

THE FORMS AND FUNCTIONS OF
MODAL VERBS IN SECTIONS OF THE
ENGLISH TOURISM RESEARCH ARTICLES



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SUMMARY

The tourism research article (RA) has not been the focus of many studies. This volume offers a description of the genre in terms of section, besides an analysis of the most used language features in each section of the RA. Among these are the presence of modal verbs. Precisely, the goal of this work is to describe their use, meaning and functions in a corpus of the "introduction" and "conclusion" sections of the RA in tourist studies. The compilations included texts from leading journals in the area. The method of inquiry includes corpus linguistics tools to analyze texts as well as specific examples to show how these forms behave in the RAs. The analysis of context is also essential in order to identify the exact meanings of modal verbs, and for that reason visual inspection of each sample is mandatory. The discussion of the evidence obtained is accounted for by studies in the domain of functional linguistics. The conclusions show that formal variation exists in the introduction and the conclusion sections. This also applies to their meanings. Dynamic modality is attested to be more recurrent in the introductions and epistemic modality is preferred in the concluding sections. The functions performed by these modals are varied to feature interpersonal and textual cues in the elaboration of meaning in the RA.

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INTRODUCTION

The research article in the field of tourism studies has not been a focus of attention for many researchers (Lin & Evans 2012), despite being a discipline that represents a major area of economic development for many countries (Benkraiem et al. 2020: 25). Another issue, however, is the language study that has been carried out using other textual genres related to the tourism register, either centrally or tangentially as part of an interdisciplinary study. In this regard, the work of Yui Ling Ip (2008), Chinanard (2008), Sulaiman (2014) and Carretero & Zamorano-Mansilla (2015) on promotional texts such as the brochure; Suau-Jiménez (2007; 2016) on tourism websites stand out; Lin and Evans (2012), Dolnicar & Chapple (2015), Aluthman (2018) in academic writing texts; and Ahmed (2015), Sabila & Kurniawan (2020), Álvarez-Gil & Domínguez-Morales (2018) specifically in the abstract (summary) genre of these academic texts.

The aforementioned works give a clear idea of the social and economic impact of tourism studies. The reality is, as noted in Álvarez-Gil (2022), that tourism research provides organizations, whether public or private, with relevant information for the improvement of the activity, which translates into recommendations that are often provided in the conclusions of these works. It is understood, therefore, that there is a direct relationship between the progress of the industry and empirical research, which, in turn, indicates the interest in scholarly periodicals. It follows that the macrostructural as well as the microstructural form of the scientific article should be analyzed and precisely described for didactic purposes for present and future scholars in the discipline.

Although numerous works have been carried out on specific aspects of the language of tourism as mentioned above, to date there is only one work that covers the genre of the scientific article in tourism; this is Álvarez-Gil (2022). In this work, a formal analysis of the genre is included in a section structure, following the terminology in Martin (1984). The study is complemented with an analysis of the recurrent lexical-grammatical structures in each of the sections of the scientific article and the lexical and syntactic variables that characterize the text within the scientific register, both in terms of complexity and the level of elaboration exhibited by the language used in these works. In addition, the authors draw attention to the use of a number of grammatical structures which appear in the sections with an indication of their significant variation in each section. These structures, as the paper points out, are intended to indicate the authors' perspective, among other things. Thus, one can find in these structures modal verbs, intensifying and mitigating elements, uses of passive voice, conditional structures and *that* evaluative clauses.

My working hypothesis is that modal verbs present different functions in the sections called “introduction” and “conclusion” of the research article in tourism inspired by the communicative interest in each of them. Thus, the main aim of this paper is to analyze modal verbs, their meanings and the existence of variation in the aforementioned sections of the scientific article in a corpus of these sections in the discipline of tourism; these texts have been extracted from journals in the field and with a notorious impact index in the field. Modal verbs reflect the speaker’s point of view, as noted in Palmer (2001) and Biber et al. (1999). That said, this volume raises the following questions:

1. Which modal verb forms are the most frequently occurring in these sections of the academic article,
2. What modal meanings are most frequent in the introduction and conclusion and whether the variation is significant; and, finally,
3. What are the functions of modal verbs in the introduction and conclusion?
4. What functions do these modal verbs fulfil in each of the sections?

For this, corpus linguistics tools are used to manage and consult the texts and to extract actual examples that illustrate the forms, semantic categories and functions found in the texts studied. However, since context is fundamental to the identification of modal meanings, part of the analysis of the texts requires direct visual recognition of each case. The role of context in specifying the meaning of a given modal verb has been described previously (Alonso-Almeida 2015a). The same modal verb can indicate different meanings, so that, without the help of context, it would be unreasonable to expect an accurate categorization of these verb forms. In other words, the categorization of modal verbs through an automatic labelling process would not yield results, as current software in corpus linguistics cannot analyze the semantics and pragmatics of the forms being analyzed accurately and reliably. The semantic flexibility of modal verbs makes them unique, but this also means that we must pay special attention to selecting appropriate contexts so as not to err in identifying the meanings that these forms represent. Similarly, the categorization of the pragmatic functions that these modal forms have in each case in texts cannot be automated.

This does not mean that the use of computer tools is not useful in this work. On the one hand, a manual search for modal verbs would be time-consuming and error-prone, as some forms could be left behind. On the other hand, automatic searches allow retrieving all cases for a given query, which may include the modal verb with one or more concurrent forms. In addition, the search software supplies each of the forms found in its co-text, which improves the analysis. These computerized searches ease the calculation of statistics on the frequency of forms per section to detect the existence of variation. All this justifies the use of a joint methodology to retrieve and reliably categorize modal verbs.

This book is structured in five chapters, in addition to the references included at the end of the work. In this first chapter, the research justification for the study of modal verbs in research articles is presented within a textual genre perspective that specifies the functions of the sec-

tions of these texts. The second chapter describes the concept of modality. The definition of this term used in the analysis of the modals found in the corpus is proposed here. Furthermore, the modal typology in which these verbal forms are classified is explained, as well as the modal mechanisms to frame the type of those analyzed in this volume. Related to the concept of modality is a description of the concepts of objectivity, subjectivity and intersubjectivity, which figure out the perspective of the speaker and the way in which he/she relates to the text and to the truthfulness of what he/she expresses. These terms show, among other things, whether the information provided in a text stands for a single or shared point of view and explain why one modal device has been used as opposed to others. Also in this chapter, the tourism research article is described and characterized as a textual genre from a systemic-functional perspective. For this purpose, related concepts such as text type, textual genre and register are defined. From the application of these, a structure of the scientific article in tourism is deduced which is also based on a specific use of language with a series of recurrent and typical expressions in each of the sections. Many of these expressions seem to be directly related to the function of each section.

Chapter three is devoted to methodological issues and the compilation of the corpus. An initial section is devoted here to methodological issues in the construction and use of the body of work, and the statistical methods deployed in the analysis of the data. In chapter four, modal verbs in the introductions and conclusions of the tourism research article are analysed. A classification and a discussion of the results are presented. Here, not only modal forms and meanings in the texts studied are described, but also the modal functions fulfilled by these modal verbs are included. Finally, conclusions are offered. In addition, the main contributions of this work and their relevance to the genre of the scientific article are set out, specifying the degree of variation between introductions and conclusions and the motivations for such variation. This is completed by a section devoted to the presentation of ideas for future research with texts of tourism research articles. At the end of this chapter, the references cited in this volume and an appendix with the bibliographical references of the corpus are provided.

LINGUISTIC MODALITY. THE TOURISM RESEARCH ARTICLE AS A TEXTUAL GENRE

2.1. Introduction

In this chapter, the aim is to show a definition of modality which will be followed in the analysis and interpretation of modal verbs obtained by computerized interrogation of a corpus of introductions and conclusions of scientific articles in the tourism register. Here, a semantic classification of modality will be given, following Palmer (2001), van der Auwera and Plungian (1998) and Nuyts (2001), among others. The study of modal verbs, and modality in general, in specialised texts is not really new, as confirmed by the existing literature (cf. Giltrow 2005; Efstathiadi 2010; Cheng & Cheng 2014; Alonso-Almeida 2014; Ge 2015; Carrió-Pastor 2017; Álvarez-Gil 2018). The novelty of my study lies mainly in the selection of two fundamental sections of the research article for its reception and impact as a scientific contribution, namely the introduction and the conclusion, and my interest in tourism texts to see (functional) variation.

As already expressed in Álvarez-Gil and Domínguez-Morales (2018), the research article in tourism is by far one of the least explored. Since the texts that are compiled belong precisely to this type of articles, an analysis of this genre in the field of tourism is also presented, following the description made by Álvarez-Gil (2022). This characterisation is useful for identifying the "introduction" and "conclusion" sections in these articles. For this purpose, the systemic-functional language theory, according to Halliday and Matthiessen (2013; 2014), will be used as a framework in my analyses. Along with the study of textual genre, aspects related to register will be explained, in addition to the text types that make up textual genres.

The upcoming section encompasses a definition of modality, which arises from previous studies in the field. A modal taxonomy is offered, according to semantic criteria, which will be used in the classification of the data. Each of the categories involved in the selected threefold taxonomy is described with examples drawn from actual sources. In the subsequent section, I define the research article as a genre after outlining issues related to all the above-mentioned concepts of text type, genre and register in functional theory, which allows for the characterisation of the texts analysed in this study of modal verbs.

2.2. Linguistic modality: definitions, categories and functions

Some definitions of modality in the scholarly literature are as follows,

Palmer (2001: 1): Modality is concerned with the status of the proposition that describes the event.

Gotti y Dossena (2001: 10): In particular, modality enables the locutor to make important strategic choices over very subtle gradable scales for the conveyance of attitudinal aspects associated to one's degree of commitment to such issues as possibility, obligatoriness, ability and so on. Indeed, the concepts of 'necessity', 'possibility', 'probability' and 'impossibility' are at the core not only of linguistic studies but also of modal logic, and have been a topic of central interest and intense study since classical times...

From a linguistic point of view, modality is a complex concept to categorise and qualify in its different forms. There are various ways in which a speaker may add an overlay of meaning to the neutral semantic value of the proposition. One of these is mood; indeed, as remarked by Palmer (1986: 21), "the distinction between mood and modality is [...] similar to that between tense and time", in so far as mood is a morphosyntactic category of verb forms, expressing the degree or kind of reality assigned to a sentence. Several moods are to be distinguished, the three basic types being indicative, imperative and subjunctive.

Narrog (2005: 186)/(2012: 6): Modality is a linguistic category referring to the factual status of a state of affairs. The expression of a state of affairs is modalized if it is marked for being undetermined with respect to its factual status, i.e. is neither positively nor negatively factual.

Portner (2009: 2): Modality is the linguistic phenomenon whereby grammar allows one to say things about, or on the basis of, situations which need not be real.

Saeed (2016: 134): Modality is a cover term for devices which allow speakers to express varying degrees of commitment to, or belief in, a proposition.

Rocci (2017: 3): Modality is the semantic category associated with the basic human cognitive ability of thinking that things might be otherwise, that is thinking of alternatives: situations other than what is the case. Modality refers generally to the linguistic means that allow "one to say things about, or on the basis of, situations which need not be real" (Portner 2009: 1, emphasis is ours).

Alonso-Almeida y Álvarez-Gil (2020: 62–63): Modality is the term used in linguistics to refer to the expression of a speaker's evaluation of an event in terms of such notions as probability, possibility, obligation, permission and necessity, among other more fine-grained attitudes towards the propositional content framed by the modal particle.

These definitions show the different views that exist among linguists who approach this concept. It is therefore a term that can represent different realities, but all approaches agree that modality serves to qualify the meaning of a linguistic process. One of the most interesting aspects is what is modalised, as noted by Alonso-Almeida and Álvarez-Gil (2020). On the one hand, Palmer (2001) and Saeed (2016) speak of propositions while Portner (2009) and Rocci (2017) refer to situations, Alonso-Almeida and Álvarez-Gil (2020) call them events, and, finally,

Narrog (2005, 2012) prefers to use the term state of affair. It is relevant, then, to point out here the technical meaning of the concepts proposition and state of affairs, as the term situation is more obvious. Thus, these two elements are defined in the field of linguistics as follows:

PROPOSITION

The word 'proposition' is used in pragmatics in a technical sense which comes from logic and philosophy. The term can be defined by the claim that every statement that is either true or false expresses a proposition. For example the statement that 'All men are equal' expresses the proposition that all men are equal.

The same proposition can be expressed in different languages: 'Elephants are scared of mice' and 'Les éléphants ont peur des souris' express the same proposition (Allott 2010: 156).

STATE OF AFFAIRS

Phenomena, events, situations, states of affairs are commonly supposed to be genuinely-in-the-world, and even Strawson admits events are so. Yet surely of all of these we can say that they are facts (Vendler 1967: 122)... It seems to me, therefore, that states of affairs due to human action can be viewed in two ways. Inasmuch as they are considered in connection with the actual or possible intention of the agent we are inclined to speak of them as results. If, however, they are considered in abstraction from such intention, we prefer to call them consequences (Vendler 1967: 161).

In a simple way, we may say that proposition refers to the true or false expression of meaning in the field of logic-semantics, while the term state of affairs refers to a fact, which can be the result or consequence of human action. In this work, given that modality is studied in modal verbs, it seems appropriate to use the term proposition, since they respond to the same philosophical nature of language.

After this explanatory note, and going back to the definitions of modality given above, it is worth highlighting in all of them their evaluative and qualifying use of the proposition which the modal particle accompanies in order to specify it. Thus, the speaker's perception according to that proposition is captured in that modal form to express, for example, obligation or probability, as the case may be. This evaluative aspect of modality implies that its analysis can be framed within what are called perspective studies or, in English, stance, as noted in Alonso-Almeida (2015b: 2):

Stance indeed refers to different phenomena in language, and so it is generally the umbrella term for notions, such as *epistemic stance* (Finegan 1989), commitment (Caffi 1999; Caffi 2007; Del Lungo Camiciotti 2008), mitigation (Martín-Martín 2008; Alonso-Almeida 2015a), reinforcement or strengthening (Brown 2011), intensification (González 2015), authority, involvement and hedging (Hyland 2005a; Hyland 1998), assessment (Goodwin 2006), modality and evidentiality (Chafe 1986; Chu et al. 2011; Fairclough 2004; Marín Arrese 2009; Carrió-Pastor 2012; Pic & Furmaniak 2012; Goodwin 2006), affect (Martin 2000; Martin & White 2005), and vagueness in language (Cutting 2007).

In some cases, as in Saeed (2016), the definition of modality includes the notion of the speaker's commitment to the truthfulness of the proposition expressed, which may include a certain

gradation, as noted in this source. Gotti and Dossena's (2001) definition also specifies the difference between modality and mood, the latter being morphosyntactic and reflecting aspects of the reality referred to in the proposition. An example would be the use of the imperative to express order as opposed to the use of the subjunctive to show hypotheses regarding the possible realisation of the action being described. In addition to mood, other linguistic elements communicate modality such as verbs or modal verbs and clitics, as Palmer (1986: 33 ff) points out. In short, what this author is asserting is that modality can manifest itself both morphologically and through lexical devices. The case of modals, as Aikhenvald (2004) states, is halfway between grammar and lexicon.

As we have seen, several aspects are included in the definitions given at the beginning of this section, which reflects, in addition to the multiplicity of approaches, the terminological diversity with respect to these aspects, e.g. event and fact. It is logical, therefore, that some simplification is proposed to allow the analysis of the data offered in the corpus. Thus, this concept is defined for the purpose of this research as follows:

Modality is the term used in linguistics to refer to the expression of a speaker's evaluation of an event in terms of such notions as probability, possibility, obligation, permission and necessity, among other more finegrained attitudes towards the propositional content framed by the modal particle (Alonso-Almeida y Álvarez-Gil 2020: 63).

In this context, the term evaluation is understood in the sense expressed by Hunston and Thompson (2000: 5):

evaluation is the broad cover term for the expression of the speaker or writer's attitude or stance towards, viewpoint on, or feelings about the entities or propositions that he or she is talking about. That attitude may relate to certainty or obligation or desirability or any of a number of other sets of values. When appropriate, we refer specifically to modality as a sub-category of evaluation.

The notion of meaning is a criterion for the classification of modality, as will be explained in the next section.

2.3. Semantic classification of modality

The way in which modality can be categorised varies according to the schools of thought and the scholars who make these classifications. However, Lyons' (1977) semantic classification into epistemic modality and deontic modality seems to be among the most widely accepted and is maintained by Palmer (1986: 19). The same split classification is found in Biber et al. (1999: 485), but the categories are called intrinsic modality and extrinsic modality, which they define as follows:

Each modal can have two different types of meaning, which can be labeled intrinsic and extrinsic (also referred to as 'deontic' and 'epistemic' meanings). Intrinsic modality refers to actions and events that humans (or other agents) directly control: meanings relating to permission, obligation, and volition (or intention). Extrinsic modality refers to the logical status of events or states, usually relating to assessments of likelihood: possibility, necessity, or prediction.

Palmer (2001) makes another classification that distinguishes between propositional modality and event modality. The former includes epistemic modality (to be explained in section 2.3.1), and evidentiality, which refers to the source or mode of information. The latter phenomenon has been frequently studied in these last decades (cf. Chafe 1986; Willett 1988; Leavitt, Chafe & Nichols 1991; Lazard 2001; Plungian 2001; Viechnicki 2002; Boye & Harder 2009; Mushin 2013; Haßler 2011; Alonso-Almeida 2015a; Greco 2018) and which is analysed as a mechanism indicating the speaker's point of view with respect to the information offered. This type of modality will not exactly be the subject of study in this paper, although mention will be made below of a specific type of these mechanisms called inferential evidentiality which van der Auwera and Plungian (1998) identify as deontic necessity.

Event modality expresses an attitude towards the information supplied and is divided into deontic modality and dynamic modality which relate to meanings of obligation and ability, respectively, among others. In this study, a tripartite categorisation is used where these types are included together with epistemic modality, i.e.: epistemic modality, deontic modality and dynamic modality. However, before proceeding further, it seems appropriate to echo other types of modal meanings frequently mentioned in the literature. These are existential modality and alethic modality, according to von Wright (1951). Existential modality, which refers to modes of existence, is not to be considered, as Palmer (1990: 6) points out, since this aspect is to be found in the other modalities. An example of this type of modality given in Palmer (1990: 110) is the following, where might existential presents a usage close to would, as highlighted in the same source:

In those days we might go for a walk through the woods.

Similarly, Palmer (1990: 6) acknowledges that the alethic modality represents a "main concern of logicians, but it has little place in ordinary language". In his example,

John is a bachelor, so he must be unmarried.

where must has an alethic value, since, following Alonso-Cortés (2008: 256), this type of modality moves in parameters of probability and necessity. Along the same lines as existential modality, it is more useful in philosophical logic, but it is understood that it does not have the same effect in natural language, as Palmer (1990) says.

2.3.1. Epistemic modality

Epistemic modality relates to "matters of knowledge or belief on which basis speakers express their judgements about state of affairs, events or actions" (Hoye 2008), and, furthermore, "[...] applies to assertions and indicates the extent to which the speaker is committed to the truth of the proposition" (Bybee, Perkins & Pagliuca 1994: 179). This makes it clear that this type of modality is frequently associated with the idea of truth with respect to the propositional information being modulated, as can be seen in the following cases:¹

¹ En la descripción de los tipos de modalidad de esta sección, los ejemplos se han tomado de Álvarez-Gil y Domínguez-Morales (2018).

Changing the climate and weather conditions of any destination **may** affect the tourists' comfort and travel decisions, and due to the changing demand pattern and tourist flows, tourism businesses and host communities suffer. Cancellation of any trip due to bad weather causes dissatisfaction and those affected may avoid visiting the destination again (Mahnas 2016).

Sharing conservation revenue with communities surrounding parks **could** demonstrate the link between ecotourism and local communities' economic development, promote a positive view of land restitution involving parks, help address skewed distribution of income in the vicinity of parks and act as an incentive for local communities to participate in conservation even more (Dikgang y Muchapondwa 2017).

In the first example, the verb *may* has a clear function of mitigating propositional content, as the authors seek to provide information that is believed to happen in the future. In this text, the authors show that there is a likelihood that aspects such as changing weather conditions will have a consequence on the decision to go on a holiday trip. It could also be the case that *may* is used here as a negative politeness strategy to avoid imposing on its readers (Alonso-Almeida 2014; Alonso-Almeida 2015a; Carrió-Pastor 2017). In the case of the verb *could* in the second example, it suggests that there is an unspecified probability that sharing conservation revenues with local communities will produce benefits for the industry and for each specific community.

A special case of epistemic value is called epistemic need by van der Auwera and Plungian (1998) which represents an intermediate modal space between what is possible and necessary according to a given reality, as in the following self-authored example:

She **must** have been crying. Her eyes are red and watery.

Here, the verb *must* designates an inferential reasoning whereby the author presents the propositional content as a conclusion according to the contexts selected in the interpretative process; this is also considered evidentiary inferentiality, which Alonso Almeida (2015c), in his interpretation of the use of *seem* and *parecer* in modern medical texts before 1700, describes as a mechanism indicating the role of the speaker with regard to the elaboration of information. In the author's words, this mechanism shows that the "information has been constructed upon the consideration of evidentiary variables that lead the speaker to make a particular claim" (Alonso-Almeida 2015c: 130).

As suggested above, modal verbs may denote the authors' willingness to mitigate the propositional content of the speech act, which is related to the expression of doubt, or the absence of absolute certainty, and linguistic politeness. As noted in Alonso-Almeida (2015a: 37), "mitigation is indeed a complex linguistic concept", as it depends, in part, on the context in which it takes place, as well as the intention of the speaker in signalling the desire to mitigate the harshness of his or her assertion. In principle, mitigation takes place through epistemic structures such as those discussed here, although Alonso-Almeida (2021) claims that this ability to attenuate the content of the proposition is not exclusive to this type of modality and includes dynamic forms as well, as will be seen below.

In the scientific literature, epistemic structures with attenuating value are also known in English by the term hedging, so epistemic modal verbs would fit as mechanisms capable of reducing the illocutive force of the proposition (Hyland 1998; Vassileva 2001; Hu & Cao 2011; Carrió-Pastor 2014; Alonso-Almeida & Carrió-Pastor 2016; Moskowich & Crespo 2019; Flores 2020).

To a considerable extent, this function of attenuating propositional content follows a tradition of academic writing that aims to avoid both the imposition of point of view and confrontation on the grounds of disagreement. In this sense, it is related to the concept of linguistic politeness explained in Brown and Levinson (1987), although, as Alonso-Almeida (2015a: 38) says, with respect to this relationship between epistemic and politeness, the relationship cannot be understood as a basic principle of correspondence in all cases:

Indeed the hedging function of mitigation is one of the commonest pragmatic meanings of modality in context, although it is by no means the only one (Hu and Cao 2011; Hyland 1998; Vassileva 2001). For this reason and contrary to the parallelism between mitigation and politeness put forward in Brown and Levinson (1987: 42), politeness should not be readily inferred from the use of epistemic modals, and certainly not from the use of evidentials in discourse.

Politeness is based on the concept of face which is defined as “the public self-image that every member wants to claim for himself” (Brown and Levinson 1987: 61). The objective would be to protect this public image, which would give rise to positive politeness strategies and negative politeness strategies. In the case of the former, their use is intended to avoid, as far as possible, using language that compromises the good image of the person listening or reading. In the case of the latter, these strategies avoid imposing a point of view in order to avoid a reaction on the part of the listener or reader, which would jeopardise the good image of the listener or reader. In this sense, mitigation would present information stripped of absolute certainty, so that different degrees of certainty with respect to the propositional content would be understood, even to the point of referring to doubt, even if the person reading or speaking is certain of what he or she is saying or writing.

These questions raised about politeness and the absence of imposition form an essential part of the discussion on the modal verbs found in the corpus presented in Chapter 4.

2.3.2. *Deontic modality*

Deontic modality relates to the “[...] necessity of acts in terms of which the speaker gives permission or lays an obligation for the performance of actions at some time in the future” (Hoye 1997: 43). As Collins (2009: 22) points out, deontic modality

Occurs when the factors impinging on the actualisation of the situation referred to in the utterance involve some type of authority – as when a person or a set of rules or a social convention is responsible for the imposition of an obligation or a granting of permission.

Deontic modality is characterised by the obligation or necessity to carry out an action following a deontic force which may be internal or external to the speaker, as exemplified in the following fragments with *should*, *will* and *must*:

The results of the research help to provide a better understanding of the conditions needed to develop and manage sustainable tourism in post-conflict environments. In so doing, it **should** be possible to make better policy decisions, with particular reference to social and urban interventions on planning, design and entrepreneurship (Farsari 2018).

There is a need for detailed and comprehensive legislation protecting the rights and needs of disabled tourists, particularly in view of Dubai's successful bid to host Expo 2020. This need **will**, no doubt, be fulfilled in light of the recent announcement that Dubai will enact its own disability law intended to make the emirate fully accessible to persons with disabilities (Morris y Kazi 2014).

For golfers to 'enact' golf, in its current form, tied to designated playing fields (Ceron-Anaya, 2010), a material landscape **must** first be 'appropriated for one use and thus unavailable for others' (Klein, 1999: 214) (Kang et al. 2018).

The use of *should* in the first example reflects the authors' view of how things are necessarily deemed to be as expressed according to the evidence presented in the research that has been carried out. The strong effects that this modal can bring in terms of obligation are mitigated by the use of *be possible* after the modal verb. Similarly, in the case of *will* in the second example, it shows the speakers' firm position with respect to the propositional content, which is further reinforced by the adverbial *no doubt*. In the last example, the modal *must* clearly shows the sense of obligation regarding the performance of the action described in the proposition, which includes the adverbial *first*, stressing the need for this action to be done and for it to be done in the order indicated.

In this sense, the deontic modality is presented as suitable for the expression of authority in the academic article, as Álvarez-Gil (2021a: 261) explains:

The functions of modal verbs driven by these notions of necessity and possibility contribute patently to the elaboration and presentation of knowledge. This includes the idea of academic authority, which stands vital in technical accounts of natural phenomena. Authority, however, is more positively on a par with expertise than with imposition... Deontic modals are contextually justified to indicate perceptions of mild obligation, desirability, volition, advisability and recommendation in the form of prescribed directions to achieve a particular goal. Precisely, the use of directives modulated by means of modal verbs, indicating necessity slightly attenuates a directive that could have been construed with an imperative form.

In the discussion of the results of the analysis of modal verbs in the corpus of introductions and conclusions of scientific articles, it will be noted that one of the functions of the deontic forms is to show the conviction of the authors in the formulation of information, so that through notions of necessity, desire or advice, among others, the authors' opinions about the content of the articles are expressed in the formulation of the article.

2.3.3. *Dynamic modality*

Dynamic modality is actually a complex term, as it is often confused with epistemic modality, as both types refer to what is possible, although the possibility referred to is of a different nature. Alonso-Almeida and Carrió-Pastor (2017: 279) define dynamic modality as follows:

In dynamic modality, conditions are internal, and it involves senses of willingness and ability on the part of the speaker or writer. Dynamic modality refers to the potentiality of the speaker to develop an action, whether this potentiality be internally or externally motivated, as the enabling circumstances are external or internal.

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