited technical terms.

In terms of message-framing, while all 4 speakers framed greenhouse gas mitigation messages with negative consequences of not doing so, in accordance with Bertolotti and Catellani (2014)'s suggestion, only Attenborough framed messages promoting renewable energy and climate-friendly positively as suggested.

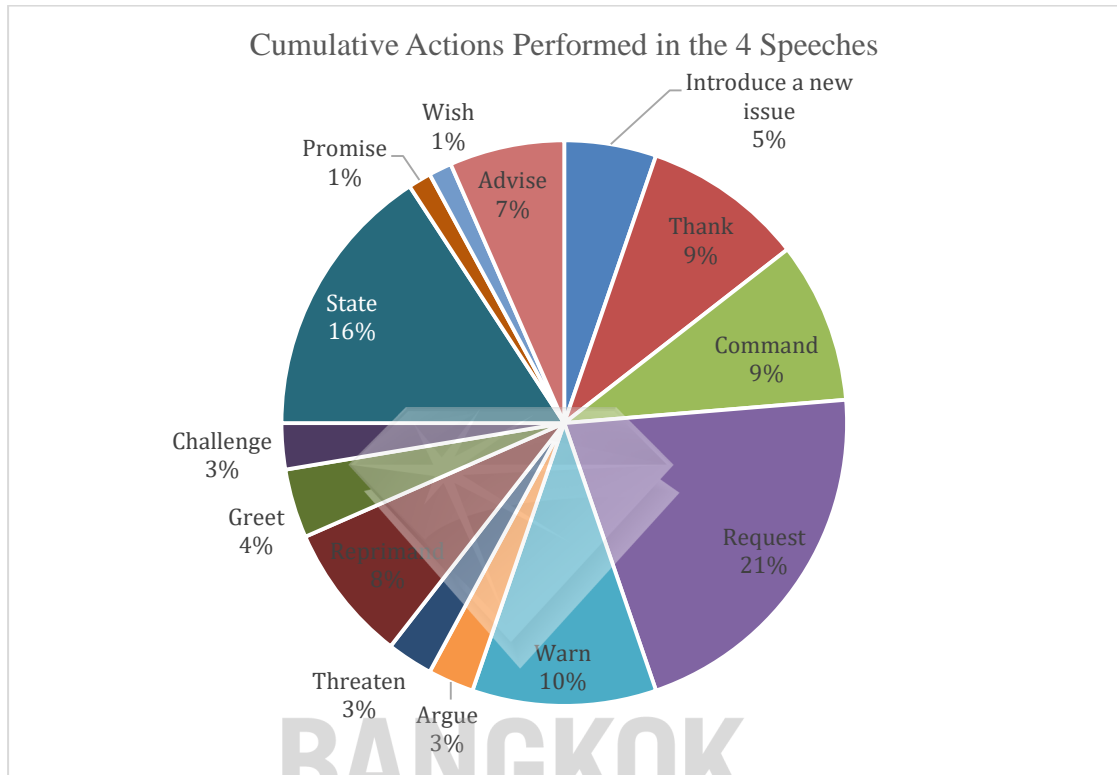
4.5.3 Comparative Use of Nonverbal Cues

While all the 4 speakers spoke with conviction and clear enunciation, the effectiveness of their performances varied. While Attenborough and Guterres were most animated, not looking into a script, looking around the room, and changing facial expressions frequently, Attenborough used more hand gestures in his speech giving. He also used video as a visual aid. Thunberg looked at the script occasionally, but she maintained a very serious expression throughout her speech and used some hand gestures. However, while Lee did look from left to right around the room, he looked down a lot and sometimes stammered and paused mid-sentence which affected his performance. Additionally, he did not have the opportunity to use hand gestures, as his lectern was set up higher than in other settings.

4.5.4 Comparative Performed Actions

Among all the speeches, a total of 14 actions were performed as seen in Figure 4.29.

Figure 4.29: Cumulative Actions Performed in the 4 Speeches



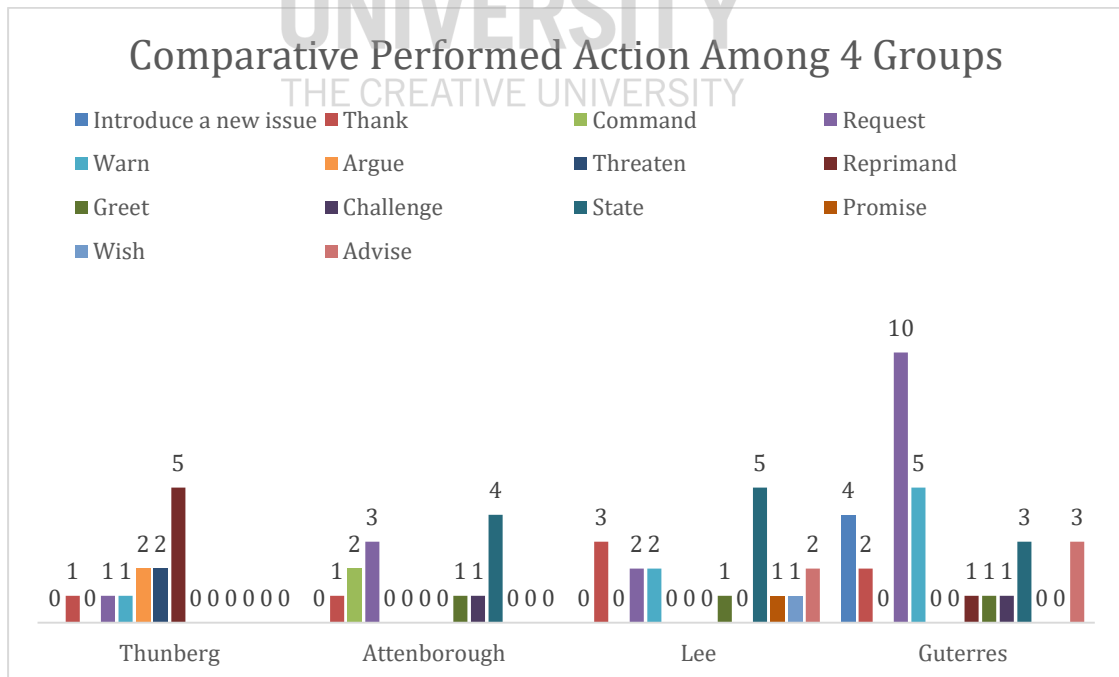
Looking at Figure 4.29, it could be found that the acts most performed in climate speeches were requesting, stating, and warning. However, looking at Table 4.5 and Figure 4.30 below, apart from traditional thanking, requesting was the only act that was performed by all groups. Therefore, it could be summarized that while a climate speech giver may choose to perform various actions, it is essential to perform a requesting act to directly address hearers and advocate for climate actions.

Table 4.5: Performed Act Distribution among 4 Groups

	Introduce a new issue	Thank	Command	Request	Warn	Argue	Threaten
Thunberg	0	1	0	1	1	2	2
Attenborough	0	1	2	3	0	0	0
Lee	0	3	0	2	2	0	0
Guterres	0	2	0	10	5	0	0

	Reprimand	Greet	Challenge	State	Promise	Wish	Advise
Thunberg	5	0	0	0	0	0	0
Attenborough	0	1	1	4	0	0	0
Lee	0	1	0	5	1	1	2
Guterres	1	1	1	3	0	0	3

Figure 4.30: Comparative Performed Action among 4 Groups



CHAPTER 5

FINDINGS AND DISCUSSIONS

In Chapter 1, the author had set 2 research objectives which are “to explore and compare speech act usage in climate speeches given by the representatives of 4 groups; youths, media, academia, and politicians.” And “to identify possible ways to use speech acts to enhance climate communication strategy”. In this chapter, the author would like to summarize and present the outcome of the study on “Speech Act Analysis of Climate Speeches in Various UN Climate Conferences.” based on those objectives as follows;

5.1 Findings

5.1.1 To explore and compare speech act usage in climate speeches given by the representatives of 4 groups; youths, media, academia, and politicians.

Exploring the selected speeches, the characteristics of speech acts used in the 4 groups were as followed;

1) Youth Activists: in the selected speech of Greta Thunberg, representative illocutions accounted for more than half of illocutions, followed by expressive, commissive and directive. The 4 illocutions, perlocutions and locutions were used to performed 6 actions; reprimanding, threatening, arguing, warning, requesting, and thanking respectively. While Thunberg structured her speech into different arguments, there was no clear pattern in her speech act allocation. However, she effectively used nonverbal cues to enhance her speech act usage, especially in expressing her anger and dissatisfaction.

2) Media: in the selected speech of Sir David Attenborough, representative illocutions were used in about 2/3 of all illocutionary acts, followed by directives and expressive. The 3 illocutions along with perlocutions and locutions were used to performed 6 acts; stating, requesting, commanding, challenging, greeting, and thanking respectively. The speech act allocation in Attenborough’s speech aligned with his narrative storytelling structure of his speech, with the high frequency of representative act usage in the first half of his speech, before the climax. Attenborough also incorporated nonverbal cues in his speech delivery. In addition to

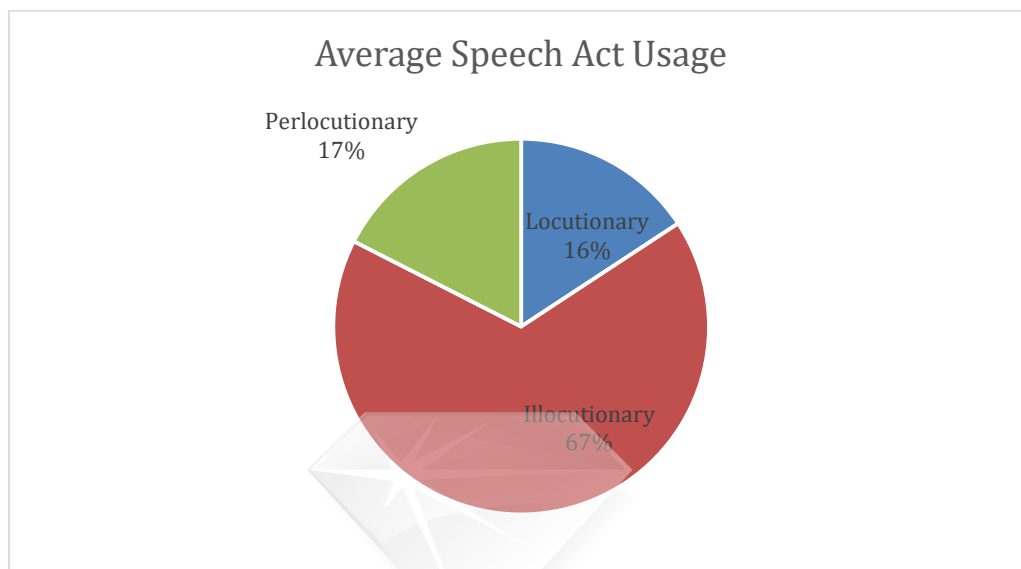
traditional nonverbal cues such as facial expressions and hand gestures, Attenborough used audiovisuals to support his speech.

3) Academia: in the selected speech of Hoesung Lee, representative illocutions were used most frequently followed by expressive, commissive, and directives. Lee used the 4 illocutions along with locutions and perlocutions to perform 8 acts; stating, thanking, advising, warning, requesting, promising, wishing, and greeting respectively. Similar to Thunberg, while Lee structured his speech into different arguments, there was no clear pattern in his speech act allocation in each argument. However, while he was able to perform more action than Greta and Attenborough, unlike them, he did not effectively use nonverbal cues to support his performance.

4) Politicians: in the selected speech of Antonio Guterres, he used mostly directive and representative illocutions, with only 2 uses of expressive. However, despite using only 3 types of illocutionary acts in combination with locutions and perlocutions. He was able to perform 9 actions, which was the highest number among the 4. The actions that Guterres performed were requesting, warning, introducing a new issue, stating, advising, thanking, reprimanding, challenging, and greeting respectively. Similar to Thunberg and Lee, Guterres structured his speech into different arguments. However, there was a clear pattern that he used directive illocutions in the beginning of each argument, reflecting the upward pyramid of public climate communication structure proposed by Somerville and Hassol. Guterres' speech delivery performance was also enhanced by his effective use of nonverbal cues. While he did not use much hand gestures, his facial expressions were very animated and able to convince hearers of his sincerity.

Comparing between each speech, it was found, while all types of speech acts were used, illocutions were most used in all climate speeches between 64-68%. Locutions and perlocutions, while essential, were not used more than 13-18% and 16-20% respectively. Therefore, the average speech act usage in climate would be 15.75% for locutions, 66.75% for illocutions, and 17.5% for perlocutions as shown in Figure 5.1.

Figure 5.1: Average Speech Act Usage



Thus, it could be summarized that most of utterances used in climate speeches were used to perform nonliteral actions. In this study, the following 14 actions could be performed in the selected climate speeches (1) command, (2) request, (3) challenge, (4) advise, (5) warn, (6) argue, (7) threaten, (8) reprimand, (9) state, (10) thank, (11) greet, (12) introduce a new issue, (13) promise and (14) wish. However, the act of requesting was the only act performed by all speakers.

Additionally, while speakers may use the same speech acts to perform certain tasks as shown in Table 5.1.

Table 5.1: Similar Performances of Actions

Action	Thank	Request	Warn	Reprimand
Speech Act	Locution, Expressive	Directive, Perlocution	Perlocution, Representative	Expressive
Action	Greet	Challenge	State	Advise
Speech Act	Locution	Perlocution, Directive	Representative, Locution	Perlocution, Directive

For similarity, all speakers used directives and perlocutions as the main speech acts for requesting. In addition to directive illocutions and perlocutions, Attenborough also used representative illocution to support his performances of requesting acts, while Guterres used both locutions and representative illocutions to support his requests. Similarly, while representative illocutions and locutions were mainly used in performing the acts of stating, Lee was the only speaker who used expressive and commissive illocutions to support his stating acts. The act of advising was the one with the biggest difference among speakers. With Attenborough and Guterres as the only speakers to perform this act, they approached the act with different methods. Attenborough used perlocutions to indirectly advise hearers, while Guterres directly used directive illocution to advise them.

With such a wide range of actions that were performed and a wide range of methods to perform an action, it was not surprising that the illocutionary act usage varied between speakers.

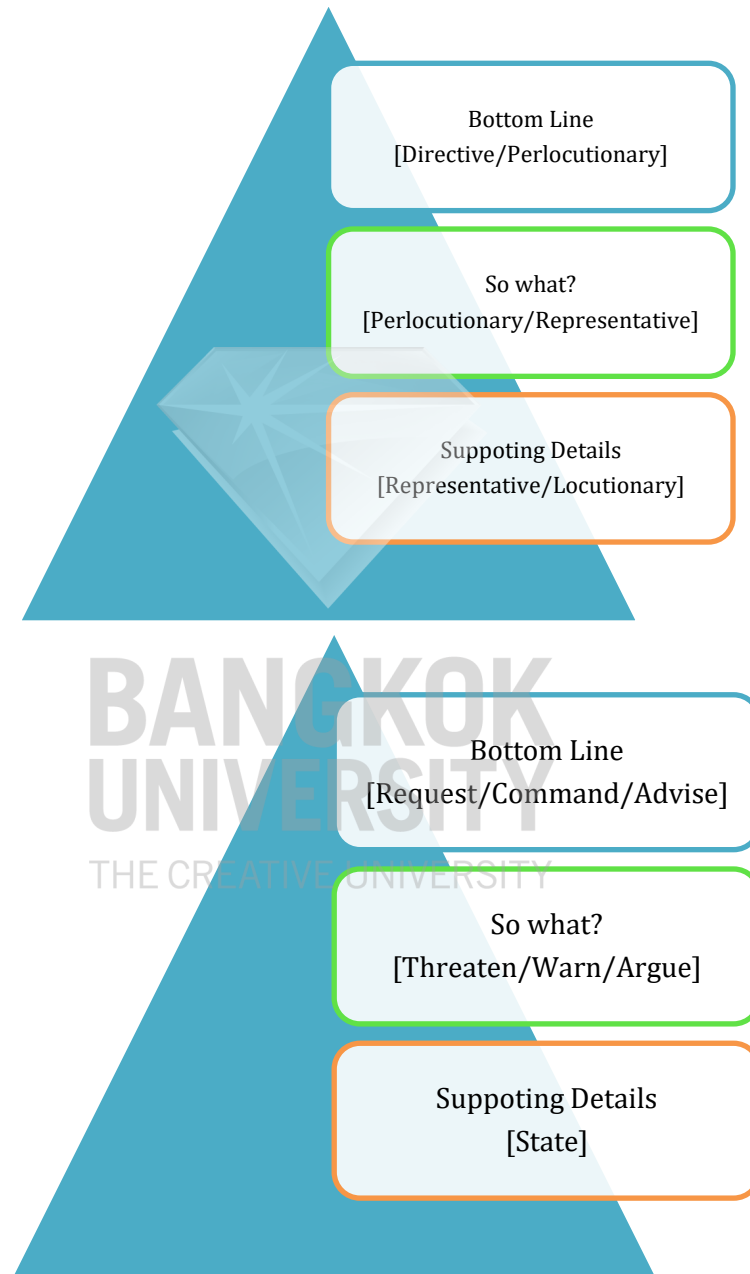
Another factor affecting speakers' different illocutionary act usage was a speech's structure. The clearest example would be the comparison between Attenborough's narrative structure and Guterres' upward pyramid structure. While Attenborough advocate for climate actions to be taken, and used much more directive illocution compared to Thunberg and Lee, his directive illocution usage of 31% was much lower than Guterres' 54%. This could be partly due to the fact that Guterres started all his argument with the bottom lines of directive illocutions in accordance with Somerville and Hassol's suggestion.

5.1.2 To identify possible ways to use speech acts to enhance climate communication strategy.

In addition to using speech acts to perform a wide range of actions in speech climate, speech acts could also be used to enhance the overall effectiveness of a climate speech.

Looking at the finding above, it could be suggested that Somerville and Hassol's strategy for climate communication structure could be improved by applying speech acts in each part of the pyramid to ensure that climate communication could be effective as seen in Figure 5.2.

Figure 5.2: Possible Application of Speech Acts in Somerville and Hassol's Suggested Model



Additionally, climate communications could also be enhanced with the joint application of speech acts and nonverbal cues. As in the case of Thunberg, while she had to occasionally look down at a script, her dramatic facial expressions matched her use of expressive illocutions. Attenborough was the speaker that utilized nonverbal

cues the most, in addition to using hand gestures to emphasize his directive illocutions and perlocutions, he also used video to accompany his use of representative illocutions and locutions, which otherwise would be very static.

5.2 Discussions

5.2.1 To explore and compare speech act usage in climate speeches given by the representatives of 4 groups; youths, media, academia, and politicians.

The author found that the use of 4 illocutionary acts of representatives, expressive, commissive, and directives, in the selected climate speeches matched the types of illocutionary acts found in Putri and Putu (2016)'s study on "Illocutionary Act in the Speech Act of Hillary Clinton on Climate Change in Miami, 11th October 2016" (Putri and Putu, 2016). Thus, this alignment indicated that representative, expressive, commissive, and directive illocutions could be used in climate speeches in various types of setting. In terms of performed actions, among the 14 performed acts in the selected climate speeches, 13 match the findings of Angkursinthana (2009) and Khraiboot and Kingkham (2016), except for the use of a speech act to introduce a new issue in the speech through using "excellencies". Nevertheless, this practice has been commonly used by political leaders and speech givers in political settings.

It seemed that the position of a speaker also affected the performed actions, and, thus, speech act usage, in a climate speech. In the selected 4 speeches, only Guterres and Lee performed advising acts, this could be due to their position as the UN Secretary-General, who was aware of the negotiation dynamic, and the Chair of the Intergovernmental Panel on Climate Change, who was in charge of the scientific-arms of the global climate change process. Similarly, while Lee's role was to provide scientific updates on climate change, the UN had more power in shaping the global climate agenda, thus, Guterres was able to perform many requesting acts through the use of directive illocutions. Thunberg, on the other hand, used 1 directive illocutionary act "Because if you really understood the situation and still kept on failing to act, then you would be evil.", which was very indirect. This may be due to the fact that Thunberg, as a climate youth activist, had no authority over governments, so could not directly control their action.

In this connection, based on the roles of a speaker, representatives from different groups could focus on different combinations of illocutions.

For youth activists, apart from using representatives to describe the state of affairs, it would be useful to focus on the use of expressive to display the speaker's emotions and create corresponding emotions in hearers. Commissive illocutions could also be used in activists to ensure hearers' accountability.

For media, the focus should be the representatives to inform hearers of the state of the affairs, as well as directives as a guidance of what hearers should do. However, as media has no authority over hearers, it may be useful to word directive illocutions nicely, such as using "we".

For academia, while the focus should be on representative illocutions to describe scientific findings, expressive illocutions could also be used to put emphasis on the urgency of the climate crisis. This is in line with Paul L. Franco's finding, in which he suggested scientists use speech acts to secure public understanding. (Franco, 2019).

For politicians, especially in speeches guiding public actions, the focus of the speech should be on directive illocutions. Nevertheless, to ensure public understanding, representative illocution should also be used.

5.2.2 To identify possible ways to use speech acts to enhance climate communication strategy.

Previously, Ahmed and Amir (2021) found that the allocation of illocutions could be used to determine the character of a political speech (Ahmed & Amir, 2021). In this study, the author further found that the allocation of speech acts in text could be used to outline the content structure. Attenborough's use of the narrative storytelling method is clearly illustrated in his speech act allocation. It seems that the allocation of speech acts could be used to reaffirm the structural coherence of climate communication strategy, as well as a general communication strategy. This finding would be very useful for both a narrative storytelling structure as well as an upward pyramid structure.

Based on the work of Leongkamchorn (2010), in which he described the physical appearances of a fictional character fulfilling felicity conditions, the author further found that nonverbal cues could also be used to fulfill some felicity conditions

and promote speech act effectiveness as seen in Thunberg's use of expressive illocutions of "How dare you!" along with her strong facial expressions.

On the other hand, Attenborough used perlocutions in a quiet and inspiring way. Most of his perlocutionary acts such as "It comes down to this, the people alive now are the generation to come, will look at this conference and consider one thing: Did that number stop rising and start to drop as a result of commitments made here?", "There's every reason to believe that the answer can be yes.", and "In your lifetimes, you could and should witness a wonderful recovery.", along with his tone of voice and video presentation, aimed to inspire leaders presented at COP26 to act and save the world from the climate change. Additionally, Attenborough barely harshly blamed anyone in his speech, unlike Thunberg and Guterres who put leaders on the spot for their inaction, Attenborough opted to give them the opportunity to be the hero and save the world through their actions. This could be seen in his directive illocutionary acts in which he used "we" to engage with the leaders in the audience and highlighted the need for the collective effort by saying "If working apart, we are a force powerful enough to destabilise our planet." Therefore, despite the direct way Attenborough used directive illocution, his speech did not sound like a command or an order to the hearer and had less risk of causing negative emotion in hearers.

Nevertheless, one should also be careful in using speech acts without appropriate nonverbal cues. In the case of Lee, most of his performed actions were acts of stating, which made him use representative illocutions most frequently in his speech. However, he had to look down at the script which led to a non-smooth delivery of speech. This, in combination with his use of long technical terms, made his speech less engaging than the other three.

To summarize, the author would like to propose possible guidelines for speech act application in climate speeches as follows;

- 1) Examining the speech structure and incorporating appropriate speech acts in the speech.

If the speech structure consists of arguments or issues. In addition to using locutions such as "excellencies" or other positions of hearers to introduce each argument or issue. Directive illocutions or perlocutions should be incorporated at the beginning of each section to highlight the bottom line or the actions that should be

taken, representative illocutions and locutions should be used in providing supporting details.

If the speech is structured in a storytelling format, the exposition and rising action should use a lot of locutions and representative perlocutions. Directive illocutions and perlocutions should be used in the climax and denouement.

2) Choosing performed actions and applying appropriate speech acts in the speech.

There is a wide range of actions that could be performed in climate speeches. However, to ensure that the hearers will take climate action and contribute to addressing the climate crisis. A climate speech should always consist of the requesting act. This should be done using directive illocutions and perlocutions.

Other chosen actions could be based on the position of the speaker. Activists, especially youth activists or other speakers wishing to criticize an authority's inefficient climate actions, could perform the act of warning, through representative illocutions and perlocutions, and the act of reprimanding using expressive.

For academia wishing to address an authority or politicians advocating for climate policy, performing advising acts using directive illocutions and perlocutions should enhance their speeches' effectiveness.

3) Using speech acts to better convey or invoke emotions in climate speeches.

Emotions could support the delivery of climate speeches, and speech acts could be used to convey or invoke emotion. Expressing anger or dissatisfaction could be helpful for a climate speech that focuses on criticizing the hearers' inaction, and it could be done through the use of expressive illocutions. On the other hand, indirect directive illocutions, such as using "we" in the directives, could also soften the tone of a climate speech and create a sense of united action among the speaker and the hearers.

4) Using nonverbal cues to support speech act application in climate speeches.

Nonverbal cues could also improve the benefits of speech acts in climate speeches, and this is particularly important if a speaker focused on using speech acts to express emotions. By expressing strong facial expressions to

accompany expressive illocutions can increase the sincerity of a speaker. Looking down very frequently at a script, on the other hand, could reduce the efficiency of speech acts, so a speaker should always try to practice before delivering a speech. Additionally, if a climate speech uses a lot of representative illocutions and locutions simultaneously, a speaker may keep the hearers engaged by using animated facial expressions, hand gestures, or even audiovisual aids.

5.3 Suggestions for Application

The author suggested that the outcome of this study be used by anyone aiming to draft a speech on climate change, or other environmental issues. Examples of various groups had been shown, both having their advantages and disadvantages, which a speech drafter should select based on the speaker's role and position. Different types of speech acts could be applied as the major focus of each part of a speech. It should also be noted that a speech giver should also ensure the coherence between nonverbal cues and speech act usage, as their harmony could further enhance the effect of the speech.

Additionally, in addition to climate speech, the findings in this study could also be applied to other textual communication methods such as articles, news, and advocacy campaign.

5.4 Suggestions for Further Study

5.4.1 This study was part of an effort to improve the effectiveness of climate speeches. However, there are other modes for climate communications such as audiovisual. The author would like to suggest that further studies be conducted on the use of speech acts in audiovisuals.

5.4.2 The study focused only on climate speeches. However, there were other complex global emergencies, and it would benefit the international community if there was a further study on using speech acts to advocate for other issues.

BIBLIOGRAPHY

- Ahmed, H. R., & Amir, S. (2021). Speech act analysis of the Joseph R. Biden, Jr.'s inaugural address on 20th of January 2021 as the 46th president of the USA. *Electronic Research Journal of Social Sciences and Humanities*, 3(1), 43-55.
- Austin, J. L. (1962). *How to do things with words*. Oxford University.
- Bertolotti, M., & Catellani, P. (2014). Effects of message framing in policy communication on climate change. *European Journal of Social Psychology*, 44(5), 474–486.
- COP26 YouTube Channel. (2021). *Sir David Attenborough's address to world leaders at COP26*. Retrieved from <https://youtube/qjq4VWdZhq8>.
- Dhiansawadjij, D. (2022). The media literacy of urban people in climate change news. *Journal of Journalism*, 15(2), 9-57.
- Deloitte Economics Institute. (2022). *The turning point - A Global Summary*. Retrieved from <https://www.deloitte.com/content/dam/assets-shared/legacy/docs/gx-global-turning-point-report.pdf>.
- Demir, M. (2011). Using nonverbal communication in politics. *Canadian Social Science*, 7(5), 1-14.
- Eckstein, D., Künzel, V., & Schäfer, L. (2021). *Global climate risk index 2021*. Bonn: Germanwatch.
- Franco, P. L. (2019). Speech act theory & multiple aims. *Philosophy of Science*, 86(5), 1-18.
- Gentry, W. A., & Kuhnert, K. W. (2007). Sending signals: Nonverbal communication can speak volumes. *Leadership in Action*, 27(5), 3-7.
- Khraiboot, A., & Kingkham, W. (2016). Speech acts in patriotic songs during B.E. 2510-2550. *Nakhon Phanom University Journal*, 6(1), 61-69.
- Klinkajorn, N. (2014). *Strategies for translating the speech acts of directives, rejections, and inquiries in English dialogues into Thai*. Unpublished doctoral dissertation, Chulalongkorn University, Thailand.
- Kone, N. (2020). Speech acts in UN treaties: A pragmatic perspective. *Open Journal of Modern Linguistics*, 10(6), 813-827.

- Krishnasuvarna, A. (2022). Cooperative Communication for Building Youth Awareness Network on Environmental Issues. *Executive Journal*, 42(1), 95-114.
- Kurzon, D. (1998). The speech act status of incitement: Perlocutionary acts revisited. *Journal of Pragmatics*, 29(5), 571-596.
- Lee, H. (2019). *Opening of COP 25, Madrid, Monday 2 December 2019 Statement by IPCC Chair Hoesung Lee* [Speech transcript]. Retrieved from <https://www.ipcc.ch/site/assets/uploads/2019/12/IPCC-Chair-opening-COP25.pdf>.
- Leongkamchorn, N. (2010). *Speech act analysis of British and American poetry*. Unpublished master's thesis, National Institute of Development Administration, Thailand.
- Mabaquiao, N. (2018). Speech act theory: From Austin to Searle. *Augustinian: A Journal for Humanities, Social Sciences, Business, and Education*, 19(1), 35-45.
- Man, H., & Sereenonchai, S. (2020). Communication of the environmental organizations: Comparison of air pollution control between China and Thailand. *Panyapiwat Journal*, 12(3), 162-179.
- Naphat Angkursinthana, N. (2009). A comparative study of indirect speech in conversations in Thai novels from different periods. *Humanities Journal*, 16(2), 147-159.
- Nowicki, S., Duke, M. P., & Martin, E. A. (1996). *Teaching your child the language of social success*. Atlanta: Holiday House.
- NPR Staff. (2019). *Transcript: Greta Thunberg's speech at the U.N. climate action summit*. Retrieved from <https://www.npr.org/2019/09/23/763452863/transcript-greta-thunbergs-speech-at-the-u-n-climate-action-summit>.
- Office of Natural Resources and Environmental Policy and Planning. (2022). *Thailand climate finance conference from international to domestic mechanism*. https://www.facebook.com/watch/live/?ref=watch_permalink&v=1365204507243548.

- Paivio, A. (1990). *Mental representations: A dual coding approach*. Ukraine: Oxford University.
- Peters, J., & Hoetjes, M. (2017). The effect of gesture on persuasive speech. In *Proceedings of interspeech 2017* (pp. 659-663). Stockholm, Sweden: ISCA.
- Putri, S. P., & Putu, P. (2016). Illocutionary act in the speech act of Hillary Clinton on climate change in Miami. *ESSAY: Research Article Journal*, 31(5), 97-90.
- Sari, P. I., & Pranoto, B. E. (2022). An analysis of illocutionary act and perlocutionary act towards the Queen Elizabeth's speech entitled we will succeed and better days will come. *Linguistics and Literature Journal*, 3(1), 24-33.
- Sbisà, M., & Turner, K. *Pragmatics of speech actions*. Berlin: De Gruyter Mouton.
- Searle, J. R. (1969). *Speech acts: An essay in the philosophy of language*. Cambridge: Cambridge University.
- Searle, J. R. (1979). *Expression and meaning: Studies in the theory of speech acts*. Cambridge: Cambridge University.
- Somerville, R. C., & Hassol, S. J. (2011). Communicating the science of climate change. *Physics Today*, 64(10), 48-53.
- UN Climate Change. (2019). Opening ceremony UN climate change conference #COP25. Retrieved from <https://www.youtube.com/live/3fQHpXkI-vc?feature=share&t=379>.
- UN Climate Change. (2022). *UN secretary general António Guterres at the opening ceremony of the world leaders summit | #COP27*. Retrieved from <https://youtu.be/YAVgd5XsvbE>.
- United Nations. (1992). *United Nations framework convention on climate change*. Retrieved from https://unfccc.int/files/essential_background/background_publications_htmlpdf/application/pdf/conveng.pdf.
- United Nations. (2019). *Greta Thunberg (young climate activist) at the Climate Action Summit 2019*. Retrieved from <https://youtu.be/u9KxE4Kv9A8>.
- United Nations. (2021). *The secretary-general -- remarks to the world leaders summit COP 26 Glasgow 1 November 2021* [Speech transcript]. Retrieved from https://unfccc.int/sites/default/files/resource/Mr_António_Guterres_Secretary-General_of_the_United_Nations.pdf.

United Nations Environment Programme. (2021). *Making peace with nature: A scientific blueprint to tackle the climate, biodiversity and pollution emergencies*. Retrieved from <https://wedocs.unep.org/xmlui/bitstream/handle/20.500.11822/34948/MPN.pdf>.



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