

Epistemic modality in American presidential discourse

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Abstract - This research examines the exploitation of epistemic modality markers in political discourse. This research inspects modal auxiliaries and semi-modals use in four speeches addressed by Obama at the annual United Nations General Assembly during his second period as a President of America. Applying both qualitative and quantitative methods, this research is in an attempt to accomplish the whole investigation dealing with explorative and quantification of epistemic modality in Obama's political discourse. The data were taken from Obama's speeches from 2013 to 2016 at the United Nations General Assembly. The findings demonstrate that 471 modality markers were found in Obama's speeches and he frequently delivered epistemic probability with 189 cases or 40.2% modal auxiliaries and semi-modals. Epistemic certainty and possibility were found in 125 cases or 26.6% and in 157 cases or 33.2%. The highest degree of epistemic modality, epistemic certainty, is expressed by employing *must*, *have to*, *need to*, *cannot*, *could not*, and *may not*. Modal *should*, *will*, *would*, *be going to*, and *ought to* express epistemic probability and modal *can*, *could*, *may*, *might*, and *be able to* are exploited to express the lowest degree of epistemic modality, epistemic possibility. The higher epistemic modality markers involved in a proposition indicate the higher confidence of evaluation and judgment asserted based on the speaker's knowledge, belief, and evidence. In contrast, the lower epistemic modality markers found indicate lower confidence in the evaluation and judgment of the proposition.

Keywords: epistemic modality, modality, political discourse, speeches

1. Introduction

Political speech has been regarded to be one of the main instruments for national democratic life, especially for a leader of a nation. Producing speeches around the political framework deals with practicing political discourse. Vukovic (2014) presumes political discourse as persuasive discourse by which the speakers are like to sell their product in the best way. Political speech provides a process of both knowledge and action exchange between the speaker and the hearers on how the speaker persuades the hearers through the language choice relating to the use of linguistic devices in a social context.

Halliday's systemic functional linguistics (SFL) stipulates that language in a social context is used in three basic different functions well-known as three metafunctions of language; ideational, textual, and interpersonal function. This research deals with the interpersonal metafunction of language specifically the emergence of modality markers in political speeches. Interpersonal function means that language use enables the speaker to participate in communicative acts with other people, to show a role, and to express feelings, judgments, evaluations, or even attitudes of the speakers. Milkovich & Sitarica (2017) underline that modality is an important linguistic tool for realizing the interpersonal function and expressing social roles containing the speaker's attitude towards the situation or event expressed by the proposition behind the sentence.

Modality refers to the area of meaning that lies between *yes* and *no* poles, the intermediate ground between positive and negative polarity (Halliday & Matthiessen, 2014). Epistemic modality markers indicate consideration, perceptiveness, evaluation, attitude, confidence, and judgment of the proposition. Dealing with the possibility and necessity of the uncertain proposition, modal *will*, *can*, *may*, *must*, *should*, *ought to*, *would*, *could*, *might*, *have to*, and *be able to* frequently exist in modality studies (Zhang, 2019). Halliday and Matthiessen (2014) have set up a classification degree of probability in modality markers which is divided into three values; certainty, probability, and possibility. Another expression of modality is that semi-modals such as *be going to*, *be able to*, *have to*, *have got to*, *need to*, and *ought to*. Halliday and Matthiessen (2014) ranged the classification value of modality in their book entitled *An Introduction to Functional Grammar*.

- a. Epistemic certainty is commonly expressed by the use of modal auxiliary verbs *must* and semi-modal expressions *have to*, *need to*, and *have got to* are usually used to express epistemic certainty too.
- b. Epistemic probability is commonly expressed by the use of modal auxiliary verbs *should*, *will*, and *ought to*. Semi-modals *be going to* also can be expressed as epistemic probability markers.
- c. Epistemic possibility is commonly expressed by the use of modal auxiliary verbs *can*, *could*, *may*, and *might*. The semi-modal expression that can convey this kind of epistemic modality is that the modal *be able to*.

The existence of negated modality markers is also a sign of different values. The negated *can* belong to high certainty or epistemic certainty as drawn by Aijmer (2015) that the value of the modality is changed when the modal element is negated: certain + not = not + possible, while possible + not = not + certain. Epistemic modality signals as what Shakirova, Sadrieva, Safina, Almikaeva, and Galimullina (2016) mentioned three dimensions degree of probability, virtually absolute confidence (high degree of probability); moderate confidence (medium degree of probability); almost complete lack of confidence (low degree of probability).

Involving modality in the discourse production, the speaker is in the position to texturing his or her knowledge to the proposition. Modality, especially epistemic, signals the level of confidence, knowledge, and awareness of uncertainty through the statements or the proposition (Bashir, Ullah & Iqbal, 2023). Since modality is not merely function as grammatical or syntactical needs, some researchers have examined how modality markers were implemented as political linguistic devices (cf. Barasa, Ndambuki & Telewa, 2016; Milkovich & Sitarica, 2017; Rozina & Karapetjana, 2018; Rosyda, Heriyanto & Citraesmana, 2020; Kantorgorje, Israel, and Mwinwelle, 2021). Barasa *et al.* (2016) investigate the ideological underpinnings beyond modal auxiliary verbs of Kenya's former President, Mwai Kibaki, and former Prime Minister, Raila Odinga at their post-consultation discourse in Kenya's 2008 coalition government. Milkovich & Sitarica (2017) also examine epistemic modality in political statements given by American and British administrations dealing with military campaigns in Iraq. Focusing on the analysis of the epistemic modality, they reveal the scale of the knowledge and the commitment from the President of America and the Prime Minister of Britain's political discourse. Another epistemic modality study in political discourse is conducted by Kantorgorje *et al.* (2021). Focusing on the selected inaugural speeches given by the Republic of Ghana's fourth President, they

inspect how modality markers indicate the speaker's knowledge and confidence in the proposition of the issues they discuss.

A quite resemble to this research which examines both modal auxiliaries and semi-modals was conducted by Dou (2019). Even though those previous researches employed a similar unit of investigation, this research focuses on the degree and the meaning of epistemic modality through the form of modal markers in presidential political discourse. Focusing on examining modal auxiliary verbs, this research refuses to observe an unclear unit of analysis to avoid probable perverted findings and conclusions in constructing argumentative conclusions. That construction is strengthened by adding semi-modal employment as the unit of analysis in this research. Semi-modal markers are involved because they associate similar meaning and function with modal auxiliary as well even though modal auxiliary and semi-modal are in different forms.

Concerning the role of modality in political discourse, this research aims to reveal the form and the degree of epistemic modality markers. This research is in an attempt to answer the research question of what types of epistemic modality markers are found in Obama's political speeches and what types of epistemic modality markers are frequently identified in that speech. This research also intends to elaborate on the modality markers' meaning in Obama's political speeches at the United Nations General Assembly. This research focuses on how modal auxiliary and modal verbs carry the speaker's evaluation, judgment, and attitudes through proposition because the identification of those modality markers can be simply understood by the hearers at that time as well.

2. Method

This research adopted the qualitative and quantitative methods for the documentary data. A qualitative method was used to elaborate and interpret the various forms and meanings of epistemic modality markers in Obama's speeches, while the quantitative method was applied to calculate the frequency of epistemic modality found and their distribution. That quantification portrayed the dominant modality markers identified in Obama's political speeches. The data were taken from Obama's speech transcripts served at the United Nations General Assembly in 2013-2016 or during his second period as the President of America. Those four speech transcripts were obtained by accessing the website americanrhetoric.com. After downloading those texts, separating sentences containing modal auxiliaries and semi-modal markers is conducted to gain the data. The researchers compared the transcript with the audio and a video with English subtitles to validate the data. From that speech, epistemic modality markers especially modal auxiliaries and semi-modal expressions were identified in 369 sentences. Abstracting from those sentential units of analysis, 471 epistemic modality markers both modal auxiliaries and semi-modals were found in Obama's speeches which were then classified based on the epistemic scale in epistemic modality. The following step was to describe and interpret the meaning of modality markers to use with their distribution at the speeches. The interpretation follows the form of reporting the quantitative first and the qualitative then as the following phase result (Creswell & Creswell, 2018). The researchers grouped the modal markers based on the high, medium, and low values of epistemic modality to expand the elaboration of the quantitative results. The level of the value in epistemic modality indicates the level of the speaker's confidence, knowledge, and commitment. It depends on the issues addressed. The explanation of the distribution regarding the number of quantifications was to reveal to which degree Obama's proposition was laid down, whether in the highest degree, median degree, or the lowest degree of the proposition. Every sentence containing an epistemic modality marker was coded as UNGA68 for speeches addressed at the 68th United Nations General Assembly, UNGA69 for speeches given at the 69th United Nations General Assembly, UNGA70 for speeches given at the 70th United Nations General Assembly, and UNGA71 for speeches given at the 71st United Nations General Assembly. Each modal marker both modal auxiliaries and semi-modal forms is classified based on the value of the epistemic modality such as low, medium, and high value by their initial. The letter L is for the low, M for the median, and H for the high value of the epistemic modality. The researchers then labeled the value in the form of the modal auxiliary or the semi-modal forms, UNGA70_H_must for instance. The code means that the datum is for the high value of epistemic modality with the modal *must* as the modal marker found at the speech given at the 70th United Nations General Assembly and so do the other speeches in the UNGA68, UNGA 69, and UNGA 71.

3.1 Results

Hearers can identify the occurrence of modality markers especially modal auxiliaries and semi-modals at the time of speeches served to assess the speaker's confidence. Through those modality markers, hearers can scale the speaker's judgment to the proposition within epistemic certainty, probability, or epistemic possibility. This research discovered modality markers in Obama's speeches dominantly indicated the median value of epistemic modality classified as an epistemic probability. The number of modality markers identified in Obama's speeches is drawn in the following table.

Table 1. The Occurrences of Epistemic Modality

Degree	Modal Markers	Numbers	Percentage
High (Epistemic Certainty)	Must	50	10.6 %
	Have to	17	3.6 %
	Need to	14	3 %
	Cannot	37	7.9 %
	Could not	6	1.3 %
Median (Epistemic Probability)	May not	1	0.2 %
	Should	28	5.9 %
	Will	138	29.3 %
	Would	15	3.2 %
	Be going to	7	1.6 %
Low (Epistemic Possibility)	Ought to	1	0.2 %
	Can	120	25.5 %
	Could	20	4.2 %
	May	12	2.5 %
	Might	1	0.2 %
Total	Be able to	4	0.8 %
		471	100 %

Embedding an epistemic modal marker in the utterance seems like admitting an element of doubt to the proposition, the intermediate ground between positive and negative polarity (Matthiessen & Halliday, 2014). Utterances without modalization make a clear distinction about the fact of the proposition, there is no disputation of the truth of the proposition. The speaker or the writer modifies their utterances with the high-value modality markers to mark themselves as bold, committed, confident, and forthright through the utterances (Kantorgorje, Israel & Mwinwelle, 2021). In the writing context, the writers use this high value of epistemic modality to designate the acknowledgment of their disciplinary expertise (Yang, Zheng & Ge, 2015). The higher the modal markers are involved, the higher the knowledge, confidence, consideration, evaluation, and attitude of the speakers committed. In contrast, the lower the modal markers are found in the utterances, the lower the knowledge, confidence, consideration, evaluation, and attitude the speakers committed. It comes from the speaker's or the writer's theoretical and empirical knowledge.

3.2 Discussion

Beyond the grammatical function, epistemic modality is considered a critical and intricated linguistic device (Yang, Zheng & Ge, 2015). It relates to how modality modifies the statements in terms of conveying factuality, an ideological stand of the speaker, and confidence (Bo & Ma, 2022 and Adegbola, 2019). The stronger sense of probability is found in the notion of inferred certainty, which strongly implies that the speaker has high-quality knowledge or information for supposing that the proposition is true. As the findings showed, a detailed discussion about the modality markers employed by Obama in his political speeches at the United Nations General Assembly was illustrated in the following elaboration.

Epistemic Certainty

The highest degree of epistemic modality, epistemic certainty, or what Sharashenidze (2015) called epistemic necessity, expresses the speaker's evaluation and judgment based on his or her knowledge and

belief which considers that the proposition asserted by the speaker is undoubted. Additionally, the use of strong modality conveys a force of authority and toughness by the speaker (Barasa, Ndambuki & Telewa, 2016). Epistemic certainty carries the proposition closest to the *yes* pole rather than the *no* pole. Obama expressed his high degree of epistemic modality through the modal *must*, *cannot*, *could not*, *may not*, *have to*, and *need to*.

- (1) Collectively, we **must** take concrete steps to address the danger posed by religiously motivated fanatics, and the trends that fuel their recruitment (UNGA69_H_must).
- (2) Now there **must be** a strong Security Council resolution to verify that the Assad regime is keeping its commitments, and there **must be** consequences if they fail to do so (UNGA68_H_must).
- (3) Part of that effort **must be** a continued rejection by Muslims of those who distort Islam to preach intolerance and promote violence, and it **must** also be a rejection by non-Muslims of the ignorance that equates Islam with terror (UNGA70_H_must).

Modal *must* have a high degree of confidence and commitment to the proposition. Marques (2023) categorizes *must* as a strong modal verb as an epistemic marker indicating a high degree of confidence under the true scope of certainty. Obama, in example (1), expressed his high confidence to achieve a certain goal. Obama shared his high commitment to act concretely in opposing the terrorism threat. In his speech at the 69th United Nations address, one of Obama's concerns was about Middle-Eastern terrorism. By using modal *must*, Obama showed his serious attitude involving his power and instruments to exterminate terrorism. He planned not only to battle the threat of terrorism, but he also committed to eliminating terrorism until its regeneration process. In example (2), Obama showed his high level of evaluation and judgment about Assad's regime. By using a modality marker *must*, Obama presented his serious warning about security under Assad's regime which seemed to cause apprehension. Obama's utterances strongly indicated the cause-effect of Assad's regime and that was one of Obama's concerns in his speech at the 69th United Nations address. Modal *must* is commonly denoted to express high-level obligation proposals (Rozina & Karapetjana, 2018).

Another example indicating epistemic certainty can be seen in example (3). Addressing an issue relating to a stereotype of Islam as a religion representing intolerance, terror, and violation, Obama stood on his high confidence that Islam did not. Obama necessarily evaluated those negative assumptions because Obama ever spent his childhood in the biggest Muslim country in the world. Based on that personal experience, Obama asserted his proposition about Islam by employing modal *must* as epistemic certainty. Relating to the modal *must* use, Nartney & Yankson (2014) and Ekawati (2019) highlight that the modal *must* confirm the speaker's confidence in involving real and logical argumentation.

- (4) But we also **have to recognize** that we must work more effectively in the future, as an international community, to build capacity for states that are in distress, before they collapse (UNGA70_H_have_to).
- (5) To move forward, though, we do **have to** acknowledge that the existing path to global integration requires a course correction. (UNGA71_H_have_to).
- (6) Because in the eyes of innocent men and women and children who, through no fault of their own, have had to flee everything that they know, everything that they love, we **have to** have the empathy to see ourselves (UNGA71_H_have_to).

Modal *have to* is categorized as a semi-modal expression which is classified as a high degree of epistemic certainty. This kind of semi-modal has a similar function to modal *must*. Semi-modal used in example (4) illustrated how Obama confidently insisted to all audiences to increase their hard work and integrity. Obama involved epistemic certainty to spread a positive attitude to others. Other semi-modal illustrations are found in the example (5) and (6) served in Obama's final United Nations General Assembly. One of Obama's focuses in that speech was on global relationships and some global conflicts such as in Iraq and Libya, particularly the effects of that conflict. Obama desired to end every conflict for a better future life. In example (5), Obama insisted that the action was necessary to address the path for global integration requirements. Through this use of a semi-modal marker, Obama shared with the audience about his evaluation and a strong commitment to the proposition. Another example of semi-modals *have to* was in example (6). Obama shared his experience of imagining how conflict damages everyone's hopes, dreams, and future. By modal *have to*, the speaker fosters the necessity and obligation

to the certain action. Pionery & Isti' anah (2017) argue that modal *have to* is categorized as a high level of obligation which means something that cannot be negotiated or in the other words, it can be insisted as a must.

Valcea (2016) considers that semi-modals *have to* signal an external obligation while semi-modals *need to* emphasize internal obligation. Besides signaling internal obligation, Nartney & Yankson (2014) highlight that the modal *need to* also indicate a sense of urgency of the proposition. *Need to* represent situational aspects that led the speaker to convey his or her judgment through epistemic certainty.

- (7) I believe that in the 21st century, economies can only grow to a certain point until they **need to** open up -- because entrepreneurs **need to** access information to invent; young people need a global education to thrive; independent media **needs to** check the abuses of power (UNGA71_H_need_to).
- (8) And just as we benefit by combating inequality within our countries, I believe advanced economies still **need to** do more to close the gap between rich and poor nations around the globe (UNGA71_H_need_to).

In examples (7) and (8), semi-modals *need to* is classified as a high degree of certainty which holds similar meaning to modal auxiliary *must*. By using this kind of semi-modals, Obama initiated to evaluation of the growth of the global economy in the 21st century by stating an obligation and necessity for an open-minded economy. He postulated how the entrepreneur accessed information and how independent media checked power to abuse for better economic growth. That obligatory expression indicated that Obama intensely conveyed his judgment to the current global economy. Obama also expressed the necessity to minimize the gap between rich and poor nations for an advanced global economy in the future.

- (9) In turn, those of us who continue to support the moderate opposition must persuade them that the Syrian people **cannot afford** a collapse of state institutions and that a political settlement **cannot be reached** without addressing the legitimate fears and concerns of Alawites and other minorities (UNGA68_H_cannot).
- (10) And so Assad and his allies **cannot** simply pacify the broad majority of a population who have been brutalized by chemical weapons and indiscriminate bombing (UNGA70_H_cannot).
- (11) In Iraq, the United States learned the hard lesson that even hundreds of thousands of brave, effective troops, trillions of dollars from our Treasury, **cannot** by themselves impose stability on a foreign land (UNGA70_H_cannot).

Those three examples above demonstrate epistemic certainty in negated forms. Even though the modal *can* itself is categorized as an epistemic possibility, as Halliday & Matthiessen (2014) identified, the negative form of modal *can* is classified as modal certainty. At the beginning of Obama's speech at the 68th United Nations General Assembly, he was concerned with presenting the role of the United Nations as an organization during the current decade. To be more specific, in example (9), Obama blew up the United Nations' contribution to Syria's condition. To strengthen his judgment, besides employing negated *can*, another epistemic modality marker, *must*, is also identified on one occasion. Other highest scales of epistemic modality markers can be found in the example (10) and (11) expressed by modal auxiliary *cannot*. Obama kept his campaign at the 70th United Nations address to refuse Assad's regime by pointing out Assad's destructive attitude such as killing, repression, brutalization, strife, indiscriminate bombing, and chemical weapons. It could be seen how Obama completely constructed a negative perception of Assad's regime in Syria. In example (11) Obama also exhibited how the strong United States was, both military and financially, but it was not able to ensure stability for other countries.

Epistemic Probability

Epistemic probability refers to the median value of epistemic modality indicating that this is weaker than epistemic certainty and stronger than epistemic possibility. Epistemic probability found in Obama's speeches containing modal *should*, *will*, *would*, *be going to*, and *ought to*. Meanwhile, modal *should* is

not as strong as modal *must* (Zhang, 2019). Modal *should* also designate the desirability of an action, deriving not from the speaker's considerations, but the situation.

- (12) Next year, we **should all be** prepared to announce the concrete steps that we have taken to counter extremist ideologies in our own countries -- by getting intolerance out of schools, stopping radicalization before it spreads, and promoting institutions and programs that build new bridges of understanding (UNGA69_M_ *should be*)
- (13) Look at the Christian and Muslim leaders who came together in the Central African Republic to reject violence; listen to the Imam who said, "Politics try to divide the religious in our country, but religion **shouldn't be** a cause of hate, war, or strife" (UNGA69_M_ *shouldn't be*).

Examples (12) and (13) demonstrate a median value of epistemic modality. Besides conveying advisability, Pionery & Isti'anah (2017) highlight that the mid-level of the epistemic scale indicates something that is supposed to be done. Modal auxiliary *should* was mostly found in Obama's speech given at the 69th United Nations General Assembly rather than the other three speeches. In example (12), Obama expressed his medium commitment to the proposition. By median degree, Obama was in an attempt to share a probability dealing with countering extremist ideologies. Through modal *should*, Obama planned a future probability to mitigate intolerance and radicalization. Another form of median-value of modal auxiliary can be marked by a negative form such *should not* in example (11). Through the negated modal *should*, Obama tended to warn of a manipulative effect and asserted that hate, war, or strife were not a negative effect of religion. Obama makes a prediction about real future events which is less confident than a prediction using *will* in its peripheral future time use. As the modal *should* in an epistemic marker, will also indicate less than a high value of epistemic modality (Ngula, 2017 and Panocová & Lukačín, 2019).

- (14) And so, going forward, the United States **will** maintain a constructive relationship with the interim government that promotes core interests like the Camp David Accords and counterterrorism (UNGA68_M_ *will*).
- (15) And we did so based on the belief that while these transitions **will be** hard and take time, societies based upon democracy and openness and the dignity of the individual **will** ultimately be more stable, more prosperous, and more peaceful (UNGA68_M_ *will be*).
- (16) And we have demonstrated over more than a decade of relentless pursuit of al Qaeda, we **will not be** outlasted by extremists (UNGA70_M_ *will not be*).
- (17) But it also means that in a place like Syria, where there's no ultimate military victory to be won, we're **going to** pursue the hard work of diplomacy that aims to stop the violence, and deliver aid to those in need, and support those who pursue a political settlement and can see those who are not like themselves as worthy of dignity and respect (UNGA71_M_ *are going to*).

Besides signaling desirability as Barasa *et al* (2016) underlined, the modal *will* also indicate an intention, promise, and determination (Nartney & Yankson, 2014). Median-value modality marker *will* in Obama's speeches were found in different forms such as in examples (14) to (16). In example (14), *will* expresses a determination by showing the speaker's desire and intention to maintain a constructive relationship. By modal auxiliary *will*, Obama committed to the plan dealing with the interim government that promotes core interests like the Camp David Accords and counter-terrorism. Related to Hardjanto & Nazia's findings (2019), modal *will* count on the meaning of reasonable assumption as the investment of a plan that has been formally discussed before. In example (15), Obama produced a modal auxiliary *will* to predict a sort of peaceful transition in Tunisia and Egypt. Based on that example, Obama expressed his median confidence in judging the process of transitions in those countries and his prediction that societies within a democracy, openness, and the dignity of the individual will be more stable, prosperous, and peaceful as well.

The median value of the modal operator *will* can be associated with constructing an intention of commitment as shown in example (16). Obama showed his serious commitment to the proposition related to counter extremists by recalling his and the audience's memory of how the United States

relentlessly pursued Al-Qaeda. Inserting past experience, Dou (2019) argues that modal operators *will* is also used to provide information and the statement made about coming occurrences that are based on the addressers' predictions, beliefs, and intentions rather than on their knowledge of the facts. An expression of desirability can be seen in example (17) by producing semi-modal *be going to*. Obama preferred to pursue the hard work of diplomacy rather than military force to stop violence such as in Syria. In this case, Obama demonstrates his intention or desire toward the semi-modals *be going to* which indicates the exigency of action signaled.

Epistemic Possibility

Epistemic possibility refers to the lowest degree of epistemic modality, downgrading and turning the force of the proposition into the weakest hypothesis of possibility (Míguez, 2022). This lowest degree of epistemic modality can be expressed by using modal *may*, *could*, and *might* (Zulkarnaen, Wahid & Jan, 2023). If the speaker does not have enough knowledge or evidence, the modality markers expressed epistemic possibility will be exploited to package the speaker's proposition. Furthermore, the epistemic possibility also validates detachment from the statements and avoids any kind of responsibility. Additionally, on some occasions, the epistemic possibility can be judged as a strategy for maintaining a good image without any concerns about particular events that occurred by addressing them as a possibility (Milkovich & Sitarica, 2017). Modal *can*, *could*, *may*, *might*, and *be able to* were identified as an epistemic possibility in Obama's political discourse.

- (18) But realism also requires a managed transition away from Assad and to a new leader, and an inclusive government that recognizes there must be an end to this chaos so that the Syrian people **can** begin to rebuild (UNGA70_L_ *can*).
- (19) And moreover, ties of trade and commerce between Israelis and Arabs **could be** an engine of growth and opportunity at a time when too many young people in the region are languishing without work (UNGA68_L_ *could be*).
- (20) But because of our democratic Constitution, because of our Bill of Rights, because of our ideals, ordinary people **were able to** organize, march, and protest, and ultimately, those ideals won out -- opened doors for women, minorities, and workers in ways that made our economy more productive and turned our diversity into a strength; that gave innovators the chance to transform every area of human endeavor; that made it possible for someone like me to be elected President of the United States (UNGA71_L_ *were able to*).

Low-value modality markers used in the example (18) to (20) are expressed in different forms such as *can*, *could*, and *were able to*. By producing modal auxiliary *can* in the example (18), Obama shared his viewpoint that Syria could rebuild its country after Assad's regime. Modal *can* indicate weak confidence shown by Obama towards Syrian ability. Other epistemic possibility markers can be seen in examples (19) and (20). The modal *could* is the past form of the modal *can* which can express permission, potentiality, ability, or possibility as well. Obama expressed epistemic possibility related to a kind of potentiality between Israel and Arabs through their ties of trade and commerce. He claimed that it could be the engine of growth and opportunity for those countries. By employing modal *could*, Obama only expressed his less confidence mentally and theoretically. It implicitly lacks physical possibility. Besides using modal *can* and its variant forms, the semi-modal *be able to* is commonly used to express a potential ability to make a realization of something such as in example (20). Based on the example, Obama considered that ordinary people, within the democratic constitution, had to organize, protest, or march against the government and everyone has the same rights and opportunities as a citizen.

- (21) Some **may disagree**, but I believe America is exceptional -- in part because we have shown a willingness through the sacrifice of blood and treasure to stand up not only for our narrow self-interests but for the interests of all (UNGA68_L_ *may*).
- (22) The notion of the American empire **may be useful** propaganda, but it isn't borne out by America's current policy or by public opinion (UNGA68_L_ *may be*).
- (23) These efforts **may appear** to give Iran an advantage in disputes with neighbors, but they fuel sectarian conflict that endangers the entire region and isolates Iran from the promise of trade and commerce (UNGA70_L_ *may*).

Other modality markers dealing with low value in epistemic modality can be expressed by using modal *may* such as in examples (21), (22), and (23). As elaborated by Yang, Zhen & Ge (2015), Ekawati (2019), and Bo & Ma (2022), the modal *may* express an epistemic possibility, a weak modality (Ekawati, 2019). Milkovich & Sitarica (2017) highlight that modal *may* and the past form of that modal imply a sense of possibility. The use of modal *may* in example (21) indicate a weak possibility to the proposition, a possible judgment that was not based on enough evidence or his own experience. Another modal employed in examples (22) and (23) was to express possibility as well. In that case, Obama was not paying attention to the propaganda because he considered that it was not relevant anymore. When Obama shared his opinion in example (23) about inclusive peace, prosperity within countries' borders, and working cooperatively with countries beyond their borders, Obama seemed not to be confidently addressing Iran as an example. Epistemic possibility indicates the speaker's deficit of evidence, knowledge, experience, and fact to the proposition. This means that the epistemic modal *may* indicate a lack of supportive evidence to confirm the proposition (Rosa & Romero, 2021). Through epistemic possibility, the speaker's weaker confidence in a proposition on one side means that the speaker has a strong belief in another side of the proposition. Epistemic possibility leads the proposition to only a possible conclusion as well.

4. Conclusion

To summarize, Obama frequently employed epistemic probability to set a warning, an intention of suggesting respective government, diplomacy, and human rights. Epistemic probability in Obama's speeches also represented future commitment and prediction, especially in dealing with potential conflict and the global economy. Obama, with epistemic probability, implicitly signaled commitment related to democracy, education, counter-terrorism, a better government system, global security, and peaceful maintenance. On the other hand, Obama expressed the epistemic possibility of producing a possible judgment with less adequate evidence. Another epistemic possibility was also found to indicate a low commitment to avoid any kind of risk while he was supporting other countries. To express his confidence, Obama employed epistemic certainty to address serious circumstances related to the United States' self-interest such as unity, economy, war, transnational conflicts, and other political global issues. Obama's high-value epistemic modality also paid serious attention to eradicating Middle-East extremists and some Middle East and North Africa conflicts such as what paid attention to Iran by campaigning earnestly about nuclear and chemical weapons. If a speaker has adequate facts, knowledge, and reasonable argumentation, he or she tends to modalize the proposition with the higher value of epistemic modality. Contrarily, the speaker tends to express the lower value of epistemic modality if the speaker's proposition lacks knowledge and belief.

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