المؤشرات المبينة للموقفية في اللغة الانكليزية

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Markers of Modality in English

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المستخلص

تُعنى هذه الرسالة بتقصي مسألة العوامل المؤثرة في استخدام المؤشرات الموقفية في المقالات البحثية الإنكليزية المتخصصة في حقول الطب و اللسانيات و النقد الأدبي ، و ذلك بتفحص مصداقية الفرضية القائلة بأن " موضوع البحث و نوعه و حقله كلها عوامل مؤثرة في توجه الباحث نحو استخدام ستراتيجية الاستتار، أي أن حقل دراسة الباحث يؤثر في أعداد و وظائف المؤشرات الموقفية المعرفية ." و عليه فقد تقصى هذه البحث التكرارات و الأساليب المستخدمة في استخدام تسعة مؤشرات موقفية إنكليزية شائعة هي :

may, might, seem, suggest, assume, appear, indicate, perhaps, must

أظهر التحليل أن كل حقل من الحقول البحثية الثلاثة يميل إلى تفضيل تكرار استخدام ثلاثة أو أربعة من المؤشرات التسعة فقط و ذلك على حساب تكرار استعمال بقية المؤشرات ، و أن المؤشر (may) وحده يتمتع بنسب تكرار مهمة و متماثلة عبر نصوص العينة كلها مما يسمح باعتباره المؤشر المشترك الأكبر . و من الناحية البنيوية ، فقد بيّن التحليل أن بحوث النقد الأدبي و البحوث اللسانية تميل إلى استخدام صيغة "إسم العلم + suggest" (أي : "يقترح الباحث أو كاتب المقالة") ، في حين أن البحوث الطبية لا تميل إلى ذكر إسم الباحث و ذلك حفاظا على الموضوعية العلمية ، بل أن الحقلين الأخيرين يميلان لاستخدام الأسماء الجامدة مثل (data, studies, results, findings) قبل المؤشر لتقديم الانطباع بتجرد البحث عن أهواء العامل البشري . كما تبيّن أن كثافة تكرارات المؤشرات يتعذر ربطها بأي جزء من أجزاء بحوث النقد الأدبي ، في حين أنها تتركز بكثافة دالة إحصائياً في أجزاء البحوث الطبية و اللسانية المخصصة لمناقشة نتائج البحوث و آفاقها التطبيقية و كذلك – وبدرجة أقل – في مقدمات هذه البحوث . و تربط هذه النتيجة بواقع كون بحوث النقد الأدبي لا تنتظم بأجزاء ثابتة و ذلك على العكس من البحوث العلمية الملتزمة بأصول البحث الأكاديمي المتخصص. و توظف بحوث النقد الأدبي المؤشرات الموقفية في تلك الأجزاء البحثية الموجهة للقراء عن طريق الاستشهاد بأقوال الباحثين الآخرين للتدليل على مصداقية المزاعم المعروضة ، و كذلك للتقليل من مصداقية المزاعم المضادة . كما تبيّن وجود صيغة تتكرر في كل عينة البحث – و خصوصاً في البحوث اللسانية – حيث أن المقولة المستترة الابتدائية تُقرن بجملة اعتراضية لاحقة تبدأ بـ (but/although/however) . و تستخدم البحوث الطبية الاستتار في الأغلب لتقديم التفسيرات المحتملة للنتائج ، في حين أن أهم وظيفة لها في البحوث اللسانية و الأدبية هي نقد المواقف المضادة على نحو خفي ، و هو ما تنأى عنه البحوث الطبية ، و ما يؤيد صحة فرضية البحث الآنفة الذكر . إن النتائج أعلاه تسمح بالاستنتاج بأن حقول البحث الثلاثة المدروسة كلها توظف المؤشرات الموقفية و ستراتيجية الاستتار لعرض استنتاجاتها بتحفظ ، و في إقتراح التفسيرات المحتملة ، و تقديم الفرضيات المعقولة ، و لإيضاح محدودية النتائج . والوظائف الأخيرة هي الأوضح في البحوث الطبية.

Abstract

This study tackles the problem of investigating the factors that influence the use of markers of modality in English research articles from disciplines of medicine, linguistics, and literature. This is done by testing the validity of the hypothesis that "factors such as the object of study, type of study, and research field influence the author's use of such hedges. These markers are *may, might, seem, suggest, assume, appear, indicate, perhaps,* and *must.* Data analysis has also shown that each one of the three disciplines tends to favour the use of specific modal markers rather than others. Thus, *seem, may, appear,* and *must* are more frequent in literary texts; so are *may, suggest, might*, and *seem* in linguistic texts; *suggest, may,* and *might* in medical texts. In contrast, *must, perhaps* and *assume* are scarcely used in linguistic and medical texts. Likewise, *assume* and *indicate* are the least frequent markers in literary texts. It has also shown that *May* is the most frequent epistemic marker in the whole data, relatively favoured by all the three disciplines. The function of seeking possible explanations seems to be much more frequent in medicine. In literary and linguistic papers, the selected markers - often *seem* and *appear* - can be used to present cautious criticism of other researchers, schools, approaches, etc. In contrast, argumentative and polemical passages are very rare in medical papers. The results above allow concluding that the three disciplines use modality markers in order to present conclusions in a cautious manner, suggest possible explanations, put forward hypotheses, and signal limitations of the study. This latter function, however, is more frequent in medical papers. In linguistics papers, epistemic modality markers are often used in contexts of overt argumentation and often serve to mitigate criticism of other researchers so that it sounds more polite and less face-threatening. Markers are also used in literary and linguistic tests to express caution when interpreting other researchers' work, a function which was not found in the medical articles. The use of modality markers in the three corpora can be taken to reflect quite specific differences among the disciplines in frequencies, the

type of markers used, the cotexts in which they occur, and the roles they play in the articles. To a large extent, epistemic markers fulfil the same functions in all three disciplines. To achieve this end, it is hypothesized that factors such as the object of study, type of study, and research field influence the author's use of such hedges. In the light of the results of the study, some recommendations are made for the improvement in studying and understanding that a topological study can be carried out cross-linguistically (e.g. English/Arabic) to see whether or not modal marking in this or that discipline converge or diverge.

1.1 Introduction

Following an increasing focus in recent years on academic writing, numerous academic writing classes have been established in many different countries. However, the teaching practices of such courses often seem to be based on traditional normative principles rather than on solid empirical evidence. Academic writing becomes especially challenging when the text is to be written in a foreign language. English has become the lingua franca of academic discourse, and novices as well as established researchers must be able to express themselves in that language if they want to be fully accepted members of that language community. Mastering English academic discourse is not restricted to mastering English vocabulary, syntax, morphology, etc. and the genre schemata of the discipline in question. It is also crucial to master the rhetorical strategies and genre practices specific to English academic discourse.

One of the rhetorical devices used to convince and influence the reader is hedging, or the mitigation of claims. It is an argumentative strategy considered to be crucial to the writer of specific texts. Myers (1989: 13) argues that "all statements conveying new knowledge are hedged, since they have not yet gained acceptance in the scientific community". This is related to "the view that scientific discourse is not only informative and content-oriented but also aims at convincing the reader" (Markkanen and Schroder, 1997: 9; Vold, 2006: 63). Awareness of cultural differences within academic discourse, such as the differences in the use of hedges, is important for researchers who want to express themselves and read academic texts in languages other than their own. In addition to this language aspect, disciplinary differences in the use of epistemic markers are also important. Although genre schemata are important, it is equally important to focus on the rhetorical organization that takes place within the text. As hedging is an important element in the rhetorical organization of a text, the study of hedges across disciplines can tell us something about the argumentative strategies used in different disciplines. It is important to be aware of disciplinary differences, because results from one discipline cannot automatically be transferred to other disciplines. Every discipline has its own terminology and its own preferred rhetorical strategies. According to Varttala (2001: 41f), "very little empirical research exists comparing hedging in different disciplines and we therefore still know very little about disciplinary variation". In order to contribute to filling these gaps, the present study aims at comparing the use of a specific type of hedges, viz. modality markers in English research articles taken from the disciplines of medicine, linguistics, and English literature.

1.2 Aims

The study aims at investigating which factors influence the use of modality markers in research articles. Comparing the use of these markers in English research articles taken from disciplines of medicine, linguistics, and literature.

1.3 Hypothesis

It is hypothesized that factors such as the object of study, type of study, and research field influence the author's use of such hedges. Thus, disciplinary affiliation influences the frequency of modality markers used.

1.4 Significance

The results of the research are expected to be of significance to applied linguists, rhetoricians, teachers, and prospective researchers in the disciplines under research.

1.5 Modality: Definition

Halliday (1970: 197f) defines modality as "a form of participation by the speaker in the speech event in that it enables the speaker to associate with the thesis by indicating its status and validity in his own judgments and takes up a position". In the Hallidayan model of language functions, "modality derives from what is called "the interpersonal function" of language, i.e. language as the expression of role". Some authors (e.g. Pietrandrea, 2005: 17) use "the term mood in reference to Modality. The advocates of such an approach see that mood is not only used to express the inflectional category of the verb, but also to refer to modality in general". For example, Chung and Timberlake (1985 as cited in Pietrandrea, 2005: 17) use "the terms realis and irrealis mood in contrast with epistemic, epistemological, and deontic mode without

using the term modality". Likewise, Huddleston (1984: 146) speaks of "analytic mood in reference to the expression of modality that is obtained through modal verbs". Also Diewald (2001: 25) argues that "the grammatical category into which modals are integrated and with which they form a grammatical paradigm is verbal mood". Foley and Van Valin (1984: 213) argue that "the term "mood" refers to three different categories of illocution, modality, and status, which in their opinion should be considered as distinct notions". Many linguists consider modality a universal characteristic discernible in all speech. Thus, Bally (1932: 34) defines modality as "the sentence's soul, meaning that every representation is virtual until it is conceived as true, false or possible by a thinking subject" (ibid. 31). Stubbs (1986: 4) treats modality as "a central organizing principle in all languages". According to Fintel (2006: 1) modality is "a kind of linguistic meaning and necessity. It is argued that the modalized sentence can add the exact underlying pre-jacent proposition in the space of possibilities". For example, in the sentence: *Sandy **might** be home.* The possibility that Sandy is at home is expressed through the modal verb might which qualifies the proposition of "Sandy being at home".

1.6 Types of Modality

Crystal (1980: 132) recognizes "three types of modality *Epistemic, Alethic*, and *Deontic*. Epistemic modality is concerned with the logical structure of statements such as: *the car must be ready*. Alethic modality would interpret the last sentence as *it follows that the car is ready*; whereas Deontic modality would interpret the sentence as *I oblige you to assure that the car is ready*". However, there are precisely three widely-recognized modal categories in linguistic literature that have proved to be quite useful in the study of natural language. These are:

a. *Epistemic Modality.* "The last term is derived from the Greek word *episteme*, meaning knowledge" (Lyons, 1977: 793). It deals with "what is possible or necessary by giving what the available evidence is. In other words, epistemic modals express the possibility or necessity of some piece of knowledge". Pietrandrea (2005: 7) defines epistemic modality as "the category describing the speaker's opinion towards his propositional content". Epistemic modality is also defined by Lyons (1977: 823) as "the necessity or possibility of acts performed by morally responsible agents''.

b. Deontic Modality. This category of modality deals with "what is possible, necessary, permissible, or obligatory giving a body law or a set of moral principles. Deontic modals are used to indicate how the word ought to be.   They also indicate the state of the world. The sentence containing a deontic modal generally indicates some action that would change the world such that it is closer to the standard ideal" (Wikipedia, 2001). Deontic modality is also defined as "the necessity or possibility of acts performed by morally responsible agents" (Pietrandrea, 2005: 9). Palmer (1974: 100-3) uses "the term speaker oriented modality for this type", so do Bybee et al. (1994: 179) "who see it to include directives, warnings, and permissions". *Bouletic Modality.* This type is concerned with what is possible or necessary giving a person's desires.

A fourth type of modality is called "*dynamic* modality", and goes back to von Wright (1951: 28), who mentions it "as that kind of modality which is concerned with *ability* and *disposition* such as in the sentence, *John can speak German.* Although many linguists (e.g. Steele, 1975; Lyons, 1977:452) do not recognize such a specific type of modality, it is mentioned by Palmer (2001: 10) who defines it as referring "to events that not actualized, events that have not taken place but are merely potential".

1.7 Defining Epistemic Modality

Collins and Hollo (2000: 73 f) define "Epistemic modality as something which is related to the speaker and his knowledge concerning a situation". For example:

> Carol **may** be injured.
> She **could/must /will** be in hospital.

According to Hyland (1998: 45), epistemic modality "expresses the speaker's opinion or belief concerning the truth of what is said" (cf. Markkanen, 1992: 150). Similarly, Lyons (1977: 797) maintains that "any utterance in which the speaker explicitly qualifies his commitment to the truth of the proposition expressed by the sentence he utters, whether this qualification is made explicit in the verbal component or in the prosodic or paralinguistic component, is an epistemically modal, or modalized utterance". One the other hand, Stubbs (1986: 5) points out that "it is possible to indicate degrees of commitment to just three kinds of linguistic items: not only (1) to propositions but also (2) to illocutionary forces and (3) to individual lexical items". Vold (2006: 226) argues that "epistemic modality is concerned with the reliability of the information conveyed. She defines epistemic modality as linguistic expressions that explicitly quality the truth value of a propositional content. It covers expressions of certainty and uncertainty". According to

Halliday (1970: 349) epistemic modality can be defined as "the speaker's assessment of probability and predictability. It is external to the content, being a part of the attitude taken up by the speaker: his attitude, in this case, towards his own speech-role as declarer".

1.8 Modality in English

Palmer (1986: 2) argues that "in English, one can find numerous kinds of expressions that have the meaning of modality":

a. Modal Auxiliaries

(1) Sandy **must/should/might/may/could** be home.

b. Semi-modal verbs

(3) Sandy **has to /ought to/needs** to be home.

c. Adverbs

(4) **Perhaps**, Sandy is home.

d. Nouns

(5) There is a slight **possibility** that Sandy is home.

e. Adjectives

(6) It is far from **necessary** that Sandy is home.

f. Conditionals

(7) **If** the light is on, Sandy is home.

Such expressions can be used to "convey many or all kinds of modal meanings namely, alethic modality, logical modality, epistemic modality, deontic modality, bouletic modality, circumstantial modality, and teleological modality". For example, notice 'have to', and the English semi-modal in the following examples:

(8) It has to be raining. **(Epistemic Modality: After noticing people coming inside with wet umbr**

(9) Visitors have to leave by six pm. **(Deontic Modality: Hospital regulations)**

(10) You have to go to bed in ten minutes. **(Bouletic Modality: Said by a stern father to his son)**

(11) I have to sneez. **(Circumstantial Modality: given the current state of one's nose)**

(12) To get home in time, you have to take a taxi. **(Teleological Modality)**

But in some cases, the English auxiliary, *might*, is used most to express Epistemic Modality, for example:

(13)   It *might* be raining. (ibid. 2)

"Modality can be expressed through different ways such as grammatical elements (auxiliary verbs or verb endings), indirect means such as a preposition phrase or a clause, or in other ways such as adverbs" (Wikipedia, 2001).

1.9 Hedging

According to Vold (2006: 62) hedging is defined "as a rhetorical device used to convince and influence the reader. It is seen as an argumentative strategy which is crucial to the writer of scientific texts". Lakoff (1972: 213) observed "the certain verbs and syntactic constructions convey hedged performatives (e.g. *I suppose/ guess/ think that Harry is coming; won't you open the door?*). Thus, the idea of hedged performatives became one way of widening the concept of hedges".

According to Vande-Kopple (1985) "the concept of hedges was also widened in another way by considering the use of hedges as showing a lack of full commitment to the propositional content of whole proposition, not as making individual elements inside it more imprecise".

"There are two types of hedges; the first one can be called real hedges, which are used to express real uncertainty. In some cases, such hedges serve to give an accurate picture of the level of certainty". Lewin (2005: 173) states "that authors of the scientific texts tend to see real uncertainty as being the main source for their use of hedges. According to Lewin's authors, they have resorted to the use of hedges not to be modest or polite, but to be precise" (ibid). "The other type of hedges is called strategic hedges when they are not necessarily used to express real uncertainty. They are part of the conventions for academic writing as they are associated with tentativeness, cautiousness, politeness, and a humble attitude" (Vold, 2006: 81: cf. Meyer 1994).

1.10 Hedging and Modality

According to the wide meaning expressed by hedging, there are different linguistic concepts which may come close to hedging, having the same function and use. Modality is one of those linguistic concepts which is closely related to hedging. Considering some of the definitions of modality produced by many

researchers revelas this fact. Halliday (1970) defines modality "as being related to those linguistic items which are concerned with the assessment of probability and possibility". Another definition is that by Simpson (1990: 66f) who argues "that modality refers to a "speaker's attitude toward or opinion about the truth of a proposition expressed by a sentence and toward the situation or event described by a sentence". In fact, modality is divided into two disciplines *Root* and *Epistemic*. Coates (1992: 55) considers "epistemic modality "as the speaker's assumptions or assessment of possibilities" which can show the speaker's confidence or lack of confidence in the truth of the proposition expressed". According to Coates (1983: 132) "the modal auxiliary is the lexical category which is mostly associated with epistemic modality. Due to the wide range of meanings of modal auxiliaries e.g. *possibility, permission, necessity*, and *obligation*, they may cover a range of meanings which can be associated to hedging, but in different degrees".For example, Coates (ibid) provided "two examples to show how one modal auxiliary, *may*, can be used indifferent meanings in various contexts".

*(a)I **may** be a few minutes late.*

*(b) I **may** afraid this is the bank's final word. I tell you this so that you may make arrangements elsewhere if you are able to.*

In example (a), *may* has the meaning of epistemic possibility since it show tentativeness and the speaker's lack of confidence in the truth of proposition. One of the most important characteristics of the epistemic marker 'may' is used in its root on non-epistemic meaning which is not linked to hedging. In (b), *may* is associated with root possibility which usually implies willingness or intention.

1.11 Negation and Epistemic Modality

Drubig (2001: 5) tackles "another relationship between negation and epistemic modality. This relation is controversial because certain modals cannot be within the scope of negation. For example, *must* in English has a wider scope within the negative regardless of whether the interpretation is epistemic or deontic. In addition, *should* displays the same behaviour. On the other hand, the scope-taking of the properties of *may* varies with its interpretation". For example:

(c) *John **may not** be at home.*

(d) *John **cannot** be at home.*

Thus, (d) has wide scope under its epistemic reading, but is in the scope of negation when the interpretation is deontic.

Authors as Palmer (1986), De Hann (1997), Papafragou (1998) and others maintain "that according to the standard view, *can* is the suppletive form of epistemic ***may*** in the scope of negation.Hence, epistemic modals do not display any unusual properties with respect to negation since they can be both external and internal to its scope". The modals, *must* and *may/might* are epistemic in that they make close the nature of the evidence with which the speaker in (c) is ready to backup the truth claim of his statement if required. On the other hand, in (d) the notion of epistemicity attached to sentences with *must* or *may/might* is unrelated to and cannot be reduced to the modal operators" (ibid. 6).

Example (e) below indicates clearly that epistemic *may* cannot be in the scope of negation. Thus, a sentential scope allows only a non-epistemic reading.

(e) *Nobody **may** be at home.*

1.12 Epistemic Modality and Truth Conditions

Papafragou (2006: 1688) states that "in the linguistic literature, epistemic modality does not contribute to the utterance's truth conditions. Other researchers argue that epistemic modality indicates a comment on the proposition being expressed by the rest of the utterance". A number of "test or evidences have been used to indicate that epistemic modality does not contribute to truth conditions. One of the strongest evidence is the scope of diagnostic, if an element falls under the scope of a conditional, then it does contribute to truth conditions, whereas it is non-truth conditional if it lies outside the scope of the conditional". In the following example, and according to the test of diagnostic scope, *but* does not contribute to truth conditions:

*(f) If Jane comes to the party **but** John doesn't, the party will be a disaster.*

It has been argued that epistemic interpretations of modals do not fall under the scope of a conditional. Thus, in such structures, they are non-truth conditional:

(g) *If Max must be lonely, his wife will be worried.*

(h) *If Max may be lonely, his wife will be worried (ibid).*

Accordingly, "the tests above suggest that epistemic operators remain outside the truth conditional content of the utterance" (ibid. 1691).

1.13 The Analysis

1.13.1 Coding of Markers

Before comparing the use of the set of modality markers across disciplines, the markers have to be coded according to their meaning in particular contexts. Of the nine selected markers, at least seven are polysemous. Only *perhaps* and *seem* can be seen as intrinsically epistemic. Example (1) below offers the epistemic meanings for the nine selected markers:

(1)

a. *appear*: seem to the mind, be perceived as, seem outwardly or superficially (but not be in reality)

Raindrops which descend vertically appear to meet us when we move swiftly. (Tyndall)

b. *assume*: take as being true, for the sake of argument or action; suppose"

The letter was assumed – quite correctly – to have been drafted by my staff and me. (H. Kissinger)

c. *indicate*: point to the presence, existence or reality of; be sign or a symptom of; imply.

Studies indicate that most of the drinking drivers are ... serious problem. (D. W. Goodwin)

d. *may/might*: (rejecting or qualifying a hypothesis, etc. or implying improbability) have the possibility, opportunity, or suitable condition to; be likely to

The improvement of our understandings may or may not be of service to us. (Steele)

e. *must*: to express permission or possibility or a wish; might, could; to express the inferred or presumed certainty of a fact.

There must be few who have not been depressed. (Anthony Smith)

f. *perhaps*: qualifying a statement, or by ellipsis, a word or phrase, so as to express possibility with uncertainty.

Perhaps you would be good enough to withdraw. (J. Cannan)

g. *seem*: appear outwardly or superficially (but not be in reality), give the impression or sensation of being, be perceived as; appear as far as can be ascertained.

It seemed as if the earth has flowered into a paradise. (M.C. Harris)

h. *suggests*: make known indirectly, hint at, evoke, imply, give the impression that.

The way Sadie had referred to it suggested that it had not yet been copied. (I. Murdoch)

Cases of indeterminacy have been included whenever the context shows that a certain epistemic sense is the most dominant; otherwise, they have been excluded from the analysis.

1.13.2 Type of Markers

"Although all epistemic modality markers pragmatically presuppose an evaluating agent, the semantic properties of the markers can differ. *Assume, seem* and *appear* presuppose a modalizing agent, and are all quite subjective" (Varttala, 2001: 122). Semi-auxiliaries like *seem* and *appear* also involve an element of personal evaluation. Though the source of the evaluation in most cases can be implicit, this source can easily be added even in passive sentences:(2)

a. *it seems that..* → *it seems **to me** that..,*

b. *x is assumed to be..* → *x is assumed **by y** to be..*

By referring to mental (*assume*) and perceptive (*seem, appear*) processes, these markers presuppose a personal evaluation. In contrast, *may, might*, and *perhaps* refer to the notion of possibility, and can be taken simply to state an eventuality, without presupposing a specific modalizing agent. This is reflected in the fact that *must, may* can express root possibility in addition to epistemic possibility, something which might give them a veil of objectivity even in their epistemic uses. *Seem, assume* and *appear* are more intrinsically subjective, since they are unable to express root possibility and since they always presuppose a modalizing agent. "This kind of marker is perhaps considered to be too 'subjective' or personal for the medical researchers, who are not known to represent themselves very explicitly in their papers" (Fløttum, 2003: 40). The verbs *seem, assume* and *appear* "all bear the mark of a personal evaluation, while epistemic *must, may, might* and *suggest* serve to disguise the source of the evaluation. There is of course a personal evaluation involved with these cases also, but the eventuality that they express can be understood as an objective fact rather than a personal judgment of the truth value of the information expressed by the proposition. Choosing this latter type can be seen as a way of favouring impersonality as opposed to self-mention, and hence giving an impression of objectivity" (Hyland, 2001: 208).

1.13.3 Immediate Cotext

The medical researchers' reluctance towards the use of explicit author-manifestation can also be seen when comparing the immediate cotexts in which the selected markers occur. The comparison of immediate cotext was carried out systematically only for those markers that were frequently used in the three disciplines, i.e. *may*, *appear, seem,* and *suggest*. The clearest example of differences is seen in the use of the lexical verb *suggest*. While epistemic *suggest* very often occurs with a first person pronoun in the literary and linguistics articles, this verb is barely used with first person pronouns in medical texts which show just one single instance of *suggest* used with *we*:(3)

*Rather, we **suggest** that CD should be actively searched for in at-risk NHL patients, such as those with a T-cell type lymphoma and/or a gut primary localization* (Med.).

The bias medical texts show in their use of the epistemic marker *suggest* with inanimate agents (*data, studies, results, findings,* etc.) clearly aims at letting some non-human entity speak in order to subtly deny the intervention of a personal element in there statements, thereby keeping with an ideal of 'scientific objectivity'. Salager-Meyer (2000: 305) has observed "the same phenomenon in her study of French medical papers. She found that when criticizing other researchers, medical authors often make an inanimate entity assume the speaker's role". These results are also in agreement with the findings of Vold (2006: 63). In this study, the corpus of medical article shows that the most frequent subjects used with *suggest* are *study*, *data*, and *findings*.

1.13.4 Communicative Functions

This section investigates the functional domain of hedging devices by focusing on the communicative functions that the selected markers typically serve in the examined papers and on variation across the three disciplines regarding these functions. In this respect, "the distinction between content-oriented and reader-oriented hedges is useful. The first type of hedges refers to items that the authors use to be precise, to accurately convey their degree of certainty" (Salager-Meyer, 1997).

In contrast, reader-oriented (or interpersonal hedges) are motivated by the need to appear polite, modest, and cautious; and the desire to anticipate potential criticism. The distinction is first and foremost a theoretical one since one single form may very well serve several functions and be motivated by several factors. Hereunder are two sentences that show the differences between these two types of hedging with *may*. (4)

a.*Obtaining lexical statistics from the web **may** require a linguistic search engine.* (Lin.)

b.*Given the keen interest in language use on the web, and the relative user-friendliness of web concordances, one **may** hope that the general public will also embrace a concordance as a convenient tool for acquiring incites into current language use.* (ibid.)

In (4a) the use of *may* is dictated by the requirement of accuracy, given that the web itself already offers such an engine, and that the whole research paper aims at providing evidence that such an engine is not always reliable, and that such lack of reliability calls for the design of a special "linguistic concordance search engine". If taken as a separate statement, then it is clear that this hedge is primarily content-oriented. In contrast, the hedging in (4b) is personal and reader-oriented in that it primarily aims at encouraging "the general public" to avail themselves at the "convenience" of "embracing concordance".

1.14 Conclusions

In linguistics papers, epistemic modality markers are often used in contexts of overt argumentation and often serve to mitigate criticism of other researchers so that it sounds more polite and less face-threatening. The use of epistemic modality markers in the three corpora can be taken to reflect quite specific differences among the disciplines in frequencies, the type of markers used, the cotexts in which they occur, and the roles they play in the articles. To a large extent, epistemic markers fulfil the same functions in all three disciplines. However, in literary criticism and linguistic articles, epistemic markers were often used as a persuasive strategy to express caution when interpreting or criticizing fellow researchers. This function was not found in the medical articles wherein epistemic markers are basically used to signal the degree of certainty of the pieces of knowledge under discussion rather than as a persuasive strategy. Future research on bigger corpora could reveal if the tendencies detected for this corpus are generalizable to literary criticism, linguistic and medical articles in general.

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