

CHAPTER TWO

LITERATURE REVIEW

2.0 INTRODUCTION

According to Aristotle, man uses language either in written or spoken form to get the message across to his readers or listeners and getting the attention of others to listen involves the art of persuasion. Persuading fellowmen in a conversation, finding the right moment to use persuasion to influence, convince or sway an audience is called rhetoric. Rhetoric is applied in every form of interaction and examples of fields where rhetoric is considered very important are, law and the judiciary, politics, ceremonial or demonstrative events, discussion of ethical topics and issues.

This research, studying modality among utterances of politicians in a television interview, is indirectly a study of a form of rhetoric used by politicians and Aristotle calls it deliberative rhetoric. It is an art of raising issues in a political discussion, as well as getting the audience to accept a particular mode of action for the future. (<http://www.jcu.edu/bible/205/Readings/DeliberativeRhetoric.htm>).

Aristotle defines three major points in rhetoric and they are ethos, pathos, and logos. (<http://www.wfu.edu/~zulick/300/aristotle1.html>)

Ethos is the credibility of the speaker which is based on his reputation, his expertise or celebrity status. Ethos focuses on the speaker alone. Pathos is the affective aspect of persuasive talk where the focus is on the audience, their age and gender group, their socio economic status, education, ethnicity and background knowledge.

The third aspect is logos and this has to do with the speech or utterances, its arrangement and organization, its length, complexity, types of evidence and

arguments. In this research, the logos aspect is the transcript of an MSNBC Meet the Press interview of five American politicians.

Modals are a group of auxiliary verbs that are used to express an attitude or idea of prediction, ability, necessity, permission or politeness. Modals have no meaning when they are on their own. The research studies the use of modals as well as lexical predicates which Hyland (2006) calls meta-discourse markers. For example Hyland classifies the modal **might** as a validity marker, the lexical predicate “I think”, “I believe” as interpersonal attitude markers, which this research will consider epistemic in truth propositions (Palmer, 1990).

2.1 SIGN BASE THEORY

Langacker’s (1985) Theory of Cognitive Grammar defines the understanding of grammar as conceptualization. Understanding the patterns of linguistic devices in sentences is conceptualization and the person who is trying to interpret and understand this is the conceptualizer.

There are several ways a text can be understood and interpreted and one of the ways to be discussed here is modality, a level of information necessary for text understanding. It basically refers to the expression of the speaker’s degree of commitment to whatever he is trying to say which is known as the proposition. Sauri R, Verhagen M. and Pusterjovsky J. (2006) in their article *Annotating and Recognizing Event modality* refer to the truth proposition as event factuality and they say it exists along a continuum, between two extremes of true and false.

<http://www.aai/Papers/Flairs/2006/Flairs06-65pdf>.

They have classified their findings into two categories of strategies and syntactic constructions, which are lexical modality markers and syntactic modality contexts. Modal auxiliaries come under the grouping of lexical modality markers.

MacFarlane's (2008) repertoire of modal words comprises adverbs like **necessary, possibly, and probably, adjectives like necessary, possible and probable** and auxiliaries like **might, may, must and could**. MacFarlane (2008) in his journal *Epistemic Modals are Assessment Sensitive* says it is difficult to say if a word is a modal or otherwise and if it has epistemic functions. He says that if knowledge of a subject or event is involved, then it is epistemic. However, MacFarlane questions himself by asking "whose knowledge is vital to the truth proposition; is it the speaker's knowledge or the subject's knowledge.

So MacFarlane (2008) analyses each case based on Solipsistic Contextualism which is based on simple formulas and their variants. He uses it to analyse the situation which is determined by the speaker's knowledge or evidence.

Fairclough (2003) reveals in his book, the commitment of the truth depends with whom the speaker is interacting. It depends on how the speaker wishes to identify himself. He calls this relational. Fairclough (2003), he studies how a question is constructed because an epistemic answer or expression will depend on the question. He identifies social distance which can produce epistemic statements of various degrees. He talks about truth commitment and eliciting a truth commitment. He explains the levels of commitment with the following examples.

He certainly opened the window

He probably opened the window.

He possibly opened the window.

He must have opened the window.

He may have opened the window.

The statements above with the modal verbs embedded in them range from high commitment on the part of the doer to least commitment. Man expresses according to his moods. Cajoling, persuading, enticing, requesting, ordering, suggesting, asserting,

insisting and doubting are among semantic strategies which are used in a whole range of interpersonal relationships. These strategies provide the utterer or speaker its mood, as it is used to express speech functions.

According to Systemic Functional Grammar, mood consists of two systems, the indicative and the imperative, and each type has its own syntactic structures. Halliday and Matthiessen (1985) explain markedness and unmarkedness in the mood of statements. According to their research, the tone or direction of pitch movement in phonology is expressed by a falling tone or a rising tone. However, this aspect of mood is unmarked as compared to the use of lexico-grammatical devices in sentences and specific to this research are modality and linguistic devices which are used to indicate modality (See Appendix 2 for marked and unmarked sentences in this research).

2.1.1 SYNERGESIS OF LANGUAGE

According to Allwood (1998), to study semantics, it involves the semantic approach. The three main characteristics of the semantic approach are cognitive, dynamic and context sensitive. Semantic meanings are considered cognitive operations and this means the brain is involved in the processing of information to yield meaning in a context. Allwood (1998) says that the processing of cognitive information requires background knowledge which basically is the experiences and memory.

The processing of linguistic expressions involves semantic-epistemic operations. Semantic – epistemic operations according to Allwood (1998) are cognitive operations such as discrimination, similarity, abstraction, typification and reification. The said operations exist independently of language, and language is used

in context to express and elaborate the situations, thus classifying them as “syncategorematic expressions”.

Examples of syncategorematic expressions are conjunctions, prepositions, pronouns, quantifiers, some adverbs, some interjections, inflectional and derivational affixes. Another section consisting of vocabulary is known as “categorematic” roots and stems of nouns, verbs, adjectives, some interjections and adverbs.

The combination of both categories, “syncategorematic and categorematic expressions” portray linguistic competence and these become the focus of cognitive-semantic operations in arguments. Understanding meaning potentials of both the stated categories involves the production, comprehension and acquisition of language.

Allwood’s explanation is very similar to Tobin’s (1990) theory of the synergesis of language. Tobin (1990) explains and elaborates the semiotic and sign oriented theory by Ferdinand Saussure (1915) represented by the Semiotic Model of Language in Figure 1.

Ferdinand Saussure was a Swiss linguist who introduced the concept of *signifiant* and *signifie*, two French terms which mean in English the signifier and the signified. The signifier and the signified are terms which are part of the Sign Based theory initiated by Saussure in the early 1900. Saussure’s most important documentations were compiled by his students and his colleagues after he died and they helped to publish *Cours de linguistique generale* or Course in General Linguistics in 1916, three years after his sudden death.

Saussure said that there were things around us which changed and there were things around us which do not change and it is this principle that he applied in the field of communication. There were signs that did not change and this property is known as immutability of the sign, and it is because of this principle, language is

comprehensible across a language community. Saussure talks about relationships between *parole and langue*, also French terms which mean speech events or acts of utterances and the language system of the community the utterance occurs. The sign represents a content that an individual cannot change and this can be any part of speech within an utterance.

For language to be comprehensible between two parties, the signifier and the signified must be the same in the mind of the speaker as well as for the listener and must not be subject to change. This is because according to him, the laws of language indicate that language is inherited, and if changes occur they occur after very long periods of time.

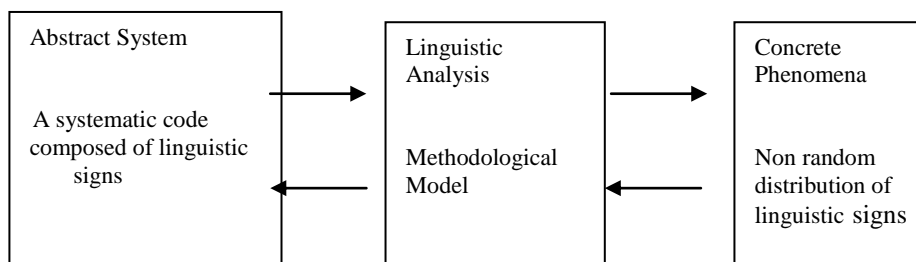


Figure 1: The Structural Paradigm of Language

Tobin (1990) calls the diagram (Figure 1) as the synergesis of language which is the sum total of the whole language being greater than the individual parts of the language put together. It is another version of de Saussure's (1915) *langue and parole* and Chomsky's (1957) *competence and performance*.

(<http://grammar.about.com/od/il/g/langueterm.htm>).

(http://en.citizendium.org/wiki/Noam_Chomsky)

Tobin (1990) explains how signals and meanings are used by human beings to communicate. It is the sign in each sentence which gives the meaning to the sentence and the meaning of every word gives rise to the overall meaning. Gardenfors (1998) in his article talks about approaches to semantics and notes that there are two approaches to the study: one realistic and the other cognitive. Gardenfors (1998)

divides realistic semantics into two categories: extensional and intentional. To him extensional semantics is the relationship between objects and predicates which when placed in a sentence becomes a truth proposition. (www.ling.gu.se/~biljana/st1-97/tenetsem)

Linguists, philosophers and logicians developed intentional semantics where the truth proposition can be analyzed and identified from within different sets of possible worlds. He then connects intentional and extensional aspects of semantics realistic with cognitive structures. These descriptions were counter-argued by Putnam (1975, 1988), when he claimed that semantics is not a cognitive operation, and he treated the subject as an oligarchic or dictatorial masters in the English Language with his claims (<http://www.ling.gu.se/~biljana/st1-97/tenetsem.html>)

Cognitive- semantics, intentional semantics and modal expression became the object of Gardenfors' study (1998). According to him it is the epistemic use of modals that expresses social power relations between agents. The first analysis of modal expressions was of necessity and possibility. For example, the modal **shall** expresses a power relation between speaker and hearer.

2.1.2 THE PHILOSOPHY OF TRUTH AND LOGIC

According to the Internet Encyclopedia of Philosophy (<http://www.iep.utm.edu/truth/2004>), there are several important theories of truth.

They are The Correspondence Theory, The Semantic Theory, The Deflationary Theory, The Coherence Theory and The Pragmatic Theory. Each of the theories has its own set of criteria and standards. Made popular by Plato and Aristotle, The Correspondence Theory says that truth is a certain relationship and it is a relationship that holds between a proposition and its corresponding fact. The Correspondence Theory of Russell (1918), Wittgenstein (1921) and Austin(1979) say that facts must

be mind-independent, which means they cannot be impressions of the mind. But there are researchers who also say propositions being bearers of truth –values can also be argued. (<http://www.iep.utm.edu/truth/2004>)

The development of a body of logical principles begins with the proposition. A proposition can be that of truth or falsity. According to W.E. Johnson (1921), a proposition is not a judgment. A proposition's content is matter available to the thinker to act verbally about something and it has got to do with parts of grammar which is where modality comes in. So he goes about distinguishing the three systems which are a sentence, a proposition and a judgment. A sentence can be either a proposition or a judgment. We can pass a judgment on a proposition because it is an act or attitude at a specific time about the mental history of an individual. Johnson (1921) says that whatever is subjective is considered epistemic and calls it The Logic of Epistemology, and with this term logic cannot be confused with what is psychology. This is because it is part of universal Grammar which is common to all languages and this is Logic. Johnson's defines epistemic thought as part of logic as it involves knowledge. Johnson (1921) explains that what is constitutive (formal rules and regulations) is objective and not epistemic in the Theory of Logic. He says when a thinker makes a comment or an inference, passes a judgment or makes an assertion it depends on the individuality of the thinker, his personality and how literate and knowledgeable he is. He says that the differences and similarities of what are constitutive and what are epistemic brings about the Theory of Probability.

Johnson (1921) said "logic is the analysis and criticism of thought". Logic involved techniques which allowed man to think. Thinking was a procedure which needed steps involving techniques. Since man is involved in communicating his thoughts with words, logic and grammar are two aspects which overlap in function. The Theory of Probability is totally different from logic because it involves degrees of

doubt and belief exists in a continuum with belief, between two extremes which Johnson says cannot be logical. When doubt is only a fraction of certainty then it is not logic.

2.1.3 TRUTH PROPOSITIONS

According to Newman (2002), a proposition or a sentence is true when it corresponds to an appropriate fact. A fact is what determines the validity of a proposition. Newman says that the correspondence theory depends on the nature of propositions and the nature of facts. This theory says that there is a fact which corresponds to every proposition and this makes it true.

The study and analysis of epistemic functions are based on propositions and propositions according to Newman are truth bearers. He reiterates this by explaining how there is a single fact in the world that corresponds to the truth and makes it true.

Newman used an example based on Socrates. “Socrates is snub nosed” is a true proposition because he really has a nose of that shape. So the truth proposition is made true because of the shape of the nose is true. Several researchers which includes Russell (1918) Wittgenstein (1921) and Austin (1979) took the study of the truth proposition

[\(http://plato.stanford.edu/entries/truth-correspondence/\)](http://plato.stanford.edu/entries/truth-correspondence/).

2.1.4 EPISTEMIC MODALITY

Episteme comes from the Greek word which means knowledge and it deals with the certainty of sentences. The epistemic expressions are illustrated with phrases such as:

1. “It is certainly true that
2. “It may be true that

Wikipedia, the free encyclopedia, <http://en.wikipedia.org/wiki/Episteme>

When statements are modalized, the modals used can be interpreted as an inference or some form of reasoning is involved to come to a conclusion about something. When epistemic modals are used in a sentence, the sentence becomes a weak commitment to the truth. It reflects the speaker's weak commitment to the truth while a sentence without an epistemic modal, the nuance is not indicated.

2.1.5 HEDGING, EPISTEMIC MODALS, ROOT MODALS AND THE LAW

According to Hyland (2005), this is interpreted as expressions writers or speakers employ in order to withhold full commitment to a proposition. For example, when the modal **might** is used in a sentence and the hedging device **perhaps**, it indicates very little commitment to the truth proposition of the sentence. Hyland says the hedging device which signals involvement in the topic are linguistic devices like **in fact, definitely and obvious**.

Quirk (1990) explains that the speaker's way of developing meaning on the epistemic level is with the use of modals. These modals can either confirm or deny a proposition. The modals used can be in the area of possibilities, necessities and predictions.

Celce-Murcia and Larsen- Freeman (1983) says when a speaker uses epistemic modality in English, he uses it to "navigate himself in situations which require human judgment of a probable event or object." This means the speaker mentally forms an attitude and conveys this attitude by carefully selecting an epistemic expression or modal for the proposition which is expressed either verbally or in writing to indicate logical probabilities. According to the authors statement above the role of the modal as a semantic function, syntactic function and as a

pragmatic function differs and it is the fine line of differentiation between the three groups which will pose a problem while analyzing the texts in any research.

The ground or root level of modals differs from the epistemic level because the epistemic level deals with the acquisition of knowledge through logical possibilities. Root modals are modalized statements which do not cover the logical probabilities, possibility, necessity and prediction. The statements are merely declarations of the truth. Root modals are used when the situation displays a human control factor of the event, as when a boy asks his parents. The use of the modal “**may**” is not epistemic in function in the example below.

“May I go see the trapeze artists?” (Harris, Mc Laughlin & Still, 1983)

In the book *Language and the Law* (1994), Yon Maley’s article states how the modals “**may**”, “**shall**” and “**must**” are presented in law documents embedded within statutory declarations. He says that there are two sections in the language of law; one mandatory and the other discretionary. When a statement is a proposition which is mandatory, what is written or said must be carried out. In mandatory statements the modals used are *must* and *shall*, while the modal *may* is used in discretionary statements. This means in the latter case, that rules may be carried out, and there is no compulsion.

The two examples below explain the case:

Example 1

This Act shall come into force on 1st January 1979.

The follow-up action is mandatory

Example 2

This Act may be cited as the Interpretation Act 1978.

In this case the action may be carried out and it is up to the person or doer if he wants to quote the Act. The examples above have been quoted verbatim from the book *The Language of Law* edited by John Gibbons (1994).

2.2 FUNCTIONS OF AUXILIARY MODALS

Halliday (1986) explains the differences of the two groups of modals by classifying them as modalization and modulation. He states that the modal “**may**” is used for cases of probability while the modals “**must**” and “**shall**” function as obligation modals. This means there is a marked difference between linguistics and law, especially in the use of the two modals. An analyst from the legal field will classify modals “**shall**” and “**must**” immediately as modals to be used in the preparation of statements with truth propositions or in plain terms, judgment, which is part of language constructing law.

According to Gelderen (2010), there are two types of modals:

- a) core (regular)
- b) periphrastic

The common modals are **may, might, must, can, could, will, would, shall, should, ought, need and dare** while the periphrastic modals or semi-modals are used to express notions like obligation, ability and necessity. Examples of periphrastic or semi-modals are *has to, has got to, is going to, ought to, needs to, dare to* etc.

In language, modality is the subject concerning modal auxiliary verbs like **can, must** and **should** that are customarily used to modify the meaning of other verbs. Modal verbs express possibility, permissibility and probability. These involve the mood of the language used, which can be divided into grammatical modality and grammatical mood.

Nuyts (2001), defines epistemic modality as “an estimation of the likelihood that some aspect of a certain state of affairs is/ has been/ will be true (or false) in the context of the possible world under consideration.” According to Nuyts (2001) epistemic modality is used when there is a high mental level or cognitive operations over language. It is more of a conceptual category than linguistic category. Palmer (1990) also defines epistemic modality along the same lines as Nuyts (2001) but he includes evidentials which Nuyts disagrees with because Nuyts feels that evidentials belong to a totally different category even though there are occasions when both epistemic modalities and evidentials co- occur.

Nuyts (2001) categorizes epistemic modality as basic and conceptual because he says epistemic modality involves sophisticated pragmatic-cognitive operations within the black-box of the brain which transmits myriad patterns of information after linguistic processing.

According to Chung and Timberlake (1985), the mood of the speaker and the truth of his convictions are reflected in his utterance, and it is the use of epistemic modality that determines the level of certainty or evidence in the truth proposition.

However, Chung and Timberlake (1985) have included evidentials as part of epistemic modality contrary to Nuyts. For example, the epistemic stance can be realized at various levels of discourse: phonological, lexical, syntactic and rhetorical.

Gabrielatos & McEnery (2005), express epistemic modality as the “concern of the user’s degree of certainty or commitment to the truth of their statements, or the assessment of the likelihood of something being, or having been, the case” (pg3). According to the two authors cited above a small number of modal auxiliaries (**can, could, may, might, shall, should, will and would**) are regarded as the “prototypical morphological realization of epistemic modality.

Celce–Murcia & Larsen–Freeman (1983) in their English Grammar Book identify three primary types of modality: epistemic, deontic and dynamic modality. Human beings negotiate meaning using modals and according to the authors, we navigate ourselves through human judgment on the basis of logical probabilities of an object or event. The following definitions and examples are from the www.usingenglish.com. Deontic modality involves giving permission.

Example:

You can go when you have finished.

Dynamic modality does not affect the speaker’s opinion nor does the speaker affect the situation.

Example:

He can speak perfect French.

Epistemic modality is concerned with the “speaker’s commitment to the truth of the proposition and may also refer to a process of inference made by the speaker” (Karkkainen, 1992). According to Karkkainen, in a research done by her to investigate the use of epistemic expressions by native speakers and non native speakers (second language learners of English), Karkkainen found that epistemic modality covered a large area, and they were modal auxiliaries, modal adverbs, modal lexical adverbs, parenthetical clauses and to a lesser extent modal adjectives and nouns.

Karkkainen talks about the ambiguity of modal expressions as modals can mean a whole lot of things: it is a multitude of meanings. However, Coates (1983) claims that a modal verb may be ambiguous between an epistemic meaning and non epistemic meaning as in her example:

- He must understand that we mean business.

Epistemic: Surely he understands we mean business means he must understand that we are serious about what we are talking or doing. There is knowledge implied in whatever is being said by the speaker which is considered epistemic.

- It is essential that he understand that we mean business.

Root: The root meaning of business is trading and cost. Here the meaning is not epistemic, it is direct and no implication is required.

2.2.1 TAXONOMIES OF MODALITIES BY RESEARCHERS

In Karkkainen's (1992) research which compares epistemic devices between native speakers of English and second language learners of English, the following epistemic devices were noted among native speakers. Her results were based on a spoken discourse analysis.

Parentheticals & Lexical verbs	Adverbs	Modal	Adjectives
I think	Really	might	sure
I know	Of course	could	I'm sure
I suppose	May be	'll	possible
seems	Probably	Won't	I'm not sure
sounds	Perhaps	may	Sure thing
I don't think	definitely	Wouldn't	
I guess	Surely	Going to gonna	
tend	certainly	Will would	
It seems to be	Possibly	Must should	

Table 2.1: Epistemic devices used by native speakers of English
Source: *Pragmatics and language Learning Vol 3 p 197- 216*

Why do people use epistemic modality?

According to Karkkainen (1992), there are three basic uses of epistemic modality and they are all strategic in nature in the interaction process between people.

The three strategies are

- the politeness strategy
- a face saving strategy
- a persuasion and manipulation strategy

In her research, two groups of students were compared using epistemic modality in their conversation and she found epistemic modality as a truly pragmatic device. Authors quoted in her research like Holmes (1982), Coates (1990), Hubler (1983), Markkainen (1985) and Westney (1986) consider epistemic modality as a politeness strategy. The modal **might** is used as a low intensity modal and its function is to mitigate the effect of the complaint and the suggestion. The use of **I think** is a conventionalized indication of polite behaviour.

Karkkainen (1992) also quotes Brown and Levinson (1987) in her research and they say that epistemic modality is a device used as a face saving strategy when people interact. It consists of face saving defensible interpretations whereby the speaker beats round the bush so that it gives him/her the leeway to pursue his/her own interest in the conversation. The speaker chooses to be evasive so that he can get out of a problem.

Karkkainen (1992) concluded that using epistemic modality as a strategy is truly a mastery of linguistic behaviour as she calls it. This is because it is an apparatus used for making adjustments about what is about to be said and it gives the speaker room to manoeuvre.

Palmer (1990) clearly defines epistemic modality as the degree of commitment of a speaker regarding what a person knows about the issues discussed. This actually

reflects his status on the subject as it depends on the knowledge as well as understanding he has about the event. Palmer calls the process a modal system.

Chafe's (1986) typology (in Leonardo Recsky, 2006) defines notions of reliability, deduction, and inference by referring to knowledge and evidence which comprises six categories and they are belief, hearsay, deduction, induction, sensory evidence and degrees of reliability. Chafe identifies a belief as knowledge derived from a belief, a guess or a hypothesis. Examples are **I think** and **I guess**. He explains that hearsay is interpreted with the use of phrases like **be supposed to, they say, and a word says**. Induction is knowledge based on inference and it is expressed with words like **obviously, must** and **seem**. When a person says **I see, I hear** or **it looks like**, then sensory perception is used as knowledge by which an understanding has occurred. A degree of reliability is shown when the speaker uses **maybe** and **probably** and it is based on the speaker's knowledge used in making an assessment.

The examples below are extracted from Recsky who has his own version of degrees of certainty and they are as shown below.

Both evidentials and judgments involve degrees of certainty. As a result, a large number of complex modalities can be distinguished such as:

Belief + certainty (e.g. *I'm sure*)

Belief + uncertainty (e.g. *I guess*)

Inferential + certainty (e.g. *must*)

Inferential + uncertainty (e.g. *seem*)

The examples above have been reproduced from Recsky's article.

According to the Free English Dictionary, an on line dictionary website, (<http://encyclopedia.thefreedictionary.com/epistemic+modality>) epistemic modality is a sub-type of linguistic modality that deals with a speaker's evaluation or judgment of, degree of confidence in or belief of the knowledge upon which a

proposition is based. In other words, epistemic modality refers to the way speakers communicate their doubts, certainties, and guesses – their “modes of knowing”.

Epistemic modality may be indicated:

- a) grammatically, through modal verbs e.g. may, might and must
- b) non-grammatically, through adverbials e.g. perhaps and possibly

Many linguists consider evidentiality (the indication of the source of the information upon which a proposition is based) to be a type of epistemic modality.

For example:

I doubt that it rained yesterday. (epistemic: judgment of information source)

I heard that it rained yesterday (evidential: identification of information source).

Ferdinand de Haan (2001) in his research titled *Evidentiality and Epistemic Modality*, however, disagrees with this and says that epistemic modality and evidentials are not the same because epistemic modality involves a degree of commitment from the speaker while evidentiality requires a source of information.

(http://www.ling.arts.kuleuven.be/spanlinge/bestanden/functions_of_language_04cor.pdf.)

According to the Wikipedia, “When considering modality it is useful to distinguish between two parts:

- a) The *dictum*: what is said
- b) The *modus*: how it is said, i.e. the speaker's propositional attitude toward what is said, e.g. the speaker's cognitive, emotive, and/or volitive attitude.

For example: It is hot outside. This dictum could be paired with various types of *modi*, such as the following:

	<u>Epistemic expressions with lexical verbs</u>	<u>Modal auxiliaries</u>
<u>I think that</u> it is hot outside.	Think	
<u>I believe that</u> it is hot outside.	Believe	
<u>I know that</u> it is hot outside.	Know	
<u>I hope that</u> it is hot outside.	Hope	
<u>I doubt that</u> it is hot outside.	Doubt	
It <u>must</u> be hot outside.	Must	must
It <u>has to be</u> hot outside.	Has to be	
It <u>might</u> be hot outside.	Might	might
It <u>could</u> be hot outside.	Could	could
It <u>needn't</u> be hot outside.	Need not	
It <u>shouldn't</u> be hot outside.	Should not	
It is <u>probably</u> hot outside.	Probably	
<u>Perhaps</u> it is hot outside.	Perhaps	
It is <u>possible that</u> it is hot outside.	Possible	
It is <u>certain that</u> it is hot outside.	Certain	
It is <u>probable that</u> it is hot outside	Probable	

Table 2.2: The dictum and the modi

Source: http://en.wikipedia.org/wiki/linguistic_modality)

In linguistics, modals are defined as expressions broadly associated with notions of possibility and necessity. According to UsingEnglish.com, which is an online reference section glossary of grammar items, epistemic modality is defined as a situation “when a modal verb is used to express the speaker’s opinion about a statement, then it is called epistemic modality” (2009). The speaker is expressing an attitude about whether something is true or not, accepting that there is a possibility, but not of certainty.

Epistemic modality is seen as logic-oriented or alethic. Epistemic modals are used as connectors in propositions, when one proposition is expressed as an independent sentence. For example:

John's umbrella is wet. It must be raining.

The sentences above indicate “a possibility” with the use of the epistemic modal

According to Lyons (1977, in Palmer, 1990), modality is defined as the “opinion and attitude” of the speaker. Palmer (1990) explains how convenient it is to explain tense and the notion of time as well as the distinct differences in enumeration. The time notion is easily expressed with inflected verbs while the inflected nouns signify a clear distinction between the singular and the plural.

Palmer explains how confusing it becomes to categorize the use of simple modals “**can**” and “**will**” as they carry totally different meanings in epistemic and deontic aspects. Palmer generalizes the modal expressions and researches the exception to the rules. He explains the confusion of the range of the modalities used and finds limiting the modalities within a system reflects “vagueness and indeterminacy of the semantic system” (2001 Pg.19). He finds there are “no clear guidelines” (2001 Pg.19) concerning where to set the limits. Referring to definitions as well as types of modals by several authors in the following website will explain the vagueness Palmer talks about. It is a glossary of English language linguists who have publications on modality. (<http://dinamico2.unibg.it/anglistica/slin/modgloss.htm>). It gives lists of definitions and modals they consider having functions as modals.

The six modals that belong to the system are **will, shall, may, can, must and ought to**. According to Palmer (1990), **will, shall, may, can, must** and **ought to**

belong to the typological category of modals. He finds epistemic modals totally different from deontic modals and cannot be classified under one category. He says that there must be justification if epistemic modals are to be classified with deontic modals under one category. Palmer (1990) includes the following epistemic expressions as modals: 'have to', 'be able to' 'willing to' 'be bound to' and 'be going to' which are combined with auxiliary verbs. He finds 'is to' a problematic modal.

Palmer (1990) identifies 4 criteria of modals and the examples are given below.

1. Inversion with the subject

Example: Must he come?

Is he coming?

2. Negative form with -n't

Example: He can't come.

He isn't coming.

3. Code

Example: He will come and so will she.

He has come and so has she.

4. Emphatic affirmation.

Example: He may come.

He has come.

Modality is expressed in different ways by different languages. Modality can be expressed via grammaticized elements such as auxiliary verbs or verb endings, via indirect means such as a preposition phrase or a clause, or in other ways, such as via adverbs. As an example, in English, the two sentences below have roughly the same meaning, but express the meaning in two different forms:

- It is possible that the Moon is made of cheese.
- The Moon might be made of cheese. (Palmer 1990)

The USAS system categorizes meaning according to broad semantic fields, for example, “terms relating to reasoning/ thinking and level of belief/skepticism.”

(http://www.comp.lancs.ac.uk/~paul/publications/cl2003_archer.pdf.) .

The University Centre for Computer Corpus Research on Language (UCREL) focuses on corpus building involved in the creation and annotation of corpora developed the CLAWS (part of speech tagger) and the USAS or semantic analysis system, which compiles speech semantics. In total USAS annotates using 232 category levels. Researchers Gabrielatos and Mc Enery (2005) have categorized the epistemic descriptions according to their functions based on the Table 2.3. This is because of the presence of a large number of words and multiword units of semantic as well as morphological category.

Code	Description	Examples of epistemic expressions	Items
A7 Definite Modals	Abstract terms of modality (possibility, necessity, certainty, etc)	Modal auxiliaries Can, could, may, might, would Modal lexis Achievable, certain, positive, possible, potential, probable, tentative, by all means, grey area, have a chance, no matter what, no two ways about it, out of the question.	
X.2.1 Thought Belief	Terms relating to reasoning/thinking, and level of belief / skepticism	Assume, believe, presumably	Conceptualize, formulate, images
X. 2.2 Knowledge	Terms relating to (level of) knowledge/perception/retrospection	Anybody's guess, can't tell	Acquainted, cognizant, forget, hindsight
X.2.6 Expect	Terms depicting (level of) expectation	Anticipate, foresee, forecast	Ironically, on impulse, out of the blue
T.1.1.3 Future Time	General terms relating to a future(period/point in) time	Gonna, shall, will	Defer, future, postpone, tomorrow

Table 2.3: Semantic categories relevant to epistemic modality
Source: USAS system of Categorization

The information in Table 2.3 will be adapted and used in the Analysis of Data in Chapter Four of this research.

Epistemic modality is important as it is considered expressing certain degrees of certainty or doubt. Hyland and Milton (1997) have suggested the following five categories of epistemic commitment (See Table 4). Hyland (2005) quotes the work of linguists Crismore and Farnsmouth in his book, where he describes how the two researchers explored the writings of Charles Darwin *The Origin of Species*. (<http://www.literature.org/authors/darwin-charles/origin> of species).

Their exploration uncovered more than 800 meta-discourse markers which Darwin used. They concluded that Darwin used meta-discourse markers in truth propositions as he wanted to engage his readers into a discussion leading into dialogue sessions. Some of the meta-discourse markers Darwin used can be considered epistemic in nature as it was based on his probability of the truth.

In excerpts analysed from Darwin's famous book, he used the verb "I think" several times, which according to researchers Crismore and Farnsworth (1989), was a strategy Darwin used to create space for his listeners/readers to argue. He used the verb or lexical predicate "I think" and by doing so he did not make claims with issues he could not prove. By behaving in such a manner when making statements, he showed respect for his audience. In Hyland's (2005) research, lexical predicates considered epistemic are categorized as meta-discourse markers. Examples of such linguistic devices are *I believe*, *I am sure* and *I know* which Hyland (2005) calls boosters.

Hyland and Tse (2004) wrote that metadiscourse is interpersonal because it has to do with the speaker's assessment of the truth proposition and of probabilities. It is the signal which is sent to the audience about the speaker's or writer's attitude towards a subject. It describes a relationship between text and the reader/speaker whereby it helps the writer or speaker to express a viewpoint and engage in dialogue with members of a discourse community. Table 2.4 which provides a continuum between degrees of modality will also be referred to during the data analysis process in Chapter Four.

<i>Certainty</i>	<i>Probability</i>	<i>Possibility</i>	<i>Usual</i>	<i>Approximation</i>
<i>Certainty</i> <i>Must</i> <i>Will</i> <i>argue</i>	<i>Would</i> <i>Seem</i> <i>Probable</i> <i>believe</i>	<i>May</i> <i>Might</i> <i>Perhaps</i> <i>possible</i>	<i>Always</i> <i>Often</i> <i>Usually</i>	<i>About</i> <i>Approximately</i> <i>almost</i>

Table 2.4: Five categories of epistemic commitment

Source: A study of the epistemic modality in college writing by Lee, Eunpyo & Park Seungwon, 2008

High factuality and low factuality truth propositions can be determined by the use of epistemic modalities and expressions. Table 2.5 will be referred to while analyzing utterances in sentence form in Chapter Four.

Certainty of conclusion	Modal Verbs/ Adverbs	Statement of Claim
Strong	Is, will, can, must, undoubtedly, always, never, definitely, clearly	It is certain that..... It seems clear that X is definitely
Moderate	Should, would, can, ought to, tend to, usually, likely, probably, regularly, majority, generally, often, frequently, rarely	It appears probable..... It is usually the case that..... In the majority of cases..... The results suggest it is likely that
Tentative	May, might, could, possible, conceivable, sometimes, occasionally, seldomly, perhaps, maybe, uncertainly.	Conceivably..... It is possible that..... Occasionally..... It may be the case that..... ---

Table 2.5: High Factuality and Low Factuality Linguistic Signals

Source : Adapted from Jordan, R.R. (1990) Academic Writing Course

The modality of a sentence is the notion of possibility or necessity in an utterance. Boland (2006) says that modality is all about notions and the notions are embedded within sentences. These notions can be based on the predication or proposition of the sentence uttered. She says that when the predication is discussed, it is the actuality of the event and when the speaker's level of commitment is discussed, it is known as the proposition.

Sauri, Verhagen and Pustejosky (2006) in their journal *Annotating and Recognizing Event Modality* define this along similar lines but refer to modality as determination of event factuality. The authors say that linguistic inferences of events that have yet to happen differ from factuality. They have a continuum which ranges from truly factual to counter factual. The authors have identified many lexical markers of modality and this means a large spectrum of vocabulary which modalizes utterances. The authors have also identified modality as syntactic structures and this means modality embedded within clauses.

Linguistic devices are used to express the notions of possibility or necessity and the linguistic devices range from one extreme to another along a continuum of certainties. When notions include knowledge of events or propositions then it is known as epistemic.

2.2.2 MODALITY BY PALMER

Palmer (1990) divides modality into three groups which are epistemic, deontic and dynamic. **Can** is a dynamic modal which means ability. It often refers to the ability of the subject. Since it is the subject which has the ability it is known as a subject orientation modal. The subject can be either animate or inanimate.

Example:

- The system **can** examine everyone at the entrance.

The word “system” is inanimate and the modal **can** is used as it functions as a subject orientation modal.

The modal **can** also refers to what is possible or that which should be implemented.

Can and **may** are used to refer to rules and regulations.

Example:

You can sit here.

You may read this.

Example:

I can show you how to do it but you must do it yourself.

Can collocates with many common verbs such as **understand, remember, think, afford, stand, bear, face, and be bothered**. The dynamic modal **can** can be used as a deontic modal when it is used to give commands.

Deontic modals are usually performative which means they are action oriented modals. **Can** is used to make an offer by the speaker. **It** is also used with the third person pronoun where the speaker speaks on behalf of someone else. **can** is used more often in spoken language than in written form because it does not really explain actuality. In the written form **can** is substituted by **be able to** which is the preferred choice as it implies actuality and is more formal. **Can** can be used in the interrogative to ask questions about dynamic possibility.

Example:

Can you complete the project?

The auxiliary modal **could** is used when there is no implication of actuality, because it is only a statement of possibility or ability. **Could** can be used in a semi-negative context because it collocates with the adverb **hardly**.

Example:

He could hardly hear a word during the meeting.

When **could** collocates with hardly, it indicates no actuality.

Example:

I could hardly reach the top of the mountain.

The modal **could** is not a time or temporal marker indicating the past tense, but it suggests unreality.

Deontic modality is used when permission is given. Examples of deontic modals are **must and shall**. **Will, may** and **must** come under the category of epistemic modals as they are used to make judgments about the possibility of something occurring. The epistemic modal **will** refers to what is expected to happen and it is an inference.

According to Jespersen (Palmer 1990), the modal **will** is classified as dynamic and subject oriented. It has three functions which are known as volition, power and habit.

Below is a list of functions of the modal **will**.

- An agreement or undertaking to act
- A request
- Actuality
- Prediction of a future event
- Inference
- Typical behaviour

When **will** collocates with the pronoun I as the subject then it indicates an agreement by the speaker to act. Palmer calls it “an undertaking by the speaker”.

Example:

I will call the management office.

The modal **will** is also used in requests, where someone is asked if he is willing to participate in an action taking event.

Example:

Will you do this for me?

Volitional **will** and Futurity **will** are not similar. Volitional **will** always implies actuality while futurity **will** does not necessarily imply actuality. Volitional **will** can also imply power for inanimate subjects. It is also used as an inference linguistic device.

Example:

Oil will float on water. (**will** of Actuality)

That animal will eat everything. (**will** used as an inference device.)

Will is also used to indicate typical behaviour in subject oriented sentences. It refers to habitual behaviour.

Example:

You will keep on saying that

The modal **will** can also be used in sentences which indicate the conditional “if”.

Example:

If John comes, Bill will leave.

Will is a prediction of a future event but of an event which is yet to happen, so it can be a low certainty prediction even though it is spoken with conviction.

When the modal **will** is substituted by BE GOING TO, the sentences expresses actuality.

Example:

I will buy the books. (prediction of an event)

I am going to buy the books. (actuality of the event, with no conditional).

Might and **would** are very low certainty modals and cannot be considered epistemic as they are used to denote remote chances of anything occurring. **Would** is considered a tentative marker in sentences and Palmer (1990) considers it a kind of

conditional. **Would** can be substituted or paraphrased as probable which means likely but uncertain.

Epistemic modals must speak of the future and they must be per formative. **Should** expresses likelihood of an event occurring but unreal or tentative as it is a tentative marker of epistemic necessity.

According to Lyon (Palmer, 1990), the future is the period of time with the least factual status, because he says we can never know the future until it happens, when we make an utterance. When the past tense is used, the event is the most factual because it has already occurred. So it is up to the analyst to interpret the past events and the future events to indicate factual status. However, with the use of the modal **could** and **would**, it refers to non actuality.

SUMMARY

Chapter Two is a comprehensive review of the relevant literature available on the research topic. It includes not only the underlying research material on the topic but also the opinions, viewpoints, criticisms, findings and conclusions of several authors who are experts on the subject of epistemic modality. The research is mainly focusing on how certain truth propositions are expressed using modals as well as lexical predicates and the extent of the degree of certainty contained within each sentence. Reference to the degrees of certainty, definitions, arguments and agreements between what is a high certainty objective proposition and what is a low certainty subjective proposition will be done throughout the manual analysis using the taxonomies as well as the functions of the eight auxiliary modals, lexical predicates and their meanings in sentences. The technique used to finally conclude the validity of each proposition in Chapter Four as being certain, uncertain or ambiguous is done by cross referencing with the definitions in Chapter Two.