

## Exploring Epistemic Modalities: A Study of Frequency, Meaning, and Function of Lexical Verbs in George W. Bush's Speeches

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**Abstract.** This study employs a corpus linguistic approach, utilizing qualitative and quantitative concurrent mixed methods, to analyze epistemic modal lexical verbs (EMLVs) in George W. Bush's speeches. The dataset comprises six speeches delivered by the former president between September 11, 2001, and December 16, 2004, a period of significant importance in the Middle East, totaling 24,209 words with 308 instances of EMLVs. Software tools, including AntConc version 3.5.9 (last updated in December 2020), were utilized to extract modal expressions from these speeches. The research aims to elucidate how George W. Bush utilized EMLVs to persuade audiences and justify. The study identifies nine primary functions of EMLVs in State of the Union speeches, encompassing Assertion, Assumption, Conviction, Recommendation, Anticipation, Tricky/Elusiveness, Desire, Hedging, and Contemplation. Conversely, Speeches exhibit eight functions, including Assertion, Hedging, Desire, Conviction, Likelihood/Possibility, Anticipation, Tricky/Elusiveness, and Prediction. The findings indicate that Assertion emerges as the most frequently employed function in both genres, highlighting the pivotal role of EMLVs in political discourse for motivating, advancing agendas, and garnering support for initiatives.

**Keywords:** Political discourse, Epistemic modal Lexical verbs, George W. Bush, Speeches

## Introduction

This research is significant as it explores the utilization of Epistemic Modality Lexical Verbs (EMLVs) in political discourse. By examining EMLVs employed by politicians to express certainty, doubt, or ambiguity, the study provides insights into decision-making processes, shapes public perception of political messages, and contributes to methodological advancements in discourse analysis. This research is relevant to contemporary issues and has implications for media literacy and critical thinking, deepening our understanding of the subtleties and impacts of political communication. Epistemic modality plays a crucial role in political discourse, allowing speakers to express their perspective on an issue while signaling their confidence level in the truth or likelihood of their claim (Alsbbagh & Abdullah, 2023). It refers to the degree of certainty in one's knowledge, belief, or opinion (Bybee et al., 1994, as cited in Mifka-Profozic et al., 2020). For grammarians and linguists, epistemic modalities can be expressed through various linguistic forms, such as epistemic modal nouns (EMNs) like "possibility," "probability," and "necessity"; modal verbs (EMVs) such as "may," "might," and "must"; lexical verbs (ELVs) including "think," "believe," and "know"; modal adjectives (EMAdjs) like "possible," "probable," and "necessary"; and modal adverbs (EMAdv) such as "probably," "likely," and "perhaps." These forms convey meanings ranging from possibility and probability to certainty

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(Biber, 2006; Bybee et al., 1994; Quirk et al., 1985; Saeed, 2016). The current study focuses on epistemic modal lexical verbs (EMLVs) in political discourse.

The role of epistemic lexical verbs in political discourse is multifaceted, allowing speakers to convey doubt or tentativeness, which can be useful for negotiating, compromising, or motivating an audience (Mur-Dueñas, 2021). Conversely, the use of more assertive epistemic lexical verbs can convey confidence and authority, useful for building consensus, rallying support, or establishing a sense of urgency. The importance of epistemic lexical verbs in political discourse lies in their ability to shape how audiences interpret and respond to political messages. By using different epistemic lexical verbs and expressions, speakers can create various impressions and elicit diverse reactions from their listeners (Hardjanto & Mazia, 2019). For example, if a politician says, "I believe we need to raise taxes," they might be perceived as more open-minded and flexible than if they were to say, "I know we must raise taxes immediately."

However, the ambiguity of utilizing epistemic lexical verbs in speeches is a potential drawback. Depending on the context and the speaker's intentions, the same epistemic lexical verb can be interpreted differently by various listeners. For example, if a politician says, "I think we may need to cut spending," some listeners might interpret this as a genuine suggestion, while others might see it as a coded message indicating, "We will definitely cut spending." Consequently, the strategic use of epistemic lexical verbs requires careful consideration of the audience's expectations, the political context, and the potential consequences of different interpretations (cf. Ho, 2018).

The rationale for utilizing epistemic lexical verbs in presidential speeches is to create a sense of certainty or uncertainty, depending on the intended effect on the audience. For example, former U.S. President Barack Obama used epistemic lexical verbs to convey a sense of certainty and urgency when he said, "I know that we can create jobs and opportunity for our people" (Obama, 2012). Similarly, former U.S. President Donald Trump used epistemic lexical verbs to convey a sense of doubt and skepticism when he said, "I'm not sure that climate change is a real problem" (Trump, 2017). By strategically using epistemic lexical verbs, presidents can effectively communicate their messages to different audiences and shape public opinion in meaningful ways.

The aim of the current study is to investigate the epistemic modality lexical verbs (EMLVs) used by President George W. Bush (GWB) in his speeches in 2003. EMLVs are crucial linguistic tools that allow speakers to express their degree of confidence in their knowledge and make evaluations and judgments. Understanding the use of EMLVs in political speeches, is important as it can reveal the semantic and discursive behavior of the speaker and influence the audience's perception of critical issues. This study seeks to examine the role of EMLVs in political speeches by analyzing GWB's use of them and their potential impact on the audience's perception and acceptance of decisions based on factual information and truth.

The present study will focus on two key genres, Rhetoric and the State of the Union Address, that are linked to the Iraq affairs. The rationale for selecting these genres is based on their critical role in informing both Congress and the public. Additionally, Hart and Fuoli (2020) highlight the frequent use of epistemic modality by presidents in speeches or high-stakes situations to enhance their persuasiveness. Thus, this study aims to analyze President George W. Bush's speeches to determine the meanings and functions of epistemic modality used in Rhetoric and the State of the Union Address. Although these two genres differ in some aspects, they share similarities in substantive and procedural elements and are both significant public addresses delivered by the president.

In both the State of the Union Address and Rhetoric, presidents employ persuasive language to address critical issues. The State of the Union Address serves as a platform for presidents to communicate with the public regarding political and economic threats, such as terrorism, which poses a significant challenge to global peace and security. It also provides an opportunity for the President to address the nation's economic challenges and outline proposed reforms for the country's welfare. This study aims to ascertain the frequency of Epistemic Modality Lexical Verbs (EMLVs) in Bush's speeches and examine their meanings

and discourse functions in the two genres, Rhetoric and the State of the Union Address, in order to elucidate the linguistic strategies employed by presidents to garner support from their audience.

**Theoretical Framework**

Lexical verbs are a word-class divided into primary have, do, be verbs, and main verbs, according to Biber et al. (2021: 65). The authors explain that primary verbs have features of both lexical verbs and auxiliaries, with auxiliary verbs coming before the main verbs in verb phrases. Lexical verbs have three characteristics: morphological, syntactic, and semantic. Morphologically, they differ according to tense, aspect, and voice, while syntactically, they occur as the head or main verbs of verb phrases. Semantically, they denote actions, processes, or states and serve to establish the relationship between participants in an action, process, or state (Quirk et al., 1985).

Quirk et al. (1985) also demonstrate that lexical verbs communicate degrees of confidence, ranging from high to low. Some lexical verbs reflect the meaning of assertion and occur in declarative sentences to state propositions. These verbs include advance, affirm, allege, attest, aver, ascertain, assure, authenticate, authorize, certify, confirm, corroborate, claim, contend, declare, defend, endorse, guarantee, notify, show, insist, lay down, maintain, press, profess, proclaim, pronounce, protest, state, stress, swear, testify to, uphold, vindicate, validate, verify, vouch, and witness. Clark (1989) and Manser (2005) also note the reflective nature of some lexical verbs.

Epistemic modal lexical verbs play a significant role in hedging in political discourse, according to Mur-Dueñas (2021). These verbs soften the proposition or reduce the degree of commitment, as in the case of “indicate” or “believe.” While hedging and epistemic modality express similar functions, they have different terminologies. Epistemic modal lexical verbs express conviction about proposal truth as warranted by deduction based on facts that convey factivity and certainty. Another function of epistemic modal lexical verbs is to reveal uncertainty through likelihood/speculative verbs, which convey tentative likelihood (Biber et al., 1999; Hyland, 1998). Hyland also notes that epistemic modal lexical verbs share a “sensorial” function, implying tentative cognition based on rational reasons or the speaker's lack of confidence in their proposition, as in “feel,” “see,” and “seem.”

Ho (2018) illustrates that the difference between factivity and non-factivity typically reveals commitment to the certainty/uncertainty of a proposition. For example, the difference between the strong commitment of using the factive verb “know” and the non-factive verb “think” implies a weak responsibility to the truth, as in “I know she has arrived” and “I think she has arrived.” (See Table 1).

**Table1.**  
Factive Verbs and Non-factivity

<b>Factive verbs-certainty</b>	<b>Non-factivity-likelihood</b>
accept, acknowledge, care, discover, figure out, find out, forget, grasp, is amazed, is aware, is bothered, is informed, is shocked, is surprised, know, mind, notice, realize, recognize, regret, remember, resent, reveal, spot, take into account, take into consideration	allege, assume, believe, claim, decide, estimate, expect, feel, figure, guess, hope, hypothesize, imagine, infer, is sure, postulate, predict, presume, reckon, sense, speculate, suggest, suppose, suspect, theorize, think, trust

Source: Ho 2018

While Hyland's (1998) taxonomy of epistemic lexical verbs divides them into four groups (speculative, deductive, quotative, and sensorial), Biber et al.'s (1999) categorization is less detailed. However, there is some overlap between speculative and quotative verbs, as demonstrated in Table 2.

**Table 2.**  
Four Categories of Epistemic Lexical Verbs

Speculative	Deductive	Quotative	Sensorial
*argue	assume	allege	appear
*believe	conclude	*argue	feel
consider	deduce	*believe	look
doubt	estimate	claim	notice
expect	evaluate	contend	observe
*indicate	infer	maintain	seem
*propose	presume	*propose	see
speculate	reason	*suggest	sense
*suggest	suppose	*indicate	sound
*think	surmise	*think	view

Source: Hyland 1998

The classification of epistemic modal lexical verbs is disclosed in Table 2. However, due to the complexity of the proposition made by the speaker and the diversity of situations and contexts, there is often overlap between speculative and quotative verbs, as in the case of “argue”, “believe”, “indicate”, “propose”, “suggest”, and “think”. For example, the verb “argue” has multiple lexical meanings, such as quarrel, defend or oppose, try to show or prove, and discuss. These complexities of meaning can make categorization challenging, but are essential for understanding the use of epistemic modal verbs in political discourse.

To provide a clearer understanding, the researcher has adopted Biber (2006) and Ho (2018) classification of epistemic lexical verbs, which has been updated to include lexical factivity verbs denoting certainty and strong cognition, as well as non-factive certainty verbs with two subsections for tentative cognition and likelihood. This classification is presented in Table 3 and is useful for distinguishing between the different degrees of certainty expressed by epistemic lexical verbs in political discourse.

**Table 3.**  
Epistemic Modal Lexical Verbs

<b>Factivity</b>	<b>Non-factive certainty verbs</b>	
Certainty and strong cognition	Tentative cognition verbs	Tentative likelihood verbs
conclude, demonstrate, determine, discover, find, know, learn, mean notice, observe, predict, Prove, realize, recognize, remember, see, show, understand,	believe, guess, hypothesize, imagine, presume, think,	assume, doubt, gather, presume, presuppose reckon, seem, speculate, suppose, suspect,

Source: Biber (2006) and Ho (2018)

For instance, Canadian Prime Minister Justin Trudeau addressed the European Parliament, “We know that, in an increasingly connected world, we must choose to lead the international economy, not simply be subjected to its whims”. In this example, the factivity epistemic modal lexical verb “know + that” expresses Trudeau’s conviction that Canada and the EU share the same perspectives and goals.

Trudeau represents his credibility in using certainty and cognition via the lexical verb “know”. He aims to convince the audience that the deal is the best course of action and that their common interests will be realised through the contract.

The present study employs the use of epistemic modal lexical verbs to analyze the motivate direction of former President Bush's speech. This analysis considers how presidential speeches utilize lexical verbs to motivate, hedge, and assert various positions, facts, issues, and information. Through a closer examination of these lexical verbs, the study purposes to shed light on the role of epistemic modality in political discourse and the ways in which it is utilized by political leaders to shape public opinion.

## Materials and Method

The present study adopts a mixed-method design, integrating both qualitative and quantitative approaches to examine the use of Epistemic Modality Lexical Verbs (EMLVs) in six speeches delivered by George W. Bush. Qualitative analysis involves thorough textual scrutiny to elucidate themes and descriptions, while quantitative analysis entails statistical examination of numeric data. EMLVs are extracted using AntConc version 3.5.9 and manual methods to ensure accuracy given their context-dependent nature. The study adopted a meticulous approach to gathering data, ensuring completeness by following the sequences of speeches on the website presidentialrhetoric.com to avoid missing any speeches delivered by Bush during the period of interest. All selected speeches were delivered between September 11, 2001, and December 16, 2004. Biber's (2006) and Ho's (2018) frameworks guide the analysis through three stages: identifying EMLV types and frequencies, examining their syntactic and semantic features, and revealing their functions in Bush's speeches. Data sourced from presidentialrhetoric.com, comprising six speeches categorized into State of the Union Addresses and Speeches, were chosen for their relevance to post-9/11 counter-terrorism efforts and suitability for manual analysis within discourse studies (see table 4). The analysis aims to identify occurrence rates of epistemic markers in speeches, investigate the meanings of epistemic modality in these speeches, and categorize the discourse functions of epistemic modality across both genres. This study contributes to understanding the linguistic strategies employed by political figures in communicating complex issues.

**Table 4.**  
The Data

<b>Genre (G1)</b>	<b>Date</b>	<b>Genera (G2 )</b>	<b>Date</b>
1. State of the Union Washington, DC	29-Jan-02	1. George W. Bush The Iraq Threat Cincinnati, OH	7-Oct-02
2. George W. Bush State of the Union Address Washington, DC	28-Jan-03	2. George W. Bush American Enterprise Institute (The Future of Iraq) Washington, DC	26-Feb-03
3. State of the Union Address Washington, DC	20-Jan-04	4. Defending the War Oak Ridge, TN	2-Aug-04

## Results and Discussion

### Results

As mentioned earlier, Biber's (2006) and Ho's (2018) frameworks guide the analysis. The frequencies presented in Table 5 reveal that George W. Bush used epistemic modal lexical verbs (EMLVs) 308 times in two different genres. More specifically, State of the Union speeches (G2) contained 172 EMLVs, while Speeches (G1) contained 136 EMLVs. These frequencies suggest that the speaker deliberately used EMLVs as a convincing tool to promote a specific agenda and gain support. Biber's (2006) framework on stance is particularly relevant in understanding this usage. According to Biber, stance refers to the expression of attitudes, feelings, judgments, or commitment towards the content of the message. By using EMLVs such as "know," "think," and "believe," Bush expressed a strong stance, projecting confidence and certainty about the necessity and righteousness. This stance not only established his authority but also worked to align the audience with his perspective, enhancing the Convincing impact of his speeches. Ho's (2018) framework on modality expressions provides further insights into the function of EMLVs in political discourse. Ho categorizes modality into factive, contra-factive, and non-factive expressions, which help in distinguishing between different levels of certainty and commitment in a speaker's statements. Bush's use of factive EMLVs, which denote high certainty and factuality, served to reinforce the legitimacy of his claims. By frequently employing factive

EMLVs, Bush was able to present his propositions as undeniable truths, thereby influencing the audience necessity and justness. In conclusion, the deliberate use of EMLVs by George W. Bush in his State of the Union and Speeches underscores their role as a Convincing linguistic device. Biber's (2006) framework on stance highlights how these verbs were used to express strong commitment and certainty, establishing Bush's authority and aligning the audience with his viewpoint. Ho's (2018) framework on modality expressions further elucidates the function of EMLVs in conveying high certainty and factuality, thereby enhancing the perceived legitimacy. Together, these frameworks demonstrate the multifaceted ways in which EMLVs contributed to the Convincing power of Bush's political discourse.

**Table 5.**  
EMLVs in Bush's speeches

Two Genres	EMLVs		Total
	G1	G2	G1 & G2
Total	172	136	308

The second research objective aimed to investigate the semantic meanings of EMLVs in the current data. The results showed that there was semantic meaning diversity in the use of EMLVs across two genres of current political speech. Specifically, the data from State of the Union addresses utilized a higher diversity of EMLVs than data from Speeches.

For instance, in Speeches, EMLVs such as "accept," "account," "assure," "commit," "conclude," "convince," "believe," "declare," "deny," "determine," "hold," "insist," "make sure," "realize," "recognize," and "state" appeared only once. EMLVs such as "ensure," "forget," "indicate," "intend," and "resolve" appeared twice, whereas "agree," "find," "gather," "prove," "reveal," and "trust" occurred three times. Furthermore, the data indicated 22 occurrences of "know," 4 occurrences of "learn," 6 occurrences of "refuse," 6 occurrences of "look," 8 occurrences of "say," 15 occurrences of "see," 5 occurrences of "show," and 5 occurrences of "understand."

In contrast, EMLVs occurred only once in State of the Union speeches, such as "affirm," "announce," "commit," "declare," "deny," "determine," "discover," "ensure," "expose," "forget," "glimpse," "insist," "pledge," "realize," "recognize," "refuse," "turn up," "trust," and "view." EMLVs such as "accept," "agree," "assure," "conclude," "disclose," "hear," "mean," "indicate," "make sure," and "understand" occurred twice, and "indicate" and "reveal" occurred three times each. Moreover, the data revealed 4 occurrences of "account," 5 occurrences of "believe," 8 occurrences of "find," 24 occurrences of "know," 4 occurrences of "learn," 4 occurrences of "prove," 6 occurrences of "say," 10 occurrences of "see," and 13 occurrences of "show," as presented in Table (6).

**Table 6.**  
Factivity Verbs- Certainty and Strong Cognition

The State of the Union Speeches	N	The Speeches	N
know	24	know	23
show	13	see	15
see	10	say	8
find	8	look, refuse	6
say	6		
believe	6	show, understand	5
account, learn, prove, confirm	4	learn	4
identify, reveal	3	agree, find, gather prove, reveal, trust	3

accept, agree, conclude, disclose mean, hear, indicate, make sure, understand announce, affirm, commit, determine	2	discover, ensure, forget, indicate intend, resolve, believe	2
declare, deny, discover, ensure, expose, forget, glimpsed, pledge realize, insist, recognise, refuseturn up, trust, view	1	accept, account, assure. conclude. convince, determine, declare, deny, hold, realize, insist, recognize, make sure, state	1
<b>Total</b>	<b>126</b>	<b>Total</b>	<b>118</b>

The analysis of two genres of Bush's speeches revealed that EMLVs expressed meanings beyond those listed in section (2). The other EMLVs found in the speeches are non-factive certainty verbs, which can be categorized into two subdivisions: Tentative Cognition Verbs and Tentative Likelihood Verbs. State of the Union speeches contained 5 occurrences of "believe," 4 occurrences of "consider," 5 occurrences of "expect," 2 occurrences of "imagine," 5 occurrences of "think," and 1 occurrence each of "claim," and "estimate," and all of these EMLVs belong to Tentative Cognition Verbs. In addition, Tentative Likelihood Verbs appeared 13 times for "propose," 3 times for "assume," twice for "hope" and "doubt," and once for "look" and "suppose." Speeches expressed 3 occurrences of "expect," twice for "argue," "remember," and "believe," and once for "consider," "feel," and "suggest," which all belong to Tentative Cognition Verbs. Note that the EMLVs "assume" and "look" appeared only once, with "hope" occurring 4 times to convey Tentative Likelihood Verbs. Table (7) presents additional semantic meanings of EMLVs in the two genres of Bush's speeches.

**Table 7.**  
Other Semantic Meanings of EMLVs

The State of the Union Speeches		The Speeches		The State of the Union Speeches		The Speeches	
Tentative Cognition	No	Tentative Likelihood	No	Tentative Cognition	No	Tentative Likelihood	No
Believe, expect, think	5	expect	3	propose	13	Hope	4
consider	4	Argue, remember, believe	2	assume	3	Assume, look	1
imagine	2	Consider, feel, suggest	1	Doubt, hope	2		
Claim, estimate, remember	1			Look, suppose	1		
<b>Total</b>	<b>24</b>	<b>Total</b>	<b>12</b>	<b>Total</b>	<b>22</b>	<b>Total</b>	<b>6</b>

The analysis indicates that EMLVs are widely used in both genres of Bush's speeches, with epistemic modalities encompassing three distinct meanings, as presented in Tables 5.2 and 5.3. The data reveals that there were 244 occurrences of factive verbs and 64 occurrences of other semantic terms. The present data also provides examples of how EMLVs are employed to serve semantic purposes in Bush's speeches.

## Strong Cognition and Certainty

*“(a) We have known freedom's price. We have shown freedom's power.”*  
 “P.66 State of the Union 29-Jan-02”

*“(b) If we know Saddam Hussein has dangerous weapons today -- and we do -- does it make any sense for the world to wait to confront him as he grows even stronger and develops even more dangerous weapons?”*  
 “P.9-The Speech 7-Oct-02”

Within both genres of Bush's speeches, the EMLV 'know' is frequently used to indicate strong confidence and certainty in a commitment, occurring 48 times and representing a relatively high frequency compared to other EMLVs (Biber, 2006; Ho, 2018). For example, in (1a), 'know' serves as a predicator of simple sentences to express definitive certainty and convey epistemic modality. Moreover, its use reveals that George W. Bush discusses present obstacles and recent triumphs (Campbell & Jamieson, 2017). In (1b), the factivity of 'know' is conditionally introduced and then confirmed by an emphatic 'do' within the same sentence. This structure demonstrates a semantic realization of definite certainty and completes the complex sentence as a rhetorical question, revealing Bush's intention to declare the crucial decision to use force to topple the Iraqi government (Campbell & Jamieson, 1990).

## Tentative Cognition Verbs

*“(a) Americans are rising to the tasks of history, and they expect the same from us”.*  
 “P.7 State of the Union 20-Jan-04”

*“(b) On September 11th, 2001, America felt its vulnerability -- even to threats that gather on the other side of the earth.”*  
 “P.4-The Speech 7-Oct-02”

In both genres of Bush's speeches, the EMLV 'expect' is used five times to convey speculative meaning or what is likely to happen. For example, in (2a), the lexical verb 'expect' is a private verb of belief that is subjective and speculative. When followed by a non-finite clause of purpose or a noun ('expect to do something'/expect something from somebody), it serves as the predicator of the second coordinated clause. In contrast, (2b) employs the Tentative Cognition EMLV 'feel' only twice to convey possibility. The VP+NP structure implies the full lexical verb 'feel', which conveys a sensory meaning that should be analyzed in terms of the American people. The post-modified noun 'vulnerability' specifies the essence of the feeling. For instance, a suggested semantic rendering is: On September 11th, the American people believed they could be hurt, even by threats that gathered on the other side of the earth. The ELV 'feel' suggests a semantic meaning of possibility, implying that it is possible for threats to hurt the American people (Biber et al., 1999; Hyland, 1998).

## Tentative Likelihood Verbs

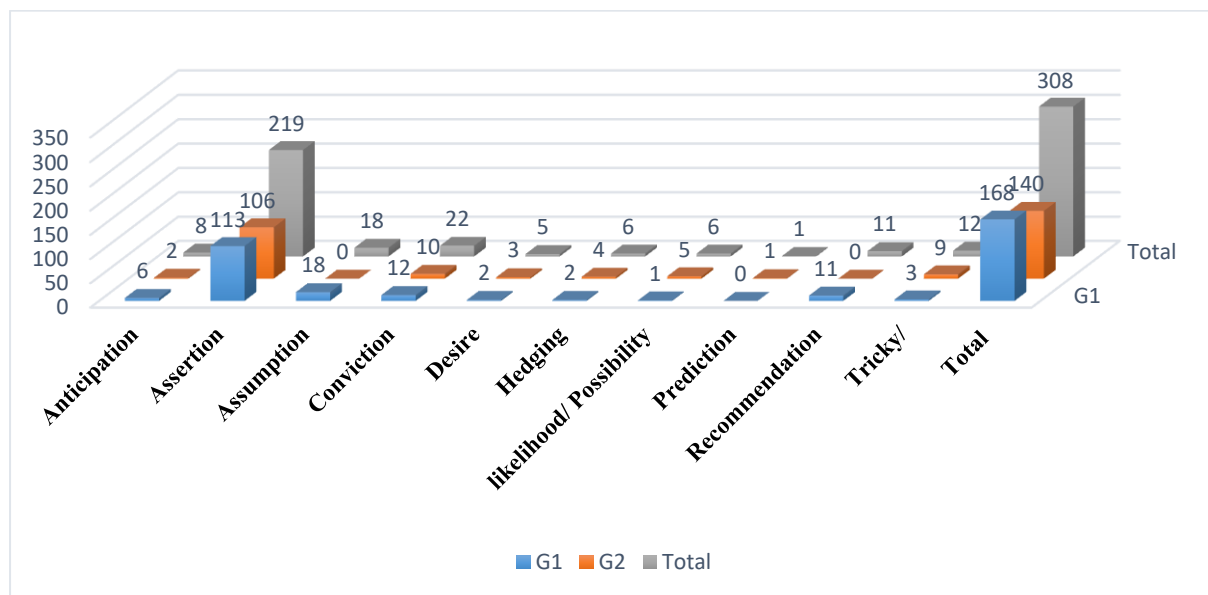
*“(a) We also hear doubts that democracy is a realistic goal for the greater Middle East, where freedom is rare. Yet it is mistaken and condescending to assume that whole cultures and great religions are incompatible with liberty and self-government.”*  
 “P.29 State of the Union 20-Jan-04”

*“(b) Understanding the threats of our time, knowing the designs and deceptions of the Iraqi regime, we have every reason to assume the worst, and we have an urgent duty to prevent the worst from occurring.”*  
 “P.25-The Speech 7-Oct-02”



The lexical verb 'assume' appears four times in the two genres of Bush's speeches. For example, in (3a), 'to assume' is a non-finite verb that serves as a post-modifier to the adjective 'mistaken'. The head of the adjective phrase 'mistaken to assume' is a subject complement. Furthermore, EMLV 'assume' suggests a high degree of uncertainty regarding the compatibility of whole cultures and great religions with liberty and self-government. Unlike (3a) and (3b), the lexical verb 'assume' is used differently, conveying the meaning of potentiality, i.e., hypothesizing, which allows for speculation and the possibility of interpretation. EMLV 'assume' reveals that Bush intends to highlight the possibility and expectation that the danger comes from Iraq. Therefore, according to Biber (2006) and Ho (2018), EMLV 'assume' conveys Tentative Likelihood in both (3a) and (3b).

The third objective of this study is to examine the functions of EMLVs in George W. Bush's speeches. The study's results reveal that EMLVs were employed for various functions in State of the Union speeches, including Assertion (113 occurrences), Assumption (18 occurrences), Conviction (12 occurrences), Recommendation (11 occurrences), Anticipation (6 occurrences), Tricky/Elusiveness (3 occurrences), Desire (2 occurrences), Hedging (2 occurrences), and Contemplation (1 occurrence). The most common function was Assertion, indicating that Bush employed EMLVs to motivate and promote his agenda. In Speeches, the functions of EMLVs were Assertion (106 occurrences), Hedging (4 occurrences), Desire (3 occurrences), Conviction (10 occurrences), Likelihood/Possibility (5 occurrences), Anticipation (2 occurrences), Tricky/Elusiveness (9 occurrences), and Prediction (1 occurrence) as seen in figure 1. These findings suggest that EMLVs played a critical role in Bush's efforts to gain support, particularly by using Assertion to convey certainty and conviction.



**Figure 1.**  
Functions EMLVs

### Anticipation in EMLVs

*“Americans are rising to the tasks of history, and they expect the same from us.”*  
 “P.7 State of the Union 20-Jan-04”

In Hyland's (1998) classification of epistemic lexical verbs, the verb 'expect' is categorized as a private verb of belief that conveys subjective and speculative meaning. Its function is to describe what an individual or entity is likely to do in response to a future event or state of affairs. As such, it expresses the function of anticipation and is an example of

Tentative Cognition Nouns in the domain of Epistemic modality (Ho 2018). The results of the analysis of the two genres of Bush's speeches are presented in Table 4.14, which indicates that there were five occurrences of EMLVs as anticipation functions in the State of the Union speeches and one occurrence in the Speeches.

**Assertion in EMLVs**

*“And we know that Iraq is continuing to finance terror and gives assistance to groups that use terrorism to undermine Middle East peace.”*

“P.15-The Speech 7-Oct-02”

The use of the verb 'know' in George Bush's speeches suggests activity and the assertion of a proposition, which is reflective of a strong belief (Biber 2006; Ho 2018). Although 'know' implies personal belief, in this context, it functions as a Convincing tool to build opinions. It may also serve as a language tactic to bridge the gap between the speaker and the listeners, creating a more conversational atmosphere (Reyes & Ross 2021). The high frequency of EMLV 'know' in both genres is evident, with 24 occurrences in the State of the Union speeches and 19 in the Speeches. As shown in Table (8), EMLVs have a significantly high frequency as an assertion function compared to other EMs. For example, EMLVs show 109 occurrences in the State of the Union Speeches and 103 in the Speeches.

**Table 8.**  
Assertion in EMLVs

The State of the Union Speeches	N	The Speeches	N
know	19	know	19
show	13	see	14
see	8	say	7
find, say	6	look	6
believe	5	refuse	6
account, confirm, learn, prove	4	understand	5
		learn	4
reveal	3	agree, find, prove, reveal, trust	3
accept, agree, conclude, disclose, hear, identify, make sure, mean, understand	2	discover, ensure, forget, gather, intend, show	2
affirm, announce, commit, claim, declare, deny, determine, discover, ensure, forget, glimpse, indicate, insist, pledge, propose, realize, recognise, refuse, turn up, trust	1	accept account, assure, believe conclude, consider, convince, declare, deny, determine, expose, indicate, insist, make sure, recognise, resolve, state	1
Total	113	106	

**Assumption in EMLVs**

*“Our intelligence officials estimate that Saddam Hussein had the materials to produce as much as 500 tons of sarin, mustard and VX nerve agent. In such quantities, these chemical agents could also kill untold thousands.”*

“P.63 State of the Union 28-Jan-03”

The epistemic modal lexical verb (EMLV) 'estimate' is employed to express the function of epistemic possibility (Biber, 2006; Ho, 2018). Its use enables the speaker to communicate the likelihood of a proposition to the audience, thereby enhancing transparency and engendering support. As demonstrated in example (6), the function of EMLV 'estimate' is assumption, where the intelligence personnel's opinions on Saddam Hussein's risk are assumed to be significant. This use of EMLV 'estimate' may imply the fear of Saddam Hussein by the US government, which could be a Convincing tactic to appeal to the audience (Neüff, 2018). In both genres of Bush's speeches, EMLVs, like EMVs, are frequently used as the 'assumption' function, with 'estimate' appearing 21 times in the State of the Union speeches and only once in the Speeches. Further details on the verb forms that express the assumption function are presented in Table (9).

**Table 9.**  
Assumption in EMLVS

The State of the Union Speeches	N	The Speeches	N
think	4		0
Propose, assume, assume	3		0
Consider, imagine	2		0
Estimate, believe, suppose, reveal	1		0
Total	18	Total	0

**Conviction in EMLVs**

*“We're working with responsible governments and international institutions to convince the leaders of North Korea and Iran that their nuclear weapons ambitions are deeply contrary to their own interests.”*

“P.31-The Speech 12-Jul-04”

In order to gain support for American foreign policy, President Bush utilized the lexical verb 'convince' to demonstrate his efforts to promote other countries. While EMLV 'convince' has only been briefly explained, it conveys an ideology and the ability to influence the public (Yunisda & Yusuf, 2019: 1). Epistemologically, 'convince' functions to urge through the use of evidence and rhetoric. Additionally, the lexical verb 'convince' involves attempting to urge someone to make a specific decision by providing supporting facts and evidence. Table (10) shows that EMLVs were used 16 times in the State of the Union speeches and 6 times in the Speeches.

**Table 10.**  
Conviction in EMLVs

The State of the Union Speeches	N	The Speeches	N
know	4	know, show	2
believe	2	believe, convince, look, gather resolve, see	1
assure, indicate, find, look, see, view	1		
Total	12	Total	10

**Desire in EMLVs**

*“America hopes the regime will make that choice. Unfortunately, at least so far, we have little reason to expect it.”*

“P.35-The Speech 7-Oct-02”

From an epistemic modality perspective, the lexical verb 'hope' is linked with non-factivity and likelihood, as explained by Biber et al. (2006) and Ho (2018). The EMLV 'hope' is often utilized to generate a sense of desire in the hearers, as the primary goal of any speech is to engage the audience, stimulate their minds, and motivate them (Neale, 1998). Additionally, 'hope' expresses ambition, reflecting the speaker's desire. In Bush's speeches, he used the desiderative operator 'hope' and the bouletic 'will' to convey his wish that the Iraqi regime would choose to accept the UN's requirements. The frequency of EMLVs that demonstrate the desire function is two occurrences in the State of the Union Speeches and three in the Speeches, as demonstrated in Table (11).

**Table11.**  
Desire in EMLVs

<b>The State of the Union Speeches</b>	<b>N</b>	<b>The Speeches</b>	<b>N</b>
hope	2	hope	3
Total	2	Total	3

### Hedge in EMLVs

*“Many people have asked how close Saddam Hussein is to developing a nuclear weapon. Well, we don't know exactly, and that's the problem.”*

“P.12-Speeches7-Oct-02”

The Epistemic Modal Lexical Verb (EMLV) 'know' primarily functions to assert a proposition (Biber, 2006; Ho, 2018). However, in example (9), the negation form of 'know' may suggest an avoided function, indicating Bush's reluctance to share information on developing a nuclear weapon. Additionally, EMLV 'know' can also convey the hedging function, which is a rhetorical strategy used to reduce the full semantic meaning or strength of speech performance. This strategy is used to minimize the riskiness of statements and opinions, show respect to superiors, and soften strong words (Brown & Levinson, 1987; Fraser, 2010; Hyland, 1996; Lakoff, 1973). EMLV 'know' serves as a hedging function in four occurrences in the Speeches, but only once in the State of the Union speeches, as shown in Table 12.

**Table 12.**  
Hedge in EMLVs

<b>The State of the Union Speeches</b>	<b>N</b>	<b>The Speeches</b>	<b>N</b>
Doubt, know	1	Assume, fell, know, prove	1
Total	2	Total	4

### Likelihood/possibility in EMLVs

*“Some believe we can address this danger by simply resuming the old approach to inspections and applying diplomatic and economic pressure.”*

“P.10-The Speech 7-Oct-02”

The epistemic modality verb 'believe' functions to express the sub-type of non-factivity certainty modality, namely likelihood/possibility (Biber, 2006; Ho, 2018). EMLV 'believe' suggests that there is a possibility that some individuals believe that they can confront a threat without the use of armed forces, which is one of the strategies used by politicians (Culpeper, 2021). In this context, EMLV 'believe' conveys the possibility of an event happening or not happening. Table (13) illustrates that the Speeches contained five

instances of likelihood/possibility, whereas the State of the Union speeches had only three occurrences.

**Table 13.**  
Likelihood/possibility in EMLVs

The State of the Union Speeches	N	The Speeches	N
think	1	expect	2
		believe, remember, glimpsed	1
Total	1	Total	5

**Prediction EMLVs**

*“Before it, the best intelligence indicated that Iraq was eight to ten years away from developing a nuclear weapon.”*

“P.19-The Speech 7-Oct-02”

In excerpt 11, the EMLV 'indicate' suggests a prediction that before an action, intelligence believed that Iraq had obtained nuclear weapons 8-10 years ago. According to Mur-Dueñas (2021), this verb may also convey a hedging function, which can be used to soften the proposition or reduce the degree of commitment. Correspondingly, EMLV 'indicate' exposes the speaker's effort to entice and control society, serving as a means of controlling the conscience of society (Kantorgorje 2021). The prediction function in EMLVs occurred only once in Speeches, while the State of the Union speeches did not include any indication of this function.

**Recommendation in EMLVs**

*“In my budget, I propose a grassroots campaign to help inform families about these medical risks.”*

“P.58-State of the Union 20-Jan-04”

In this example, the EMLV 'propose' serves a recommendation function, wherein the speaker recommends a “grassroots movement” to raise awareness of specific medical concerns, potentially as a strategy adopted in political discourse to achieve ideological goals (Amaglobeli, 2018). The function of 'propose' is to reinforce the President's problem-solving and leadership skills. In Extract 12, the use of EMLV 'propose' implies that the President's message generally speculates (Hyland, 1998) on the expected outcome of the proposed actions and enhances the truthfulness of his propositions. Furthermore, he seeks to offer his assistance in informing families about these health hazards. The State of the Union speeches included 10 occurrences of EMLV 'propose' and one occurrence of EMLV 'consider' as a recommendation function in EMLVs. However, the Speeches contained no examples of recommendation functions in EMLVs.

**Tricky/elusiveness in EMLVs**

*“Some have argued that confronting the threat from Iraq could detract against terror.”*

“P.17-The Speech 7-Oct-02”

The function of the EMLV 'argue' in Bush's speeches may refer to the Speculative or Quotative (Hyland 1998). This means that the verb 'argue' can be used to 'prove or show, discuss, and defend or propose' a function, in which it implies non-factive certainty and Tentative Cognition in particular (Biber 2006; Ho 2018). In example 13, the EMLV 'argue' suggests the tricky and elusive function, depicting the Iraqi government as a terrorist shelter.

According to Kovecses (2002), emotions have a significant impact on how an audience reacts, and politicians may use them as a strategy to influence the public. Moreover, the EMLV 'argue' reveals that Bush uses fear to capture the audience's attention and achieve his goal (Beard 2000; Kovecses 2002). The tricky/elusiveness function in EMLVs occurred once in the State of the Union speeches through the EMLV 'see'. However, in the Speeches, it occurred six times, with two occurrences of 'argue' and just once of 'show, suggest, hold, and remember', as shown in Table (14).

**Table 14.**  
Tricky/elusiveness in EMLVs

The State of the Union Speeches	N	The Speeches	N
doubt, find, see	1	argue	2
		hold, know, remember, say, show, realize, suggest	1

### Discussion

This study delves into an exhaustive examination of Epistemic Modality Lexical Verbs (EMLVs) employed by George W. Bush in his six speeches from 2003, employing a sophisticated mixed-method approach integrating qualitative and quantitative analyses. Underpinned by the theoretical frameworks articulated by Biber (2006) and Ho (2018), the research endeavors to unravel the intricate linguistic strategies underpinning political discourse.

A paramount contribution of this study lies in the unveiling of a novel set of EMLVs, which expands the lexicon of political language by encompassing verbs such as 'deny', 'refuse', 'glimpse', and 'disclose'. This ground-breaking discovery not only broadens our understanding of the spectrum of EMLVs utilized in political discourse but also offers fresh insights into the sophisticated techniques of influence deployed in this sphere (Bashir et al., 2023, p. 3).

However, the study also challenges established categorizations of EMLVs, revealing that certain verbs traditionally classified under assertion, conviction, and likelihood/possibility functions perform elusive roles. This divergence from conventional classifications underscores the dynamic nature of EMLVs, suggesting that their function is significantly influenced by contextual factors and speaker intent, rather than adhering to static categorizations (Author et al., Year).

Furthermore, the study uncovers a compelling correlation between the choice of personal pronouns and the function of EMLVs. Singular personal pronouns such as 'I' and 'You' are associated with the conviction function, while plural pronouns such as 'we' and 'they' are linked to assertion. This subtle linguistic manipulation serves as a potent tool for influence, subtly reinforcing the speaker's message and enhancing its Convincing impact (Romadlani, 2021, p. 2; NGO & Cubelo, 2024, p. 8).

Despite its ground-breaking findings, it is imperative to acknowledge the limitations of this study. The exclusive focus on George W. Bush's speeches may limit the generalizability of the findings to other political contexts and figures. Future research endeavors should aim to expand the scope of analysis to encompass a diverse array of political discourse, thereby validating and augmenting these findings.

In light of these insights, the study proposes several recommendations for future research. Firstly, extending the examination of EMLVs to other written genres and spoken media could verify the applicability of the findings across different contexts. Secondly, a comparative and contrastive study of EMLVs across languages would deepen our understanding of these linguistic phenomena and their role in shaping political discourse.

To sum up, this study represents a seminal contribution to the study of political discourse, offering profound insights into the intricate interplay between language and influence. Its findings challenge conventional wisdom, provoke critical reflection, and pave the way for future research endeavors aimed at unraveling the complexities of linguistic strategies in political communication.

## Conclusion

In conclusion, this comprehensive study has delved into the multifaceted roles of Epistemic Modal Lexical Verbs (EMLVs) within the context of George W. Bush's 2003 speeches. Through a meticulous analysis of these verbs in both State of the Union addresses and Speeches, the research has demonstrated their strategic deployment to motivate, advance agendas, and garner support. The key takeaway from this investigation lies in its revelation of the dynamic nature of EMLVs in political discourse, shedding light on the intricate interplay between language and power. This deeper understanding contributes significantly to our comprehension of the vital tactics employed in political communication. Moreover, the study not only broadens our knowledge but also presents new avenues for future research in the linguistic aspects of political discourse. By challenging existing perceptions of EMLVs, it stimulates ongoing debates, enriching the scholarly landscape and guiding future inquiries into epistemic modalities and other linguistic dimensions of political discourse. The research has also elucidated the strategic use of EMLVs in different genres of speeches, particularly noting the discernible effects rooted in linguistic choices. The variations in certainty and cognition verbs between Speeches and State of the Union addresses unveil a deliberate effort to convey decisiveness in rhetoric while maintaining a balance between assertiveness and acknowledging. Additionally, the identification of previously overlooked EMLVs contributes substantially to the literature. The study's findings, supported by expert consultations, highlight the fluidity and context-dependent nature of these linguistic elements in political speech. In essence, this study not only enhances our comprehension of EMLVs in political discourse but also pioneers a fresh direction for future investigations. The intricate relationship between language, power, and political communication remains a rich area for exploration, and this research catalyses further scholarly endeavours in understanding the complexities of linguistic choices in shaping public perception and political narratives.

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