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**HEDGING IN ACADEMIC WRITING:
EXPLORATIONS INTO ENGLISH AND BULGARIAN RESEARCH ARTICLES**

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All materials as regards to the defence have been made available at the University Library, Rectorate Building at 24 Tsar Asen Str., Plovdiv.

INTRODUCTION

According to Ungerer and Schmid, in the definition from *Longman Dictionary of Contemporary English* “[a parrot is a] tropical bird with curved beak and usually brightly coloured feathers. Some can be taught to copy human speech” “usually” and “some” act as hedges (1996: 21-22). The way these two hedges act on the level of the statement is – they guard against cases in which the information is incorrect, i.e. they fuzzify the proposition.

As a concept hedging began to interest linguists in the early 1970’s and Lakoff is largely credited as the father of the term with his seminal “A Study in Meaning Criteria and the Logic of Fuzzy CONCEPTS” (1973). Since then hedging has been explored from different linguistic perspectives: fuzzy logic (Zadeh 1972; Lakoff 1973), pragmatics (Markkanen and Schröder 1997), semantics (Lakoff 1973), discourse analysis (Prince et al. 1980; Hyland 1996a, 1996b, 1998), speech act theory (Vassileva 2001), conversation analysis (Nikula 1997/ 2010), rhetoric (Omizo and Hart-Davidson 2016), teaching and learning English as a second language (Swales and Feak 2012), as well as ESP, to mention just a few. The phenomenon has been linked to mitigation, vagueness, politeness theory, epistemic modality, and others. Linguists have explored hedging in various discourses, among them newspaper articles (Bapir 2018), political speech (Fraser 2010a; Shath 2018), business management (Mur-Dueñas 2021), more recently interpreting (Hu 2022; Magnifico and Defrancq 2017). Even though as a research domain hedging has been on linguists’ agenda for many years now, it is a topic which is far from being exhausted. There is no single valid definition for hedges/ hedging, nor agreement on what is achieved by hedging, there is no uniformity of opinion even on what can act as a hedge. The only agreement linguists have managed to reach is the importance of hedging.

As to the languages in relation to which research on hedging has been done, Schröder and Zimmer’s bibliographical research data on the concept of hedging (1997/ 2010: 252-3) shows that at least as of 2010 the overwhelming research on hedging had been carried out in English, followed by German a close second. This data is admittedly outdated as it represents the period covered by Schröder and Zimmer, which was between mid-sixties to mid-nineties. More recently the situation has improved with new cross-linguistic studies for languages such as Chinese (Chen and Jun Zhang 2017), Czech (Dontcheva-Navratilova 2014), Kurdish (Bapir 2018), Pakistani English (Shafqat et al. 2022). Nevertheless, the bias in favour of English and German remains and we are very far from having sufficient knowledge about hedging in the 7 000 languages in the world. Going back to Schröder and Zimmer’s results, only 2% of all research into hedging carried out up to 2010 was done in languages other than English and German (1997/ 2010: 252) and most of the other languages boast as little as a single study. It does not come as a surprise then that Bulgarian does not appear as an entry in the list of languages in which studies on the topic

have been carried out. Unfortunately, this has not changed much even years later and there is little research on the subject of hedges/ hedging in Bulgarian.

With regard to Bulgarian, we have to acknowledge the few studies which, for the most part, have been carried out by Vassileva (1998, 2001, 2005). There is also one by Tchizmarova (2005) and later my own investigations into the topic (Petcova 2011; 2013; 2016; etc.). More recently Dagnev (2020) looked at hedging in medical discourse. However, this type of discourse has been substantially studied before (cf. Prince et al.). Yet, the phenomenon of hedging is so productive and important, especially in the discourse of academic writing, that this research is not enough and much more is needed. This is precisely what makes cross-linguistic research necessary, but at the same time it also makes such an undertaking all the more challenging, as one cannot count on previous research for guidance. However, one thing is put into perspective, namely, that a theory of hedging cannot just be based on English. In order to understand the concept more fully we need to introduce a cross-linguistic approach.

Given these implications and gaps in existing research, the current study aimed to re-examine this gap in the current state of knowledge by undertaking a cross-linguistic approach to hedging in two corpora of research articles – one in American English and a second one in Bulgarian. Drawing on what we know about hedging in the rich literature on the English language, this dissertation aims to explore the linguistic resources that the Bulgarian language makes available to its users for their hedging purposes in written academic discourse. Another point of interest is the genre of the research article itself and more specifically whether/ how hedging distribution varies in the different sections of the research article (introduction, methods, results, and discussion), following Swales's IMRD macrostructure (1990). These are some of the questions that I have addressed. The main approach of the present study has been selected and developed in such a way as to accommodate the context-dependent nature of hedging. Thus, it is a functional one and relies on rigorous contextual analysis with a primary focus on qualitative data. However, where quantitative information was obtainable, such data was also gathered and presented. The first level of analysis aimed to explore the types of surface features which functioned as hedges in the American English and Bulgarian corpora, respectively. The second level of analysis, adapted from Hyland's polypragmatic framework (1998), aimed at discussing the pragmatic motivation behind the hedging of English and Bulgarian scholars.

LITERATURE REVIEW

The literature review offers an overview of previous studies which are considered to have contributed much to the research domain of hedging and, at the same time, provides the context for the particular approach adopted by the present dissertation. The literature review takes more of a chronological

organisation, starting with the origins of the concept of hedging, exploring seminal studies, and existing definitions. Next, it briefly turns to present the background for the tool used for a pilot study on the English corpus. This is followed by a comment on the discourse of academic writing, and more specifically on the development of the research article as a genre. Lastly, because the English corpus was piloted in an earlier study (Petcova 2017a) using an online tool, called the Hedge-o-matic (Omizo and Hart-Davidson 2016), it was considered appropriate to briefly present the background of the Hedge-o-matic in this chapter.

The concept of hedging, although not receiving its name until the early 1970's, has been the reason for fervid debate for well over fifty years now. Lakoff is credited by many as the father of the term dating back to his "A Study in Meaning Criteria and the Logic of Fuzzy Concepts" (1973). But even much earlier at the Conference on Language Universals held in New York in 1961 Weinreich discussed the idea that "[for] every language, finally, stock must be taken of all metalinguistic operators such as English true, real, so-called, strictly speaking, German *eigentlich*, and the most powerful extrapolator of all – like – which function as instructions for the loose or strict interpretation of designata" (1966: 163). Even if Weinreich refers to those instances under a designation other than the literature is now used to, namely as "metalinguistic operators," his examples "true, real, so-called, strictly speaking" significantly overlap with Lakoff's. Lakoff insists that "[one] need not throw up one's hands in despair when faced by the problems of vagueness and fuzziness" and is primarily interested in those words "whose job is to make things fuzzier or less fuzzy" (1973: 471). Some of those words are: *sort of, kind of, loosely speaking, a regular, a true, in a manner of speaking, virtually, all but technically, practically*, etc. (including some prefixes, i.e. *pseudo-, crypto-*, and some suffixes, i.e. *-like, -ish*) (Lakoff 1973: 472).

According to Hyland, the main purpose of hedges is to "overcome the inherent negatability of statements and gain the reader's acceptance of a knowledge claim" and, on realising this purpose, hedges then focus either on message or on reader, where the message may further "focus primarily on achieving propositional accuracy or minimising writer accountability" (1998: ix-x). In his *Hedging in Scientific Research Articles* (1998) he explores the connection between epistemic modality and hedging, "[t]he writer or speaker's judgements about statements and their possible effects on interlocutors is the essence of hedging, and this clearly places epistemic modality at the centre of our interest" (1998: 2). He is convinced that even if a purposeful effort is made in that direction writers cannot omit their own view on a matter and it is "encoded" in whatever they say thus they commit or distance themselves in their propositions (1998: 3). In a nutshell, Hyland views hedges as helpers which turn propositions from facts into opinions, claiming that "items are only hedges in their epistemic sense, and only then when they mark uncertainty" (1998: 6).

Hyland's stance on and definition of hedging best aligns with how hedges are viewed by the present dissertation as well.

Many accept Lakoff (1973) as the father of the term hedge. This he may very well be, but what is striking is that he not only gave the phenomenon its name but his authoritative study started a discussion. One that, as we have seen, has brought forth studies after studies of original research that has followed so many and so different lines, a lot of which were actually suggested in his seminal paper. The phenomenon of hedging has been looked at from so many perspectives – “pragmatics, linguistics, semantics, logics and philosophy” (Schröder and Zimmer 1997/ 2010: 249) – perhaps this is why the concept may have “lost some of this clarity and sometimes seems to have reached a state of definitional chaos” even (Markkanen and Schröder 1997/ 2010: 15). This state is shared with other concepts as well, *language* for instance. However, in contrast to other concepts, hedging is used for phenomena where there is really no other appropriate concept (ibid.).

This section provides an overview of the evolution of the scientific¹ research article for English. An attempt was made to provide a similar account of the history of the research genre for Bulgarian but due to historical and political reasons this proved to be an impossible task, uncovering in the process gaps in how Bulgarian scholars acquire the skill of academic writing. Additionally, following Swales's (1990; 1994/ 2012) rich research on the discourse of academic writing a few examples of hedging are discussed. As for Bulgarian, Tisheva and Mavrodieva's (2014) research on the genre of academic writing has been examined in an effort to provide illustrations of features specific to scientific discourse that can be used to house hedging.

As a final point in the literature review for the dissertation, the theory behind the Hedge-o-matic was presented, because in an earlier pilot study the Hedge-o-matic was applied as a tool of analysis for a corpus of English RAs. Later the Hedge-o-matic had to be discarded, because it could not be applied to the purposes of a contrastive study since it only works with English data. However, results from this pilot study are available in Petcova (2017). For the analysis to yield more comparable results across the two languages, manual coding for both languages had to be carried out.

METHODOLOGY

This chapter describes the methodology of the study, including the purpose, goals, data sources, data coding, and types of analysis, including macrostructure analysis, surface features analysis, and pragmatic analysis. The research questions that this dissertation sets out to answer are the following:

¹ Commenting on the discourse of academic writing as a whole, this dissertation treats ‘scientific’ as a synonym of ‘academic’.

- 1) What are the devices and resources that Bulgarian makes available to writers in linguistics research articles when they wish to hedge?
- 2) Where do they overlap with the resources and devices that English makes available to writers in linguistics research articles when they wish to hedge?
- 3) Where do the hedging devices and resources used by linguists in Bulgarian and English coincide and where do they diverge?

To answer these questions the present study looks at two corpora, one in American English and one in Bulgarian, each language comprising six research articles. The context dependent nature of hedging requires a very close analysis of texts in order to identify the surface features that are functioning as hedges in a given text. Given the intensive nature of the analyses, even though the number of selected texts is not large, it is considered appropriate for the level of analysis performed. Thus, the study relies primarily on qualitative principles of data collection and analysis. However, some quantitative data was extracted and presented where this was possible.

The research articles (RAs) selected represent two publication dates: 2011 or 2012, and 2019. This will allow an inspection of whether patterns remain constant or change over time within the span of a decade. Clearly, due to the size of the corpora the answers to this question would have to be considered exploratory and tentative. Nonetheless, with recent technological advances national boundaries that used to hinder scientific communication are diminishing, and thus the question appears to be worth asking. For each language, there are three RAs from 2011/2012 and three from 2019.² For convenience, the names of the articles appear as E1 to E6 and B1 to B6, where 'E' stands for English research article and 'B' for Bulgarian, and the number following the letter signifies the number of the article respectively.

To ensure high quality in the academic writing, the research articles were selected from well-known academic journals and conference proceedings volumes. For the RAs written in Bulgarian by Bulgarian scholars the *Annual Publication of Sofia University* (B1) and the *Paisii Readings of Plovdiv University* (B2-B6) were chosen. The English corpus comprises a selection from two US-based outlets: *Linguistic Inquiry* (E1, E5, and E6) and *Proceedings of the Annual Meeting of the Berkeley Linguistics Society* (E2, E3, and E4).

The English corpus comprised a total of 26,000 words or roughly about 90 pages, where the average of pages per RA was roughly 15. Now turning to the two academic volumes from which the English RAs were selected, namely,

² In 2014 the most RAs that were available and accessible to me online were the 2011/2012 ones, this is especially true for the Bulgarian RAs which were not as readily available online. Currently, the most recent RAs for the BLS available are from 2018, so E6 is the only one from 2018.

the *Linguistic Inquiry (LI)* journal and the proceedings volume of the *Annual Meeting of the Berkeley Linguistics Society (BLS)*. The former, *LI*, is a peer-reviewed journal by MIT Press. The latter, *BLS* is a proceedings volume by the Berkeley Linguistics Society. The BLS has a long-lasting tradition going back to 1975; it is peer-reviewed, indexed, and open-access. The outlets are US-based, the researchers are affiliated with US institutions, but it is impossible to ascertain whether they are native speakers of US English or some other variety, such as UK English. Therefore, we can assume that the English corpus mostly represents hedging in American English, but henceforth I will speak of the English corpus without making reference to the variety of English that it may represent. Future studies may focus on hedging across English varieties.

To account for the variation in the length of different RAs across both corpora, a decision was made to norm the frequencies, so as to achieve comparable results. Following this procedure, the raw frequencies for each RA have been divided by the number of words in that text and subsequently multiplied by 350 words, which is roughly equivalent to a page across the corpus and was the basis selected for norming.

It was Hyland's framework (1998) that proved to be the most congruous with the curated corpora and most importantly in line with the fuzzy and variable nature of hedging as a context dependent phenomenon. There are a number of constraints that the polysemous and polypragmatic nature of hedging imposes and this makes it a challenging concept to explore. Hyland views hedges as polysemous in that they express different related meanings, where "some [are] more representative of a given category than others" (1998: 157).

ENGLISH CORPUS RESULTS

Table B.1 in the Appendix shows the counts for surface features found in the six research articles (RAs) that comprise the English corpus. What first stands out in Table B.1 is the overall density of hedging devices per RA. Looking at the normed numbers, it appears that four out of the six RAs come close to 30 hedging devices per 350 words, or about 30 hedging devices per page (E1, E2, E3, and E6). However, the hedging density for the other two (E4 and E5) is much lower: 16 and 17 devices per page, respectively. What might explain the difference for two of the six RAs is unclear. Both E4 and E5 were published more recently, but so was E6. Both RAs come from the *Linguistic Inquiry*, but so does E1. Since the available corpus is limited to six RAs, it cannot be determined with a very high degree of certainty that there is in fact a tendency for contributors of more recently published articles in *LI* to hedge less more recently. The difference we are observing most probably has a different explanation rather than a new trend in hedging emerging within barely a decade. Alternatively, since all six RAs are single-authored, the much lower hedging density found in two of the six articles could be accounted for by authorial

preference. This would mean that it is simply a matter of choice for the authors of RAs E4 and E5, and that their personal style is marked by the low density of hedging seen in Table B.1.

The division to: hedges oriented more towards the accuracy of propositions, towards the writer's self-protection, or towards the reader's acceptance (based on Hyland's (1998) approach) seemed appropriate and so these were the three types of pragmatic categories that have been applied at the sentence level. Some examples from the corpus include (1), (2), and (3):

- (1) The descriptive cross-linguistic literature on additive particles that function as discourse structuring devices is sparse and scattered, but there do seem to be commonalities between strategies in quite different languages, both from a geographic and a genetic point of view. (E2)
- (2) The facts presented here show that this account of the silence of PRO cannot work in general without saying that the locality domain for A-movement into a 0-position is different from the domain for A-movement into a non-0-position. (E1)
- (3) More broadly, I have shown that object symmetry can vary according to verb class, an empirical fact that has not been considered in previous work on object symmetry.

Example (1) happens to be part of the introduction of E2. The author is making a move that is part of Swales's CARS model, whose aim is, according to Swales, to Create a Research Space (1990: 140-148) for themselves. Normally, this is done through a comment on current state of knowledge, then later by positioning their research as a way to fill the gap in existing knowledge they have exposed. On the pragmatic level, the aim is towards precision of claims made (evaluative adjectives "sparse and scattered"), and overall a description of the current state of knowledge. When the motivation of the author is most clearly associated with the claim and its precision, it is an occurrence of an accuracy-oriented hedge. (2) is an example of writer-oriented hedging. With this type of pragmatic hedging the primary motivation of the author seems to be self-protection. The author is anticipating criticism or protecting against a riskier claim. This is often done by absence of the author through impersonal constructions or passive forms. It is evident at the beginning of the sentence where the author seems to lack agentivity, instead agentivity is transferred over to 'the facts presented here'.

With reader-oriented hedging we are turning away from the proposition and considering the effect of the claim on the reader. Overall, it is the cooperation of the reader that the author is seeking, taking into account all the repercussions of the claim they are putting forth for ratification. Thus, the motivation behind reader-oriented hedging has more of a social aspect. In (3) the author is expecting the cooperation of the reader in accepting and agreeing with the outcomes of their research. The results are presented in Table B.2 in the Appendix. It is clear that the type of pragmatic hedging that is mostly preferred by all authors across the corpus is the writer-oriented type, which corresponds to 61% of all hedging. Its frequency is roughly twice that of the accuracy-oriented hedging which amounts to 32%. The least salient type is the reader-oriented one at only 7%.

In addition to ascertaining which hedging resources were used in the corpus and what pragmatic functions hedging served in the RAs, the data were coded for where in the RAs hedging occurred. As previously discussed in Chapter 3, most hedging in RAs occurs in their discussion sections (Hyland 1998: 153-154; Salager-Meyer 1994: 156). This is not surprising since it is in discussion sections that previously reported results are being interpreted (Swales 1994: 157; 195). The results show that overall hedging happens primarily in the Discussion sections of RAs.³ The difference is overwhelming with 62% of all hedging in the Discussion section, which is more than three times that of the Introduction section. Compared to these two sections, the Conclusions section stands at 11% of the total frequency of hedging.

Table B.2 in the Appendix shows that E1, E3, and E4 all have Discussion sections with hedging frequencies that are noticeably higher than their other sections. Specifically, the Discussion sections are 67%, 76%, and 72% of all hedging, respectively, in these three RAs. The same is true for E2 and E5, even though the frequency is slightly lower than that of the previous group, 57% and 62%. For all five RAs, however, it is the Discussion section where the most hedging is concentrated. The same cannot be said for E6. This RA differs in its macrostructure as well. In contrast to the rest of the RAs in the English corpus, here, not only three but five sections can be clearly delineated, strictly following the headings the author has used.⁴ The hedging in the Discussion section is lowest compared to the other RAs (24%), but it is still the section for that particular RA where most hedging occurs.

Looking at the numbers for different types of hedging categories across the six RAs, for all articles it is the writer-oriented hedging that is used the most. Strikingly, for all RAs except one (E4 at 45%), the writer-oriented function accounts for half or more of the hedging within a given RA, the frequency of that type of hedging being consistently over 50%. For E3 it is 63% and for E5 and E6 it is 73% and 72% respectively, which is even higher.

Table B.2 shows that the accuracy-oriented function, the second more preferred type of hedging, is steadily around the 30% mark within each RA, as follows: E1 at 36%, E2 at 38%, E3 at 34%, E4 at 36%, and E5 at 28%. The data show very high consistency with E5 standing out with almost half of that at 18%.

BULGARIAN CORPUS RESULTS

Table C.1 in the Appendix shows the counts for surface features found in the six research articles (RAs) that comprise the Bulgarian corpus. Examining

³ Results is not a separate section anywhere in the English corpus, except RA6, so for all other RAs this section is subsumed by the Discussion section.

⁴ The results collected for the Methods section cannot be juxtaposed to any of the other RAs, because E6 is the only RA which has a clearly defined Methods section.

the normed counts for the number of hedging devices per page, it looks like B6 is the most densely hedged RA with an average of 27 hedging devices per page. Right next to it ranks B4 with a slightly lower total count of approximately 25 devices per page. B3 and B5 are somewhat less dense at 23 and 21 hedging devices per page. In contrast to these four articles, B1 and B2 exhibit much lower density, that is, roughly 12 and 17 hedging devices per page, respectively. As previously explained, only B3 comes from a different journal, so the journal itself cannot be a factor to account for differences in hedging density between the different RAs. At first glance, it seems that RAs published in 2011/ 2012 overall employ hedging slightly less than those published more recently in 2019. However, such an intuition needs to be pursued further in a corpus selected with the explicit goal to examine time differences in mind. As it is, the evidence available in the present corpus seems to be in favour of authorial preference. Moreover, the journals themselves have no prescriptions of style, therefore, authors are free to use their personal style of writing academic prose. The contrast between B1 and B2 and the rest of the RAs in the corpus seems even more striking when one takes into account that the authors are representatives of different institutions. All writers come from different leading Bulgarian universities or the National Academy of Sciences and so it might be interesting to consider, even tentatively, that similarities in hedging preferences across the Bulgarian corpus might point to patterns of use characteristic of a particular institution. This finding deserves special attention in a corpus geared towards this specific purpose.

Where accuracy-oriented hedges, as shown in (1), are primarily concerned with precision and the precise qualification of claims, the prominent characteristic feature of writer-oriented hedges, illustrated in (2), is the author's self-protection. As far as reader-oriented hedging is concerned, and as shown in (3), the author's primary objective is to get the reader to cooperate, collude or otherwise overcome the imposition the author is causing with the claim they are making.

(1) Като цяло би могло да се каже, че към този момент съществува известно съгласие между различните автори относно броя на грамемите, съставлящи категорията на адресива в съвременния корейски език. (B3.348)

On the whole, it could be said that currently there is somewhat of an agreement between different authors about the grammemes that comprise the addressive category in contemporary Korean language.

(2) В граматичните изследвания още се сочи, че когато се означава неделима принадлежност, не може да се използват предикативно пълните притежателноместоименни форми (вж. Ницолова 2008: 168). (B4.76)

Studies of grammar also say that when complete possessiveness is marked, full possessive pronoun forms cannot be used in a predicate. (see Nitsolova 2008: 168).

(3) Ясно е, че в една анкета не могат да бъдат включени всички речеви маркери, интересуващи научния екип. (B1.72)

It is clear that a single survey cannot include all speech markers that are of interest to our team.

The results are presented in Table C.2 in the Appendix. They clearly show that the type of pragmatic hedging highest in frequency across the Bulgarian corpus is the writer-oriented one, at nearly 50%. Accuracy-oriented hedges are relatively frequent, at 34%, reader-oriented hedges are very low, at 17%. Since the primary goal of writer-oriented hedging is to help the writer to self-protect, it follows that this is a primary concern of writers.

The results show that overall hedging occurs mostly in the Results and Discussion section within RAs.⁵ Close to 80% of all hedging happens in the Results and Discussion section. By comparison, similarly low frequencies of hedging were observed in the Introduction and Conclusion sections at 13% and 11%, respectively. The conclusion we are able to draw is that hedging occurs predominantly in Results and Discussion sections in the Bulgaria corpus, which is consistent with previous studies for English RAs.

CROSS-LINGUISTIC COMPARISON OF HEDGING IN ENGLISH AND BULGARIAN

In academic writing, it is in the hands of the discourse community to ratify an author's claims, so they gain credibility and can be accepted as new knowledge. Thus, certain deference is due to members of the discourse community. This often happens through hedging in academic prose, one of the modes of communication in academia. Compared to English, Bulgarian is commonly considered to be a more direct language. However, the comparison of results from both corpora shows that not only does hedging happen in Bulgarian to a degree that is not very different from English (21 vs. 25 hedges on average per page, respectively), but also that English and Bulgarian scholars hedge using approximately the same means.

English and Bulgarian authors seem to hedge primarily through writer-oriented hedging (over 60% and nearly 50%, respectively). These results give the overall impression that for the authors in both languages it is of chief importance to protect themselves from criticism for the claims they wish to

⁵ Method sections were not delineated in any of the RAs except one. So it was not possible to include the results. For all other five RAs the methodology was sprinkled in the introduction or body of the RA where it was relevant but was not possible to code for.

make. It appears that Bulgarian authors are only slightly less concerned than the English to self-protect. But on the whole, both English and Bulgarian scholars feel that the claims they offer to their peers need to be hedged in such a way as to shield themselves against the perpetual “negatability of sentences”.⁶

These results deserve special attention and a closer look into some of the examples:

(1) Както се забелязва (1a), асоциираният от адресантите образ най-често (1b) е един от най-честите, който се използва и логически се отнася към антонимния корелат на признака в оксиморонната структура. (B2)

As can be seen (1a), the image associated by the addressees is most often (1b) one of the most commonly used (1c) and logically refers to the antonymous correlate of the feature in the oxymoronic structure. (close translation)

(2) Coordination may be (2a) defined to refer to the function of syntactically (2b) conjoining at least (2c) two, more or less (2d) symmetrical (2e) constituents to form a new (2f) constituent, following similar (2g) definitions by Mithun (1988) (2h) and Haspelmath (2004b) (2i). (E2)

Through Example (1) the author of B2 is inviting the reader to draw conclusions for themselves. It is an interesting instance (such examples abound in the corpus), where the writer achieves distance from the statement by the impersonal expression in (1a), implying that anyone else in the reader’s stead would draw the same conclusion. This distancing effect is one of the characteristic features of writer-oriented hedging (Hyland 1998: 170). It is almost as if the responsibility is being transferred over to the reader or, in any case, away from the writer.

At first glance example (2) abounds in expressions (adverbs, adjectives that limit or otherwise qualify the proposition) that would, under different circumstances, be indicative of accuracy-oriented hedging. However, at the sentence level, there are two indicators that bring us closer to the writer-oriented plane. Namely, the modal auxiliary ‘may’ (2a) and the two references, (2h) and (2i). The references move the responsibility for the claim over to the community by drawing on the support of previously established knowledge. With writer-oriented hedging the focal point is this idea of focus on the writer and their “aim [is] to shield the writer from the possible consequences of negatability by limiting

⁶ “The negatability of any (uttered) sentence is based on the existence of such alter-native sentences [...] [and that this] negatability actually becomes manifest in the hearer’s right to refute a sentence.” (Hübler 12)

personal commitment” (Hyland 1998: 170). Thus, “it is the strength of the relationship between the writer and the proposition that is made fuzzy” (ibid. 171).

The counts for accuracy-oriented hedging are almost identical in the two languages (English – 34% and Bulgarian – 32%). This means that for the RAs in both corpora precision ranks second in importance after self-protection. The following examples help illustrate this point further:

(3) Интересен детайл (3a) в българската реч е, че ако (3b) определено числително име пояснява нелично съществително име от мъжки род, то (3c) второто тогава е в нормативната си бройна форма [...] съществителното „губи“ (3d) бройната си форма и се употребява (3e) в множествено число. (B6)

An interesting detail (3a) in Bulgarian speech is that if (3b) a certain numeral modifies an impersonal masculine noun, then (3c) the latter is in its normative numeral form [...] the noun ‘loses’ (3d) its cardinal form and is used (3e) in its plural form. (close translation)

(4) The descriptive cross-linguistic literature on additive particles that function as discourse structuring devices is sparse (4a) and scattered (4b), but there do (4c) seem (4d) to be commonalities between strategies in quite (4e) different (4f) languages, both from a geographic and a genetic point of view (4g). (E2)

Example (3), viewed in its entirety as a sentence, explains ‘how things are’ in already established knowledge and this is its overall effect. In (4) the adjectives (4a) and (4b) express criticism of the current state of knowledge but then the inversion in (4c) (even if the verb in (4d) is quite tentative) stress the reliability of the observation. The cluster in (4g) points as to how the facts need to be viewed. This description of state of knowledge, elaboration on how a claim needs to be interpreted or viewed, are some of the characteristic features of accuracy-oriented hedging (Hyland 1998: 165).

However, the results for the Bulgarian corpus show that authors also used considerably more reader-oriented hedging than in English (17% vs. 7%). Reader-oriented hedging is generally the most face threatening type of pragmatic hedging. It is also the most demanding of the reader. Bulgarian authors seem a bit less concerned with being perceived as too demanding on their readers. Still, it is a fact that due to its nature this is the least favoured type of pragmatic hedging in both corpora. Some examples of reader-oriented hedging include:

(5) От изключително значение за защита на тезата, че (5a) притежателните местоимения са лексикални периферийни експликатори във функционално-семантичното поле на детермина-

цията, е не само аргументът, че (5b) пълните форми могат да се членуват (5c), но и становището (5d), че нечленуваните форми изразяват лексикално-семантична определеност, която, на първо място, е обусловена от семантичната структура на този вид местоимения. (B4) Of utmost importance for defending the thesis that (5a) possessive pronouns are lexical peripheral explicators in the functional-semantic field of determination is not only the argument that (5b) full forms can be (5c) defined by the definite article, but also the fact that (5d) non-defined forms express lexical-semantic determination, which, first and foremost, is determined by the semantic structure of this type of pronouns. (close translation)

(6) Here, I focus on (6a) passivization as a diagnostic, though various other diagnostics are cited in the literature (6b), such as object marking, relativization, and word order (Baker 1988, Rugemalira 1991, Alsina and Mchombo 1993, Marantz 1993, Schadeberg 1995, Ngonyani 1996, 1998, Moshi 1998, Thwhala 2006, Zeller and Ngoboka 2006, Marten, Kula, and Thwhala 2007, Reidel 2009, Jerro 2015, 2016b) (6c).

Such clusters as (5a) could be interpreted as very imposing to the reader (“utmost importance,” “defend”). Grozeva notes that it is not uncommon for hedges (which she calls “завоалиращи изрази”) to be expressed through the imperative mood (2011: 104-110). In both languages reader-oriented hedging is frequently expressed by authorial reference through the first-person singular or plural, through phrasing that suggests that circumstances, as if out of the control of the author, demand something be mentioned, considered or done. Example (6) above illustrates how the author’s agentivity can be foregrounded by using the first-person singular pronoun in this rare Bulgarian case. It is this interpersonal relationship that is brought to the fore in reader-oriented hedging in either language, insofar as they occur. How an author acts can have some serious consequences for the overall effect achieved and for the face of the reader. (6b) reflects the personal choice of the author and as such can be open to objection by the discourse community. In terms of the location of hedging in RAs, the two languages were similar in that in both English and Bulgarian most hedging occurred in Discussion sections, followed by Introductions and Conclusions. This is consistent with previous research for English RAs (Hyland 1998: 153-4; Salager-Meyer 1994: 156; 1997/ 2010: 136), and the present study extends the same finding to Bulgarian RAs.

Surprising or not, it appears that English scholars demonstrate a more active role in their writing, while Bulgarians strike more of a balance between the passive and active forms of verbs. While for English there is not an across-the-board preference for establishing authorial voice through ‘I’ in the English corpus, voice is definitely not established through ‘we’ forms. In some sense this

probably limits the usefulness of ‘we’ as a resource suitable for hedging in English. Different from this, in Bulgarian authors are encouraged to and do use ‘we’ not only to establish their authorial voice, but also as a neat resource to expand their hedging repertoire. It would be wrong to deduce that this makes the authorial voice choice for Bulgarian fixed or predetermined. It would be better to interpret the findings as a proclivity for ‘we’ and not a definite preference. In English there seems to be a greater variety of modal verbs to select from, so it is not surprising that Bulgarian scholars hedge twice as little through modal verbs (and throughout the Bulgarian corpus two single modal verbs predominate: *може да* and *трябва да*). In the present corpus, English scholars tend to use adverbs/ adverbials twice as much as Bulgarians do. The results indicate that not only is the frequency of application greater in English, but it seems that the two languages have a different disposition in hedging through these devices – in English there is a tendency to use conjunctive adverbs extremely frequently, while in Bulgarian this is not the case. The degree of semantic overlap between the two languages and the adverb/adverbial devices used for hedging is definitely a question worth posing. However, it is out of the scope of the present dissertation. Multiword expressions are convenient devices for hedging in both languages, and they are also often phrases that occur with some frequency in academic writing in general. There was little difference between the use of multiword expressions between English and Bulgarian. This could point to universal similarities of the discourse of academic writing for the two languages, especially given the formulaic nature of multiword expressions. Clusters, on the other hand, due to their heavy nature were used sparingly but consistently in both English and Bulgarian, which speaks to the purpose with which authors resort to them in both languages.

Lastly, similar in importance to both English and Bulgarian authors seems to be the writer-oriented type of pragmatic hedging. This indicates that above all reasons behind the decision to hedge, both English and Bulgarian authors place self-protection. Next to it ranks the need for precision through accuracy-oriented hedging. The least favoured in both languages is the reader-oriented type, which is not unexpected given the fact that it is also the most face-threatening. However, Bulgarians seem to be just a little less concerned with the nature of this type of pragmatic hedging and use reader-oriented hedging a little more liberally than their English colleagues.

CONCLUSION

In the final chapter the dissertation brings together the themes, findings, and implications that the study has yielded in order to evaluate what has been learned from this research and how it has contributed to the field. The chapter is organised as follows. It opens with the theoretical contributions to the concept of hedging that the present study yields. These are followed by the methodological lessons learnt for the readers who may want to undertake similar studies in the future. Even though this is not a main focus of the dissertation, the following section explores some of the pedagogical implications of the study, elaborating on the potential applications of hedging research in the EAP classroom. Then, the limitations of the study are outlined. The chapter closes with directions for future research that emerged as a result of the present analyses and are worth pursuing further. Finally, readers are presented with a list of major contributions.

It is worth pointing out that there are over 7 000 languages in the world. As a human behaviour, hedging is universal and, thus, a theory of hedging cannot just be based on English. We can only fully understand hedging by introducing a diversity of cross-cultural and cross-linguistic research. The present dissertation is only a stepping stone in this direction. Hedging is inherent to any language but how much it is used or the means that a language makes available for hedging purposes differ and this is what the present study has shown. As discussed at the beginning of this dissertation, the concept is fairly unfamiliar in relation to Bulgarian and there is no special term for it in Bulgarian linguistics. In an earlier study (Petkova 2011) and after consultation with colleagues, experts on English, and experts on Bulgarian, I shared my research and we exchanged ideas about concepts that in some way resemble hedges in Bulgarian. One such term was *modifikator* which translates as *modifier* and is widely used and regarded as “the basic structural elements of the functional-semantic field or the devices used for expressing the semantic content of the category” (Kutsarov 29). However, upon further investigation into this possibility the conclusion that was reached in that study was that hedging does not correspond to modifiers, in fact, it seemed appropriate to consider the term *modifier* as a much broader concept, maybe even an umbrella term for hedging. This is confirmed by what we have seen in this dissertation, namely that hedging carries a much more specific meaning. Should we take this to mean, then, that there is no concept in Bulgarian that in any way overlaps with hedging or stands for similar functions?

In conclusion I would like to suggest the following definition of hedging. Hedging is saying exactly what you mean, regardless of whether the motivation behind the hedge or hedges used is: precision; lack of evidence or knowledge for a higher level claim; lower degree of certainty or commitment; self-protection; seeking the approval of the reader. Through hedging authors gain the acceptance of their peers and the gatekeepers in the pursuit of new knowledge. If this new

knowledge is ratified, it becomes established and the wheel of academia keeps spinning. Hedging can be achieved through a single lexical unit or groups of lexical units. In written academic discourse certain multiword expressions can seem quite formulaic, because they have higher frequency in this particular type of discourse.

Hedging is an important topic in linguistics and academic communication, quite simply because it is important for attaining the ideal of precision of claims in the production of knowledge. In academic and scientific writing, authors must carefully anchor their claims in available knowledge, and in the facts or circumstances surrounding their method and empirical work. Hedging helps them do so. For these reasons, the topic has attracted tremendous attention to date and will no doubt continue to attract the interest of scholars in years to come. I hope the present dissertation would be useful reading for researchers with interdisciplinary and cross-linguistic interests in hedging, and that it will inspire others to continue investigating how writers hedge their claims, that is, how they strive to hit the right mark not to claim more (or less) than one means or has the evidence for.

APPENDIX A

ENGLISH CORPUS RAS

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Appendix B

Table B.1
Surface Features

E1 Data Wds 2,569	Total Hedges	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Clusters	References
Total devices	217	65	7	58	3	32	59	21	21	9	20
Devices per 350 words	30	9	1	8	0	4	8	3	3	1	3
E2 Data Wds 5,033	Total Hedges	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Clusters	References
Total devices	406	91	26	65	4	20	121	50	56	16	32
Devices per 350 words	28	6	2	5	0	1	8	3	4	1	2
E3 Data Wds 5,590	Total Hedges	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Clusters	References
Total devices	427	96	30	66	0	30	100	65	41	21	55
Devices per 350 words	27	6	2	4	0	2	6	4	3	1	3
E4 Data Wds 4,030	Total Hedges	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Clusters	References
Total devices	184	43	8	35	0	9	30	24	32	13	31
Devices per 350 words	16	4	1	3	0	1	3	2	3	1	3
E5 Data Wds 4,950	Total Hedges	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Clusters	References
Total devices	243	74	13	61	2	30	43	33	32	18	20
Devices per 350 words	17	5	1	4	0	2	3	2	2	1	1
E6 Data Wds 3,660	Total Hedges	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Clusters	References
Total devices	313	117	66	51	0	11	90	27	23	14	23
Devices per 350 words	30	11	6	5	0	1	9	3	2	1	2

Table B.2
Pragmatic Categories (hedging distribution by RA section)

E1	Percent %	Total	Intro	Results/ Discussion	Conclusion
Accuracy-oriented	36	24	8	15	1
Writer-oriented	55	36	4	25	7
Reader-oriented	9	6	2	4	0
Total	100%	66	14	44	8
E2	Percent %	Total	Intro	Results/ Discussion	Conclusion
Accuracy-oriented	38	35	16	15	4
Writer-oriented	53	49	16	31	2
Reader-oriented	9	8	1	6	1
Total	100%	92	33	52	7
E3	Percent %	Total	Intro	Results/ Discussion	Conclusion
Accuracy-oriented	34	41	7	29	5
Writer-oriented	63	75	8	60	7
Reader-oriented	3	3	0	2	1
Total	100%	119	15	91	13

E4	Percent %	Total	Intro	Results/ Discussion	Conclusion
Accuracy-oriented	36	21	2	18	1
Writer-oriented	45	26	4	16	6
Reader-oriented	19	11	2	8	1
Total	100%	58	8	42	8
E5	Percent %	Total	Intro	Results/ Discussion	Conclusion
Accuracy-oriented	18	14	5	7	2
Writer-oriented	73	56	7	40	9
Reader-oriented	9	7	1	1	5
Total	100%	77	13	48	16
E6	Percent %	Total	Intro	Results/ Discussion	Conclusion
Accuracy-oriented	28	26	7	2	13
Writer-oriented	72	67	13	28	1
Reader-oriented	0	0	0	0	0
Total	100%	93	20	30	14

Table C.1

Appendix C

Surface Features

	Totals	All verbs	Passive forms	Active forms	1ppl verbs	Modal verbs	Adverbs	Adjectives	Multiword Expressions	Hedging Clusters	References
B1 Data											
Wds 4,424											
Total devices	152	46	30	16	3	4	20	30	24	13	3
Devices per 350 words	12	4	2	1	0	0	2	2	2	1	0
B2 Data											
Wds 4,116											
Total devices	202	47	26	21	1	10	47	61	9	11	6
Devices per 350 words	17	4	2	2	0	1	4	5	1	1	1
B3 Data											
Wds 3,831											
Total devices	248	67	23	44	27	9	56	39	21	11	30
Devices per 350 words	23	6	2	4	3	1	5	4	2	1	3
B4-2019 Data											
Wds 3,071											
Total devices	218	102	40	46	13	16	20	18	17	5	21
Devices per 350 words	25	12	5	5	1	2	2	2	2	1	2
B5-2019 Data											
Wds 3,060											
Total devices	180	68	39	29	11	8	19	17	28	8	23
Devices per 350 words	21	8	4	3	1	1	2	2	3	1	3
B6 Data											
Wds 2,389											
Total devices	186	72	24	48	10	8	22	27	29	9	7
Devices per 350 words	27	11	4	7	1	1	3	4	4	1	1

Table C.2
Pragmatic Categories (hedging distribution by RA section)

B1	Percent %	Total	Intro	Method	Results/ Discussion	Conclusion
Accuracy-oriented	32	22	2	1	10	9
Writer-oriented	56	38	5	5	18	10
Reader-oriented	12	8	1	5	0	2
Total	100%	68	8	11	28	21

B2	Percent %	Total	Intro	Method	Results/ Discussion	Conclusion
Accuracy-oriented	41	27	6		21	0
Writer-oriented	38	25	1		23	1
Reader-oriented	21	14	3		10	1
Total	100%	66	10		54	2

B3	Percent %	Total	Intro	Method	Results/ Discussion	Conclusion
Accuracy-oriented	41	39	2		36	1
Writer-oriented	46	44	4		39	1
Reader-oriented	13	12	4		8	0
Total	100%	95	10		83	2

B4	Percent %	Total	Intro	Method	Results/ Discussion	Conclusion
Accuracy-oriented	31	22	2		18	2
Writer-oriented	51	36	5		27	4
Reader-oriented	17	12	3		7	2
Total	100%	70	10		52	8

B5	Percent %	Total	Intro	Method	Results/ Discussion	Conclusion
Accuracy-oriented	21	12	0		7	5
Writer-oriented	52	30	4		25	1
Reader-oriented	28	16	2		13	1
Total	100%	58	6		45	7

B6	Percent %	Total	Intro	Method	Results/ Discussion	Conclusion
Accuracy-oriented	34	23	3		18	2
Writer-oriented	50	34	4		27	3
Reader-oriented	16	11	1		10	0
Total	100%	68	8		55	5

Appendix D

Table D.1
First-person singular vs first-person plural (total and hedging instances)

English	I total	I H-ing	We total	Isolated We H-ing (1ppl)
E1	5	5	5	3
E2	4	2	5	4
E3	1	0	0	0
E4	30	16	0	0
E5	35	25	5	2
E6	0	0	0	0
Total	75	48	15	9

Bulgarian	I total	I H-ing	We total	Isolated We H-ing (1ppl)
B1	0	0	8	3
B2	11	11	1	1
B3	0	0	50	27
B4	0	0	17	13
B5	0	0	14	11
B6	0	0	19	10
Total	11	11	109	65

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SCIENTIFIC CONTRIBUTIONS OF THE DISSERTATION

1. This is the first exploratory study to focus on Bulgarian from the point of view of prototype theory and pragmatics.
2. The study provides a substantial guide for previous research on hedging. The literature review approaches the issue from a chronological perspective that examines seminal studies relevant to the purposes of the dissertation.
3. The study of academic practices through hedging sheds light on the pragmatic reasons why writers in English and Bulgarian resort to this strategy. Thus, the study demonstrates that hedging is a very important tool for ratification of knowledge and for gaining acceptance in the academic community.
4. The study proposes a definition of hedging that synthesises previous discussions and offers a balanced definition that can be used in this research domain.
5. It proposes a term in Bulgarian, grounded in previous studies, rather than contributing to the state of definitional chaos.
6. It selected and further developed a methodology of analysis appropriate to the nature of the concept.
7. The study produced some useful insights that can be translated into improvements of how hedging is taught, in English and/or in Bulgarian, in Bulgaria's higher education system.
8. The dissertation being in English hopes to become available to a wider audience. And even though in itself it is a sort of a compromise, being written in a language that has been accused of exercising hegemony over other languages, it represents an attempt to counteract the serious problem of the still overwhelmingly English-centric research in Linguistics, raising the awareness of the wider academic community by familiarising them with the realisations of hedging in Bulgarian.
9. The findings could be used by novice scholars who are trying to orient themselves in academic publishing either in Bulgarian, in English, or both.

PUBLICATIONS ON THE SUBJECT OF THE DISSERTATION

1. Petcova, Polina. "A Short Overview of the Concept of Hedging in English and Bulgarian." *Актуални проблеми на съвременната лингвистика – Юбилеен сборник в чест на проф. д.ф.н.д-р хон. Кауза Стефана Димитрова* [Current Problems of Modern Linguistics – Jubilee Collection in Honor of Prof. Dr. Habil. Stefana Dimitrova], edited by Maxim Stamenov and Ivo Panchev, Bulgarian Academy of Science, 2016, pp. 205-9.
2. Petcova, Polina. "Bulgarian Translations of English Hedges in Academic Writing." *Scientific Works of the Union of Scientists in Bulgaria-Plovdiv, series A. Public sciences, art and culture*, vol. IV, 2017, pp. 27-30, ISSN 1311-9400 (Print); ISSN 2534-9368 (On-line).
3. Petcova, Polina. "On Hedging: Applying Lakoff's Model to Bulgarian." *Сборник на XIV-та Национална студентска конференция – Пловдивски университет* [Papers of the XIV-th National Students' Conference at Plovdiv University], 2013, pp. 98-103.

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