Authorial stance in scientific writing

A cross-linguistic and cross-disciplinary study of markers of authorial stance-taking in linguistics, economics, and technology research articles written in English, Serbian, and German

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Acknowledgements

This project actually came to be years ago, when I was working my side gig as my mother's designated translator-of-requirement. As it turned out, while I had the right translation instincts, my stance marker (despite not being known as such at the time) instincts in her field (technology/engineering) were quite wrong. It is perhaps with this in mind that I set out to learn more about them, and so I did in this very long thesis.

The topic of my work is a study in how scientists wish to indirectly, or on the other hand, quite directly, introduce their opinions and attitudes into their research, and I will try to do so in this part of the dissertation, as personally and as directly as possible. No mitigations, but with much politeness and, hopefully, humbleness.

At times it seems I must have picked out the worst possible time to move to another country to start working on my doctoral thesis. I may be paraphrasing a song I like, but the life that has crept up on me in the past several years was not always the one I would have wished for myself, and the person who walked out on the other end is a slightly different version of me. However, as this chapter of my life ends, I give myself a light pat on the back and say *we did it* – me and my village.

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Abstract

Across different languages and disciplines, authors use a variety of linguistic strategies to introduce their own voice into their academic texts. They do so, not only to report on their findings, but also to denote their agency and responsibility for the research overtly or covertly, to express certainty or possibility in the claims they are making, as well as their attitudes and assumptions, and to initiate a dialogue with their readership within the conventions of their national and disciplinary culture. All these notions fall under the concept of authorial stance.

The present study employs a corpus-based approach to investigate the ways in which authors express their stance in scientific writing. The data is drawn from a corpus of 124 research articles, written in three languages – English, Serbian, and German, and in three scientific disciplines – linguistics, economics, and technology/engineering, by native speakers. The aim of this study is to investigate the quantitative and qualitative uses of markers of authorial stance across these academic and linguistic communities.

Based on previous research on the notion of stance and its related conceptual categories, such as, *inter alia*, modality, evidentiality, and hedging, as well as their formal markers, an operationalising unified model of stance-taking was devised, drawing on these formal expressions and complemented by examples from the corpus, in order to dynamically analyse the corpus data. By adopting an onomasiological approach, six strategies denoting functions of stance-taking expressions proved to be most prominent in the corpus: depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference. This data-based but category-inspired analysis was conducted through MAXQDA – a software tool for qualitative and quantitative text analysis.

Quantitative results reveal distinct quantitative differences in the cross-linguistic and cross-disciplinary use of these markers, as they are used most frequently in the German sub-corpus, as well as in the technology sub-corpus, and least frequently in the Serbian sub-corpus, as well as in the economics sub-corpus. Moreover, the most frequently used strategy is that of depersonalisation, used to omit authorial agency, while evaluative reference is the least frequently used strategy, used to evaluate previous research and position current work in the research landscape. These differences imply that authors in hard sciences (i.e. technology) tend to express their stance through impersonal means, while authors in soft sciences (i.e. linguistics and economics) express it through more involved and personalised means. Moreover, these differences suggest that authors writing in German also tend to express their stance through impersonal markers, while authors in English express it through more subjective means.

These quantitative differences are further elaborated by a qualitative analysis, highlighting cross-linguistic and cross-disciplinary differences in functional and formal categories of stance markers. While linguistic forms of stance markers may vary, their pragmatic, communicative, and interpersonal functions can be said to be almost identical across all sub-corpora. This may have important implications for the negotiation of preferred practices in the use of these markers when writing research papers in all three languages in the future and for aiding the pragmatic competence of non-native researchers and students when engaging in discourse with the international academic community. Therefore, this research has sociolinguistic, descriptive, and pedagogical implications.

Key words: authorial stance, stance-taking, stance markers, depersonalisation, indetermination, subjectivisation, intensification, approximation, evaluative reference

Sažetak

U različitim jezicima i disciplinama, autori koriste različite jezičke strategije da bi izrazili svoje mišljenje u svojim akademskim radovima. Oni to čine, ne samo da bi predstavili rezultate, već i da bi eksplicitno ili implicitno označili svoju ulogu i odgovornost za sprovedeno istraživanje, da bi izrazili sigurnost ili mogućnost u tvrdnjama koje iznose, kao i svoje stavove i pretpostavke, te pokrenuli dijalog sa čitalačkom publikom u okviru konvencija njihove nacionalne i disciplinske kulture. Svi ovi pojmovi potpadaju pod koncept autorskog stava (*stance*).

Ovo istraživanje koristi korpusni pristup da bi ispitalo načine na koje autori izražavaju svoj stav u naučnom pisanju. Podaci su dobijeni iz korpusa od 124 istraživačka rada, napisana od strane izvornih govornika na tri jezika – engleskom, srpskom i nemačkom, i u tri naučne discipline – lingvistici, ekonomiji i tehnologiji/inženjerstvu. Cilj ove studije je da se istraži kvantitativna i kvalitativna upotreba markera autorskog stava u tim akademskim i jezičkim zajednicama.

Na osnovu prethodnih istraživanja o pojmu stava i povezanim konceptualnim kategorijama, kao što su, između ostalog, modalnost, evidencijalnost i ograđivanje, kao i njihovim formalnim markerima, konstruisan je ujedinjen operativni model zauzimanja stava, koji se zasniva na ovim formalnim izrazima i dopunjen je primerima iz korpusa, u cilju dinamičke analize podataka. Usvajanjem onomasiološkog pristupa, u korpusu se istaklo šest strategija koje označavaju funkcije zauzimanja stava: depersonalizacija, indeterminacija, subjektivizacija, intenzifikacija, aproksimacija i evaluativna referenca. Ova analiza, koja je zasnovana na građi iz korpusa i inspirisana funkcionalnim kategorijama, sprovedena je preko MAXQDA – softverskog alata za kvalitativnu i kvantitativnu analizu teksta.

Kvantitativni rezultati ukazuju na izrazite razlike u međujezičkoj i međudisciplinarnoj upotrebi ovih markera. Oni se najčešće koriste u nemačkom jeziku, kao i u oblasti tehnologije, a najređe u srpskom jeziku, kao i u oblasti ekonomije. Štaviše, najčešće korišćena strategija je depersonalizacija, koja se koristi da bi se umanjila autorska odgovornost, dok je najmanje korišćena strategija evaluativna referenca, koja se koristi za evaluaciju prethodnih istraživanja i pozicioniranje trenutnog rada u celoj istraživačkoj delatnosti. Ove razlike sugerišu da autori u egzaktnim naukama (tj. tehnologiji) teže da svoj stav iskažu putem neličnih sredstava, dok ga autori u društvenim naukama (tj. lingvistici i ekonomiji) iskazuju putem sredstava koji pokazuju njihov lični stav i udeo u istraživanju. Osim toga, ove razlike ukazuju da autori koji pišu na nemačkom takođe imaju tendenciju da iskazuju svoj stav kroz nelične markere, dok ga autori na engleskom iskazuju subjektivnijim sredstvima.

Kvantitativne razlike su detaljnije razmatrane u kvalitativnoj analizi, koja ističe međujezičke i međudisciplinarne razlike u funkcionalnim i formalnim kategorijama markera stava. Iako jezičke forme markera stava mogu varirati, može se reći da su njihove pragmatičke, komunikativne i interpersonalne funkcije gotovo identične u svim korpusima. Ovi rezultati mogu imati uticaja na pronalaženje najadekvatnijih načina za upotrebu ovih markera prilikom pisanja istraživačkih radova na sva tri jezika u budućnosti, ali mogu i poboljšati pragmatičku kompetenciju stranih istraživača i studenata u diskursu sa međunarodnom akademskom zajednicom. Stoga ovo istraživanje ima važnost sa sociolingvističkog, deskriptivnog i pedagoškog stanovišta.

Ključne reči: autorski stav, zauzimanje stava, markeri stava, depersonalizacija, indeterminacija, subjektivizacija, intenzifikacija, aproksimacija, evaluativna referenca

Zusammenfassung

In verschiedenen Sprachen und Disziplinen nutzen Autorinnen und Autoren unterschiedliche sprachliche Strategien, um ihre eigene Stimme in ihre wissenschaftlichen Texte einzubringen. Sie tun dies nicht nur, um über ihre Ergebnisse zu berichten, sondern auch, um offen oder verdeckt ihre akademische Handlungsfähigkeit und Verantwortung für die Forschung, den Grad der Gewissheit ihrer Behauptungen und ihre Einstellungen und Annahmen auszudrücken sowie um einen Dialog mit ihrer Leserschaft innerhalb der Konventionen ihrer nationalen und disziplinären Kultur zu initiieren. Alle diese Konzepte und Intentionen fallen unter den Begriff der autoriellen Haltung (*stance*).

Die vorliegende Studie verwendet einen korpusbasierten Ansatz, um zu untersuchen, wie autorielle Haltungen im wissenschaftlichen Texten ausdrückt werden. Die Daten stammen aus einem Korpus von 124 Forschungsartikeln, die in drei Sprachen – Englisch, Serbisch und Deutsch – und in drei wissenschaftlichen Disziplinen – Linguistik, Wirtschaft und Technik jeweils muttersprachlich verfasst wurden. Ziel dieser Studie ist es, die quantitative und qualitative Verwendung linguistischer Ausdrucksmittel autorieller Haltung in diesen akademischen und sprachlichen Gemeinschaften zu untersuchen.

Basierend auf früheren Untersuchungen zum Begriff der Haltung und den damit verbundenen konzeptuellen Kategorien, unter anderem der Modalität, Evidentialität und der Abschwächung und Verstärkung sowie deren formalen Markern, wurde ein einheitliches Modell für die Operationalisierung der autoriellen Stellungnahme entwickelt. Dieses Modell stützt sich einerseits auf in der Forschung zu allen drei Sprachen und Genres als etabliert geltende konzeptuelle Kategorien und Ausdrucksmittel und wird andererseits dynamisch durch Beispiele aus dem Korpus ergänzt, um das Inventar der relevanten Analysekategorien und einschlägiger sprachlicher Realisierungen dynamisch zu erweitern. Durch einen onomasiologischen Ansatz und datenbasiert im Zuge der empirischen Analyse erwiesen sich sechs Strategien, die Funktionen von Haltungsäußerungen bezeichnen, als am prominentesten im Korpus: Depersonalisierung, Indetermination, Subjektivierung, Intensivierung, Approximation und Evaluative Referenz. Die datenbasierte, aber kategorieinspirierte Analyse wurde mit MAXQDA – einem Softwaretool für qualitative und quantitative Textanalyse – durchgeführt.

Quantitative Ergebnisse zeigen deutliche Unterschiede in der sprach- und disziplinübergreifenden Verwendung dieser Marker, die im deutschen Subkorpus und im Technologie-Subkorpus am häufigsten und im serbischen und im Wirtschaftswissenschaft-Subkorpus am seltensten verwendet werden. Die am häufigsten verwendete Strategie ist die der Depersonalisierung (verwendet, um Autoren und Autorinnen als Agens nicht explizit zu benennen). Die am seltensten verwendete Strategie ist Evaluative Referenz (eingesetzt, um bisherige Forschung zu bewerten und aktuelle Arbeiten in der Forschungslandschaft zu positionieren). Diese Unterschiede deuten darauf hin, dass Autoren und Autorinnen ihre Haltung in den sogenannten „harten“ Wissenschaften (im untersuchten Korpus im Bereich der Technik) durch entpersonalisierende Mittel und in den sogenannten „weichen“ Wissenschaften (hier Linguistik und Wirtschaftswissenschaften) durch komplexere und personalisierende Mittel ausdrücken. Darüber hinaus deuten diese Unterschiede darauf hin, dass in akademischen auf Deutsch verfassten Aufsätzen autorielle Haltungen häufig durch entpersonalisierende und in auf Englisch verfassten wissenschaftlichen Fachaufsätzen eher durch subjektivierende sprachliche Ausdrucksmittel realisiert werden. Diese quantitativen Unterschiede werden durch eine qualitative Analyse weiter vertieft, durch welche teils subtile sprach- und interdisziplinäre Unterschiede in funktionalen und formalen Kategorien von Haltungsmarkern herausgearbeitet werden.

Obwohl die sprachlichen Formen von Haltungsmarkern variieren können, lässt sich feststellen, dass ihre pragmatischen, kommunikativen und zwischenmenschlichen Funktionen in allen Korpora nahezu identisch sind. Dies kann zukünftig wichtige Auswirkungen auf die Aushandlung und Herausbildung bevorzugter Praktiken der Verwendung dieser Marker haben, insbesondere wenn künftig Forschungsarbeiten verstärkt in allen drei Sprachen verfasst werden. Detaillierte kontrastive Analysen wie die hier vorgelegte tragen zur Entwicklung der pragmatischen Kompetenz nicht muttersprachlich englischschreibender Forschender und Studierender bei, mit dem Ziel, diese besser auf den Austausch mit der internationalen wissenschaftlichen Gemeinschaft vorzubereiten. Daher hat diese Untersuchung soziolinguistische, deskriptive und pädagogische Implikationen.

Schlüsselwörter: autoriale Haltung, Stellungnahme, Haltungsmarker, Depersonalisierung, Indetermination, Subjektivierung, Intensivierung, Approximation, Evaluative Referenz

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Chapter One

Introduction

For a long time, the language of scientific articles was considered one characterised exclusively by objectivity, rationality, impartiality, clarity, and precision, irrespective of the scientific field or discipline it deals with. Scientific articles are an undeniably significant scientific medium aimed at describing new discoveries attained through research, both for the scientific discipline and the scientists engaged in it (Hyland 1996a, 252). It is often thought that academic articles are written as "a series of impersonal statements of fact which add up to the truth" (Hyland 1994, 239). This suggests that scientists often use a style of writing in research articles which displays modesty, caution, precision, and unobtrusiveness, presenting themselves as "the humble servants of the discipline" (Myers 1989, 4), being careful to maintain the face of both themselves, and other members of the academic community (Myers 1989, 5) and not step on anyone's toes. Subsequently, when writing an article, the author must present the results carefully, in order to allow for the reader's alternative interpretation and to mark "an unwillingness to make an explicit and complete commitment to the truth of propositions" (Hyland 1998a, 3), especially in case of new discoveries. Yet, despite such face-considerations, in order to report on their new, potentially groundbreaking and contradictory findings in the field, authors of scientific articles need to convey their findings in a compelling and persuasive way which also shows their readers their assuredness and authoritativeness.

At an interpersonal level, though seeming rather one-sided, the relationship between the writer and the reader of a scientific article is also seen as a dialogue. Therefore, the role of the text is not simply to convey information, but to be a vehicle of discussion between the two. The writer, therefore, uses particular strategies to convey the information and to formulate it in such a way that the reader would find it acceptable. By using these strategies, the writer invites the reader for input, feedback and possible discussion, and does not diminish their presence to a passive recipient, but rather sees them as an active counterpart of the academic discussion.

This means that, aside from scientific concerns, authors of scientific articles have to balance a whole range of interpersonal considerations as they compose their pieces of text: they have to maintain objectivity in reporting their findings while also conveying their subjective evaluation of these objectively obtained results; they have to assert their involvement and their conviction while also conveying humility and modesty, allowing for contradictions and enabling a dialogue within the community and with the audience; last but not least, they have to politely evaluate both their own work, as well as the work of their predecessors.

Bearing all these functions in mind, it is clear that the language of scientific articles is not only meant to robotically and straightforwardly convey results and scientific facts in a detached, impersonal and impartial way. On the contrary, the language of scientific articles, while adhering to certain genre specifics, is meant to also convey potential uncertainties, shortcomings, personal investment, and conviction. It is, in fact, a delicately interwoven tapestry of results and discoveries, as well as the authors' opinions and the position they take towards these results and discoveries, as opposed to a plain and forthright single-lane path of objective reporting. In this sense, the surrounding metadiscourse offering the authors' evaluations and opinions on the text (Vande Kopple 1985, 83) is just as important as the content of these articles, and it has now come to be widely accepted that writers do weave their own personal points of view into the text they are writing, be it to connect with their audience, to convey their uncertainty and modesty, or simply to evaluate their own piece of writing.

It is precisely these opinions and positions that are at the centre of this thesis. The concept of the involvement of the author in the text is quite well-known and widely discussed and investigated in previous literature under varying terms (adapted from Biber 2004, 107–108)[1]: *metadiscourse* (Hyland 2005b, 2017; Hyland and Tse 2004; Vande Kopple 1985, 1997); *modality* and *attitude* (Halliday 1994, 2004; Hoye 2009), as well as *epistemic modality* (Boye 2016; Coates 1987; Hyland 2001b; Trbojević Milošević 2004, 2021); *evidentiality* (Aikhenvald 2018; Chafe 1986; Chafe and Nichols 1986; Katelhön 2001); *hedging* (Clemen 1997; Hyland 1994, 1996a, 1996b, 1998a; Skelton 1988); *politeness* (Brown and Levinson 1987; Myers 1989); *evaluation* (Hunston 1993, 1994; Hunston and G. Thompson 2000; G. Thompson and Hunston 2000); *appraisal* (Martin 2000; White 2005); *affect* (Ochs 1989); *intensity* (Labov 1984); *positioning* (Davies and Harré 1990; Harré and Van Langenhove 1991; Van Langenhove and Harré 1999a, 1999b); *stance* (Barton 1993; Beach and Anson 1992; Biber and Finegan 1988, 1989; Biber et al. 1999; Conrad and Biber 2000; Hyland 1999a); *mitigation* (Caffi 1999; Fraser 1980); *tentativeness* (Salager-Meyer 1994); *epistemicity* (Lafuente-Millán 2008; Prince, Frader and Bosk 1982); *indirectness* (Hinkel 1997, 2005; Hyland 1995); *possibility* (Salager-Meyer 1994); *approximation* (Prince, Frader and Bosk 1982; Salager-Meyer 1994); *indeterminacy* (Martín-Martín 2008); and *vagueness* (Andersen 2010; Bertrand 1923; Channell

[1] These notions will be further discussed in Chapter 2 as conceptual and formal categories related to stance.

1983, 1994; Zhang 2011). All of these categories overlap to a certain extent, depending on the genre and methodology of the research, and as such, it is difficult to delineate their exact borders and differentiate them accordingly.

In this dissertation, an attempt was made to subsume all the previously mentioned categories under one concept. To do so, the first research goal of this dissertation on a theoretical level is developing a model for the description of the ways in which authors of scientific articles denote their opinions and inject their academic identity and persona into the text of a scientific article. Therefore, the adopted term of **stance** is the central variable in a complex Venn-diagram of the abovementioned concepts and is intended to act simultaneously as an umbrella and all-encompassing term used for all these often overlapping and intertwined concepts. This model, on the one hand, incorporates previous research on these concepts and, on the other hand, goes beyond earlier descriptions in developing a unified model of stance-taking in academic writing which can also account for categories so far not systematically described. The expression of stance in this research ranges from very overt insertion to, alternatively, very covert mention and evaluation of the authors' own work and their attitude and opinion toward their results, either for the purpose of making it vague – which corresponds to the concept of *hedging,* or for the purpose of expressing conviction – both can be expressed through, e.g., epistemic modality markers. Such authors' evaluations are not only the bridging element between the categories of previous descriptions of authorial stance-taking and the classifications of authorial stance in the current work, but they also allow for a systematic incorporation of categories not yet covered in earlier research on academic discourse – an expansion which allows for the comparison of the current work to previous work in the respective field of study, or lack thereof, and the contributions of the current work in the research landscape.

Especially, as will also be seen in the theoretical background and literature review, the classification of stance markers was devised in relation to various and numerous classifications of hedges. These two notions, that of stance and hedge, overlap in many instances, and it is particularly in this abundance of different classifications of hedges that I found potential drawbacks and therefore adopted the broader concept of stance as an all-encompassing notion fit for the analysis in this dissertation.

On a descriptive level, the purpose of this dissertation is to conduct a contrastive and cross-disciplinary empirical analysis of the frequency and the context of use of pragmatic stance markers in a corpus of 124 research articles written in English, Serbian, and German by native speakers, and in three scientific disciplines – linguistics, economics, and technology. The corpus for this research was created by the author of this dissertation. It consists of empirical papers published between 2010 and 2020, selected based on eligibility criteria (see Chapter 5 for details), as the aim of the paper is to present markers of stance in relation to first-hand knowledge attained through empirical analysis, as well as in relation to second-hand knowledge attained through the review of previous research. The research in this dissertation will be conducted through a combination of qualitative and quantitative methods of linguistic research, comprising frequency counts and text analysis of a corpus of published articles.

In order to develop a pertinent system of categories for these functions, I adjusted and expanded the strategies (of indetermination, depersonalization, and subjectivisation) found in Pedro Martín-Martín's research on the mitigation of scientific claims in research papers *The Mitigation of Scientific Claims in Research Papers: A Comparative Study* (2008), as well as categories found in, i.a., Baratta (2009), Hyland (1994, 1996a, 1996b), Salager-Meyer (1994), Prince, Frader, and Bosk (1982), resulting in a set of six different strategies of stance markers which emerged most prominently in the data:

1. Strategy of **Depersonalisation**, used to diminish the presence of the author;
2. Strategy of **Indetermination**, used to give a proposition less explicitness, or more uncertainty, vagueness and fuzziness, corresponding closely to the concept of a hedge and related to the concept of modality;
3. Strategy of **Subjectivisation**, used to indicate that what is expressed is the author's personal opinion and to openly insert the authorial persona into the writing;
4. Strategy of **Intensification**, used to express the author's reaction or emphasis of their commitment to the truth-value of the proposition, closely related to the concept of a booster;
5. Strategy of **Approximation**, used to express an estimation of quantity, frequency, degree, and time through approximators, rounders, or qualifiers of quantity, frequency, degree, and time;
6. Strategy of **Evaluative Reference**, used to position the author towards the conclusions and work of other authors, and the contribution of their own current research.

While the first five categories were mentioned to different extents in the literature, often falling under differently delineated and overlapping categories, and as a part of intertwined concepts, in the context of academic discourse, the last strategy was seldom mentioned and never systematised until now. An extensive review of previous research and literature which led to this classification will ensue in Chapter 2, as well as a further elaboration on these strategies (Chapter 4). The approach adopted for this research was onomasiological (function to form) – that is, a particular form was assigned to a function it performs, rather than the other way around. The respective markers of categories (1) – (6), attained by combining previous research and corpus analysis, were first identified and counted. Their quality was firstly considered in their co-textual and contextual environment to determine their particular function and then assigned to one of the six strategies mentioned above. This provides a model for the description of stance marking in academic writing which reconciles semantic and interpersonal pragmatic aspects, and which can be used in cross-cultural comparison.

Following the introduction of the strategies and methods of work, this dissertation set out to answer the following research questions:

- **RQ1.** Based on previous literature and corpus data, how can stance be operationalized and modelled for practical analysis?
- **RQ2.** How different is the overall frequency of stance markers in three scientific fields – linguistics, economics, and technology, and three languages – English, Serbian, and German?
- **RQ3.** How different is the frequency of stance markers according to these six strategies (depersonalisation, indetermination, subjectivisation, intensification, approximation, evaluative reference) in each of the linguistic and disciplinary sub-corpora?
- **RQ4.** Which linguistic forms are used to express stance in these six strategies, three disciplines, and three languages and what interpersonal functions do these forms denote in their respective context?
- **RQ5.** Can any of the differences in the distribution of markers according to these six strategies in these three disciplines and these three languages be accounted for on the level of national culture or disciplinary culture?

RQ1 is related to the theoretical research goal as indicated above – developing a model for the description of the ways in which authors of scientific articles express their stance in the text of a scientific article, from both a formal and a functional perspective. It combines the existing theoretical body of work related to several abovementioned conceptual categories and brings them together under one umbrella term, in order to investigate the variety of expressions which may explain the linguistic realizations of authorial stance (see Chapter 4 for more details). **RQ2** aims to explore the frequencies of stance markers per each discipline and language in the given time frame and selected corpus. **RQ3** is directly related to RQ2, as it aims to explore the frequencies of stance markers according to the six strategies in the research model, in order to determine how strategies of stance-taking are distributed in each sub-corpus.

RQ4 is related to the theoretical aim of my research and RQ1, as it fine-tunes the formal and functional categories of stance in my own corpus data, in order to examine interlinguistic and interdisciplinary markers more closely. My approach to RQ4 combines the onomasiological (function-to-form) perspective with a semasiological (form-to-function) perspective, as I am interested in answering two questions: How can the functions denoted in these six strategies be formally expressed in the corpus (in different languages and disciplines)? What is the specific function of these formal markers in each context of use? **RQ5** is largely connected to RQ4, as the identified qualitative and quantitative differences (if there are any) may also be connected to any interlinguistic or interdisciplinary variety. While the corpus for this dissertation is by no means indicative of the entire discipline or the entire language, it can give us a small glimpse into the writing strategies within a small discourse community.

Answering these four research questions may contribute to cross-linguistic and cross-disciplinary stance research on several levels, thereby making this research significant for several reasons.

Firstly, close reading of my corpus confirmed that also in my data, stance can be expressed through various syntactic, semantic, and pragmatic categories, which do not exactly correspond to any of the systems of stance categories discussed in the literature. Hence, in my own analysis, categories had to be developed dynamically, inspired by previous research, but also data-driven. In this respect, the onomasiological approach proved to be particularly valuable, as it allowed for a more comprehensive analysis. With the onomasiological approach, the focus was not solely on parts of speech, i.e. modal verbs, adverbs, personal pronouns and markers of imprecision, but rather how a particular conceptual strategy of stance-taking can be expressed through various parts of speech, thereby contributing to the methodological and theoretical goal of this research in devising a unified model of stance-taking, as indicated above.

Secondly, as similar as the writing style in the genre of written academic discourse may seem, in my data, significant differences in the writing style can be observed. This is especially prominent in the use of markers of stance, as will also be demonstrated in this dissertation. In addition, the amount of research conducted on stance markers in English is disproportionately higher than in any other language. This is due to the fact that English has become a global language of communication and being able to write in English has become a crucial part of participation in the wider scientific community, as over 80% of the world's scientific research output is written in English (O'Neil 2018, 146). However, despite the growing global tendency of writing in English, research is still being conducted in other languages and looking into stance markers in other languages might prove to be extremely valuable.

By expanding the field of research from abundantly investigated markers of stance in English, this thesis hopes to contribute to the descriptive aspect of stance research (by filling a research gap for these three languages), aside from the methodological aspect of stance research (through a unified model of stance and onomasiological approach). There is abundant literature and numerous cross-disciplinary and contrastive analyses on hedging, stance-marking, and related categories (see Chapter 2 for more details): in disciplinary discourse this includes, i.a., applied linguistics (Livytska 2019), applied linguistics and chemical engineering (Tran and Duong 2013), applied linguistics, educational technology, and economics (Getkham 2013), chemical engineering (Herrington 1985), economics (Bloor and Bloor 1993; Channell 1990; Crawford Camiciottoli 2001; Mauranen 1993b), economics, medicine, and technology (Varttala 2001), marketing, biology, and mechanical engineering (Vázquez and Giner 2008), science, sociology, and literary criticism (Bazerman 1991), social science (Faigley and Hansen 1985); contrastive work includes i.a. Blagojević (2007, 2009), Carrio-Pastor (2014, 2016), Clemen (1998), Clyne (1987, 1991), Crismore, Markkanen and Steffensen (1993), Čikara (2017), Deng and He (2023), Dimković-Telebaković (2015), D. Đorđević (2016), Figar (2018), Kreutz and Harres (1997), Martín-Martín (2003, 2008), Mir-Dueñas (2007, 2010), Novakov (2015), Novaković and Sudimac (2017), Rezaei and Hafshejani (2017), Sanderson (2008), Trbojević Milošević (2004, 2012, 2021), Yakhontova (2006), Vassileva (1997, 1998, 2001), Vázquez Orta (2010), Vold (2006a, 2006b), Vučićević and Rakić (2020a, 2020b).

However, no researcher has ventured into a comparative analysis of the three languages investigated here. Stance has been greatly researched in academic discourse conducted in English, but less so in Serbian and German. Serbian and German belong to different families of Indo-European languages – Slavic and Germanic (Bugarski 2003, 71)[2], respectively, and they employ different linguistic modes of expressing stance, due to their syntactic and semantic structure. Thus, this study could have significant cross-cultural implications. The text corpus for this dissertation was created by the author of this dissertation and it consists of 124 empirical

[2] All quotations and paraphrases were translated from Serbian and German into English by the author of this study.

research articles, selected based on eligibility criteria (see Chapter 5) from scientific journals in the respective fields of study, published between 2010 and 2020 by native speakers of the abovementioned languages, in order to determine the frequency of stance markers and their distribution and function. This text corpus was further divided into 3 sub-corpora for each discipline, consisting of 34 articles in the field of linguistics, 39 in the field of economics, and 51 in the field of technology/engineering. Furthermore, these 3 sub-corpora were further divided according to the three languages, so a total of 9 sub-corpora emerged, in linguistics (10 articles in English, 14 in Serbian, and 10 in German), in economics (11 in English, 16 in Serbian, and 12 in German), and in technology/engineering (15 in English, 17 in Serbian, and 19 in German). More information on the corpus and the methodology will be provided in Chapter 5.

Thirdly, when it comes to the abovementioned strategies of expressing stance, as this dissertation adopts a contrastive approach and focuses on three largely dissimilar languages, the adoption of a taxonomy similar to Martín-Martín's (2008) seemed feasible for this research. However, Martín-Martín claims that in cross-linguistic analysis, it is of particular importance to "present clear equivalences of the realization of [hedges] in both languages" (2008, 140), which would inevitably lead to viewing one language through a prism of another language and deduce a contextually rich concept such as a stance marker to a mere translation equivalent. It is my belief that it is far more important to focus on the ways in which specific functions of stance-taking are expressed within one language system, irrespective of the contrastive analysis. The onomasiological approach adopted in this paper allows for the perception of cross-linguistic differences in all three languages included in this analysis, as well as the inclusion of all potential linguistic realizations of the multitude of stance markers in the three languages and disciplines, while working with these expressions in a more dynamic and context-driven way. It also ensures a typological investigation of stance markers in these three languages, investigating the contextual interaction of independent variables, including grammatical and lexical categories, semantic and pragmatic roles and syntactic relations, bringing them together into one framework of stance, out of which each of these three languages makes a distinct selection. The semasiological approach, on the other hand, would support Martín-Martín's claim of equivalents, disregarding context. Looking for equivalents in languages may result in overlooking some language-specific expressions crucial for the analysis, which is not to say that markers of stance will not, in some cases, be expressed with somewhat equivalent forms in these three languages. Therefore, Martín-Martín's taxonomy was used as a starting point and a general guideline, but ultimately, all the strategies were supplemented with additional expressions, which ensued upon the analysis of my corpus.

Finally, to adhere to the dynamic construction of stance-taking in the data investigated, this study combines a category-inspired but data-based (and partially data-driven) approach in the interpretation of stance markers. Therefore, as indicated in the research model of stance (see Chapter 4), the nine sub-corpora mentioned above were first analysed quantitatively in order to determine the frequency of use of stance markers in each sub-corpus, and then qualitatively, scrutinizing their specific pragmatic function in each context of use. Thus, the purpose of this research is both qualitative and quantitative: it quantitatively investigates the frequency of stance markers in the three scientific disciplines and in the three languages, in order to answer how stance markers are distributed across these three languages and humanistic, social or exact sciences, and it qualitatively analyses the context and function of their usage, so as to investigate the potential interpretation of these stance markers based on the linguistic and situational context within these articles. The programme used for the analysis was MAXQDA – a software tool for qualitative and quantitative analysis.

Prior to embarking on the study of stance in this corpus, the author of this research conducted a small study for an unpublished seminar paper during her master studies, which could be considered a pilot study for this research. An analysis of the qualitative and quantitative use of pragmatic hedges was conducted on a corpus of only six academic articles, written in Serbian, English, and Spanish in philosophy and military technology. The classification of hedges used in this small-scale research was also based on Martín-Martín's (2008) classification of mitigative devices. The results in my paper showed only slight differences in the frequency of hedges in two scientific disciplines (philosophy and military technology, belonging to humanistic and engineering sciences): hedges were most frequently used in philosophy articles written in Serbian and least frequently in military technology articles written in English. The most commonly used strategy in philosophy papers was that of indetermination, while in military technology papers, it was that of depersonalisation. Based on these findings, it could be concluded that the function of hedges in academic papers, either in humanistic or engineering sciences, varies according to the communicative purpose and the syntax of scientific discourse in the argumentation of the author's claims. However, while this corpus was not representative enough to make any substantial claims, it did instigate further research (evidenced in this dissertation) by hinting at the cultural (disciplinary and language-based) differences in the distribution of hedges, as well as the difference in the research landscape of different linguistic communities, which serves as motivation for this research as well. To start with, "the Anglo-American culture" (evidenced in my English sub-corpus) "is very heterogenous both ethnically and linguistically, and comprises a number of significant subcultures" (Mauranen 1993c, 159). In comparison, both Serbian and German culture are more homogenous, but show a degree of "intracultural variability" (Mauranen 1993c, 159). Additionally, publishing in English implies publishing in the dominant language of international academic and scientific communication (Pérez-Llantada 2021, 12), while publishing in Serbian or German implies publishing in a "small, peripheral, internationally little known [sic] culture, whose academics must struggle for international recognition by employing languages other than their own" (Mauranen 1993c, 158). Therefore, the purpose of this research is (1) to quantitatively investigate the frequency of stance markers in these three scientific disciplines and in these three languages, in order to answer how stance markers are distributed across these three languages and humanistic, social or exact sciences; (2) to qualitatively analyse their usage, so as to deduce the potential interpretation of these stance markers based on the linguistic and situational context within these articles, as the main difference in their use is related to the conventions of scientific discourse; (3) to contribute to this imbalanced research landscape by providing a detailed account of functional and formal ways of authorial stance-taking in both broader and smaller academic communities. Furthermore, research in this dissertation might yield entirely different results in comparison to the pilot study, as the approach adopted here, while based on Martín-Martín's, is onomasiological and dynamic, thoroughly scrutinizing context-bound specific instances and functions of stance markers and is therefore more complex and all-encompassing.

Based on previous findings in the literature (e.g., Blagojević 2007, 2008, 2012; Clyne 1987; Hyland 2005b), as well as my own pilot study on the distribution of hedges, my initial hypotheses for this research are:

1. **H1:** Firstly, in relation to RQ5 and bearing in mind that "hedging is basic to academic discourse" (Salager-Meyer 1994, 152), the hypothesis of this research is that while the forms of stance markers may vary, the use of these expressions is inherent to all these disciplines, and it differs based on the linguistic resources made available in different languages. The reasoning behind this hypothesis is the fact that each discipline has its own rhetoric and preferred ways of expressing claims, and that the nature of the research is different in all three disciplines, which is reflected in the use of language.

2. **H2:** There will be potentially considerable quantitative differences in the use of these markers, depending on the strategy. Some of these differences can be accounted for in previous literature, depending on the language and the strategy. One could surmise that English would use more markers of indetermination than Serbian or German. If we were to relate this strategy with the notion of politeness, and take the context into consideration, in addition to the fact that novel research may cause a great deal of imposition in the field, we could take into account Cutting's claim that "the greater the imposition, the more indirect the language is", as well as the formality, as "the greater the formality, the more indirect the language is" (2002, 52). This relates with Tannen's (1984, 193, 1985, 205) claim that indirectness is a reflection of culture, and what is culturally relative is the manner in which indirectness is used. Finally, Wierzbicka (2010, 46) states that it is common in British and, more generally, Anglo culture to refrain from telling people what to do, by avoiding imperatives and direct *face-threatening acts* (see also Brown and Levison 1987, 60), but rather use indirect ways. On the other hand, as Serbian and German seem to be rather direct languages (House 2006, 251; Trbojević Milošević 2012, 88), I would surmise that they would have a lower frequency of markers of indetermination than English, and the lowest one will be found in Serbian. In addition, more markers of subjectivisation have been found in research articles in English than in other languages (Mir-Dueñas 2010, 3074; Siepmann 2006, 143), while the general preference in German is for impersonal constructions (Clyne 1987, 213). Therefore, I expect that in my data as well, English authors will employ more subjectivisation markers, while German authors will employ more depersonalisation markers. Furthermore, Serbian authors will also be more likely to employ more depersonalisation markers, as they also tend to hide their explicit presence in the text (Blagojević 2008).
3. **H3:** On the other hand, more stance markers will be used in "soft sciences" than "hard sciences", as "both hedges and boosters [tend] to be more common in the humanities and social science papers" (Hyland 2005b, 145) and "writers in the humanities and social sciences take far more explicitly involved and personal positions than those in the 'hard' sciences" (Hyland 2005b, 144), corresponding to my strategies of indetermination, intensification, subjectivisation, and depersonalisation. The difference in the nature of the research in soft and hard sciences dictates the use of stance markers in the reporting of results. Hard sciences are more precise and require less hedging, and display greater certainty in claims, reflected in the use of boosters and depersonalised

statements. Soft sciences, on the other hand, are more interpretive and therefore require more interpersonal markers, such as hedging. Cross-disciplinary differences in the use of hedges and stance markers have been reported, though not fully conclusively – economics has been found to use either very few instances (Bloor and Bloor 1993), while Varttala (2001) found very many in economics and very few in technology.

4. **H4:** Finally, somewhat different linguistic means will indeed be used for expressing stance, including evaluation, uncertainty and vagueness (Hyland 1996a, 251) or, on the other hand, precision (Salager-Meyer 1994, 3) in reporting results, across languages and disciplines. This corresponds to Lazard's claim that "[g]rammatical categories of different languages, even if they may bear some resemblance to one another, are always different" (2001, 364), meaning it is impossible to conduct cross-language comparisons (2001, 365), as well as Lyons' (1981, 238) observation that different languages use different linguistic means for expressing different types of modality, and this is also true for assertions, as "there are also variations in the certainty and confidence with which arguments are expressed in different languages" (Hyland 2005b, 133).

Due to the fact that all three languages have different syntactic and grammatical structures, the function and the contextual usage of stance markers in all three languages could be quite dissimilar, and thus, this study could have significant cross-cultural implications. I am expecting that a systematic account of differences in stance markers in a cross-disciplinary and contrastive analysis could have important implications for the negotiation of preferred practices in the use of stance markers when writing research papers in all three languages in the future. The corpus also has the quality of open-endedness, as other scientific disciplines and languages can be added to the contrastive and cross-disciplinary analysis.

In the context of a dissertation such as the present one, another notion that is important to mention here is the issue of prescriptivism (Ivanič 1998, 45). It is not my intention to produce an instruction manual of the "right" way to conduct academic discourse in scientific articles, as this varies according to different academic conventions and the creation of the authors' textual identity (cf. Hyland 2001a, 224, 2002a, 1111). Instead, I aim to provide a descriptive overview of the state of stance markers in contemporary scientific discourse, and a synchronic qualitative and quantitative analysis. As Grabe and Kaplan also note (1996, 177): "[g]iven the complexity of language, the fact that language changes over time, and the fact that language exists within various cultural systems" as well as the fact that it is context bound, as "there is constant movement between the parts and the whole with no absolute beginning or ending points”, which is a view contrastive rhetoric is based on, the strength of this dissertation is in its descriptive nature relating to rhetorical preferences. However, due to its contrastive nature, I do not shy away from claiming that this is a potentially valuable pedagogical resource, which may prove to be useful for second language students. This principally concerns Serbian and German second language students of English, as it could very well aid the pragmatic competence of non-native researchers and students when engaging in discourse with the international academic community. The contrastive and pedagogical impact of this research can be summarized according to Hyland:

> Seeing others as similar or different allows members, for practical purposes, to create a sense of self through consistent engagement with those like them. Over time, they construct a recognisable and valued identity through competent participation in the common genres and discourse forms of a discipline. (Hyland 2012, 27)

The structure of this thesis is as follows: in Chapter 2, a review of the theoretical background for this research will be presented, along with a more in-depth analysis of the concept of stance (Chapter 3). Subsequently, the unified model of stance as used in this research will be presented and the abovementioned strategies will be explained in more detail (Chapter 4). Chapter 5 outlines my data and methodology. Chapters 6, 7, and 8 and 9 focus on an in-depth quantitative (Chapter 6) and qualitative analysis of the corpus – divided by disciplines, and then further divided within each disciplinary chapter into three language sub-chapters (English, Serbian, and German) (Chapters 7–9). Chapter 10 gives the discussion of these results. The final Chapter 11 provides conclusions derived from these findings and an outlook for future research.

Chapter Two
Theoretical Background and Literature Review

2.1 Scientific writing as an interpersonal enterprise

The notion of scientific writing seems a fairly straightforward one, with clear, precise and unambiguous language, regarded merely as a medium used to convey and report on one's scientific findings to their audience. However, a scientific article has not been considered a simple unbiased report, nor a very straightforward one, for that matter, for a very long time. Indeed, just as any other instance of naturally produced language, the language of scientific articles is never merely factual, impersonal and objective, but rather inevitably imbued with the author's perceptions, opinions, and interpretations, which can be expressed in a variety of ways, both implicit and explicit, all of which will be considered here under the term *authorial stance*.

It can often be thought, quite erroneously, that simply because there is no evident face-to-face interaction between the speaker/author and the listener/reader, that this is a one-sided conversation. However, it is important to note that "[w]ritten work is never produced in a vacuum" (Bex 1996, 53) but rather exists in the interplay of various individual and social factors and is often negotiated and construed dynamically. As such, even though they may appear inert, written texts do actually contain very intricate dynamics (Bex 1996, 53), which authors of scientific articles exploit to initiate a dialogue with their readership and peers, using markers of authorial stance to interact with them.

A scientific text or article has a "preponderant" (Estupiñán 2008, 118) role in the creation of knowledge in scientific research and any scientific community, as it is a presentation, in a written form, of the author's research, methods, results, and conclusions to a particular readership and audience, with the ultimate purpose of being published (Blagojević 2008, 22), which has become "an essential facet of academic activity in the contemporary world" (Banks 2018, 1). A research paper has become the "'end product' of research" related to the "manufacture of knowledge" (Knorr-Cetina 1981, 94). Hyland (1994, 240) calls it "a social act performed in a specific context for a particular audience", which emphasizes its social importance. The scientific text is the first line of dialogue between the writer and their audience, as the claims that are made in them are meant to inform the audience of the research conducted and the consequent findings, but also to engage the audience and to influence their beliefs, attitudes, and behaviour (Lyons 1977, 725). Therefore, the claims made are not supposed to be released into the ether, but to encourage a response and a reaction from the reader, and initiate a conversation, an interaction – which is ultimately the goal of any claim, written, or said out loud (cf. Biber 2006, 98; Grabe and Kaplan 1996, 41; Lyons 1977, 725). As Hyland (1994, 239) indicates, "any written text involves an interaction between writer and reader", and "effective academic writing actually depends on interactional elements which supplement propositional information in the text and alert readers to the writer's opinion" (1994, 240).

What the author/writer has to assume is that their audience is not a homogenous entity consisting of peers and colleagues with similar knowledge and fields of expertise and interest, but rather a very "large and diverse audience" (Myers 1989, 3). It is therefore important to note that scientific texts have specific audiences structured in specific ways. Myers (1989, 3) discusses the audience structure in relation to politeness in scientific writing, noting that there exists "an immediate audience of individual researchers and particular groups of researchers doing similar work" (esoteric audience) and "the wider scientific community, to whom a research report is supposed to be addressed" (exoteric audience). When writing, it is the wider scientific community that should be assumed as the main audience, as the esoteric audience is already privy to the information shared with them. This is also true for the conventions of the discourse community related to stance expression (such as overt presence of the author in the text or the use of boosters), which may overlap with the immediate esoteric community in this regard but may also include parts of the exoteric audience. In addition, there is an even wider audience for a scientific text, consisting of "science journalists, administrators, biographers, sociologists of science" (Myers 1989, 3), and finally, a general audience that does not relate to discourse communities, and this can correspond to growingly wider concentric circles. This growing view of the audience as organized by concentric circles can be graphically presented by Figure 1.

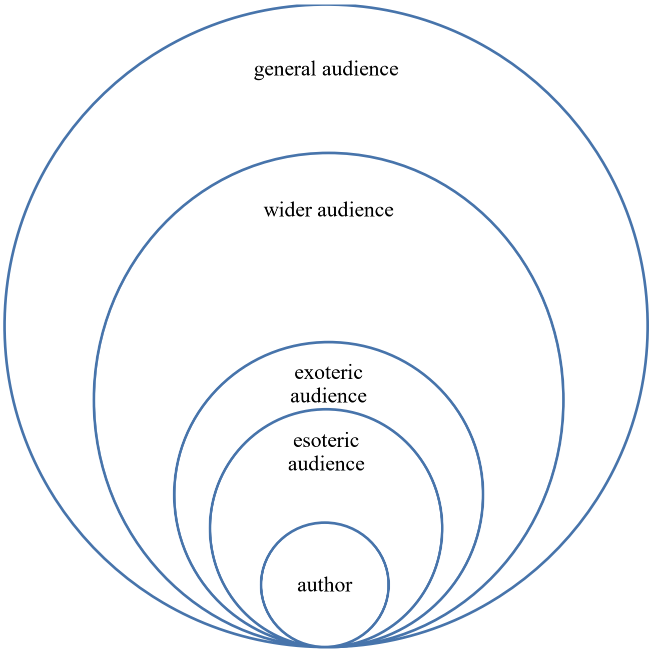

Figure 1: Types of audiences for a scientific text, Rodić

In relation to the general audience, Salager-Meyer (2000, 177) notes that the statements we make have to be "socially acceptable, their social acceptability determined by the cultural norms established in a given culture and at a given moment, time or epoch". While her observation refers to hedges, it can be transferred to any convention regarding meaning-making and discourse, since "we – as human beings – live in dialog, and this very dialog converts us into members of a community" (Salager-Meyer 2000, 177).

Therefore, when a writer presents a claim, they also present an identity, a "world view" (Bakhtin 2010, 75), a persona that carries new, relevant information for the field, and arguably all four types of audiences, but the persona also carries the right rhetorical conventions meant to convey their attitude/stance to the said audiences, modelled after conventions of exoteric audience (as per Myers 1989, 28). These conventions are reflected in the use of language, indicating the author's point of view, which is the subject of this research.

For a very long time, scientific articles were seen as having to conform to certain conventions characteristic to "academic style" (Tepavčević 2015, 182): objectivity and precision, uniformity of language, lack of vagueness or ambiguity, use of precise terminology, logical sentences, precise elements, concise elaboration, impersonal style (passive and impersonal constructions, conveying objectivity and neutrality), rationality, stringency, economy, clarity. While many of these characteristics are indeed quite prominent in scientific writing, they do not encompass potential dissonances, as well as other forms used to promote interaction between the writer(s) and the audience, which emphasize the persuasive and engaging nature of the article, viewing the context of the article as a social arena, with the goal of "claiming solidarity with readers, evaluating their material and acknowledging alternative views" (Hyland 2005a, 173), as well as ensuring the author's credibility (Blagojević 2011b, 105).

Resonating the interpersonal dimension of academic writing, the position adopted in this study rests on the social view of writing, as introduced by Ivanič (1998, 94–95), according to which, the scientific text does not consist "only of 'subject matter' but also of the writer's portrayal of themself, the reader, their relationship, the writer's commitment to the ideational content, and their assessment of the readers knowledge and beliefs". Ivanič follows Halliday (1994) in the differentiation between *ideational* and *interpersonal* meaning, the former relating to the notion of *propositional content* (see also Mauranen 1993a, 147), and the latter to "the effect of the speaker/writer on the hearer/listener – 'expressing the self and influencing others'" (Ivanič 1998, 40). Indeed, Halliday's view of language meaning rests on the weaving of three kinds of meaning: ideational or reflective, interpersonal or active, and textual (2004, xiii), which always act in association with one another. The one which is most important for this research is precisely the second, interpersonal one, which "has a meaning of enacting social relationships and views clauses as exchanges" (Halliday 2004, 36). This meaning supports the dialogic view of this kind of written communication, and that even a scientific article is seen "as an interactive event involving speaker, or writer, and audience" (Halliday 2004, 68), in which "the speaker adopts for himself a particular speech role, and in so doing assigns to the listener a complimentary role which he wishes him to adopt in his turn" (Halliday 2004, 68).

Furthermore, text production and interpretation are intrinsically connected to the notions of "social context" (Fairclough 1989, 26) or "context of culture" (Halliday 1994, xxxi), which are the cultural, institutional, disciplinary, and socio-historical conventions, values and practices within the community or culture dictating text production and interpretation. This is why language is not only "a system of abstract grammatical categories, but rather language conceived as ideologically saturated, language as a world view, even as a concrete opinion" (Bakhtin 2008, 271), implying that "text is constructed out of discourse conventions which have diverse origins" (Ivanič 1998, 45).

The ways in which interpersonal functions of texts are attained differ from one culture to the other – "and so do the rhetorical strategies based on it" (Blagojević 2011b, 105). To start with, the author has to be familiar with the audience they are writing for, as well as their value systems – in order to predict how they will react to their claims – and structure their claims accordingly, in the corresponding disciplinary and institutional context (Hyland 2005a, 182), showing that they "belong to the same club" (Clark and Ivanič 1997, 144). It is this need for community consensus that guides authors' adherence to writing conventions – both from a formalistic point of view, in order to show that one can write according to the prescribed conventions, as well as from the persuasive point of view, in order to enhance their credibility and attain the persuasive impact of their writing (see Chapter 2.3). Within the context of this research, this does not only refer to some national cultural conventions, but rather the conventions of writing in a particular discipline and for a particular journal, with authors striving for their work to have a higher impact factor, a higher reach, and acknowledgement from peers and experts in the field.

2.2 Authorial identity

As outlined in Chapter 2.1, the language of academic discourse is never purely objective, as the writer is not "a neutral, objective scribe conveying the objective results of [their] research impersonally in [their] writing" (Ivanič 1998, 1). Rather, the author brings to their writing "a variety of commitments based on [their] interests, values and beliefs which are built up from [their] own history [...]" (Ivanič 1998, 1). In relation to this, their area and level of expertise, their experiences – personal and professional, linguistic and social, their character, their subjective attitudes can all potentially find their way into their writing. This means that even in a piece of writing such as a scientific article, which may be considered impersonal, an author chooses parts of their personality to present to their readers and their audience (often through differing linguistic and syntactic means). It is because of the familiarity with their (exoteric) audience that the authors know which resources to draw from and which parts of their personality to speak to and play to, in order to draw in, influence and persuade their readership (Hyland 2002a, 1093). In that way, the author builds and negotiates their social identity as a scholar, an academic and a writer for their readership, and everything the metalanguage (cf. Hübler and Bublitz 2007, 2) contains acts as an extension of this identity. It is precisely through the use of this metalanguage that the writer negotiates how they want to appear to their readers. In that same manner, the author anticipates what the reaction of the audience would be to their piece of writing, and employs certain linguistic means to aid comprehension, persuasion, mitigation, and acceptance, anticipating how the audience is going to react to the identity they are constructing for themselves as the author (Ivanič 1998, 2). Therefore, the act of writing and the act of reading are also connected in an interplay of the writer's identity, the reader's identity, and the impressions the reader forms about the writer (Ivanič 1998, 2). As Kress (1989, 448) and Bucholtz and Hall (2005, 586) see it, the creation of identity within a certain social context is related to "social positioning" of both self and other – in this context, as *authors* and *readers*.

The notion of the author's *identity* is well known in the literature and it takes on different terminology in various disciplines: *self* and *persona* are differentiated in anthropology – *self* refers to one's individual aspects of identity in terms of feelings, whereas *person* refers to aspects of identity related to a socially defined role (Ivanič 1998, 10); the terms *subjectivity* and *positionings* suggest "both that the socially available resources for the construction of identity are multiple, and that an individual's identity is a complex of interweaving positionings", implying that identity is socially constructed (Ivanič 1998, 10); finally, the term *identity* signifies "plurality, fluidity and complexity" (Ivanič 1998, 11). While it is useful to make certain distinctions among these terms, in this dissertation, the terms of authorial self, authorial persona, and authorial identity will be used largely interchangeably, and in relation to social positioning. These terms will focus on the linguistic means the authors use, unifying their individual characteristics and their social characteristics, while bearing in mind the social, cultural, linguistic, disciplinary and genre conventions which influence this negotiation and the creation of the author's identity. Even though language is the most overt indication of identity, many of these linguistic means have not been studied systematically for the different languages and scientific disciplines which will be analysed in this study.

While he does discuss the concept of identity within national cultures on a broader scale, Bugarski's (2005, 67) view of identity also applies to the discourse communities studied in this research: it is a sense of belonging to a collective (us), that is, the conscience about the individual personality (me). Additionally, it consists of several components, "as the social space is constituted by the intertwining and overlapping of several different social groups, made up of likewise multilaterally oriented individuals", which can be seen as different types of identity. For every individual author in the corpus, there is a multitude of components influencing their identity: national and disciplinary discourse community; international discourse community; institute, lab or research facility in which they are conducting their research; institutional affiliation; level of education; professional and disciplinary experience and background; more individual differences – their background, preferences, personal experiences, gender, age, ethnicity, class, language proficiency etc. As it is impossible to carve out the specific impact of any of these factors for language use and identity construction in a specific context within the limits of a text-based discourse-analytical approach, throughout this study, I have tried to avoid these variables by referring to largely homogenous discourse communities adhering to shared norms of identity construction. This is in line with Matsuda (2015, 146) who views identity as: not optional – as all texts say something about the writer, although some are more marked than others; multiple and dynamic; constructed through socially shared resources for meaning making; and as both individual and social.

We could also agree with Bugarski (2005, 68) that this means that each and every one of us possesses multiple identities simultaneously, which are not all equally prominent or static at all times, but rather, they bring their members together at one point in time and distinguish them from other groups. While Bucholtz and Hall (2005, 591) do note that viewing identity in terms of broad social categories is only one way of perceiving identity, for the purposes of constructing academic identity within a scientific text, the view Bugarski (2005) brings forth is valid. Due to the high normativity of academic writing (as mentioned above by Tepavčević 2015, 182), the social context of the text is the key factor guiding and influencing the construction of the text, and it is made up of a multitude of social factors (see Kress 1989).

The choice of writer's rhetorical devices depends on "[the] particular sociolinguistic setting [the writer is embedded in], from which s/he makes the lexical, grammatical, and rhetorical choices indicating the purpose and the point of view of a statement" (Schramm 1996, 142). In turn, these lexical, grammatical, rhetorical, syntactic, and semantic choices made by the writers themselves establish the writer's identity (Clark and Ivanič 1997; Ivanič 1994, 1998). Therefore, social context and identity (as well as linguistic choices) constantly feed into each other in an interplay of the renegotiation of meaning making, as "writing is both context constrained and context creating" (Grabe and Kaplan 1996, 162). However, the social context is never exactly the same, as the dynamic nature of the social context and the dynamic nature of identity constantly bring in small variations and tweaks, as the context itself influences and is perceived by each member differently, altering with each utterance, therefore breaking the enchanted loop of constant dialogic creation of uniform identities, and linguistic choices which are entirely "habitual, predictable, given" (Kress 1989, 448).

> Language users as linguistic and social agents are formed in the experience of texts which are themselves products of the meanings of the social/linguistic processes and structures of particular social positionings. It is unlikely, perhaps theoretically impossible, that any two language users will share the same positionings and hence the same coding orientation. (Kress 1989, 448)

As W. Cheng and Warren (2003, 381) note, "any part of an utterance, which relies on an assumed shared context that is not actually shared with the hearer, requires that the hearer creates a context based on language. This is different from the general belief that the hearer uses the context to interpret what is said". This means that the aspects of context are constantly changing through intersubjective positioning (Hyland 2005a, 173; White 2003, 259).

Many of the means aimed at achieving intersubjective positioning such as modality, evidentiality, hedging, and affect (White 2003, 260) relate to and instantiate stance as well (see Chapters 2.5 and 3.1 for details). These all "provide the means for speakers/writers to take a stance towards the various points-of-view or social positionings being referenced by the text and thereby to position themselves with respect to the other social subjects who hold those positions" (White 2003, 260). The notion of stance is therefore inevitably intersubjective, as it is created in reference to other participants in the discourse (i.e. the readers) and so it is "fundamentally dialogic or interactive" (White 2003, 260). Indeed, as I will show throughout this research, all the linguistic exponents used to indicate stance have an interpersonal role and are meant to entice a response from the readership. As White (2003) himself notes, these exponents cover a wide range of expressions, as will be shown in Chapter 4. Bucholtz and Hall (2005, 595–596) also relate the notions of identity and stance, claiming that "linguistic forms that index identity are more basically associated with interactional stances such as forcefulness, uncertainty, and so on, which in turn may come to be associated with particular social categories, such as gender"[3].

In sum, to paraphrase Zevin (2023, 80) – the language, and the self, are always contextual. The identity of a writer is not set in stone, created to last until the end of days, stable and static, but a dynamic, ever-changing concept, construed contextually, based on the outward or inward circumstances (Bugarski 2005, 70), which inevitably influence their language.

In academic writing, the social context in which the identity of the author emerges is the text itself, and the language employed by the author/writer is the explicit manifestation of the way identity is negotiated and constructed in relation to one's audience. Therefore, this research also supports Bucholtz and Hall's (2005) view of identity as a socio-cultural phenomenon, "a discursive construct that emerges in interaction" (Bucholtz and Hall 2005, 587), again confirming its intersubjective nature.

[3] In this research, the question of gender is not viewed as a separate social category, but in lieu of gender, we could observe a discourse community (see 2.3).

Writers in different discourse communities differ in the extent to which they present themselves as the authors of the text, the research, and the claims made. They do so from the "socially available subject positions" (Clark and Ivanič 1997, 143) and "culturally available resources" (Hyland 2009, 56). While this is not one of the most salient characteristics of the traditional view of scientific writing, the most obvious way that an author/writer explicitly expresses their identity in the text is through the use of first-person pronouns (Bucholtz and Hall 2005; Clark and Ivanič 1997; Hyland 2001a; Kuo 1999; Tang and John 1999). By making their presence explicitly visible to their readers, writers construct a notion of self in the text in the most explicit way, putting forth "a writer's socially defined persona" (Hyland 1999a, 101). Bucholtz and Hall (2005, 594) mention several indexical processes contributing to the emergence of identity in interaction, all relevant to this research:

a) overt mention of identity categories and labels;
b) implicatures and presuppositions regarding one's own or others' identity position;
c) displayed evaluative and epistemic orientations to ongoing talk, as well as interactional footings and participant roles;
d) the use of linguistic structures and systems that are ideologically associated with specific personas and groups.

There is another notion related to identity mentioned in previous research – the notion of *voice* (Ivanič 1998, 295; Matsuda 2001, 35, 2015, 143), as "the amalgamative effect of the use of discursive and non-discursive features that language users choose, deliberately or otherwise, from socially available yet ever-changing repertoires" (Matsuda 2001, 40). However, the way *voice* might be perceived in this research is almost literal – as the way the author *sounds like* to the reader, and how their identity is perceived. This is again reflected in the conventions of the social context the author writes in, as the voice of the author is meant to echo the conventions of the corresponding discourse community, at least to a certain extent. These conventions provide a context for the construction of the text, but also constrain it to those conventions, as the text is supposed to sound like it was created in a particular community. However, as mentioned before, there is some "wriggle room" (Hyland 2015a, 33) for authors to present their individual identity. Therefore, through their linguistic choices, authors construct their voice and identity, which is why "[w]riting cannot be separated from the writer's identity" (Clark and Ivanič 1997, 134). Following previous research on the construction of authorial identity (see Matsuda 2015), I will also focus on textual features contributing to the construction and realization of writer identity in the text of scientific articles, i.e. on the “discoursal self”, as the “identity that is conveyed by the writer’s discourse practices” (Clark and Ivanič 1997, 143).

While one’s academic identity is a long and continuous creation, within one academic article, the author comes in with their established academic persona, which is perpetually presented and negotiated to each new reader and each new audience, as each reader inevitably has a different interpretation of the author’s identity in writing, based on their personal perception. Ivanič (1998, 86) elaborates on this by stating that “[a] writer’s identity is not individual and new, but constituted by the discourses s/he adopts. On the other hand, a writer’s identity is determined not completely by other discourses, but rather by the unique way in which [s/he] draws on and combines them”. This study sees authorial identity and the pertaining aspects of self and stance similar to Hyland (2012, 15): “at the centre of a Venn diagram of overlapping experiences in various domains – at the heart of negotiated intersections with other simultaneously held ‘identities’”. Some of these identities include being members of a particular scientific community, contributing to the scientific field as “knowledge-makers” (Ivanič 1998, 308), being a figure of authority with property rights and contributing to the field (Ivanič 1998, 308), perpetuators of a particular writing tradition, innovators or humble servants. The success of one’s identity depends on the degree of recognition from others by means of “adopting, constructing and transforming recognizable discourses” (Hyland 2009, 54).

The construction of identity, as is probably well known, can be quite noticeably different in discourse communities pertaining to social or natural sciences. The explicit display of identity through self-mention is less common in natural sciences, “as writers often downplay their personal role to suggest that results would be the same whoever conducted the research” (Hyland 2008b, 16). On the other hand, more frequent use of self-mention in social sciences and humanities “allows writers to strongly identify with a particular argument and to gain credit for an individual viewpoint” (Hyland 2008b, 16). However, both these functions, each in their own way “[work] to create a plausible academic identity, and a voice with which to present an argument” (Hyland 2002b, 352). This will be discussed throughout this chapter and analysed in detail in three disciplines and in three languages in this research.

2.3 Discourse communities

A particular piece of writing is not only supposed to convey information, and it does not only serve to build the identity of its author, or reader, but rather "every work of art or piece of writing is the product of its social context: of the multiple traditions on which it is drawing as well as the socio-economic relations among the participants in its production" (Ivanič 1998, 4). This means that a scientific article is not published in a vacuum, but rather as a part of a scientific community. It has been noted on several occasions (Hyland 1998a, 2001a, 2002a) that different scientific communities employ different conventions in writing, using different linguistic means and resources to form their argumentation. These are often "particular to their own social structures and professional objectives" (Hyland 1998a, 157), and "particular 'knowledge-making principles': particular objects of study, bodies of knowledge, values, beliefs and practices" (Ivanič 1998, 282), and also depend on how information is structured, the type of relationships established with the readership and the amount of authorial presence in the text (Hyland 2002a, 1110). Such conventions are influenced by several notions – common for all scientific communities, but largely dissimilar based on disciplinary culture.

The first notion that has to be considered for this research is one much of the research focuses on in the context of academic writing – the notion of *genre,* seen as an integral part of a discourse community (Swales 1990, 9). In the context of this research, genre can be perceived similarly to how Swales (1990) sees it, as a communicative event with its own set of communicative purpose(s), which are recognised by the members of the professional or academic community in which the genre occurs, and is manifested through the use of established lexical, semantic, and syntactic forms, which are the subject of this research. However, in relation to the abovementioned notion of identity, we could also consider Hyland's (2015a, 33) definitions of genre, as "the interface between individual and community: the ways that academics who, at the same time as they construct their texts, also construct themselves as competent disciplinary members who have something worthwhile to say", as well as a "repertoire of linguistic responses" (Hyland 2015b, 338) used as points of reference by writers. The genre conventions emphasize the social aspect of writing, which is "multiply linked and aligned with other texts upon which it builds and which it anticipates" (Hyland 2015b, 338).[4]

[4] Weizman and Fetzer (2019, 7), in the context of media discourse, note that genre may act as a "delimiting frame", imposing constraints on language use, but interlocutors may still act in "dis-accordance" with these genre-specific constraints. The authors stress, in the framework of genre, language use is seen as "a socially situated form […] [in which] language variation and alteration are not random and arbitrary, but communicatively functional and meaningful" (2019, 7).

Secondly, the notion of *academic discourse* – "an institutionally based discourse, much like administrative, judicial, legal etc." (Blagojević 2008, 13) is crucial for this research. It can be seen as a genre of "specific characteristics and specific purpose realised [...] within an academic discourse community" (Blagojević 2007, 126, 2008, 14) as well as the language used for academic purposes for communication among the members of the academic discourse community (Blagojević 2012, 13). This means that this language is meant for a particular audience and therefore has a specific purpose. Blagojević also notes that *academic discourse* is a term used in Anglo-American literature, as English has become a *lingua franca* for both written and oral academic communication, leading to research more commonly related to English academic discourse (Blagojević 2012, 14). In Serbian, on the other hand, the more commonly used term is "functional style of scientific-technical literature" (Blagojević 2012, 13), or alternatively "scientific functional style" (Katnić-Bakaršić 1999, 26; see also Bakhtin 2010, 64), referring to lexical-syntactical elements of the language differentiating it from other types of language, while the term *academic discourse* refers to the *subjects* who create and interpret it – the members of an academic discourse community (Blagojević 2012, 13). In addition, Blagojević (2012, 15) sees academic discourse as conveying both interpersonal and intercultural meanings.

Therefore, the notion of an *academic discourse community*[5] (Ivanič 1998, 78) can be introduced, as discoursal conventions are seen as created within academic communities (social groups affiliated to academic disciplines). The discourse itself "is a means of maintaining and extending the group's knowledge and of initiating new members into the group, and that discourse is epistemic or constitutive of the group's knowledge" (Herzberg 1986, 1 in Swales 1990, 21). Mastering the art of academic discourse and inclusion in the relevant discourse community can be seen as the essence of the concept of *academic socialization,* a complex and dynamic process instantiated by the interaction among experts and between experts and novices (Blagojević 2012, 14). The term *discourse community* is increasingly related to written, rather

[5] While the term *discourse community* has, since Swales, been abandoned in favour of the term *community of practice* (Borg 2003, 399), the term *discourse community* will still be used in this thesis for three reasons. Firstly, it is viewed as an integral part of the notion of academic discourse, centring on discourse as a specific semiotic event within the context of an academic research article. Secondly, the written nature of communication within the communities studied here, as well as the replicational nature of writing conventions in these academic discourse communities allow for their acquisition and academic socialization (Blagojević 2012, 14) of new members into the community (cf. Borg 2003, 399). Thirdly, these communities are still joined by common goals (in terms of their research) and genre (in terms of their writing) (cf. Borg 2003, 399). This term is also used in more recent research (e.g. Blagojević 2012; Hyland 2017). While perhaps in wider terms of academic communities, a more suitable term would indeed be communities of practice, it is precisely the rhetoric, the goals and the genre that perspectivizes communities studied here as discourse communities after all.

than spoken discourse (Lakić 1999, 39), as a community brought together by communal goals (Lakić 1999, 39), and in terms of academic discourse communities, these goals could be "the promotion of the discipline's world view and the establishment of personal reputation" (Hyland 1997, 21).

Ivanič (1998), Mauranen (1993a) and Blagojević (2008) discuss *genre* and *discourse* as characteristics pertaining to academic writing, the former being "shaped by institutionally defined purposes, roles, and the social relationships associated with them" (Ivanič 1998, 46) and the latter "by subject-matters and ideologies" (Ivanič 1998, 46), as "all the social practices associated with a particular set of values, beliefs and power relations" (Ivanič 1998, 18). While the genre of scientific writing is "shared by the international academic community" (Mauranen 1993c, 159), and not necessarily subject to any disciplinary or national differentiations, certain discourse communities can be differentiated according to their national and disciplinary culture. These differences are reflected in the rhetorical practices of the said community (Mauranen 1993a), which "vary according to cultural preferences" (Mauranen 1993a, 1) – be it national or disciplinary, as their repertoires can vary (Duszak 1997a, 11). Therefore, we could say that there are certain conventions within the genre of scientific discourse which are more or less universal across disciplines and nations, as they "reflect the purposes of scientific activity" (Mauranen 1993a, 40), but that each discourse community introduces certain variations due to their national and disciplinary community, as "all members of the international scientific community are simultaneously also members of national language communities" (Mauranen 1993a, 39). Indeed, in this research, a differentiation will be made regarding two types of culture (national and disciplinary), accounting for the fact that the rhetoric of each scientific article will have been influenced by both conventions of the national and the disciplinary culture (Mauranen 1993a, 40). This reconciles both the statement that "writing is a cultural object" (Mauranen 1993a, 4), as social, cultural, and institutional contexts influence writing (Hyland 2005a; Jaffe 2009; Mauranen 1993), as well as that "language is both shaped by and a shaper of social context" (Ivanič 1998, 43). Within this social context, "the production of texts is always the production of self" (Hyland 2010b, 162) – the individual's identity through discourse, as 'the self' is also not a separate entity producing discourse, but "something which manifests itself in discourse" (Ivanič 1998, 18).

In this respect, Grabe and Kaplan's (1996, 167) discussion of the cumulative nature of science is crucial, "as it builds upon the previous work of other researchers", not only in the context of the knowledge canon, but also the writing conventions, emphasizing its dialogic nature (White 2003, 260; see also Bakhtin 2008, 269, 2010, 105, 109). They note that "writing is a technology insofar as it is a culturally transmitted set of practices" and "a set of practices which are socially contextualized" (Grabe and Kaplan 1996, 17), and this over time becomes the discourse community's *common ground* and language/style of writing which fulfils a triple function (Grabe and Kaplan 1996, 164–165):

a) to help them become members of communities;
b) to cement relationships with a community;
c) to determine and define who they are and what they believe within a discourse community of peers.

Writing and adhering to certain *rhetorical practices* (Blagojević 2008; Mauranen 1993a) of the genre and discourse community is important for the purposes of "the acquisition of academic discourse" (Ivanič 1998, 52) – the acquisition of the said practices and language characteristic of the discourse community, in order to become a member of that discourse community. Furthermore, when producing each new piece of writing within this discourse community, a writer makes particular rhetorical choices that exemplify and reaffirm the views, values and practices of the said community, furthering socialisation in the community and academic institutions (Mauranen 1993a, 4, 39). This way, their identity as a member of the community is renegotiated and reconfirmed through the implementation of these discourse practices in their written texts. "Individuals have to negotiate an identity within the range of possibilities for self-hood which are supported or at least tolerated by a community and inscribed in that community's communicative practices" (Ivanič 1998, 82), in order to ensure acceptance into the scientific community and academic institutions. Their alignment, or *positioning* in relation to these conventions, may also show in reference to and in the quoting of previous work in the field, which can indicate "respect for authority" (Ivanič 1998, 306) and will be elaborated in the research model used for the current study (see Chapter 4).

Hence, the language of writers is showing that they "are aligning themselves with particular interests (in terms of subject-matter) and ideologies" (Ivanič 1998, 46). Additionally, their writing style and rhetorical practices show an identification with their discourse community (of their genre, discipline and national culture), which is to say that rhetorical practices are culturally determined and manifest themselves in typical textual features (see also Chapters 2.6 and 2.7). As Chafe (2013, 502–503) observes, semantic structures can be seen "as ways in which particular languages do shape thoughts" and "feed back into the thoughts themselves". This means that the language – words and grammatical structures – is intrinsically and causally connected to the thought process and the way research is conducted, and dependent on both the disciplinary conventions, as well as the national culture in which it is produced. However, if it is connected to the notion of authorial identity as well, then language becomes both a socially and disciplinarily conditioned notion, as well as an individually constructed notion. In that sense, if language is used to demarcate one's individual identity as differing from others', then the language of one discourse community is meant to bring its members together and distinguish them from members of all other communities (Bugarski 2005, 71), while also acknowledging that individuals can be members of multiple communities, which all affect their identity and communication. Hyland summarizes the complex relationships between language use and academic discourse community formation as follows:

> Essentially, communities provide the context within which we learn to communicate and to interpret each other's talk, gradually acquiring the specialised discourse competencies to participate as members. They are the places we craft our identities, cement relationships and achieve recognition, where we find the tools and resources to live out our professional lives. (Hyland 2015a, 33)

It is also important to note that academic discourse is in itself rhetorical, as "it is discourse with persuasive intentions" (Mauranen 1993a, 1; see also Blagojević 2007, 127, 2008, 34), and it has a dialogic purpose of forming an argument and opening the floor for discussion, but also expressing doubt and certainty, feelings and surprise, taking a stance, evaluating different points of view, comparing and contrasting, persuading and convincing. The ultimate goal of the academic article and its main rhetorical purpose is "to convince readers that the author is making a valid claim; thus, writers of academic papers try to persuade their readers, usually other members of the academic community, to accept their point, whether the point is presented as an argument or as a fact" (Mauranen 1993a, 1). Hoye confirms this by stating:

> Acting as individuals or institutional mouthpieces, acting for good or for ill, acting with transparency or surreptitiously, we want our opinions recognized, if not endorsed, and our assertions to gain support: as human beings, we have a profound need to negotiate our views and to effect modifications to the mindsets and beliefs of our interlocutors. (Hoye 2009, 100)

The conventions related to scientific writing have changed significantly over time. As Kuo (1999, 122) reports, they have evolved from personal letters from one scientist to another, which featured very personal forms and reflected the role of the researcher in the scientific process, conveying honesty and modesty, to a more impersonalised style, which put the focus on the research, rather than the scientist. Nowadays, the academic style is far more varied according to each scientific discipline, and possibly, even the medium of reporting, and it reflects a complex relationship between the writer, their readership, their text, and the entire scientific community. "As a writer, therefore, the scientist must claim the significance and contribution of his/her research to the discipline on the one hand, but appeal modestly to both editors and expected readers—his/her peer researchers—seeking their approval and acceptance on the other" (Kuo 1999, 122). Therefore, the writing style is a very complex tapestry of many crucial goals to achieve, as "writers–researchers must, on the one hand, emphasize the originality and importance of their research, while, on the other hand, they must humbly seek the acceptance and recognition of editors, readers, and the scientific–academic community" (Kuo 1999, 135). With these goals in mind, writers employ various linguistic means to simultaneously display humility and confidence, with the aim of "[…] demonstrating solidarity with the community and showing respect for its common goals", while also trying to "[…] carefully balance this with vigorous argument for the originality of their claims and […] display […] an authoritative professional persona" (Hyland 2001a, 209). Through the reconciliation of these various strategies, one can talk of successful academic writing, which is dependent on "the individual writer's [successful] projection of a shared professional context" in addition to "[embedding] their writing in a particular social world, which they reflect and conjure through approved discourses" (Hyland and Salager-Meyer 2008, 297).

The cross-linguistic and cross-disciplinary analysis of the ways in which the authors negotiate their identity and self in their writing in this dissertation assumes that the social context and the traditions involved herein can be related to certain linguistic and disciplinary rules which guide the writers' choices to a certain extent. The details of language and scientific discipline as important contextual social factors will be explored and discussed in Chapters 2.6 and 2.7, as well as the results and discussion chapters (see Chapters 7–9 and 10).

2.4 The central role of stance in academic discourse

As we have seen, there are many different terms for the intrusion of the author into the text which is meant "to direct readers' perception of it" (Hyland and Tse 2004, 158) and "allow writers to take up positions and express judgments" (Hyland 2002a, 1093). However, the notion used herein through which the writer's identity is most overtly expressed is the notion of ***stance*** – "roughly, a cluster of attitudes, values, goals, and commitments" (Boucher 2018, 521) and its manifold linguistic realisations. It is through the expression of their stance that the writer also gives us a glimpse into their identity and their academic persona. While the notion of stance will be analysed in greater detail in Chapter 3, it is important to distinguish it here from many adjacent, overlapping and possibly very similar notions.

The notion of *stance* (Barton 1993; Beach and Anson 1992; Biber and Finegan 1988, 1989; Biber et al. 1999; Conrad and Biber 2000; Hyland 1999a) as used in this dissertation, acts as an umbrella term, subsuming several overlapping and closely related notions[6] (cf. Du Bois 2007; Haddington 2012 – adapted from Biber 2004, 107–108):

- *metadiscourse* (Crismore, Markkanen and Steffensen 1993; Hyland 2005b, 2017; Hyland and Tse 2004; Vande Kopple 1985, 1997)
- *modality* and *attitude* (Halliday 1994, 2004; Hyland 2012; Hoye 2009) as well as *epistemic modality* (Boye 2016; Coates 1987; Hyland 2001b; Trbojević Milošević 2004, 2021)
- *evidentiality* (Aikhenvald 2018; Boye 2018; Chafe 1986; Chafe and Nichols 1986; Dendale and Tasmowski 2001; Forker 2018; Katelhön 2001; Lazard 2001; Mélac 2022; Parini and Fetzer 2019)
- *hedging* (Bloor and Bloor 1993; Clemen 1997; Holmes 1988; Hübler 1983; Hyland 1994, 1996a, 1996b, 1998a; Markkanen and Schröder 1997; Skelton 1988)
- *politeness* (Brown and Levinson 1987; Myers 1989)
- *evaluation* (Hunston 1993, 1994; Hunston and G. Thompson 2000; G. Thompson and Hunston 2000)
- *appraisal* (Martin 2000; White 2005)
- *affect* (Besnier 1990; Ochs 1989)
- *intensity* (Labov 1984)
- *positioning* (Davies and Harré 1990; Harré and Van Langenhove 1991; Van Langenhove and Harré 1999a, 1999b)
- *mitigation* (Caffi 1999; Fraser 1980)
- *tentativeness* (Salager-Meyer 1994)
- *epistemicity* (Carretero, Marín-Arrese and Ruskan 2022; Lafuente-Millán 2008; Marín Arrese 2015; Prince, Frader and Bosk 1982)

[6] The notions of metadiscourse, modality, evidentiality, hedging, politeness, evaluation, appraisal, affect, intensity, and positioning will be discussed in the remainder of this chapter as conceptual categories related to stance (see sub-chapters 2.5.1–2.5.8). Furthermore, formal categories of expressions will be discussed in Chapters 3 and 4 (including the expressions ranging from mitigation to vagueness).

- *indirectness* (Hinkel 1997, 2005; Hyland 1995)
- *possibility* (Salager-Meyer 1994)
- *approximation* (Prince, Frader and Bosk 1982; Salager-Meyer 1994)
- *indeterminacy* (Martín-Martín 2008)
- *vagueness* (Andersen 2010; Bertrand 1923; Channell 1983, 1994; Fraser 2010b; Zhang 2011)

Indeed, as will also be seen through this dissertation, all of these notions feed into the concept of stance, as it is conceptualized in this dissertation, encompassing a variety of rhetorical and linguistic resources. The act of taking a stance in scientific writing serves to show "that the writer is a distinctive, individual creator with a firm position and rights to ownership of his or her perspectives and text, but this kind of identity is not shared by all cultures" (Hyland 2002a, 1110). In order to understand how stance is expressed and what it serves, which will be elaborated in Chapter 3, all the abovementioned notions are crucial elements of text production and interpretation and can, hence, be seen as orbiting in a system around the central notion – the Sun of our discourse system: the authorial stance.

In the following sub-chapter, notions related to stance will be discussed in more detail, starting from the complex notion of metadiscourse, followed by other conceptual categories relevant for this research as outlined in the research literature and in the list given above.

2.5 Stance and its related notions

2.5.1 Stance and metadiscourse

To start with, stance can be instantiated by and therefore related to the notion of *metadiscourse*, as "the ways writers project themselves into their discourse to signal their attitude towards both the content and the audience of the text" (Hyland and Tse 2004, 156) and words and phrases which "do not add propositional material but help our readers organize, classify, interpret, evaluate, and react to such material" (Vande Kopple 1985, 83). This is how the notion of stance is seen in this research as well – as the author's explicit or implicit presence and involvement in the text beyond its propositional content. Much like stance (and metapragmatics[7]), metadiscourse also acts as an umbrella term (Hyland 2017, 20; Hyland and Tse 2004, 157) for

[7] While there is overlap between these notions, the relation of metadiscourse to the notion of metapragmatics may be seen as a subordinate one, as metapragmatics can act as an "umbrella term, covering all reflexive activity present in language use" (Tanskanen 2007, 89).

a variety of devices and strategies of writers, such as textual organization, engagement, attitude and commentary, using devices such as, i.a., "hedges, boosters, self-reference […]" (Hyland and Tse 2004, 158). Hyland (2005b, 2017) and Hyland and Tse (2004) view metadiscourse as comprising "a heterogenous array of cohesive and interpersonal features" (Hyland and Tse 2004, 157), and also state that there are "no simple linguistic criteria for identifying metadiscourse" (Hyland 2005b, 27; Hyland and Tse 2004, 158). Indeed, metadiscourse covers "the range of devices writers use to explicitly organize their texts, engage readers, and signal their attitudes to both their material and their audience" (Hyland and Tse 2004, 156), while also helping "to interpret it in a way preferred by the writer and with regard to the understandings and values of a particular discourse community" (Hyland 2017, 20).

Due to its variety and multifunctionality, the notion of metadiscourse can also be "elusive and frustrating" to analyse (Hyland and Tse 2004, 156) as it is "a hard term to pin down" (Hyland 2017, 16). Metadiscourse has been described repeatedly in research, much like hedges, as a "fuzzy" concept (Crismore, Markkanen and Steffensen 1993, 41; Hyland 2017, 17; Hyland and Tse 2004, 175) and many researchers have offered very different taxonomies of metadiscourse. Metadiscourse is an open-ended category characterized by a multifunctionality of devices (Hyland and Tse 2004, 158). It "can be realised in a variety of ways and by units of varied length, from individual words to whole clauses or sentences" (Hyland 2017, 18). These devices are often polypragmatic, and one function may be expressed by different forms, while one form can be used to express a multitude of functions (Hyland 2017, 18). Hyland therefore suggests that metadiscourse should be seen as "a rhetorical and pragmatic, rather than a formal, property of texts" (2017, 19). Therefore, in analysing metadiscourse markers, as well as stance markers, context plays a key role in deducing their meaning and function. Accordingly, in this research as well, metadiscourse is seen as both a conceptual category and encompassing a range of formal markers (discussed in Chapter 3.2).

One common thread in these various metadiscoursal taxonomies is the differentiation between metadiscourse and propositional content (Hyland and Tse 2004; Mauranen 1993a; Vande Kopple 1985). The propositional content, also known as "representational or informational" (Vande Kopple 1985, 86), is the one conveying information and facts and it is used to put our experiences into words and "make sense of our worldly experiences". On the other hand, metadiscourse can be seen as the interpersonal dimension of discourse, the one that "signals the presence of a text-organising and content-evaluating author rather than the subject matter" (Hyland 2017, 18); metadiscursive meaning in the text is the direct integration of these two ingredients (Hyland 2017, 18).

While Hyland and Tse (2004, 161), in relying on Halliday (1994, xiii), claim all metadiscourse is interpersonal, Mauranen thinks non-overt presence of the author in the text is not metadiscourse, as "[a]ny textual choice signals the non-overt presence of an author" (1993a, 152). Along these lines, Mauranen differentiates *metatext* – related to metalanguage, i.e. language about language (1993a, 145) from *text reflexivity*[8] – "an expression of the self-awareness of the text" (1993a, 152), which is realised through all kinds of linguistic units, from affixes to whole clauses (1993a, 155).

Another common thread in the taxonomy of metadiscourse is the differentiation between textual and interpersonal functions of metadiscourse (Hyland and Tse 2004; Vande Kopple 1985), denoted organisational and attitudinal by Mauranen (1993a), and interactive and interactional by Hyland and Tse (2004), the latter being related to evaluation and appraisal (Hyland and Tse 2004, 158 – see sub-chapters 2.5.6 and 2.5.7). Vande Kopple (1985, 86–87) names the textual function as the one showing "how we link and relate individual propositions so that they form a cohesive and coherent text (Vande Kopple 1985, 87) and the interpersonal function as the one directly related to the social meanings, and how writers express their personality, personal feelings attitudes, and assumptions (Hyland 2005b, 3; Vande Kopple 1985, 86). Blagojević (2008, 60) also contributes to this discussion by stating that metadiscourse is both an individually and culturally determined variable, as metadiscursive markers are the author's personal choice, as well as linguistically and culturally dictated within the community.

It is at the level of modelling metadiscourse that Halliday's (1994) three functions of language become most apparent; writers use metadiscourse markers "to give expression to [their] experience, to interact with [their] audience, and to organize [their] expression into a cohesive and coherent text" (Vande Kopple 1985, 85) – thereby fulfilling the ideational, interpersonal, and textual function of language.

[8] Hübler and Bublitz further contribute to the complex relationship between metapragmatics, metadiscourse and reflexive language by noting that metapragmatic acts "assign (either explicitly or implicitly) particular pragmatic functions to speech acts or discourse types" (2007, 4). Reflexive language is, on the other hand, a broad term encompassing "metalinguistic means and strategies" used to refer to, make evaluative judgements about, or comment on language – either as a system or in use, thereby subsuming metapragmatics under the notion of reflexive language (Hübler and Bublitz 2007, 5).

While Hyland and Tse (2004, 162) do claim that textual markers also have an interpersonal role, as they contribute to coherence and enabling (Halliday 1994), in the data of the current analysis, textual markers do not systematically contribute to the projection of the author's persona into the text and this type of markers is thus not included in this research. However, even in the analysis herein, a particular marker could have an intrinsic textual and cohesive function, and still be included in the analysis, especially in the event of having an interpersonal function, or being seen as a marker of stance, depending on the context, as these can simultaneously have different meanings and functions. Therefore, the focus of this dissertation are not textual aspects of metadiscourse, which are purely organizational, but rather interpersonal aspects of metadiscourse, that is, stance. Halliday (1973, 66) notes that interpersonal markers carry social meanings as they are "the expression of our own personalities and personal feelings […] and forms of interaction and social interplay with other participants in the communication situation". This allows authors "to reveal [their] personalities, to evaluate and react to the ideational material, to show what role in the situation [they] are choosing, and to indicate how [they] hope readers will respond to the ideational material" (Vande Kopple 1985, 86).

In his pioneering work on metadisourse taxonomy, Vande Kopple (1985, 84–85) differentiates among seven different types of metadiscourse. Among these, three types are most relevant for the discourse investigated here and the attitudes toward knowledge in academic writing: **illocution markers,** indicating to readers what speech or discourse act is being performed in the text (hypothesise, claim, sum up, promise etc.); **validity markers,** indicating the assessment of the probability or truth of the propositional content, as well as the authors' commitment to it and their assessment of the validity of the propositional content – including hedges, emphatics, attributors; and **attitude markers,** revealing the writer's attitudes toward the propositional content. Besides these three types which have found their way into the research model in this study (see Chapter 4), there are four additional types of textual markers, which are not included in my taxonomy: **text connectives** organize texts and show how different parts of it relate to each other, and guide the readers through the text; **code glosses** "help readers grasp the appropriate meanings of elements in texts"; **narrators** "let readers know who said or wrote something"; **commentary** serves to address the readers directly and initiate a dialogue, by reacting and commenting to the propositional material, procedures, expectations etc. Vande Kopple sees illocution markers, validity markers, narrators, attitude markers, and commentary markers as having interpersonal meaning (1985, 87). In his later work, Vande Kopple readjusted his taxonomy to include two other kinds of markers relevant for this research (see Chapter 4): **mitigators,** which, as part of the illocution markers, modify the force of certain discourse acts (1997, 4), and **boosters,** which strengthen the force of certain discourse acts (1997, 4). Both could be seen as strategies of negative and positive politeness, respectively. In addition, in his metadiscourse taxonomy, he introduced **epistemology markers**, used to indicate writer's stance toward the epistemological status of the referential material conveyed (1997, 4). These include **modality markers**, related to the level of commitment to the truth of that material (Vande Kopple 1997, 4–6 – expressed through hedges or shields, and emphatics) and **evidentials,** related to the types of evidence for that material (Vande Kopple 1997, 6), based on Chafe's (1986) classification as belief, induction, sensory experience, hearsay and deduction.

Crismore, Markkanen and Steffensen (1993, 46) also rely on this taxonomy and differentiate between textual metadiscourse markers, such as text connectives, code glosses, illocution markers, narrators; and interpersonal metadiscourse markers such as validity markers, attitude markers, commentaries. However, there is an agreement that these devices are multifunctional and "can fulfil the functions of more than one of these kinds" (Vande Kopple 1985, 85).

Blagojević relies on some of the taxonomies listed above (i.a., Vande Kopple 1985, Crismore, Markkanen and Steffensen 1993) for her taxonomy of Serbian discourse markers and differentiates between textual and interpersonal markers (Blagojević 2008, 95), while Vesić Pavlović and D. Đorđević (2020), as well as Figar (2018), rely on Hyland's (2005b) model. Previous research suggests that in Serbian, metadiscursive markers are a heterogenous group, spanning words, syntagms, clauses and utterances, as well as particles, which can function as emphasizers, hedges, stance markers, and commentaries (Blagojević 2008, 95). Blagojević's (2008) taxonomy of formal markers of metadiscourse is included in Chapter 3.2 in relation to expressions of stance.

Given its interpersonal potential stressed in previous research, metadiscourse is important for the view of "writing as a social and communicative engagement" (Hyland and Tse 2004, 156). In academic contexts it reveals the ways in which a particular text should be read, and how the scientists' claims are supposed to be interpreted. Metadiscourse elements in academic discourse show us the ways in which "academic writers engage with their readers; shaping their propositions to create convincing, coherent text by making language choices in social contexts peopled by readers, prior experiences, and other texts" (Hyland and Tse 2004, 167). Many of these functions will be clarified further in Chapters 2.6 and 2.7.

The notion of metadiscourse is also crucial in academic writing for the negotiation of knowledge, especially when it comes to the conveyance of new scientific claims, which are especially contestable, and have to be constructed and negotiated in a mitigated and conventionalized way. Adding to the complexity of the analytical concept of metadiscourse, Crismore, Markkanen and Steffensen (1993, 41) relate interpersonal metadiscourse to epistemic modality. Similarly to the concept of hedging, which will be discussed below in sub-chapter 2.5.4, metadiscourse markers act as "a writer's response to the potential negatability of his/her claims, and intervention to engage the reader and anticipate possible objections or difficulties of interpretation" (Hyland 2005b, 90). The function of metadiscourse markers in academic discourse is "to galvanize support, express collegiality, resolve difficulties and avoid disputation" (Hyland 2005b, 90).

Hyland and Tse (2004, 157) unambiguously relate metadiscourse to the concept of stance, as metadiscourse refers to "linguistic resources used to organize a discourse or the writer's stance towards either its content or the reader". Indeed, my own view of stance markers, as investigated in this dissertation, corresponds to the way Crismore, Markkanen and Steffensen see metadiscourse – as ways writers "project themselves into text" (1993, 39). Further stressing the interpersonal meaning of metadiscourse, Hyland (2005b, 4) claims that metadiscourse is used by individuals to "take up positions and align themselves with their readers in a particular context". Therefore, "[m]etadiscoursal elements […] can occasionally be more important for the communication than the subject matter" (Mauranen 1993a, 147), as they aid coherence and persuasion of the text (Hyland and Tse 2004, 157), aid organization, interpretation, and evaluation (Crismore, Markkanen and Steffensen 1993, 40), facilitate communication and interaction with the readerships and build a relationship with them by aiding interpersonal relations in academic writing (Hyland and Tse 2004, 159).

In academic writing, knowledge of writing conventions, especially in terms of metadiscoursal elements, confirms "familiarity with an audience" and participation in the scientific and discoursal community (Hyland 2017, 17). Metadiscourse therefore provides a "link between texts and disciplinary cultures" (Hyland and Tse 2004, 175). By using the metadiscoursal elements properly, writers are confirming their membership in a particular discourse community, and proper use of these markers ensures successful engagement with the said community. "By setting out ideas in ways our interlocutors are likely to accept, conveying an appropriate writer personality, and engaging with them in appropriate ways, we create the social interactions which make our texts effective" (Hyland 2005b, ix).

Hyland (2017, 21) sees metadiscourse as a valuable tool for understanding how discourse is created in different contexts and points out that it is "genre-related, context-bound, and culture-sensitive" (Hyland 2017, 27). Indeed, the way information is conveyed and meant to be interpreted differs greatly among different genres, languages, registers, and discourse communities. Disentangling these complexities is the goal of this research – to present a descriptive overview of how researchers communicate with their readership via their scientific writing.

The investigation of metadiscourse has been incredibly valuable in research across different languages, genres, registers, modes of communication, as well as in relation to "the understanding of expertise in language use" and classroom instruction (Hyland 2017, 26). Crismore, Markkanen and Steffensen (1993) also point out that contrastive metadiscoursal studies are valuable in shedding some light on some of its universal features, which is perhaps something to which this research could also contribute.

2.5.2 Stance and modality

Stance in this research is seen as instantiated by and therefore related to (epistemic) notions of *modality*, defined as the "opinion and attitude" (Lyons' 1977, 452) of the speaker towards the proposition, differentiating it as such from the proposition itself (Palmer 1986, 14). Hyland points out that modality is concerned with the writer's *standpoint* and involves the "expression of tentativeness and personal attitudes, of commitment and detachment" (1998a, 44), relating to the notion of stance in this research. Furthermore, the interconnections of the concepts of stance and modality are multi-faceted. Hoye (1997, 41) relates the notion of modality to the possibility of existences of alternatives to the real world, where something which may not be happening in the actual world may come to fruition or be different in a possible world, and this is reflected in language use, through markers indicating possibility and potentiality. Accordingly, Hoye (2009, 105) relies on Perkins (1983, 6) in his claim that modality marks a "human tendency to conceive of things as they can/could/may/might/should/ought to/will/would/must be/have been and then to act in accordance with the particular worldview or modal frame adopted". Kärkkäinen (2003, 17) also relies on Perkins (1983) and Palmer (1986) in relating the concept of modality to "modal logic and the notion of possible worlds, in which propositions or events may be seen as ‘real’ or ‘true’”. This type of modality is related to the speakers’ perception of ‘truth’ and the pertinent linguistic forms are hence relevant for this study as well.

There are many terminological and conceptual differences related to the notion of modality, which refer to the category of **mood** or **modus** (Facchinetti 2009; Helbig and Buscha 1981; Hentschel and Vogel 2009) as the expression of speaker attitude (R. Đorđević 2007, 477), **modalization** – related to speaker’s assessment of probability and usuality and **modulation** – related to the speaker’s assessment of inclination and obligation (Halliday 2004, 128), **modal systems** such as modal verbs (Palmer 1986), and **subjective** and **objective** modality (Lyons 1977). Besides terminological differences, these categories also differ in semasiological and onomasiological perspectives taken by the authors, by taking as their starting point either *form* (linguistic expressions, such as in modal systems, and the search for their modality-related meanings) or *function* (in systems starting from concepts of modality – such as modalization and modulation – and then searching for relevant expressions, exceeding, e.g., the system of modal verbs). This functional approach will be adopted in my research as well.

In stance-taking, it seems that many of the most pivotal functions of language are related to the notion of modality: “to express personal beliefs and adopt positions, to express agreement and disagreement with others, to make personal and social allegiances, contracts, and commitments, or alternatively to disassociate the speaker from points of view, and to remain vague or uncommitted” (Stubbs 1986, 1). Stubbs’s view of vague and imprecise language is directly relevant to academic writing, stating that in our spoken or written communication “we are rarely very clear, precise, or explicit about what we mean […] but are, on the contrary, vague, indirect, and unclear about just what we are committed to” (1986, 1). This view is indeed quite different from how academic writing was originally perceived. In addition, Stubbs claims that speakers/writers do not only provide informational content, but also “encode their point of view towards it” (1986, 1).

Indeed, Stubbs sees “the expression of commitment and detachment, or of modality in all its senses, […] as a central organizing principle in language” (1986, 4), implying its universality. In expressing their commitment to a proposition, a speaker indicates whether it is “true, false, self-evident, a matter of objective fact or of personal opinion, shared knowledge, taken for granted or debatable, controversial, precise or vague, contradictory to what others have said [etc.]” (1986, 8). This complex notion of modality thus relates to the interwoven categories of evidentiality, stance, and the nature of (inter)subjectivity, as will be discussed below.

While there are several, and often very different categorisations of types of modality, we could note that "the number of modalities one decides upon is to some extent a matter of different ways of slicing the same cake" (Perkins 1983, 10). Therefore, with the desire not to digress from the topic, those most relevant for this research will be presented here: **epistemic modality**, related to possibility and (un)certainty, and **deontic modality**, related to obligation and necessity (van der Auwera and Plungian 1998, 80; Nuyts 2016, 43; Reilly, Zamora and McGivern 2005, 190). The former "questions the certainty or probability of a statement", and the latter "lays obligations or gives permission to the audience" (Piqué, Posteguillo and Andreu-Besó 2001, 213).

A plethora of definitions regarding modality can be found in the literature, all centring around the speaker's attitude and point of view in reference to the proposition:

- "Modality could be defined as the speaker's attitude towards the action or state denoted by the main verb." (Kalogjera 1982, 52)
- "Epistemic modality is concerned solely with the speaker's attitude to status of the proposition." (Palmer 2003, 7)
- "Modality is the qualification the speaker expresses about their proposition and/or the situation denoted by it." (Piper et al. 2005, 636)
- "[Modal expressions cover the] subjective attitude or statement of the writer, who presents his/her personal opinion and relation with reality." (Vázquez Orta 2010, 80)
- Modality is defined as "qualifications" of states of affairs (Nuyts 2016, 32)

As seen in these definitions, the expression of authorial stance and attitude is especially related to *epistemic modality*. However, in my own research, as will be shown in Chapters 4 (discussing the research model), as well as in Chapter 7 – 9 (discussing the qualitative analysis), both epistemic and deontic modality express speaker attitude and are relevant for my own research, as illustrated by the following collection of definitions:

- "The modal meaning of an utterance involves speaker's expressed degree of certainty concerning the validity or truth of the proposition asserted in the utterance." (Holmes 1984, 348) – this seems to be a definition of epistemic meaning
- "Epistemic modality can be described as concerned with the speaker's assumptions, or assessment of possibilities, and, in most cases, it indicates the speaker's confidence or

lack of confidence in the truth of the proposition expressed." (Coates 1987, 112; see also Hyland 1998a, 44; Palmer 1986, 51)

- "Epistemic modality refers to modal expressions that convey the speaker's commitment to the truth of the proposition expressed by him/her." (Kärkkäinen 1992, 198)
- "Epistemic modality is concerned with matters of knowledge or belief on which basis speakers express their judgements about states of affairs, events or actions." (Hoye 1997, 42)
- "Epistemic modality expresses the speaker's opinion or belief concerning the truth of what is said […]." (Hyland 1998a, 44)
- "Epistemic modality […] commits the speaker to statements about the truth of a proposition […]." (Krug 2000, 41) and is encoded in modal auxiliaries (Coates 1983; Krug 2000)
- "Epistemic modality concerns matters of knowledge and belief and is related to the speaker/writer making judgements about the possibility that something is or is not the case […] [and] his/her belief or opinion about the validity of the proposition […]." (Gotti and Dossena 2001, 11)
- "Epistemic modality refers to the degree of probability or to the estimation of the chances that what is expressed in the clause applies or not." (Facchinetti 2009, 57)
- "[D]eontic modality is concerned with the necessity or possibility of acts performed by morally responsible agents." (Lyons 1977, 823)
- "[D]eontic modality indicates [the speaker's] observations about the necessity or obligation to perform particular actions." (Hyland 1998a, 44)
- "[D]eontic modality may be defined as an indication of the degree of moral desirability of the state of affairs expressed in the utterance" (Nuyts 2016, 36)"

Finally, as will also be discussed in sub-chapter 2.5.3 on evidentiality, categories of epistemic modality and evidentiality can overlap, as well as their markers (see Chapter 3.2 on formal expressions of stance):

- "[E]pistemic modality involves an estimation of the likelihood that a situation is/has been/will be true or false which may include an evaluation of the evidence for the situation." (Forker 2018, 71); it relates to degrees of certainty, speaker commitment, degree of confidence, or epistemic support (Forker 2018, 71)

The dimension of the speaker's subjectivity in these definitions directly relates modality to stance. However, in scientific writing, the notion of belief in the truth of what is claimed can be somewhat suspended for different purposes, as the propositional information is backed up by some scientific evidence (especially in empirical research, as evidenced in this research), as well as previous research conducted in the field. Hence, these markers may serve different purposes, which is evidenced through another related notion, the notion of *hedging*, to be discussed in sub-chapter 2.5.4.

Modality directly relates to and spells out a central aspect of the notion of metadiscourse, as it "is part of the interpersonal component of language" (Mauranen 1993a, 149). It is "part of the overall social dimension of the utterance" due to its conveyance of the speaker's perspective and not *propositional content* (Kärkkäinen 2003, 22), that is, between the locutionary and illocutionary act (Palmer 1986, 14). Halliday (2004, 179) also claims that mood structures express interactional meaning, while de Waard and Maat (2012, 47) stress the importance of this category, stating that all propositional content "contains an (implicit) epistemic evaluation", which would imply that un-modalized utterances do not even exist. Lyons (1977, 797), too, states that "[a]ny 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". Hence, modality would not include the propositional content expressed in an utterance, but rather the attitude of the speaker, and several (not only epistemic) meanings encoded therein: intent, desires, doubts, possibility, and probability (Reilly, Zamora and McGivern 2005, 190).

Besides the various overlapping modal meanings discussed so far, there is no one-to-one relation between form and meaning in their expression, as they include a multitude and a variety of multifunctional and polypragmatic devices, each in itself "characterized by a continuum of meanings" (Gotti and Dossena 2001, 13). Modality cannot be restricted to any specific semantic category (Palmer 1990, 2) but is rather an open-ended class (Simon-Vandenbergen 1996, 391). Even modal verbs, often considered modal expressions *par excellence*, "as the canonical or prototypical means for marking deontic and epistemic meaning in English" (Reilly, Zamora and McGivern 2005, 190), due to their grammaticalization, as well as being "arguably, the most susceptible to concise exposition and analysis" (Hoye 2009, 116), are not as straightforward as they may be seen. In fact, they are quite often polypragmatic and multifunctional, as one form may have several different functions, and alternatively, one function can be expressed by several different forms which are all “at least to some extent contextually determined” (Kärkkäinen 2003, 21). After all, “the expression of modality involves a complex modal system where speakers have considerable latitude in their choice and melding of different modal expressions” (Hoye 2009, 117).

As a result, it has been increasingly recognized that modality is encoded in many different linguistic forms and parts of speech, in research concerning English, Serbian, German, as well as in translation and contrastive analysis. Previous research focuses on parts of speech such as modal verbs, lexical verbs, nouns, adverbs, adjectives, particles etc. to include epistemic modality markers (e.g. Aijmer 1996; Boye 2016; Carretero 2002; Carretero and Zamorano-Mansilla 2013; Čikara 2017; Jacobs 1991; Kärkkäinen 1992; Koch 1986; Marín Arrese 2015; Mihić Pijetlović 2020; Novakov 2015; Vázquez Orta 2010; Vázquez and Giner 2008; Vold 2006a, 2006b; de Waard and Maat 2012), as well as pronouns in relation to stance, positioning, and appraisal (Hidalgo Downing and Núñez Perucha 2013), with some of the authors using these epistemic modality markers interchangeably with the notion of hedging (Hyland 2001b; Lafuente-Millán 2008; Vázquez and Giner 2008; Vold 2006a). Such markers, denoting instances of modality which are not only epistemic, but also deontic and dynamic, include verbs, adjectives, adverbs, affixes, nouns etc. (see Table A 1 in Appendix 1). As they are considered typical of English and other Germanic and Indo-European languages (Narrog 2016, 91), they proved to be relevant for this research and were also found in my corpus. The list of formal markers of modality (both epistemic and deontic) is included in Chapter 3.2 regarding formal markers of stance, as well as in Table A 1 in Appendix 1.

The notion of stance can be tied to the notion of epistemic modality, as mood and modality are seen as “‘traditional’ categories of stance” used to indicate speaker’s attitude (Kärkkäinen 2003, 20). Kärkkäinen (2003, 20) therefore relates the concepts of subjectivity and modality (as well as stance) in the following way: “even though epistemic modality by definition is an important manifestation of subjectivity in language, displays of subjectivity clearly extend beyond the category of modality in a narrow sense”. While stance is inherently related to the notion of epistemic modality, it is not only expressed through epistemic devices. Additionally, Marín Arrese relates the use of epistemic stance expressions to stance, evidentiality, and positioning, “with respect to knowledge about described events and their commitment to the validity of the communicated information […] through the expression of speaker/writer’s degree of certainty regarding the realization of the event and/or the reference to the sources and modes of access to that knowledge” (2015, 211).

In addition, Halliday (1994, 2004) discusses the notion of *attitude* somewhat separately from that of modality and sees both of these meanings as interpersonal. Linguistic devices conveying attitude are precisely meant to express the writer's judgement towards the content of the message (2004, 81), and have a qualitative function (2004, 322) which can be related to either positive or negative appraisal (2004, 333), effectively relating it to the notion of *appraisal* (discussed in sub-chapter 2.5.7), in addition to *stance* (Biber et al. 1999) and *evaluation* (Hunston and G. Thompson 2000).

Hyland (2001b, 291) discusses the importance of epistemic modality in academic writing, as "academics gain acceptance for their research by balancing conviction with caution, either investing their statements with the confidence or reliable knowledge, or toning them down to reflect uncertainty or respect for the potential opposition of their readers". The two central notions related to the expression of ideas and writer's attitude (Hyland 2001b, 293) are **hedges** and **boosters**, which convey epistemic and affective meanings (Hyland 2001b, 292) and either a low or high degree of confidence in the truth of a proposition, respectively, as well as the writer's attitude (for a more detailed discussion see 2.5.4).

Many authors have directly made associations – comparisons and contrasts – between notions of (epistemic) modality and evidentiality (e.g. Bergqvist 2017; Čikara 2017; Cornillie 2009; de Haan 2001; Hidalgo-Downing 2017; Hoye 2009; Malchukov and Xrakovskij 2016; Squartini 2016; Trbojević Milošević 2021; de Waard and Maat 2012; Wiemer 2018). These notions, in particular, are related to (inter)subjectivity, concerning the "personal source of the proposition" (Hyland 1998a, 45), as opposed to objectivity (Lyons 1977; Nuyts 2016; Verstratete 2001). This is inevitably true in the context under investigation here, as the author of scientific articles acts as the person framing all propositional content, and the reality as is known is inevitably passed through the sieve of the author's belief (or stance) system.

Indeed, what might have been sensed from the discussion on modality so far is its contingency on the speaker/writer – the subject (Facchinetti 2009, 54). According to Palmer, modality is a highly subjective notion in language, and it could be seen as "concerned with subjective characteristics" or even "as the grammaticalization of speakers' (subjective) attitudes and opinions" (1986, 16). Nuyts (2016, 46) states that "[e]pistemic modality counts as a prime example of a strongly subjective meaning". On the other hand, Lyons (1977, 797) differentiates between objective and subjective modality, seeing the former as "an objectively measurable chance that the state of affairs under consideration is true or not" and the latter as "a purely subjective guess regarding its truth" (Nuyts 2001, 385). Verstraete (2001, 1508) also makes a distinction between subjective and objective modality: in the former, the possibility or uncertainty can be directly attributed to the speaker; in the latter, it is inherent in the utterance. According to him, epistemic modals and some uses of deontic modals have an interpersonal component and therefore belong to the former category, whereas modals of ability and volition, as well as some other uses of deontic modals are seen as encoding an ideational component and therefore belong to the latter (Verstraete 2001, 1509). On the other hand, Perkins (1983, 103) notes that modal adverbs are unmarked for subjective or objective epistemic modality, but gain this quality depending on the context. In addition, Halliday (2004, 615) differentiates between subjective and objective probability, both being either implicit or explicit. Explicit subjective markers involve a personalisation of attitude (*I think, I'm certain*) and explicit objective markers involve impersonal constructions. Implicit subjective markers involve modal verbs (*will, must*) and implicit objective markers involve modal adverbs (*probably, certainly*).

However, perhaps a more fitting and appropriate distinction might be the differentiation between subjective and intersubjective modal evaluation, as the former strictly belongs to the speaker/writer, and the latter is shared by the whole group, community, and possibly even includes the hearer (Facchinetti 2009, 65; Nuyts 2016, 45), therefore including common ground between them (Nuyts 2016, 46). In the context of discourse communitites within disciplinary cultures, it is correct to assume that the common ground is indeed shared among all its members and is therefore characterized by intersubjectivity, and that new research has to become accepted and therefore a part of the common ground. This is then also connected to the notion of evidentiality, including indirect evidential forms, based on hearsay (tradition), as mentioned in Katelhön (2001). In this respect, "(inter)subjectivity has to do with the state of evidence in the interaction [only known to the speaker or a wider group] and represents an evidential dimension within the semantic area of epistemic modality" (Simon-Vandenbergen and Aijmer 2007, 35). Degani, Agani and Belladelli (2009) directly relate the concept of (inter)subjectivity with Halliday's (1994, 2004) interpersonal meaning, taking it to be "an umbrella term encompassing any rhetorical search for interaction, i.e., attention, involvement, agreement, feedback, and so forth, on the part of the speaker (SP) or writer (WR)", which means that "any linguistically detectable modulation of an utterance revealing that the SP has the addressee (AD) in mind" is intersubjective. In addition, Nuyts (2001, 399) claims that the "dimension of subjectivity is expressed in some, but not in other epistemic expression types". Accordingly, Carretero (2002, 19) distinguishes two groups of relevant markers of intersubjective qualification: firstly, markers of shared epistemic qualification (adjective *incredible*, adverbial expressions *of course, without question*, copular or existential constructions *it's common ground*) and secondly, markers which make explicit that the evidence which leads the speaker to the formulation of the epistemic qualification is shared (adjectives *clear, evident, obvious, alleged, apparent* and the corresponding adverbs, mental state predicates *appear, look, seem and sound*). As will be seen in the following chapters (see Chapter 4 in particular), some of these markers have found their way into the taxonomy in this research.

2.5.3 Stance and evidentiality

The notion of evidentiality, as indicated by many researchers (Cornillie 2009; Dendale and Tasmowski 2001; Forker 2018; Trbojević Milošević 2021; Wiemer 2018), is closely related to epistemic modality, and their interrelatedness is often quite complex, as will be demonstrated in this sub-chapter. However, there is no denying that while they might share certain common traits and can be expressed in similar ways, these two notions are in fact quite different.

Evidentiality is a linguistic category that "expresses information source […] and thus the means of acquiring knowledge" (Aikhenvald 2018, 5), or "sources of information or sources of knowledge behind assertions" (Dendale and Tasmowski 2001, 340). On the other hand, Chafe sees evidentials in very broad terms as linguistic expressions – words and phrases – that express "attitudes toward knowledge" (Chafe 1986, 262), thereby bringing the notion of evidentiality close to epistemic modality and suggesting that evidentials are also highly context-dependent expressions that "can only be profitably understood in the context of discourse and/or participant observation" (Aikhenvald 2018, 7). Mushin (2013, 635) directly relates the concept of evidentiality to that of stance as "a resource speakers use to express their stance towards their knowledge".

According to Chafe (1986, 262–263), markers of evidentiality qualify knowledge – the obtained information – according to the degree of reliability of knowledge (as more or less reliable), the mode of acquisition of knowledge (belief, induction, hearsay, deduction) and its source (language, evidence, hearsay), as well as whether it can be matched against verbal resources or expectations. While he gives several examples of each type of evidentials, Chafe does point out that "various linguistic expressions slide across more than one of the various types within this domain" (Chafe 1986, 262), which is precisely why this notion is related to modality, hedging, evaluation etc. Reliability of knowledge is marked with expressions such as *probably, certainly, generally*, and *virtually*; mode of acquisition is marked with evidentials indicating knowledge based on belief, such as *I think, I believe, in my opinion*, on induction *evidently* and *it seems*, for deduction *must* and *thus*, and if knowledge does not match a verbal category or expectations all that well, hedges are used (Chafe 1986, 272). He also points out that belief is based on something other than evidence (Chafe 1986, 266), induction/inference is based on evidence alone (Chafe 1986, 266), sensory evidence is based on senses or perception (Chafe 1986, 267), hearsay evidence comes from language and in academic writing this is the form of citation (Chafe 1986, 268), while deduction implies there is evidence for reasoning which leads from a hypothesis to a conclusion (Chafe 1986, 269).

The notion of evidentiality also has a social and an interpersonal function, as evidentials can also contribute to the authority of the author and the construction of their identity within a disciplinary community. Barton underlines the use of evidentials of belief, as well as group credentials within academia as key in creating “a persona whose background is authoritative according to prevailing academic standards and whose chief attribute is his or her individual critical perspective. This academic persona, then, is both authoritative and individual, representing a competitive view of scholarship in which the individual contribution is defined contrastively” (1993, 754). Therefore, the personal contribution is seen as key in the construal and maintenance of one’s authorial identity and confirmation of membership within a discourse community. The use of evidentials “[provides] intertextual support for the writer’s position, a frame within which new arguments can be both anchored and projected” (Hyland and Tse 2004, 174), while the source of an information (“epistemic justification”) is a “conceptual anchor” of propositional information (Boye 2012, 293). All these notions prove to be relevant in the study of evidentiality in academic discourse in general as well as in the current study (see especially Chapter 4).

The precise way evidentiality and epistemic modality are interrelated is a highly contested and often diametrically opposed question: Chafe (1986) subsumes them both under the same category with his definition, implying that “attitude towards knowledge” refers to both the attitude towards the source and the reliability of knowledge; Biber and Finegan (1989) see evidentiality as the super-category of epistemic modality; Palmer (1986), on the other hand, sees epistemic modality as the super-category of evidentiality, interrelated with the notion of subjectivity; Biber et al. (1999) include some evidential markers as a subcategory under epistemic stance markers, as does Kärkkäinen (2003). Van der Auwera and Plungian (1998) and Plungian (2001) see these two notions as somewhat equivalent and at times overlapping, in inferential evidentiality and epistemic necessity. The notion of subjectivity is crucial here, as Squartini (2016, 61) points out that if there is a degree of subjectivity in evidentiality, then it is tangentially related to attitudinal definitions of modality, which then means that if modality is the expression of the speaker's attitude, then evidentiality can be subsumed under the notion of modality (cf. Palmer 1986) or as two overlapping notions (Squartini 2016, 61).

On the other hand, Fetzer sees them as two separate notions: epistemic modality "refers to a category in which some hypothetical state of affairs is indexed and evaluated" and evidentiality "refers to a visual, sensorial, hearsay or inferential mode of knowing" (2014, 333). Along the same lines, Carretero and Zamorano-Mansilla differentiate between epistemic modality as the "linguistic expression of the estimation of the chances for a proposition to have been, be, or become true" (2013, 318), and evidentiality as "the linguistic expression of the kind, source and/or evaluation of the evidence for or against the truth of the proposition that the sp/wr has at his/her disposal" (Carretero and Zamorano-Mansilla 2013, 319).

In addition to these contrasting views, several authors see the relation between epistemic modality and evidentiality as more intricate and scrutinize their respective interrelations in some detail. Kärkkäinen (2003, 19), for instance, does note that "the dividing-line between the two [evidentiality and epistemic modality] may be fuzzy". Forker (2018, 73) also notes that "there is an obvious semantic proximity between evidentiality (=information source) and epistemic modality (degree of certainty or speaker commitment) [… as] evidentiality and epistemic modality may very often be formally fused in the languages of the world, i.e. one and the same morphological exponent expresses both meanings" and that epistemic modals may acquire evidential meaning extensions and evidentials may acquire epistemic overtones (2018, 73). Plungian (2001, 354) describes the relationship between evidential and epistemic markers as asymmetrical: "While an evidential supplement can always be seen in an epistemic marker, the opposite does not always hold: not all evidential markers are modal in that they do not all necessarily imply an epistemic judgment".

In this research, following Fetzer's (2014) and Carretero and Zamorano-Mansilla's (2013) views on their delineation and adhering to what the data of the current research suggests, these two notions will be treated as separate entities, with certain overlapping concepts (see also Cornillie 2009), but each in their own right. Therefore, while evidential markers can be seen as sharing certain characteristics with some modal markers, they do not fall under the category of modality in the current study.

Additionally, Haßler (2015, 185) relates evidentiality and epistemic modality to stance, "since the specification of the origin of the speaker's knowledge may also be connected to an indication of the attitude of the speaker as to the truth value of the utterance". Haßler (2015, 184, 186) claims that speaker stance has to be taken into account when discussing evidentiality, as speaker stance specifies the knowledge source and expresses the speaker's commitment to the status of the proposition, whereby "evidentials as linguistic means with the primary characteristic of 'source of knowledge' do imply a direct reference to the certainty and responsibility of the speaker or the truth of his assertion" (Haßler 2015, 185). This view intrinsically relates evidentiality to subjective perspective and subsumes the notion of evidentiality to that of speaker's perspective (Haßler 2015, 192), i.e, epistemic modality/stance. However, Mélac (2022, 335) points out that "[i]t is indeed possible to express evidentiality, i.e. the information source underlying a proposition, without expressing epistemic modality, i.e. the degree of likelihood of a proposition", in examples such as *Vegetables* ***taste*** *bland nowadays* or ***I saw that*** *he had eaten the cake*, which denote the source of the claim, but do not question its validity. In addition, Cornillie differentiates the two categories very clearly and attributes any confusion to "mixing up epistemic speaker commitment and reliability of knowledge, which is related to evidentiality" (2009, 44). This can be difficult to conceptually delineate in context, but perhaps Cornilie (2009, 46–47) offers a good differentiation (along the lines of Fetzer 2014) in stating that "[e]videntiality refers to the reasoning processes that lead to a proposition and epistemic modality evaluates the likelihood that this proposition is true".

In addition, Chafe (2013, 502) brings forth the notion of *epistemology* as "the study of how a thought can be interpreted as conforming or not conforming to reality" and is manifested through modality and evidentiality. Lyons (1977, 793) also points out the same root of words epistemic and epistemology (from the Greek word for knowledge), and equates the notion of *epistemology* with *evidentiality*, as the nature and source of knowledge, while *epistemic logic* implies something is known or believed (and therefore also modified, as this marker expresses attitude and stance). Wiemer (2018, 86) states that both evidential and epistemic meanings are related to speakers' cognitive states from an onomasiological point of view, and both are related to knowledge and belief (that is, the notion of *epistemology*, according to Chafe and Nichols 1986), and that they both operate on propositions (Wiemer 2018, 88).

Contextualizing evidentiality and epistemic modality as separate but related categories within the broader perspective of other concepts related to stance (see Chapter 2.4 for an overview), these two notions are also brought together under the conceptual domain of *epistemicity* (Boye 2012, 2–3), which includes both the expressions of the degree of certainty and the expressions of information source (Boye 2018, 264). Epistemicity has been noted to have several interactional functions: "a politeness/face-saving function, the function of constructing one's authority or the relevant discourse statuses of participants, the function of achieving certain conversational actions within certain sequential environments […], the function of regulating aspects of interaction […], or simply the function of displaying […] uncertainty" (Kärkkäinen 2003, 26). This relates the notion of epistemicity to notions of politeness, metadiscourse, hedging etc.

Fetzer (2014) in particular, relates the notion of evidentiality (here seen as one distinct aspect of epistemicity) to academic argumentation and scientific writing, as "[a]cademic argumentation is based on evidence, and evidence is connected intrinsically with the domain of evidentiality, the coding of the source of knowledge, which is obligatory in some languages and optional in others" (Fetzer 2014, 333–334). It is particularly in this genre that "construction, deconstruction and reconstruction of scientific knowledge is a constitutive part of the discourse" (Fetzer 2014, 336) and "coding the source of knowledge is functionally equivalent to providing evidence for the validity of a conversational contribution as a whole or for some of its constitutive parts" (Fetzer 2014, 336).

In academic discourse, when writers/researchers indicate themselves as the source of a scientific claim, they become the deictic centre of a proposition, making evidentiality an inherently subjective notion (Nuyts 2001; Whitt 2011 – see Chapter 4.3). In research of empirical nature, as is the case here, the two most important types of evidentials are those indicating the speaker/writer as the source, and the deductive nature of evidence. The writer is presumably the one conducting the research process in empirical research and the source for a claim comes straight from the research subject/object, meaning that the nature of this evidence is deductive (as per Chafe's 1986 distinction of the modes of acquisition of knowledge). In empirical research, the process starts with a hypothesis, which is to be proved or disproved. By verifying the hypothesis in a research process, a conclusion is drawn, which becomes evidence for the claims a researcher makes. Depending on the discipline and the field, this evidence can, to a certain extent, be sifted through the researcher's/author's point of view, which then brings the author's point of view into the equation as the source of knowledge. In this sense, the writer's interpretation of the research results is what may affect the evaluation of this evidence. Additionally, the grounding of these findings in the disciplinary tradition happens through the comparison and contrast of these findings against previous ones (hearsay evidence), which are relevant to this research, as they also "include the conventions of citation" (Barton 1993, 746).

There is another differentiation relevant to scientific argumentation – between direct and indirect evidentiality, where in the former, the speaker/writer has witnessed the reported occurrence (visually or auditorily), and in the latter, the speaker/writer has not witnessed it, but has inferred, deduced, or heard about it from someone else (Cornillie 2009, 45; Haßler 2015, 188; Plungian 2001, 353). "When the action is deduced, we are talking about inferentials; when information about the event is conveyed through others, they are called hearsay markers, report(at)ives or quotatives" (Cornillie 2009, 45). Scientific writing therefore acts as a combination of direct and indirect evidentiality – the most overt type of indirect evidentiality is seen in citation, i.e. quotative (Plungian 2001, 353), but also in the deduction of research results from data. Direct evidentiality is obvious, as the writer/researcher has witnessed the reported occurrence and is indeed reporting on it (and using perception verbs). In this respect, we could discuss subjectivity in academic writing as "the linguistic realization of a S/W's [speaker/writer] presence in the discourse" (Whitt 2011, 350) which is precisely how stance is seen in the current research as well. However, while in academic writing we could rely on, e.g., perceptual evidentials to denote subjectivity, as it is the writer/researcher at the deictic centre of the occurrences, this is not the case for evidentials of belief (as Barton noted above). If we take into consideration Chafe's account of belief as based on something other than evidence, this means that markers of belief in scientific argumentation do not act as evidentials, but rather as epistemic markers. For example, if we were to take Halliday's (2004) explicit subjective markers with overt use of personalized devices and pronouns as an indication of subjectivity (such as *I think* and *I'm certain*), we could interpret these markers as instances of evidentiality, but also of other concepts, such as epistemic modality (for details see Chapter 4.3).

While Whitt notes that perception is "subjectively experienced", he notes that "internal states as knowledge, understanding, or inference are even more subjective. After all, if something is externally perceivable, one would expect the same stimulus to produce a similar perceptual experience in any given perceiver" (2011, 351). This brings in the intersubjective nature of evidentiality, especially in academic writing. As was already noted, intersubjectivity implies a shared status of the evidence (and the proposition) (Bergqvist 2017, 9–10; Cornillie 2009, 45) and therefore "that the information (and the epistemic evaluation of it) is generally known, and hence is not new (or surprising) to speaker and hearer(s)" (Nuyts 2001, 396).

In reporting results, the propositions based on solid evidence, which have been repeatedly confirmed, can be seen as objectively reported and formulated as facts, rather than assumptions. Such unmarked instances can be seen as taken for granted by the speakers, due to their certainty (DeLancey 2001, 380). However, whatever is common knowledge for a certain group of people – members of a certain scientific community – can also be seen as intersubjective knowledge, "[…] shared by a large group of people, including the author, and from the moment of reading onward presumably also the reader" (Nuyts 2001, 394). In this sense, evidentiality in academic writing is not a subjective, but rather an intersubjective matter, related to providing evidence for the source of knowledge to the entire discipline – which is the purpose of publishing. Evidentiality is essentially intersubjective, as through the publication of one's research, the evidence becomes available not only to the writer, but also to the larger community (Whitt 2011, 348), and this can ensure replication of their results. "Subjective evidentiality occurs when the evidence lies solely with the S/W. Intersubjectivity comes into play when the S/W either indicates the perceptual evidence is available to a larger speech community or when the S/W engages the addressee in negotiating the availability and/or interpretation of given evidence" (Whitt 2011, 359)[9]. The subjective dimension of academic writing is rather connected to the expression of epistemic stance, and this is more closely related to hedging, evaluation and politeness. As Cornillie (2009, 44) notes, "epistemic speaker commitment of evidential expressions does not come from the specific evidential value or mode of information, but rather boils down to the speaker's and hearer's interpretation of the source of information". The scientific evidence and knowledge acquired through empirical research therefore travels a short path from becoming subjective and only related to the writer to becoming intersubjective within a scientific community. Even if personalized constructions (with mental state and perception verbs) are used to indicate that the author is the source of evidence, this becomes known to the community with the publication of the article, and therefore intersubjective, which is what the authors want to achieve with their publication[10].

It is important to note here that the nature of the evidence alone does not account for an evaluation to be seen as objective or subjective (Nuyts 2001), nor does the modification of a

[9] At this point, a differentiation between the knowledge that is presented (which may or may not be new to the community) and the stance related to this knowledge has to be made. While the knowledge can be presented without any explicit marker of stance, which may presuppose certainty (see Chapters 4.1 and 4.3 for details), the focus of this research is on explicit marking of stance in relation to the presentation of knowledge.

[10] This knowledge becomes intersubjective in the sense of becoming shared and known to a wider community. However, this does not necessarily entail acceptance of claims, which as another dimension of intersubjectivity can be partially linguistically marked in the strategy of evaluative reference (see Chapter 4.6).

claim imply that evidence is direct or indirect (e.g., use of modal adverb *seemingly*). Certain modal expressions can be seen in terms of a subjectivity spectrum, as subjective or non-subjective/neutral (Nuyts 2001): modal adverbs are neutral in the dimension of subjectivity and can carry subjective and non-subjective evaluation; modal adjectives can be both subjective and non-subjective (in impersonal constructions) in evaluation; mental state predicates indicate subjectivity – as they express personal opinions (especially with explicit subjective markers); modal auxiliaries are neutral in the dimension of subjectivity. It is particularly in these kinds of expression that Fetzer (2014, 353) sees evidentiality and epistemic modality as intersecting – in coding the indirect source of knowledge. This will be discussed in Chapter 4. The nature of result reporting can also be tied to the notion of subjectivity and the nature of evidence in different disciplines, which affects the style of writing and the use of differing strategies in different disciplines and will be elaborated in Chapter 2.7.

Another notion will be mentioned here very briefly in relation to evidentiality, which is that of *mirativity*, as indicating knowledge which is newly acquired, unexpected or surprising to the speaker (DeLancey 2001, 370; Forker 2018, 82; Nuyts 2001, 396). Katelhön (2001), for instance, conducted an analysis of evidential forms in scientific journal articles in German. She differentiated between evidentiality and epistemic modality, but found that in German, their linguistic expressions often overlap, which is why she combined them into the notion of epistemic marking (Katelhön 2001, 342), which corresponds to my own view of stance in the six strategies discussed in Chapter 4. In her model (relying on Willet 1988), she also differentiated between direct and indirect evidential forms based on first-hand and second-hand source of knowledge, although not along the lines of stance-taking strategies. Finally, she claimed that new knowledge claims are hedged, which is considered a politeness strategy towards the recipient (2001, 354) (see sub-chapter 2.5.5), thereby relating the concept of evidentiality to vagueness and hedging (see sub-chapter 2.5.4 for my own discussion on the relation of stance and hedging).

As was also noted in sub-chapter 2.5.2, both modality and evidentiality are broad and complex categories comprising conceptually and semantically diverse notions (cf. Squartini 2006), which is why there are so many disagreements on their definitions and conceptualizations, as well as on how they associate and relate to one another and many other notions, including those discussed in this research (e.g., engagement, evaluation, attitude etc.). While the notions of evidentiality and modality can be clearly delineated conceptually, due to the fact that evidentiality is not grammaticalized in English, Serbian, or German, but borrows its lexical and semantic expressions from other concepts, there is a fair amount of overlap which needs to be disentangled in concrete contexts (see Chapters 7–9 of analysis for detailed findings on the data of the current study).

2.5.4 Stance and hedging

Unlike the previous three conceptual categories, the category of hedging has been seen in previous literature as both a conceptual category and a formal marker expressing hedging. However, in this research, this sub-chapter will focus on the conceptual category, as it is described in previous literature, while formal markers will be given in Chapter 3.2, relating to markers of stance. As such, the relation of categories of stance and hedging will include markers expressing mitigation, indirectness, vagueness, indeterminacy, possibility, approximation, and tentativeness, which will be elaborated as integral parts of this sub-chapter.

While discussing evidentiality, Chafe (1986, 265) points out that "[w]riters […] may be aware that what they are presenting is not categorically true, but rather true in some statistical sense; it may of necessity be true only as an approximation, a tendency, a mean […]. Academic writing, especially, is sprinkled with words like *basically, by definition, essentially, exactly, generally, in some sense, invariably, literally, normally, particularly, primarily, specifically,* and *virtually* […]". These sprinkles are markers of the next category related to stance – hedges, expressions used "to qualify categorical assertions" (Hyland 1996a, 251) and modify propositions by conveying indeterminacy, inexactitude or mitigation (Martín-Martín 2008, 134), which is how they are seen in the current research as well.

Hyland (1998a, 44) sees hedging as another aspect of epistemic modality, "concerned with personal judgements based on a lack of knowledge" and qualifies hedging along the lines of Lyons' (1977, 797) definition of epistemic modality: an expression used to "[qualify] [the speaker's] commitment to the truth of the proposition expressed by the sentence he utters" (Hyland 1994, 240). However, it is very clear here that the lack of knowledge is not the causal factor in scientific writing, which Hyland (1998a, 64) also elaborates on by stating that "[h]edging in scientific discourse is not simply a means of distinguishing the factuality of claims, but is a rational interpersonal strategy, crucial to defining a relationship with other researchers and their work". Along those lines, Hyland relates the notion of hedging with metadiscourse, used for the negotiation of academic knowledge, which is discipline-dependent. When presenting their knowledge, authors have to abide by certain conventions of disciplinary communities, and initiate a dialogue with their audience, accentuating the interpersonal role of hedging (Hyland 1998a, 51). Therefore, rather than indicating lack of knowledge, or lack of confidence in that knowledge, writers "hedge their commitment to accepted knowledge, to new findings, or to what those findings mean" (Hyland 1998a, 56).

Among all the concepts closely related to the concept of stance discussed in Chapter 2.5, hedging is the one most similar to stance as conceptualised in this research (see Chapter 3). While there have been numerous, often varying, overlapping, and intertwined classifications of hedges in the literature so far, the most common thread linking the majority of them relates the concept of hedging to indeterminacy, inexactitude, and mitigation (see Adamczyk 2015; Hyland 1994, 1996a, 1996b, 1998a; Mauranen 2004; Martín-Martín 2008; Prince, Frader and Bosk 1982; Salager-Meyer 1994, 1995). All of these views stem from the early 1970's, when George Lakoff described hedges as "words whose job is to make things fuzzier or less fuzzy" (Lakoff 1973, 471). While this seminal work, which has influenced decades of subsequent work on hedges, does describe a very important characteristic of hedging, it limits its view onto a singular aspect of it, which is "not the qualitative aspect according to truth but grading" (Martín-Martín 2008, 134). As will also be shown in this dissertation and the theoretical review, this is only a small drop in a pragmatically and lexically varied bucket of hedging and stance-taking. Lakoff's view of hedges has indeed already been expanded in all of the abovementioned studies. However, the fuzziness in the notion of hedging can be further expanded if seen as a category "that covers all those linguistic expressions the meanings of which seem somewhat hard to analyze and categorize" (Ventola 1997, 163). Lewin (1998, 89) aptly sees hedging as a "concept that evades definition". This indeed holds true in the categorisations given in Chapter 3.2 and adds to the multifunctionality and variety of the concept of hedging.

Since pragmatists adopted the term, hedges have been seen as "modifiers of the speaker's commitment to the truth-value of the whole proposition" (Vázquez and Giner 2008, 174), thus contributing to pragmatic and communicative strategies, such as vagueness, mitigation, politeness, and modality (Martín-Martín 2008, 134; Riekkinen 2009, 5). Through these communicative strategies, the concept of hedging has found its way into many different genres and areas of human interaction, and scientific discourse is no exception. Hedging, along with the concept of politeness, is aimed at "face-saving strategies intended to obtain speaker's or writer's acceptance, mitigation and modification of utterances, avoidance of commitment and intentional vagueness […] [overlapping] with several other concepts such as modality and evidentiality" (Martín-Martín 2008, 134).

The use of hedging may seem a highly controversial notion in academic writing, as a *par excellence* subjective phenomenon (Salager-Meyer 2000, 180), and therefore, not belonging in scientific language, where "there is no science unless there are clear definitions" (Salager-Meyer 2000, 180). However, as Varttala (1999, 178) points out: "members of academia should rather *assume* or *suggest* when they address other scholars. Similarly, in the place of saying how things *are*, one should sometimes preferably say how things *might* be, or how things *perhaps* are". Hedging therefore seems to be an inseparable part of academic writing, as for the most part, what is being expressed are not only intersubjective and shared facts which are ratified by the discourse and scientific community, but rather "opinions, hypotheses, guesses, predictions" (Crismore and Vande Kopple 1988, 186) based on deduction from empirical data, and hence requiring the use of evaluative and tentative language (Crompton 1997, 274). In academic discourse, hedging is meant to mark "a claim, or any other statement, as being provisional, pending acceptance in the literature, acceptance by the community—in other words, acceptance by the readers" (Myers 1989, 12). Therefore, hedging can also be seen as a politeness strategy and will be elaborated on as part of sub-chapter 2.5.5 below. The hedging of claims is so common that a sentence that looks like a claim but has no hedging is probably not a statement of new knowledge (Myers 1989, 13). Therefore, hedging might even have "a paramount role in academic discourse" (Vuković 2015, 98).

While hedges are common in everyday conversation, they are also an abundant and incredibly valuable tool in scientific discourse, used to convey the writer's perspective, interpretation, and attitude to their statement, to present unproven claims with accuracy, caution, and humility, to tone down potentially risky claims, to convince readers of the truthfulness of claims that were made, to gain reader and peer ratification from claims, and enter a dialogue with the audience (Hyland 1995, 1996a, 1996b, 2000; Martín-Martín 2008):

> While writers seek to gain recognition in their field by making the strongest claims they can, such claims are likely to challenge existing assumptions of the discipline and undermine colleagues' research agendas. A variety of devices are therefore employed to mitigate claims and minimise these impositions. (Hyland 1996b, 434)

Therefore, in stating that hedges refer to "any linguistic means used to indicate either (a) a lack of complete commitment to the truth of the proposition, or (b) a desire not to express that commitment categorically" (Hyland 1996a, 251), as well as means to express "tentativeness and possibility" (Hyland 1996a, 251, 1996b, 433) – we are not talking about lack of knowledge or uncertainty in the claim itself, but rather a lack of commitment which may encourage discussion and collaboration and invite alternative opinions and claims. “Hedging may be used to display not only or necessarily the degree of confidence speakers have in their propositions but also how much confidence they feel it is appropriate to display” (Crompton 1997, 281). Indeed, as Salager Meyer (1994), Hyland (1995) and Vande Kopple (1997) point out, the use of hedges may even add precision and accuracy in reporting of results, thereby creating “for the authors an ethos of caution and humility” (Vande Kopple 1997, 10) and enhancing their credibility (Blagojević 2011b, 105). This “tentative or cautious assessment of the truth of referential information” (Crismore and Vande Kopple 1988, 185) reduces the “degree of reliability” for this referential information (Hübler 1983, 18) and any potential threat for their predecessors and other researchers that inevitably come with new knowledge claims (Myers 1989). This leads to gaining the audience’s and scientific community’s approval and acceptance of the potential contribution their research has made, preventing their opposition, and contributing to effective academic writing (Hyland 1994, 240, 1996a, 251). “Writers have to recognize that they are involved in a process of self-attribution: forging their own allegiances to particular traditions and sets of values by their language choices” (Ivanič 1998, 3). Quite in tune with the findings reported in sub-chapters 2.5.1–2.5.3, it is precisely through the use of these markers that authors show to the scientific community that they are “familiar with the discourse conventions of a particular academic community” (Martín-Martín 2008, 134). By adhering to community conventions and values by certain linguistics choices, they are asserting their participation in it and asking for acceptance to it. As Hyland states, “[h]edging […] both confirms the individual’s professional persona and represents a critical element in the rhetorical means of gaining acceptance of claims” (1996b, 433). Hedges therefore add to establishing and maintaining the reputation of the writer/researcher, conveying an appropriate persona, as well as academic success, credibility, and membership in the scientific community (Hyland 1994, 244, 1995, 33, 1996b, 436, 2000, 179). Swales (1990, 175) describes hedges as rhetorical devices used for “projecting honesty, modesty and proper caution in self-reports and for diplomatically creating space in areas heavily populated by other researchers”. Hyland summarizes the motivation for the use of hedges:

> [H]edges in scientific texts are the result of informational, rhetorical and personal choices which cannot be fully understood in isolation from social and institutional contexts. Linguistic analyses alone cannot provide a rationale for such choices and the framework proposed here seeks to reflect this interpretive environment. Research articles clearly reveal the relationship between a discourse community, standards of knowledge and textual representations and it is these in combination which motivate the use of hedges. (Hyland 1996b, 456)

Based on these motivations, it can already be seen that the function of hedges goes much further than the initially assumed uncertainty and inexactitude. The concept of hedging, and subsequently, stance-taking, is interconnected with notions of (negative) politeness, face-saving, evidentiality, epistemic modality, affect, evaluation – all connected to the interpersonal function of language (Crompton 1997; Fraser 2010a; Mauranen 2004; Ventola 1997). This can also be seen in some of the most prominent classifications of hedges (see Chapter 3.2). This manifold nature of hedges is probably best described by Meyer (1997, 23) as "inextricable contradictory interwovenness of strengthening and weakening of illocutionary forces".

The concept of hedging is intertwined with several other notions, one of them being ***mitigation*** – "a strategy for softening or reducing the strength of a speech act whose effects may be unwelcome to the hearer" (Hyland 1998a, 48). This is especially true in reporting new knowledge which may contradict some previous findings, and in academic writing, mitigation is considered central, "as hedging signals the writer's anticipation of the opposition to a proposition" (Hyland 1996b, 437). The key notion in mitigation is that of "downgrading […] by which people try to make their saying-doing more effective" (Caffi 1999, 881). However, the notion of mitigation may not in itself be related to the Lakoffian hedge as a concept indicating fuzziness (Lakoff 1973, 471), as Fraser (1980, 344) distinguishes mitigators from hedges as forms not entailing any fuzziness. While Caffi finds attenuation to be synonymous with mitigation (1999, 882) and "one of the two opposite directions of modulation" (1999, 884, drawing on Halliday 1994, 89, 2004, 147), and directly relates mitigation to the concept of Lakoffian hedges, Holmes (1984, 345) mentions the mitigative effect to include both *attenuating* (weakening) and *boosting* (emphasising), both of which have found their way into my own taxonomy, in two different strategies, both directed at the readers. The role of both hedges and boosters in academic writing is to provide "communicative strategies for conveying reliability and strategically manipulating the strength of commitment to claims to achieve interpersonal goals" (Hyland 2005a, 175) – see especially Chapter 4 for a detailed discussion.

The mitigation of speech acts also includes ***indirectness*** (Fraser 1980, 341): "as the specification of the intended act becomes less explicit, the active participation of the hearer in using both the contextual cues (including past conversations, knowledge of the world, identity of the speaker, etc.) as well as relevant conversational principles of interpretation is increased". Therefore, "as the hearer increases his 'work' to determine the speaker's intentions, he concomitantly increases his responsibility for the conclusions that follow" (Fraser 1980, 346). Indirectness, as well as vagueness, are characteristic of Anglo-American academic writing

(Hinkel 1997), and these notions, as well as hedges are often tied to politeness in this context. As indirectness is one of negative politeness strategies described by Brown and Levinson (1987, 70), it is meant to minimize the imposition on the hearer/reader, which then also relates it to the notion of mitigation. However, it is crucial to strike a balance between using enough indirectness so as not to seem crude, and not too much indirectness, so as not to be completely vague (but vague enough). Hinkel (1997, 370) directly relates the notion of indirectness with markers of vagueness and ambiguity – examples of Brown and Levinson's off-record strategies (1987, 225), as "the communicative intent is not well-defined and allows the writer to minimize the threat to the reader's face", corresponding to Brown and Levinson (Hinkel 1997, 370).

The notion of ***vagueness*** was explored by Channell (1983, 1990, 1994), as well as Andersen (2010), and it could be seen as the opposite notion of exactness, directness, precision, and as such perhaps as not belonging to the language practice of academic writing. In order to effectively communicate research results, "vagueness, ambiguity, imprecision, and general woolliness are to be avoided" (Channell 1994, 1). As already observed by Bertrand (1923, 86), this view is, however, not shared by all authors, as vagueness also exists in science which is heavily populated by quantitative results and often defined as precise. Indeed, in scientific writing, intended vagueness is seen as a motivating factor for the use of hedges (Martín-Martín 2008, 135) and to indicate "uncertainty, skepticism and doubt" (Salager-Meyer 1994, 151). However, the use of vague language in any text, including scientific writing, should not be seen as either good or bad, as long as "vague language is used appropriately" (Channell 1994, 3).

Especially in scientific writing, the use of vague language may not in any way be related to lack of precision, or even lack of certainty in the results reported. In fact, both Channell (1994, 205) and Andersen (2010, 36) primarily relate the use of vague language with the desire to be polite and not create and imposition for the reader, as well as to maintain cooperation between interlocutors. Channell (1994) lists the following uses of vague language:

- to enable a speaker to talk about a subject he or she is not very knowledgeable about, or a subject where he or she does not know the necessary vocabulary (1994, 170)
- a marker of deference (1994, 171)
- to tailor an utterance such that the right amount of information is given (1994, 173)
- to withhold information (1994, 178),
- to be more persuasive (1994, 179) – giving the impression of a sense of academic integrity,

- to amend a possible lexical gap (1994, 180),
- when there is uncertainty about what they want to say (1994, 186),
- as a safeguard against being later shown to be wrong (1994, 188)
- adhering to the politeness rules for a particular culture, and of not threatening face (1994, 190)
- in informal settings (1994, 191)

While Andersen (2010) focuses on nouns to express vagueness, Channell (1983) discusses vague approximators and vague category identifiers. The former one is especially relevant for scientific writing, as "number approximators are understood to designate intervals of numbers" (Channell 1994, 44) – this approximation does not indicate if it is above or below, so the extent is unspecified (Channell 1994, 42), relating vagueness to both approximation and ambiguity (Channell 1994, 34). Channell (1994, 18) also points out that vagueness can be achieved through vague words or implicature, when the information is omitted and therefore imprecise. In this sense, vague language is seen as "stretchable and negotiable" to fit certain communicative needs (Zhang 2011, 573). The use of vague language can also be related to notions of ***approximation*** and ***possibility*** and categories of *Approximators* and *Shields* (Prince, Frader and Bosk 1982, 86; Salager-Meyer 1994, 154 – see Chapter 3.2 on formal markers).

Zhang (2011, 574) connects the notion of vague language with shields, as well as vague nouns, downtoners, and boosters, capturing another function of the polypragmatic use of hedges – an indication of vagueness such as in the items given here in 1) – 6). Some of these functions are relevant for this research as parts of different strategies (see Chapter 4 for details):

1) Approximate quantities – make an approximation or express vague quantity (*about, nearly, -ish, or so, over, a few, many, several*)
2) Boosters – intensify the tone of speech (*very, honestly, really, extremely, overly, so*)
3) Downtoners – soften the tone of speech (*a bit, a little, some, sort of, kind of, somewhat, pretty much, fairly*)
4) General extenders – indicate a vague category (*and all that, and that sort of thing, and things, and stuff like that, or something*)
5) Vague nouns or pronouns – indicate an unspecific meaning boundary signalled by a noun or pronoun (*thing, things, stuff, someone, something, it, a place*)
6) Shields – convey a lower degree of speaker's certainty and commitment (*I think, we believe, seem to, appear, probably, maybe, according to her*)

In relation to strategy 6), Nuyts notes that mental state predicates indicate subjectivity, and are therefore "frequently used as mitigating or hedging devices […] it is usually quite obvious that speakers are absolutely certain about or convinced of what they are saying, but by using the mental state predicate they suggest that they are voicing a tentative and personal opinion which may be wrong, thus 'officially' leaving room for another opinion or for a reaction on the part of the hearer" (2001, 391). Therefore, these markers are explicitly tied to the category of hedging (mitigation, tentativeness, indirectness), as well as politeness and good academic practice (for more details see Chapter 4).

Another closely related term is ***understatement*** (Hübler 1983, 1) – a "typically English" (Hübler 1983, 1) type of expression meant to convey "modesty or unwillingness to express emotion" (Hübler 1983, 2) and acting as a cover term for hedges. This notion directly contrasts the notions of affect and intensity, which will be discussed in sub-chapter 2.5.7. Hübler (1983, 23) also points out that the function of understatements and hedges is "saying less than one means" in order to "make sentences more acceptable and thus to increase their chance of ratification by the hearer", which is related to politeness, indirectness, and mitigation as well. "[E]very participant in social interaction must have the dual role of both looking after his own face and having regard for the face of the other(s)" (Hübler 1983, 156). In this sense, understatements and hedges serve as face-saving strategies (Hübler 1983, 157).

Finally, through the projection of "personal modesty and honesty" (Salager-Meyer 1994, 150), hedges directly relate to *tentativeness*, and the concept of *mitigation* (as per Fraser 1980), which brings hedges close to the notion of ***politeness*** (discussed by Brown and Levinson 1987). As much as the use of mitigative devices is meant to prevent any kind of imposition towards the reader/the audience, "hedges are a significant resource for academics in anticipating the reader's possible rejection of their proposition" (Hyland 1995, 33), therefore also serving to save the writer's face and reputation. "In the context of academic writing, authors tend to mitigate the force of their scientific claims by means of hedging devices in order to reduce the risk of opposition and minimise the face threatening acts that are involved in the making of claims" (Martín-Martín 2008, 133). This relation of the notion of hedging to politeness, again, brings forth multifunctionality as a very important aspect of the type of markers discussed in this research. Multifunctionality is not only present in several other notions such as, e.g., epistemic markers and evidential markers, but also in hedging, as hedges functioning as epistemic devices can also function pragmatically as politeness markers, modifying the illocutionary force of utterances (Holmes 1988, 21). Different lexical and syntactic hedging devices can be related to different pragmatic strategies (i.a. politeness, indirectness, mitigation, vagueness, understatement) focusing “mainly on tension-free social interaction” (Clemen 1997, 239). Kreutz and Harres (1997, 183) also note the pragmatic/speech act dimension of hedges, as they directly express illocutionary force by affecting the propositional content of an utterance, and also affect, albeit indirectly, the perlocutionary effect of an utterance through expressing speaker attitude. Hedges are therefore a marker of consideration for others and of the writers’ intention of giving readers a chance to disagree (Holmes 1982). Additionally, just as hedges are contextually bound, so are the politeness markers, as politeness is “*implicated* by the semantic structure of the whole utterance”, and not just individual markers (Brown and Levinson 1987, 22).

Myers (1989) applied Brown and Levison’s (1987) politeness model to a corpus of biology research articles and found that hedging is a politeness technique in academic writing, including both positive and negative politeness strategies. The former includes the use of pronouns to stress solidarity (inclusive we), markers indicating common ground, attitudinal and emotional expressions to indicate solidarity, jokes, citations and giving credit to other writers. The latter includes hedging, impersonal constructions, assertions of general rules, as well as constructions emphasizing a personal point of view. This approach will be further discussed in sub-chapter 2.5.5.

To conclude the chapter on hedging, and after this extensive overview on its many forms and functions, we may look back on Skelton’s (1988, 38) claim that “[w]ithout hedging, the world is purely propositional, a rigid (and rather dull) place where things either are the case or are not. With a hedging system, language is rendered more flexible and the world more subtle”. Even in a genre considered impersonal and objective such as scientific writing, it is hedging that adds a layer of personalization, affect, scepticism, and softness into hard facts. The use of hedges “allows claims to be made with due caution, modesty, and humility, and the status of such claims to be diplomatically negotiated when referring to the work of colleagues and competitors” (Hyland 1994, 241).

2.5.5 Stance and politeness

In the interpersonal relationship between the author and the reader, and closely related to the notions of stance, mitigation, and hedging (especially through the work of Myers 1989), Brown and Levinson’s *politeness theory* (1987), seen as “strategic conflict avoidance” (Hyland 1998a,

49) holds a central place in work focusing on stance and politeness in academic writing[11]. This "strategic conflict avoidance" does not only relate to the concept of mitigation, but also many other categories discussed so far, as authors of scientific articles do not only hedge, but use a range of interpersonal meanings to form a dialogue with their audience. These expressions reflect a "relationship between writer and readers" (Hyland 1998a, 49), which is interpersonal, as "normally everyone's face depends on everyone else's being maintained" (Brown and Levinson 1987, 61). The negative face implies the wish not to be imposed on or interfered through the use of mitigative and tentative devices (hedges, passive voice, impersonal and personal constructions), whereas the positive face implies the negotiation of solidarity and cooperation between the writer and the reader (Myers 1989, 6), the desire to be approved of (which is extremely important in the scientific community), as well as the negotiation of common ground and common views via the use of e.g. boosters and affective markers (Brown and Levinson 1987; Myers 1989).

Myers (1989, 3) also contributes to the discussion on politeness in scientific writing by stating that some features seen as most salient and conventional in scientific discourse (the use of passives, nominalizations, hedges, acknowledgements) are actually (negative) politeness devices, which are "better understood as rational strategies for dealing with the social interactions involved in publishing an article" (Myers 1989, 3) and aimed at reducing potential face threatening acts resulting from claims one makes.

Myers (1989, 2, 30) views scientific writing as an interaction, despite it not happening face-to-face. In the interactions among scientists in the scientific community, "the maintenance of face is crucial" (1989, 5), which is why certain impositions, such as claims and denials of claims (1989, 1), which can be seen as face-threatening, have to be redressed with certain politeness devices (1989, 5). In this respect, a balance needs to be struck: one has to make a claim within certain confines of what is acceptable in the field, in a way that is accepted by others in the field, "but must also have a new claim to make to justify publication" (Myers 1989, 5). He relates the face-threatening aspect of scientific claims to his audience model:

[11] Due to the strategic nature of academic writing, most earlier research on politeness in this context draws on Brown and Levison's groundbreaking first-wave model. However, the interpersonal and dynamic nature of academic discourse is also in line with the dynamic discursive second-wave approaches, such as Allan's (2015), which is never "depersonalized [and] decontextualized" (2015, 402), but rather "a set of dispositions that govern social interaction within a social group […] that render an act undertaken in a particular context appropriate or inappropriate according to the normal standards of behaviour within that group" (2015, 415). This approach is, however, not yet systematically and cross-linguistically studied, which is why, to enhance comparability in discussing politeness devices in the context of stance-taking, this research also draws on Brown and Levinson's model.

> The making of a claim threatens the general scientific audience (the exoteric community) because it is a demand by individuals for communally granted credit […] The claim also threatens the negative face of other researchers—the esoteric scientific community—because it implies a restriction on what they can do now. (Myers 1989, 5)

Additionally, among the features most commonly seen as *polite* in writing, next to hedging, impersonal constructions, Myers (1989) lists, perhaps unexpectedly, "constructions emphasizing personal point of view" (Myers 1989, 12), used to signal "the writer's deference before the scientific community" (Myers 1989, 18). Among these, the purpose of hedging is to mark a knowledge claim as provisional, not yet accepted in the literature, discourse community and by readers, but not as uncertain (Myers 1989, 12). To put forward previously unknown claims, "one researcher must always humble himself or herself before the community as a whole" (Myers 1989, 4) and present such potentially face-threatening claims with "anything but a statement with a form of *to be* that such and such is the case" (Myers 1989, 13). Following Brown and Levison (1987, 22) in their claim that "politeness is *implicated* by the semantic structure of the whole utterance", Myers (1989, 6) observes that politeness can often not be limited just to certain words and phrases.

Given their vagueness, indirectness and tentativeness, hedges are intrinsically related to politeness. Brown and Levinson (1987) see hedging as a *negative politeness strategy*, as they protect the hearer's/reader's negative face through non-categorical, tentative claims. Myers (1989) concurs with this view, while Coates (1987, 121, 126) considers epistemic modal forms closely related to hedges as negative politeness strategies. On the other hand, Varttala (1999, 192) suggests hedges could be a positive politeness strategy due to their multifunctionality. A dual view seems most convincing here, as "hedges could serve to protect the readers' negative face and desire [not to] be imposed on, while at the same time they may support the writers' positive face and wish to be recognized as valuable contributors" (Marta 2017, 884).

The link between hedging and politeness is also tackled in Myers (1989) and Marta (2017) as outlined in Leech's (1983, 132)[12] model of politeness: the Tact Maxim – "minimize the cost to *other*" by being tentative and not making categorical assertions (by using hedging devices); the Approbation Maxim – "minimize dispraise of other" by not criticizing one's work, which is seen as customary in scientific writing, as "all personal criticisms must either be posed in acceptable, impersonal, technical terms, or avoided" (Myers 1989, 25); the Modesty Maxim –

[12] The same links are discussed in Leech's (2014) more recent (slightly revised and extended) model.

“minimize praise to self”, which is evident in the use of hedges and mitigative devices, but the opposite “maximize dispraise of self” is not found in this genre; and the Agreement Maxim – “minimize disagreement between self and other” and maximizing “agreement between self and other”, which leads to the acceptance of claims (Marta 2017, 884). Marta (2017, 884) notes that the maxims of Generosity – “minimize benefit to self” and Sympathy – “minimize antipathy between self and other” do not seem to be related to the genre of academic discourse.

One more notion related to politeness, although not entirely synonymous, is that of *deference* (Haarmann 1992; Watts 2003, 62), referring to the knowledge of behavioural patterns related to the power structures within the community (Haarmann 1992). While not necessarily a power structure per se, the knowledge of linguistic patterns within a discourse community does create a hierarchy among new members and experienced members. Knowledge of linguistic patterns allows for successful communication within the discourse community, which is also relevant for the usage of stance markers. The newcomer in the community acquires these deference patterns of the discourse community precisely through language use. Relying on Ide (1989, 223), Haarmann also adds that deference produces culturally specific patterns of social conduct and that it is normative, as the patterns reflect the community’s social conventions (1992, 526). However, “expression of politeness may serve the individual’s interest of achieving strategic goals through interaction” (Haarmann 1992, 529), which may lead to individual choices exceeding societal patterns of politeness, indicating that politeness principles are also a socially and individually construed notion.

Getkham (2013) investigated cross-disciplinary differences in the use of politeness strategies in research articles and found that writers employed both positive and negative politeness strategies when expressing opinions, but the negative politeness strategies, especially impersonality devices and hedges, were the most frequently used by writers in all three disciplines. Among positive politeness strategies, those used to minimize the distance between writer and reader were the most frequent – showing common ground, solidarity and involvement, including emotional responses, and showing that writer and reader are cooperators (Getkham 2013, 56). Among negative politeness strategies, the desire not to impose was the most frequent one, as well as being tentative, and using personalised statements to attribute responsibility (Getkham 2013, 59–60). In addition, Marta points out that hedges serve as politeness strategies meant to ensure approval from the community (2017, 881) and establish a good reputation within the discourse community (2017, 882), to promote equality in contribution (2017, 883) and "interaction as part of the cooperative endeavour that characterizes communication in today's written academic discourse" (2017, 885).

2.5.6 Stance and evaluation

G. Thompson and Hunston (2000, 5) deal with the notion of *evaluation* as a "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", relating it to, i.a., certainty, obligation or desirability. They ascribe several important functions to evaluation (2000, 6):

1) *to express the speaker's or writer's opinion, and in doing so to reflect the value system of that person and their community*; this is how the writer expresses how they think or feel about something, and thereby reveals the ideology of the society in which the writing was produced (2000, 6); this view relates to notions of stance and modality

2) *to construct and maintain relations between the speaker or writer and hearer or reader*; this relates to interpersonal meanings, manipulation hedging and politeness (2000, 8)

3) *to organize the discourse* (2000, 10); this relates to the notion of metadiscourse

The authors themselves also relate the notion of evaluation, in the sense of "writer's judgement" (2000, 2), to several other notions, such as stance, modality and evidentiality. Modality refers to the "writer's opinion concerning the likelihood of the various events" (2000, 3), which inevitably must indicate a source, a viewpoint of the person making a statement (2000, 5), entangling it with the concept of evidentiality as the "point of view" indicating the source of the text (2000, 5; Hunston 1993, 62). This complex entanglement of several notions supports the view of evaluation as a "slippery" term (2000, 5) which is "not always a straightforward matter" (2000, 2), proven by the multitude and variety of terminology referring to very similar notions, which is also evidenced in Hunston and G. Thompson's (2000) work. Similarly, Mauranen and Bondi (2003, 269) see evaluation as a somewhat "elusive" concept, which would suggest that it is also a context-dependent matter, but they also point out that "evaluativeness undoubtedly constitutes an essential aspect of the interpersonal in discourse" (Mauranen and Bondi 2003, 269), relating it to the notion of stance as seen in this research.

Evaluation implies comparison to some norm (G. Thompson and Hunston 2000, 13), or some "yardstick" (2000, 21), and while Hunston (1993, 58) does mention that in certain genres, evaluation can be a matter of personal judgement, in scientific writing, "the value system involved is not personal, but must be a social or institutional one".

Hunston (1993, 58) also mentions that the value-system in scientific writing is quite uniform and institutionalised, and therefore the evaluation "does not vary much from article to article". Two points in her work (1993, 58) I do agree with is that scientific discourse is inevitably evaluative, despite being seen as impersonal, and that evaluative elements permeate every part of a text. Along these same lines, G. Thompson and Hunston (2000, 19) claim that "evaluation tends to be found throughout a text rather than being confined to one particular part of it". Such latent evaluations are at times very sneakily hidden and implicit, and persuasion is masked as simple reporting (Hunston 1994, 193). Hyland (2005a, 177) also agrees with this in stating that evaluation can be expressed "in a wide range of ways", more explicitly through lexical items (such as attitudinal adverbs, modal nouns etc.), but also implicitly through conjunction, subordination, repetition, contrast, etc., or sometimes in very opaque ways and by not even using words at all (e.g. by not drawing an obvious conclusion from an argument). Contrary to Hunston (1993, 58), Hyland also points out that the "use of evaluative resources is influenced by different epistemological assumptions and permissible criteria of justification, and this points to and reinforces specific cultural and institutional contexts" (2005a, 175). This means that the use of evaluative elements is also a matter of convention within the academic discourse community, intended to build up and transmit ideologies (G. Thompson and Hunston 2000, 8), and intertwined with authors' individual and subjective opinions, attitudes and practices (see also Hunston 1994, 191). Drawing on Hyland (2005a), G. Thompson and Hunston (2000) and Hunston (1993), I intend to show that the respective stance markers may indeed be quite varied in the different discourse communities in my own analysis.

2.5.7 Stance and appraisal, affect, and intensity

Hunston and G. Thompson (2000) present another notion as virtually synonymous to that of evaluation, as ways of expressing opinions in language. This is the notion of *appraisal*, devised by Martin (2000) as a further elaboration on attitudinal meanings, defined as "semantic resources used to negotiate emotions, judgements, and valuations, alongside resources for amplifying and engaging with these evaluations" (Martin 2000, 145). As such, Martin (2000, 145) relates appraisal to Labov's work on *intensity* (1984), Biber and Finegan's work on *stance* (1988, 1989) and Chafe's work on *evidentiality* (1986), and it can also be related to notions such as *connotation* (Lyons 1977), *affect* (Besnier 1990), and *attitude* (Halliday 2004).

Martin's appraisal system consists of three sub-systems, including, firstly, *affect*, aimed at expressing emotions and reacting to behaviour and phenomena (Martin 2000, 144), secondly, *judgement* (2000, 145), dealing with ethics and moral evaluation of behaviour, and, finally, *appreciation* (2000, 145), dealing with aesthetic assessments of phenomena. According to Martin, these three subsystems are what enables negotiation of solidarity in discourse (2000, 165). As a device for negotiation of solidarity and an expression of attitude, appraisal is not considered solely a personal matter, but above all an interpersonal matter, used in order to elicit a response from the interlocutor and build up a relationship (Martin 2000, 173). In addition, much like the previously mentioned notions, appraisal depends on the field of discourse (2000, 161), "and socialization into a discipline involves both an alignment with the institutional practices involved and an affinity with the attitudes one is expected to have towards those practices" (2000, 161). Besides already being connected to the notion of evaluation, appraisal can also be tied to other notions, such as *engagement*, indicating the degree of the speaker's commitment to what they are saying (2000, 147), which can be expressed through, i.a., modality and hedging, therefore tying all these concepts together. Martin also differentiates (2000, 155) between inscribed appraisal (and affect), expressed and constructed explicitly in the text, and evoked appraisal, where "an evaluative response is projected by reference to events or states" and implicated through ideational meanings, which can also be related to explicit and implicit denoting of stance. This will be discussed in Chapter 3.

White (2005) characterizes the notion of appraisal as "an approach to exploring, describing and explaining the way language is used to evaluate, to adopt stances, to construct textual personas and to manage interpersonal positionings and relationships". All these functions are closely connected to stance, evaluation, and the final notion to be discussed as a related notion to stance in sub-chapter 2.5.8 on positioning.

The notion of *affect* is seen as both subsumed under the notion of *appraisal*, as well as quite parallel to it. Within the notion of appraisal, the concept of *affect* is seen "as a resource for construing emotions" (Martin 2000, 148), but this notion is also investigated in its own right in the work of Ochs (1989), Ochs and Schieffelin (1989) and Besnier (1990). For Ochs (1989, 1), affect refers to "language to express different emotions and degrees of emotional intensity", the term 'affect' being broader and preferred over that of 'emotion', used for displaying "feelings, moods, dispositions, and attitudes associated with persons and/or situations" (Ochs and Schieffelin 1989, 7). Based on Western psychological and folk models, Besnier (1990, 421) differentiates among notions of feelings ("a broad category of personcentred psychophysiological sensations”), emotion (“a subset of particularly ‘visible’ and ‘identifiable’ feelings”) and affect (“the subjective states that observers ascribe to a person on the basis of the person’s conduct”). Affect is therefore an umbrella term encompassing emotions, feelings, moods, and attitudes, and a conceptually devised term for these notions in linguistics (Ochs and Schieffelin 1989, 7).

While seemingly being a much narrower concept than many other previously noted ones, *affect* is also seen as a semantically extremely broad domain (Ochs 1989, 2). Besnier (1990, 429) characterizes it as a multifunctional, varied, and ambiguous notion, which, as observed by Ochs (1989, 1), is expressed through numerous lexical, phonological, morphological, grammatical, and discourse structures such as prosody, phonological variation, morphological particles, affixes, pronominal systems, quantifiers, emphatics, hedges, adverbs, verb voice, tense/aspect systems, modals, word order, dislocated constructions, parallel structures, and repetition. Besnier (1990) also states that affective stance can be expressed with a broad range of linguistic and communicative devices in English – adverbs, hedges, discourse markers, mood, modality and modal verbs, case marking. The devices mentioned here that are relevant for my own research will be given in Chapter 4.

In addition, *affect* is also “deeply embedded in social, political, and economic contexts” (Besnier 1990, 438). It “permeates all utterances across all contexts” (1990, 433) and is therefore simultaneously both an individual and an interpersonal notion, as it unambiguously conveys the speaker’s feelings and attitudes, while also providing “critical cues to the interlocutor as to how that interlocutor should interpret and respond to the predication communicated” (Ochs and Schieffelin 1989, 9). Affect therefore implies something other than propositional content, as statements do not only carry descriptive meanings, but also expressive and often emotive connotations (Lyons 1977, 63). While descriptive meanings are also referred to as “‘referential’, ‘cognitive’, ‘propositional’, ‘ideational’ and ‘designative’”, expressive meanings are referred to as “‘emotive’, ‘attitudinal’, ‘interpersonal’, ‘expressive’” (Lyons 1977, 51).

The way the notion of affect directly relates to that of stance is explored in Biber and Finegan’s framework of stance as “lexical and grammatical expression of attitudes, feelings, judgments, or commitment concerning the propositional content of a message” (Biber and Finegan 1989, 93). For them, affect and evidentiality are sub-domains of stance, which would indicate that similar linguistic means may be used to denote both affective and evidential meanings, both relating to speaker’s personal attitudes. Ochs (1989, 2) claims this to be true for evidentials, as "[t]he marking of knowledge as obvious, as common knowledge, as hearsay, as tentative or doubtful has affective impact as well", concluding that "emotion may be displayed through a distinct set of affective linguistic structures but at the same time emotion may be displayed through linguistic structures related to the domain of knowledge".

The final notion related to the appraisal framework (Martin 2000, 146) involves the encoding of speaker's emotions in text and may even be seen as somewhat synonymous with *affect.* Labov's notion of *intensity* is "the emotional expression of social orientation toward the linguistic proposition: the commitment of the self to the proposition" (Labov 1984, 43–44) and it lies "[a]t the heart of social and emotional expression" (Labov 1984, 43), thereby seen as a conceptual category related to stance. Very similarly to affect, there is "no closed set of markers of intensity" (Labov 1984, 48). Intensity rather constitutes a large and miscellaneous class of devices; it is imprecise, gradient and dependent on other linguistic structures (Labov 1984, 43). However, as it can constitute, among other things, adverbs that signal intensity (*really, so, very*), aspect (*done*), quantifiers (*all, any, every, ever*) – this category may be seen as equivalent to notions such as boosters (Hyland 1998b, 2000, 2005b), amplifiers and emphatics (Biber and Finegan 1989, 94), and is also mentioned in connection to appraisal as relating to systems for grading evaluations (amplification) in either direction (Martin 2000, 148). Amplifiers are meant to "boost the force of a proposition […] indicating its reliability in positive terms" and "indicate the degree of certainty", while emphatics "mark the simple presence of certainty towards a proposition" and "mark 'involvement' with the topic" (Biber and Finegan 1989, 94). Intensity, seen as conceptual category related to stance, also includes formal markers of expression, related to the strategy of intensification in this research (see Chapter 4).

2.5.8 Stance and positioning

The last related term, positioning, is crucial for interaction in academic writing, as it refers to "adopting a point of view in relation to both the issues discussed in the text and to others who hold points of view on those issues" (Hyland 2005a, 175), meaning that it relates to both textual and interpersonal meanings in text (as per Halliday 1994), as well as Du Bois' (2007) *stance triangle*. Hyland (2002a) also relates the notion of positioning to identity production, both in terms of social construction of identity in discourse, as well as certain individual negotiations, which can be based on national culture. According to Hyland, the complexity of one's identity is due to being "constantly influenced by a multitude of discourses which are situated in the groups in which we participate and which mediate our involvement in any one of them" (2002a, 1094). This also corresponds to Ivanič's dynamic view of identity, as "[w]riters are simultaneously positioning themselves discoursally as participating in particular fields of study, having a particular role in the academic community, and having a particular stance towards knowledge-making" (Ivanič 1998, 322). Additionally, of course, authors also participate in international and national culture discourse communities, which influences their discoursal positioning.

Harré and van Langenhove (1991, 1999a) view conversations, symbolic exchanges, institutional practices and the uses of societal rhetorics as forms of discursive practice, noting that the social world is created within conversations (1991, 394, 1999a, 15). Furthermore, social acts and societal icons are generated and reproduced within conversations (1991, 394), which is done by, i.a., positioning (1991, 394).

The act of positioning is therefore "a discursive practice" (van Langenhove and Harré 1999a, 22) and it accounts for "all the ways in which people actively produce social and psychological realities" (Davies and Harré 1990, 45). This means that positioning acts as "a bridge between identities and Discourses, referring to how people locate themselves in discourse when interacting with others" (Hyland 2012, 35). Writers position themselves in relation to what their disciplinary culture and national culture discourse allow, as well as their individual characteristics, personal stance, previous positions, moral and personal attributes, and context (Davies and Harré 1990, 17). However, the position is revealed by our alignment with the discourse and the linguistic categories within the discourse that were adopted:

> Once having taken up a particular position as one's own, a person inevitably sees the world from the vantage point of that position and in terms of the particular images, metaphors, story lines and concepts which are made relevant within the particular discursive practice in which they are positioned. (Davies and Harré 1990, 46)

The notion of positioning may not formally express an evaluative, affective, mitigative etc. viewpoint, but rather aids in bringing the discussion of authorial identity and stance as the writer's point of view in the text back full-circle.

Important aspects in the act of positioning include, firstly, acting "as a contribution to the understanding of personhood" (Davies and Harré 1990, 46), and therefore to the understanding of authorial identity (cf. Jaffe 2009, 4); secondly, as the construal of a position is a highly dynamic process, positions can always change and be challenged and renegotiated. One's initial position "does not and indeed could not preempt the future structure of the conversation" (Harré and van Langenhove 1991, 404), as in social interaction, an individual does not remain absolutely unchanged, but "is constituted and reconstituted through the various discursive practices in which they participate" (Davies and Harré 1990, 46); thirdly, the positioning of self inevitably also implies a positioning of the other, i.e., the addressee and vice versa, as "positioning constitutes the Self and the others in certain ways and at the same time it is a resource through which all persons involved can negotiate new positions" (Harré and van Langenhove 1991, 398). Finally, positions can vary according to the discourse communities – disciplinary or national culture, media, individual differences, and can relate to some level of "institutionalism" at disciplinary, political, cultural and small group level (Davies and Harré 1990, 45), which is how stance is also viewed.

Van Langenhove and Harré (1999b) discuss positioning in scientific writing, which is exhibited in two instances, as the authors/scientists are inevitably positioning themselves in their writing towards their audience (1999b, 105), as well as positioning themselves and other writers through citations and covert self-reference (1999b, 105). In scientific writing, authors are "(a) drawing upon existing paradigms, theories and methodologies (securing the continuity of scientific thought) and as (b) bringing some novelty and creativity into the existing 'body of knowledge' (making progress possible)", which "makes them both followers and challengers of existing paradigms in different degrees" (van Langenhove and Harré 1999b, 108). This means that they need to simultaneously position themselves towards previous work and new work in the field, which is also related to the stance one can take towards their own knowledge and previous knowledge. Du Bois (2007, 162–163) discusses this in line with his *stance triangle* including three components of stance – *evaluation* of objects (the authors' statement or work), which entails *positioning* themselves and others in relation to that object, thereby also exhibiting *alignment* (either convergent or divergent) with the audience. Additionally, Du Bois links stance with positioning and speaker subjectivity, as it is the linguistic choices that position the author as the subject, "the stancetaker" (2007, 159). In the context of academic writing and "[i]n the dialogic realization of stance" (2007, 159), once the stance object is shared, it "becomes the cornerstone of the dialogic construction of intersubjectivity" (2007, 159), but this shared stance does not need to be convergent. This notion was previously discussed in relation to modality and evidentiality (see sub-chapters 2.5.2 and 2.5.3). Du Bois' model will be elaborated further in relation to the strategy of evaluative reference (see Chapter 4.6).

As Harré and van Langenhove (1991, 406) observe, "[e]very research-paper can be understood as a form of tacit and intentional positioning of the authors which includes a rhetorical redescription of both the events that happened (e.g. a laboratory experiment) and of publications by other authors (the ones quoted and commented on)". However, I do not agree that simply because there is no reciprocity in scientific writing, as opposed to oral conversation, that positioning here is "a unilateral act" (cf. Harré and van Langenhove 1991, 406). The writers do indeed position themselves in their writing, and their colleagues will subsequently position themselves in their own writing, as there is an enormous amount of intertextuality in scientific writing and "[e]very scientific statement is a statement by somebody to somebody else" (van Langenhove and Harré 1999b, 106).

The most important point here is that the authors base their positioning on their authority, as "in scientists' writing the author(s) position themselves as having authority – as having the right to speak and reciprocally demanding the trust of their readers – who, as members of the same community, are usually prepared to give it" (van Langenhove and Harré 1999b, 106). This preparedness is something the author actually warrants by using some of the strategies already discussed, such as hedging, politeness, metadiscourse. This can additionally be related to the goal of scientific writing, which is publishing, as the successful negotiation of one's position and authority, leading to the establishing of one's reputation (van Langenhove and Harré 1999b, 107). The authors thereby show their scientific competence, which means their work is read and taken seriously, as [s]uccessful academic writing thus depends on the individual writer's projection of a shared professional context" (Hyland 2005a, 176). In addition, their writing and rhetorical choices "allow them to conduct interpersonal negotiations and balance claims for the significance, originality and plausibility of their work against the convictions and expectations of their readers" (Hyland 2005a, 176).

2.6 Differences in stance-taking based on national culture

When discussing the potential factors influencing writing practices within various discourse communities belonging to the genre of scientific writing, one more important notion to be considered is the influence of the now global publishing language – one might say the *lingua franca* (Banks 2018; Blagojević 2007, 2008, 2015; Duszak 1994, 1997a; O'Neil 2018; Swales 2004) of academic and scientific discourse and international publishing – English. Already some 15 years ago, around 80–85% of publications in the social sciences and 90% in the natural sciences was produced in English (O'Neil 2018, 146), and this number is bound to have only gone higher since. Indeed, English has long been recognized as the international language of science, technology, commerce, IT, computers etc. and enables communication among people in different professions from all over the world (Lakić 1999, 25). English is recognized as the international language of science (Banks 2018, 5; Pérez-Llantada 2021, 12; Tardy 2004, 258), in academia and research in general. As the majority of academic publications are meant to be read by an international academic community (Pérez-Llantada 2021, 13), this means that English is creating a global linguistic community (Bugarski 2003, 76), wherein participation is virtually impossible without the knowledge of English and the competence to write in scientific English. Therefore, almost all researchers participating in scientific discourse have to be ready and able to write in English, perhaps even more so than in their mother tongue. In addition, writing conventions within English and other discourse communities of national cultures (consisting of native and non-native participants, with so many authors from different cultural and linguistic backgrounds writing in English) often mutually influence each other, which is a separate focus of study, and is not dealt with in detail in this research.

However, as English is so overwhelmingly present in academic discourse, the study of English academic metadiscourse and rhetorical practices has become a central point of reference in cross-cultural analyses of academic writing. In his influential cross-cultural analysis of academic writing, Galtung (1981), for instance, differentiates between four intellectual styles in academia: Saxonic (Anglo-American), Teutonic (German), Gallic (French), and Nipponic (Japanese). The latter two will not be elaborated here, as they are not relevant for my own study. The Saxonic approach emphasises collection and generation of data and is seen as very strong in the production of propositions and descriptions (hypotheses), but weak in paradigm analysis and theory formation. The Teutonic approach, almost completely oppositely, according to Galtung, focuses more on theory formation, as well as paradigm analysis, but is weak in the production of propositions and descriptions. This is consistent with Clyne's view that "[k]nowledge is idealized in the German tradition […] [the] emphasis [of German texts] is on providing readers with knowledge, theory, and stimulus to thought" (1987, 238). Both styles are considered strong at commenting on the work of others: the Saxonic style is seen as encouraging more debate and discourse with the readership and team spirit, and the Teutonic as more concerned with highlighting weaknesses in others' arguments, there is less diversity and more homogeneity. This can now probably be elaborated even further, with the spread of English as academic lingua franca and the extension of its readership in all disciplines and areas. On the other hand, Blagojević and Jovanović (2014, 36) systematise the main differences between the Anglo-American and the Slavic writing tradition as follows: in the Anglo-American tradition, writing is considered a skill that can be learned, taught and qualified, and in the Slavic tradition, the final product – the text – is the result of individual talent; in the Anglo-American tradition, the text creation process is an interaction between the reader and the writer, whereas in the Slavic tradition, text and discourse are viewed as theoretical constructs; finally, in the Anglo-American tradition, the writer is crucial for successful communication, in contrast to the Slavic tradition, where readers are encouraged to interpret the text. According to Blagojević and Jovanović, Anglo-American authors are also more direct and explicit, whereas Serbian authors are more implicit and indirect, so the readers need to fend for themselves, in a way (2014, 36–37). In this way, the Serbian writing style is concurrent with the general Slavic writing style, characterized by "indirectness, long digressions, and associativeness" (Blagojević 2015, 7). This would suggest that the Slavic writing tradition corresponds to the Teutonic one (Galtung 1981; see also Čmejrková and Daneš 1997). This is also probably why Serbian authors tend to use fewer metadiscourse markers than English authors, both interpersonal and textual/organisational (see also Blagojević 2015 and Chapters 7–9 for the data studied here).

Concerning such generalisations, we could also discuss the influence of English as a lingua franca on discourse norms of other languages as being somewhat controversial (see also House 2003; Tardy 2004). However, in this research, I am not interested in researching how authors from different cultures and discourse communities are reconciling their native culture in English academic discourse, but rather to compare certain markers which are presumably already familiar to them from their national communities, and to see how they differ from one national discourse community to the other. As one disciplinary and national communitty differs from the other ones, so will the academic rhetoric inevitably be different. Therefore I am interested in "culture-specific patterns" (Blagojević 2008, 36) – be it national or disciplinary.

Kreutz and Harres (1997, 182) claim that cultural background influences the organization of discourse, and Blagojević (2008, 33) points out that an individual is dependent on the culture they belong to and influenced by its norms and systems. In professional discourse, certain linguistic elements are simply differently distributed, which is dependent on the nature of scientific texts and related to register analysis (Lakić 1999, 27). Within discourse analysis, the choice of these elements is what is most relevant (Lakić 1999, 28). Mauranen (1993c, 170) points out that each researcher writes within two types of culture: national and disciplinary, the first one comprising “rhetorical values […] we are socialised into [as] the default” and the second “the institutions and traditions of the field of inquiry in question”.

There are many studies which have investigated metadiscourse variation across languages contrastively, and English has inevitably become the yardstick of contrastive metadiscourse research for virtually all other languages. It could be said that the current research project is no exception. For example, contrastive research in the area of academic discourse in English and Spanish, as well as in English and Finnish has been quite prolific and has yielded interesting studies: for Spanish, Vázquez Orta (2010) conducted an analysis of the use of modal verbs expressing epistemic stance in business management research articles; Mir-Dueñas stayed in the same field for her analysis of self-mentions (2007) and metadiscourse features (2010); Carrio-Pastor researched the use of modal verbs (2014) and hedges in English, Spanish, and Chinese academic work (2016); Martín-Martín analysed rhetorical variation in research paper abstracts in experimental social sciences (2003) as well as hedging and mitigation in research articles in clinical and health psychology (2008); for Finnish, research was done in relation to metadiscourse (Crismore, Markkanen and Steffensen 1993; Mauranen 1993a, 1993b), hedging (Nikula 1997), and epistemic modality (Kärkkäinen 1992).

In Serbian, contrastive research has mostly dealt with the comparison between English and Serbian in several aspects including metadiscourse in academic book reviews (Vučićević and Rakić 2020a), metadiscourse in essays (Vesić Pavlović and D. Đorđević 2020), metadiscourse in abstracts in Serbian (D. Đorđević and Vesić Pavlović 2020), metadiscourse (Blagojević 2011b, 2012), modal verbs in academic discourse (Novakov 2015), hedging in academic discourse (Blagojević 2007; D. Đorđević 2016; Vučićević and Rakić 2020b), expressing attitudes (Blagojević 2009), modal expressions in translation (Mihić Pijetlović 2020), modal hedges (Trbojević Milošević 2012), epistemic modal adverbs and gradability (Stojanović 2019), evidentiality and epistemic modality (Čikara 2017), conjunctive adverbs as metadiscourse markers by native and non-native speakers of English (Figar 2018), as well as adverbs in academic discourse (Dimković-Telebaković 2015). A contrastive analysis between German and Serbo-Croatian was conducted by Wiemer and Vrdoljak (2011a, 2011b) on evidential particles, as will be discussed in Chapter 3.2.

Concerning German, contrastive research was conducted in relation to English as well: Whitt (2011) dealt diachronically with evidential perception verbs in English and German, as well as their relation to (inter)subjectivity; Haßler (2015) conducted research on evidentiality and the expression of speaker’s stance in Romance languages (Spanish and Italian) and

German; House and Kasper (1981) researched politeness markers in English and German; Sanderson (2008) researched the impact of culture on research articles in humanities written by German, British, and US-American academics, and Siepmann (2006) provided a critical overview of cross-cultural divergences between English, French, and German academic writing; Kreutz and Harres (1997) and Clemen (1998), as well as Clyne (1987, 1991) conducted analyses of hedging devices in academic discourse in German and English.

However, while relying on this abundance of previous research could be an excellent base for research in English, it emphasises the glaring differences in the amount of academic written discourse in other languages, as well as the research on a selection of pragmatic phenomena, such as stance markers. Yakhontova (2006) pointed out that Slavic languages were particularly underrepresented before, but that is changing now: her own research analysed common rhetorical and textual features in research texts in the field of applied mathematics in English and Slavic languages (Ukrainian and Russian); Vassileva (1997, 1998, 2001) conducted research in academic writing in English and Bulgarian, as well as Russian (1998); Duszak (1994, 1997a, 1997b) focused on Polish academic discourse, while Čmejrková (1996) and Čmejrková and Daneš (1997) focused on Czech.

This thesis, as well, seeks to remedy this gap and contribute both to the research of metadiscourse in Serbian and German, and to the interdisciplinary and contrastive analyses within these disciplines and these three languages, in order to investigate how the author's identity is negotiated inter-linguistically and inter-disciplinarily, as well as how it is displayed through the use of stance markers. With this in mind, the previous research in English serves as a stepping-stone and enabler for the synchronous research to be done in Serbian and German.

However, it is my hope that research such as this one will shed light on the importance of publishing in one's first language, as a way of questioning the dominance of English, which may be "a contributor to current inequalities in the sciences and elsewhere" (O'Neil 2018, 147).

Considering the fact that not all the concepts can be compared as efficiently in all three languages, my own taxonomy of stance markers (see Chapter 4) will be relying on the categorisations of hedging to a certain extent (see Chapter 3.2 for details). As already noted, the link between hedging and stance-taking is closest out of all categories discussed in 2.5.

To start with, and what is especially relevant for this research is that epistemic stance is culturally grounded, as has been suggested in many of the already discussed cross-cultural comparative studies on hedges (Blagojević 2007; Clyne 1987, 1991; D. Đorđević 2016). As

Jaffe observes, “claims to know are embedded in and index particular regimes of knowledge and authority. Epistemic stancetaking thus serves to establish the relative authority of interactants, and to situate the sources of that authority in a wider sociocultural field” (2009, 7). Therefore, I am claiming that the strategies (which will be discussed in Chapter 4) meant to mark the stance of the author will differ cross-culturally.

Such cross-cultural differences can already be found in previous literature, mostly on hedges. For instance, Hinkel notes that “hedges are used extensively in Anglo-American academic writing” (1997, 372), which corresponds to Hübler seeing understatements as “typically English” (1983, 1). Additionally, Wierzbicka (2010, 46) states that it is a part of Anglo culture to avoid telling people what to do and mitigate any direct face-threatening acts through indirectness, as “English is fond of understatement and of hedges” (2003, 44). Kreutz and Harres (1997, 184) also see hedging as a functional category, related to the expression of downtoning, mitigation, and politeness, “which are culture-specific and subject to the linguistic constraints of the language in question”, and this can overlap for English and German.

However, the details of such cross-cultural findings appear to be controversial and inconclusive to some extent. In their research on hedges in academic writing in the context of modality markers, Kreutz and Harres (1997, 181) hypothesised that hedges do tend to downtone and mitigate assertions in English, but in German, they express assertion and academic authority. This is especially true for the use of passives and impersonal reflexives, seen as a part of scientific jargon in German (1997, 189). They (1997, 181) also hypothesised that English is a predominantly co-operative, reader-oriented style of writing, text constructive and incorporating dialogue, whereas German is author-oriented, dominated by the presentation of knowledge (*Wissensdarstellung*) and subject material, and aimed towards establishing authority in the discipline. “By modifying claims and statements, an argument becomes more open to discussion and is subjected to constructive criticism, as it draws in, or involves, the reader.” Therefore, hedging and modality aid reader-oriented writing, and are important for the interactional aspect of discourse (Kreutz and Harres 1997, 186). Based on this, they surmised that hedging devices in German were supposed to show detachment of the speaker from the text, and in English, to show indirectness, reservation, and downtoning (Kreutz and Harres 1997, 196). However, their results were inconclusive and could not confirm their hypotheses. Perhaps my results help shed light on this differentiation, as I too would hypothesise that, based on Kreutz and Harres’ results, writers in English may use more modality markers (strategy of indetemination), while writers in German may use more impersonal constructions (strategy of depersonalisation – see Chapter 10 for details).

While Clyne (1991, 57) claims that "Germans tend to 'overstate' while English speakers understate", this was not found to be true for academic discourse. In fact, in academic writing, it is noted that there are more hedges in German than English (Clyne 1991, 57). In addition, Clyne (1981, 1987, 1991) noted that there are significant differences in the organization of written discourse between English and German, and particularly in the use of hedges and modal verbs (1991), as well as in the use of impersonal constructions, agentless passives, and passive infinitive constructions, which were more numerous in German (1991). This was elaborated by claiming that "reducing the proposition rather than concealing the person is of greater significance in the English texts" (Clyne 1991, 60), which corresponds to what Kreutz and Harres thought, and my own hypothesis as stated in Chapter 1.

On the other hand, Sanderson (2008) found in her corpus that English speaking authors in humanities tend to employ more person reference than German speaking authors (mostly for first person, singular and plural – but especially singular). Therefore, she (2008, 88) concluded that English speaking authors are much more visible in the text and tend to construct their text as a dialogue with the reader, making the texts more personal, while German speaking authors usually use first-person pronouns to express their opinion and do not directly address the reader, but find other ways to achieve the interpersonal component. This can be related to Hyland's (2002a, 1110) view of authorship in academic writing in English, which "both carries a culturally constructed individualistic ideology and places the burden of responsibility for the truth of an assertion heavily on the shoulders of the writer". Along these similar lines, Baumgarten (2008) found in her diachronic translation study that German writers are beginning to use more personal constructions in their scientific discourse, but not as functionally diverse as in English, and impersonal style is still very prominent in German.

Finally, in the context of speech act realisation, which can be tangentially related to academic discourse, House and Kasper (1981) found that speech acts are realized more directly in German than in English, and that Germans tend to intensify their speech acts more. This is concurrent with Clemen's (1998) finding of a higher instance of markers of intensity/author attitude by German text authors in his contrastive analysis of academic discourse. His claim is that these markers are consistent with their desire to give more weight to their statements. He also found more modal particles expressing the author's attitude in German. Overall, "German subjects tended to interact in ways that were more direct, more explicit, more self-referenced and more content-oriented. German speakers were also found to be less prone to resort to using verbal routines than English speakers" (House 1997, 84 in Siepmann 2006, 135).

Table 1 outlines the major stylistic differences between academic writing in English and German (and French) as compiled from research literature by Siepmann (2006, 142–143). It includes the ones that turned out to be most relevant for my own analysis as well[13]:

	English	**German**
relationship between reader and writer	writer responsibility: the reader is assumed to have less subject knowledge than the writer; he needs to be told why the text is worth reading and what is important	reader responsibility: the reader is assumed to share the writer's subject knowledge; frequent switching of hierarchical levels
metalanguage	high proportion in some major text segments (Introduction, Method, Discussion); high proportion of markers intended to structure text and to secure understanding	generally lower proportion than in English and French
textual modality and hedging	hedges as downtoners and mitigators	hedges serve to assert authority
authorial self-reference	more authorial statements (I/we) <-> cooperative writing style	fewer 'personal' statements; more impersonal constructions (e.g. *man*); higher use of inclusive we (*here we have a…*) <-> author-centred writing style

Table 1: Differences in stance-taking markers in academic writing in English and German, adapted from Siepmann (2006, 142–143)

When it comes to Serbian, significant differences can be found in cross-cultural usage of both hedges and other metadiscoursal markers. To start with, Blagojević (2008) found that more metadiscourse markers are used in English texts than Serbian – both textual and interpersonal. Hedges and stance markers are the most prominent markers in both languages, followed by emphasis and commentary markers. Authors in English use more interpersonal markers than textual markers, they tend to use hedges more than authors in Serbian, they signal their presence more often and use more commentary markers. Authors in Serbian use more textual metadiscourse markers, they tend to use more emphatic markers, and they hide their explicit

[13] These findings can also partially be confirmed in Kranich (2016, 47–49) and House (2006, 252).

presence in the text. She also created her model in order to be able to find functional equivalents in both corpora and classified them according to certain categories and groups. In terms of the use of hedges, both Blagojević (2007, 2011b) and D. Đorđević (2016) found that more hedges are used in scientific articles written in English than in Serbian, and Vuković (2015) confirmed this for Montenegrin. Blagojević (2007) also found that English speaking authors tend to mark their explicit presence in the text more frequently than their Serbian colleagues, while Serbian speaking authors tend to use more hedging markers related to precision (*otprilike, na izvestan način, donekle, bar u ovom slučaju*), which corresponds to the strategy of Approximation in my taxonomy (see Chapter 4.5). Vučićević and Rakić (2020b) conducted a contrastive and cross-disciplinary analysis of academic articles by Serbian authors and concluded that Serbian authors, when writing in Serbian, tend to be more direct in their presentation of findings, but they are less categorical when writing in English. This means that they adopt the cultural preferences of both source and target language, which also tells us something about the writing style in English. Novakov (2015) also found that Serbian speaking authors are slightly more assertive, which corresponds to Trbojević Milošević's (2012, 88) finding that Serbian culture "reveals a possible cultural script relating to directness of request".

When it comes to authorial presence in the text, Blagojević (2011a) notes that Serbian speaking authors seem to be somewhat inconsistent and doubtful which linguistic exponent should be used to mark explicit presence in the text. The general preference in Slavic written discourse, which Serbian academic discourse seems to follow, is to use the first-person plural pronoun *mi* – indicating that the author is a part of a community and not an individual, thereby exhibiting their academic modesty and humility (Blagojević 2011a, 209). This is in accordance with the descriptions of academic discourse as functional styles (e.g. Tošović 2002), suggesting that a display of subjectivity is not characteristic of scientific functional style (Blagojević 2011a, 209) and in scientific, i.e. academic writing, an author should discuss the matter objectively, with distance, without imparting any subjectivity to it. In this respect, the use of the plural pronoun *mi* is the preferred option to display modesty and objectivity and the use of the singular form *ja* is very rare (Tošović 2002, 284).

Therefore, Blagojević (2011a, 216) notes that Serbian speaking authors do not tend to use impersonal constructions, but rather the plural pronoun *mi – pluralis modestie* – and its major function is the inclusion of the reader in the process of argumentation (an interpersonal role). Accordingly, Novaković and Sudimac (2017) found that university language teachers of both English and Serbian tend to use first person plural pronoun more. They assumed that these results would differ, due to differences in Slavic and Anglo-American academic discourse and their impact on the teachers, and that English teachers would use first person singular pronoun more, but this was not the case. Person reference is made both explicitly through pronouns and implicitly through verb forms indicating first person singular and plural (2017, 85).

Another very relevant study, which lends itself to my own taxonomy of stance markers (see Chapter 4) is Blagojević's (2009) research of markers of authorial attitude in academic articles from three academic disciplines (sociology, social psychology, and philosophy) in English and Serbian. While the forms were seen as somewhat identical, she notes that their frequency is more evident in the articles written by Serbian writers, "which means that these authors more readily express their attitudes than their English colleagues" (2009, 63). It is her taxonomy of formal means of expression of attitude markers (see Table 2) in English and Serbian which turned out to be particularly valuable for my own study as well:

	English	**Serbian**
Adverbs and adverbial phrases functioning as sentence adverbials – disjuncts	*interestingly, unfortunately, ideally, ironically, overwhelmingly, oddly enough, most importantly*	*nažalost, interesantno, neočekivano, istini za volju*
Verb-modifying adverbs functioning as subjuncts – intensifiers	*rightly, significantly*	*teško, znatno, delimično*
Adjectives functioning as subjective complement in sentences with expletive 'it'	*it is difficult, it is essential*	*važno je, značajno je, neophodno je*
Adjectives functioning as prenominal modifiers	*ample, modest*	*neosporno, drastično, značajno*
Modal verbs expressing obligation	*must, should*	*treba, mora, sme*
Nouns of specific semantic content	*paradox, danger*	*ironija*

Table 2: Attitude markers in academic articles, adapted from Blagojević (2009, 65–71)

Blagojević notes that these markers are meant to "guide [the] readers how to understand their opinions, intentions, points of view, etc. […] suggesting sometimes subtly, sometimes obviously the way they want their statements to be interpreted and comprehended" (2009, 72).

When it comes to similarities among these three languages, drawing on Palmer's (1986) distinction between two subsystems of epistemic modality – one related to judgements, and one related to evidence – and his claim that some languages have a grammatical system only for one, some for the other, and some for both, Trbojević Milošević (2004, 36) claims that English and Serbian are examples of the first case, while German is an example of the third. However, as all three languages have gone through significant changes, possibly also in the last 10 years, and some models of research have not gone through the same amount of updating and restructuring, nor to the same extent in all three languages, this claim would have to be checked using more recent data and possibly also more complex approaches.

Due to the multi-faceted nature of the research discussed here, which varies in terms of choosing semasiological and onomasiological perspectives, with the latter often using overlapping and fuzzy categories, it is almost impossible to search the literature for similarities and differences among these three languages systematically. The fact that no one-to-one contrastive analysis comparing each of these languages in their own right has been done so far adds to the complexity of results and blurs a clear understanding of prevailing academic writing practices in these respective discourse communities.

It was my belief that the onomasiological approach will open doors to more possibilities in contrastive research than a semasiological ever could. Therefore, linguistic systems are compared separately, despite certain concepts and classes of expressions overlapping to a certain extent. There is no one-to-one equivalence between form and meaning, as one form may have many functions, contributing to the *fuzziness* of the various categories. Hence, while I do rely on certain lexical and structural devices established as pertinent in the research literature as guides in my corpus analysis (i.e., I will especially draw on structures outlined by Kreutz and Harres (1997, 187) in English and German)[14], I also recognize that linguistic means for expressing the various strategies "will obviously depend on the particular devices available in the lexicogrammatical repertoire of a given language as well as on which of these devices are favored by speaker–writers of that language" (Berman 2004, 108). Their respective choices will be dictated by individual differences, as well as the disciplinary community, as will be elaborated below (see Chapter 2.7). To conclude, it is through an identification of these categories in individual languages, on a morphological, syntactic, and lexical level of each

[14] I will rely on some of the previously done research in the area of academic discourse, in both Serbian and German, as well as previous research on stance, discussed in Chapter 3 – contrastive work on the development of discourse stance in Dutch, English, French, Hebrew, Icelandic, Spanish, and Swedish (Berman 2004).

individual language, and their comparison, that we can gain an insight into their contrastive relations (Trbojević Milošević 2004, 178). It is my hope that shedding light on certain patterns of use in these languages, as well as conducting a contrastive analysis, will help non-English academics and students understand cross-cultural differences, and aid their pragmatic competence in both their native language and the larger English-speaking academic community (see also Blagojević 2011b).

2.7 Differences in stance-taking based on disciplinary culture

The differences based on disciplinary culture can be just as impactful on academic writing as those based on national culture – "[t]he academic community is as diverse as any sub-culture, and its fields of intellectual activity cover a wide range of pursuits and include the social and natural sciences" (Kreutz and Harres 1997, 182). This tunes in with Hyland's more general claim that "[e]very community has its own distinctive culture" which is evident in their use of language, meant to be understood by other members of the community, as it reveals their values, beliefs, norms and conventions in their rhetorical practices (1997, 19). Disciplines are therefore seen as "institutional conveniences, networks of communication, domains of values and modes of enquiry" (Hyland 2006, 18), therefore serving as "good candidates as discourse communities" (Hyland 2009, 58).

Texts in the genre of academic writing are created in both the context of a national culture, as well as the disciplinary culture, based on which the rhetorical practices employed in them vary. Therefore, what should be considered in this analysis is "the relationship between the writers and the discourse communities they are addressing, communities which differ both in terms of size and pressure to publish" (Martín-Martín 2008, 148). Martín-Martín also notes that "it is difficult to establish to what extent rhetorical variation is conditioned by cultural or socio-pragmatic factors" (2008, 148). In their writing, the authors/researchers are not only presenting their own personal identity, but also an authorial identity that has been constructed within the disciplinary and/or national writing culture, following its conventions. Writing accordingly means that they are "aligning [themselves] with its objects of study and knowledge-making practices" (Ivanič 1998, 295; see also Hyland 2006, 19, 2010b, 161), thereby confirming their membership in the said discourse community – national and disciplinary. Therefore, some rhetorical differences adjacent to the scientific fields I am investigating in this research will be discussed in this sub-chapter, as

> […] fields of study differ in respect of many factors which have consequences for identity spanning both content and form above the level of the clause, factors such as types of generalization, types of abstraction, modes of argumentation, the nature of explanation, the extent and nature of elaboration, the nature of data, the relationship between theory and data, the role of theory in argument. (Ivanič 1998, 285)

Disciplinary and cross-disciplinary research in metadiscourse, hedging, politeness, rhetorical strategies and several other notions discussed in sub-chapters 2.5.1–2.5.8, has been quite prolific, focusing on one or several scientific fields. Studies focusing on one or several of these notions in a single scientific field include: agricultural technology (D. Đorđević and Vesić Pavlović 2020), applied linguistics (F-W. Cheng and Unsworth 2016; Livytska 2019), biochemistry (D. Thompson 1993), biomedicine (Dubois 1987), biology (Hopkins and Dudley-Evans 1988; Hyland 1996b, 1998a; Myers 1985, 1989), biology and biomedicine (Hidalgo-Downing 2017), chemical engineering (Herrington 1985), dentistry (Crosthwaite, Cheung and Jiang 2017), economics (Bloor and Bloor 1993; Channell 1990; Clemen 1998; Crawford Camiciottoli 2001; Mauranen 1993b), mechanical engineering (Vesić Pavlović and D. Đorđević 2020), medical discourse (Adams Smith 1984; Prince, Frader and Bosk 1982; Salager-Meyer 1994; Skelton 1997), molecular biology (Hyland 1996a, 1996b, 1997), oceanography (Banks 1991), psychology (Figar 2018), science (Fahnestock 1986; Grabe and Kaplan 1997; Hunston 1993; Myers 1991), social sciences (Faigley and Hansen 1985; MacDonald 1989). Studies of one or several of these notions in several scientific fields include: applied linguistics and chemical engineering (Tran and Duong 2013), applied linguistics, educational technology, and economics (Getkham 2013), biology, chemistry, and physics (Hanania and Akhtar 1985), engineering, sociology, and economics (Young 1990), English and chemistry (Musa 2011), English literature and computer science (Cheung and Lau 2020), economics, medicine, and technology (Varttala 2001), history and economics (Silver 2003), history, linguistics, and literary studies (Ädel 2022), linguistics and medicine (Vold 2006a, 2006b), marketing, biology, and mechanical engineering (Vázquez and Giner 2008), mechanical engineering, economics, and linguistics (Oldenburg 1992), molecular biology, sociology, and literary criticism (Bazerman 1991), physics and biology (Banks 1998, 2017), physics, chemistry, ecology, and medicine (Vande Kopple 1992), politics/internal relations and materials science (Charles 2003, 2006, 2007), psychology, history, and literature (MacDonald 1992), sociology, social psychology, and philosophy (Blagojević 2009, 2011a). Furthermore, comparative studies of one or more of these notions in many fields include: applied linguistics, biology, electrical engineering, and sociology (Hyland and Jiang 2016a, 2016b, 2018a, 2018b), applied linguistics, biology, business studies, computer science, electronic engineering, and public administration (Hyland 2012), biology, astrophysics, applied linguistics, and marketing (Hyland 1998c), civil engineering, linguistics, medicine, and agriculture (D. Đorđević 2016), food technology, urology, business management, and applied linguistics (Lafuente-Millán 2008), humanities: sociology, psychology, and philosophy, and hard sciences: chemistry, geology, and environmental pollution (Blagojević 2011b), medicine, biology, sociology, and linguistics (Vučićević and Rakić 2020b), philosophy, marketing, applied linguistics, sociology, biology, electrical engineering, mechanical engineering, physics (Hyland 1998b, 1999a, 1999b, 2001a, 2001b, 2002b, 2003, 2005a, 2006, 2008a, 2008b, 2008c, 2010a; Jiang and Hyland 2015), physics, life science, material science, and computer science as pure and applied hard sciences (Wang and Jiang 2018), soft sciences – applied linguistics and sociology and hard sciences – biology and mechanical engineering (Deng and He 2023).

In addition, Lakić (1999, 2015) and Šćepanović (2015) tackle the rhetorical and genre differences of introductions in articles written in the fields of economics and civil engineering, respectively, and Vuković and Bratić (2015) in conclusions in linguistic academic articles. They are all based on models of rhetorical organisation (or moves). While this kind of rhetorical categorisation is not in itself relevant for my own research, some constructions or *steps* within these models have been incredibly relevant for the establishment of the taxonomy in this research. This especially concerns the strategy of evaluative reference, but many other linguistic exponents described by Lakić (1999, 2015), Šćepanović (2015), and Vuković and Bratić (2015) are also relevant for the strategies of depersonalisation and subjectivisation (for a detailed discussion see Chapter 4).[15]

Bazerman's (1991) cross-disciplinary investigation bears much similarity to the current study, as he looks into the ways knowledge is produced in molecular biology, sociology, and literary criticism as representations of three traditional divisions of sciences – (natural) science, social science, and humanities. While his observations are not all necessarily relevant for my research of stance, some of them will inevitably feed into the disciplinary differentiations in the expression of authorial stance (see Chapters 4 and 7–9 for a detailed discussion). Firstly, in discussing the essay on molecular biology, he notes that in scientific writing, "[s]ociety, self, and received knowledge are present in the research report, but they are subordinated to the representation of nature" (1991, 369), as the author, "although proud among colleagues, is

[15] The model used in Lakić (2015) and Šćepanović (2015) is a revision of the model given in Swales (1990), but as mentioned already, it is not particularly relevant for this research.

humbled before nature" (1991, 365). This is why the persona of authors in scientific research is "humble yet proud" (1991, 378). On the other hand, in the discussion of the sociological essay, he claims that "[l]anguage […] must be carefully shaped by the author to turn his own vision into the shared one of the discipline" whereby "the author's presence [in the text] is inevitably strong" (1991, 373). Finally, Bazerman notes humanities are characterized by personal codification and persuasiveness (1991, 378), which could be relevant for the field of linguistics in my own research (see Chapter 7).

Despite the disciplinary variety in the cross-disciplinary research, it is safe to say that there is a common pattern emerging in most of them: writers tend to hedge more in soft sciences (corresponding to linguistics and economics in my research) than hard sciences (corresponding to the field of technology and engineering in my research). We find evidence of this in research conducted by Blagojević (2011b), D. Đorđević (2016), Deng and He (2023), Hyland (1998a, 1999a, 2001b, 2004, 2006, 2008b, 2008c), Tran and Duong (2013), Varttala (2001), Vázquez and Giner (2008), Vučićević and Rakić (2020b). However, as Ventola (1997, 176) states: "Academic texts are not more objective than other texts; they are simply more effective at hiding subjectivity linguistically." Ventola (1997) discusses hedging in terms of Halliday's (1994, 2004) modality framework as the expression of indeterminacy and probability, concluding that these markers can be used to express both objectivity and subjectivity and hidden ideologies when reporting research findings (1997, 176). It can be said that Ventola's research also takes an onomasiological approach, and this framework is relevant for both my own research model and the corpus analysis (see Chapters 4 and 7–9 for a detailed discussion).

The intricacies of the researcher's subjective influence on the interpretation of results in soft sciences can play an important role in the production and interpretation of their academic texts. They lead to more potential room for error, meaning that the authors have to present their results more tentatively and create a space for their readers to discuss and maybe disagree. D. Đorđević (2016, 198) relates this to different research methods, materials, processes in the field of linguistics, as well as the use of instruments for the conducting of experiments contributing to more precision. On the other hand, research in the sciences can be objectively analysed, as it is, according to Fahnestock (1986, 275), characterized by uniqueness and originality of observations, limited in use of hedging and qualification, and displaying greater certainty in claims. Hard sciences are usually characterized by more precision and a numerical nature, which makes hedging less necessary. Accordingly, Deng and He (2023) found more boosters and attitude markers instead of hedging devices in hard science articles, due to the nature of the research. Indeed, Vázquez and Giner (2008, 180) did not find many instances of hedging in mechanical engineering, "due to the precise nature of the data this discipline is nurtured with", which is what Varttala (2001) found too. However, both Hyland (1999a) and Varttala (2001) note a higher frequency of "attribute hedges"[16] (Hyland 1996b, 440) – expressions such as *about, generally, approximately* – in hard sciences, related to numerical hedges.

Results on the use of markers of authorial presence are quite differing, often claiming opposing tendencies within the sciences, such as briefly outlined in the following: in soft sciences, authors tend to "craft their persona more explicitly through self-mentions" (Deng and He 2023, 01), which is corroborated by several authors (i.a., Ädel 2022; MacDonald 1992) as self-mention "has a far more visible role in the soft sciences" (Hyland and Tse 2004, 173). Hyland (2006, 29, 2015a, 34) also notes that writers in humanities and social sciences tend to take far more "involved and personal positions" than writers in science and engineering fields. On the other hand, it could be presupposed that "the term science presupposes objectivity and that the only authority any science has is based on its claims to be objective, systematic and precise" (Crompton 1998, 304). However, no type of data is exempt from the critical eye of the researcher. Even so, it is found in literature that impersonality and objectivity are more common in hard sciences and technology (Hyland 1994, 238, 2005b, 144; Köhler 1981, 246; Lachowicz 1981, 108), contributing to economy of expression (MacDonald 1992, 537). Blagojević (2017) observes more markers of authorial presence in social science articles, and more markers of authorial absence in both English and Serbian. Furthermore, Hyland (2001a) found the use of pronouns as a form of self-mention more common in physics, marketing and biology, but not in mechanical engineering. Sanderson (2008) also researched cross-disciplinary differences in person reference in the humanities and found that English speaking authors use more of these markers in philosophy, linguistics, folklore and literature, with linguistics showing the most significant results. German speaking authors, however, used more of these markers in history. She related these variables to gender and age, which is not a variable I am considering in my current study, but it is definitely worthwhile looking into, also for my own data in future research.

Despite some inconsistencies in some of the results discussed here, soft sciences can be characterized as "subjective, interpersonal, interpretative, and explanatory" and hard sciences

[16] Attribute hedges are associated with specification of propositional elements (Hyland 1996b, 439) and "conceptualize processes more exactly to distinguish how far results approximate to an idealized state, specifying more precisely the attributes of the phenomena described" (Hyland 1996b, 440). They are also referred to as "style disjuncts" of modality and manner as "an implicit comment on language itself" (Quirk et al. 1985, 615).

as “objective, impersonal, informative, and routinized” (Deng and He 2023, 08). The results of research on scientific writing conventions outlined here seem to suggest that only the characteristics commonly ascribed to fields of hard sciences – objectivity, impersonality, precision, and accuracy, are essential characteristics of scientific writing, as they are usually equated with “good academic writing” (Channell 1990, 95). These results also suggest that especially in the soft sciences, deviating norms seem to prevail, rendering academic texts in these fields less scientific. This is most certainly not the case, as the writing style is largely dependent on the type of study, research practices, and world perceptions (Hyland 2002b, 352). While soft and hard sciences may differ in many forms of expression, the contrast of which is valuable for research, these differences are only a matter of different conventions, and for the researcher, the norms of reporting are important to learn in order to participate appropriately in their discourse community. Hyland made the following observation concerning the construction of knowledge in hard vs. soft sciences:

> Hard knowledge disciplines in particular often convey meanings in a highly compressed code impenetrable to the uninitiated, while knowledge-making in the humanities, despite the use of technical terminology, is often accomplished in apparently everyday terms (although frequently invested with discipline-specific significance). This is principally because what is considered the appropriate rhetoric for a discipline is tied to the purposes of that discipline. Natural scientists tend to see their goal as producing public knowledge able to withstand the rigours of falsifiability and developing through relatively steady cumulative growth, where problems emerge and are formulated in an established context (Bazerman, 1988; Becher, 1989). The social sciences, on the other hand, have produced interpretative discourses which often recast knowledge as sympathetic understanding, promoting tolerance in readers through an ethical rather than cognitive progression (Dillon, 1991: 109; Hyland, in press[17]). (Hyland 1999a, 109)

Hyland (1999b) also found that writers in soft sciences tend to use citations and reporting verbs more than writers in hard sciences, which corresponds to Bazerman’s (1981) view that the way knowledge is constructed in soft sciences is through relying on previous research, while knowledge in hard sciences is presupposed and assumed (Myers 1991) and therefore need not be reiterated. This may also correspond to the general tendencies towards tentative language in soft science fields.

Much like in research conducted by Vázquez and Giner (2008) on epistemic modality markers in marketing, biology, and mechanical engineering, as a spectrum between

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[17] This article was published in 1999 under the title “Academic attribution: citation and the construction of disciplinary knowledge” in *Applied Linguistics*.

soft/abstract and hard/concrete sciences, so have my three disciplines displayed this spectrum, with linguistics located on the soft science end of the spectrum (humanities), and engineering/technology on the hard science end of the spectrum. Economics fall somewhere in the middle, as a social science, much like biology for Vázquez and Giner, and therefore a moderate number of hedging devices in this field can be expected.

Now that previous research and expectations for potential differences between soft and hard sciences have been established, I will turn to the disciplines investigated in this study, starting with previous research on metadiscourse, politeness and hedging.

To start with, Bloor and Bloor (1993, 156) focused on the modification and hedging of "knowledge claims", excluding assertion of facts and summaries of preceding work, as well as descriptive propositions on research process and methodology. They found few instances of hedging in the academic discourse in economics. However, completely oppositely, Varttala (2001) found the highest incidence of hedges in the field of economics (and much less in technology and medicine). He related this to the nature of these respective fields, as well as objects of research, materials and methods, with hard sciences, technology in particular "being a field of study where various measurements, equations and calculations are part and parcel of the research process" (2001, 250) which does not require any imprecision, while the focus of social sciences "is frequently on issues dependent on the behaviour of human beings or groups of people outside laboratory conditions" and therefore "more tentative by nature" (2001, 254). On the other hand, Getkham (2013, 68) researched politeness strategies cross-disciplinarily, and found that "[e]conomics favor the maintenance of distance between the reader and the writer", as inclusive *we* was used less than in applied linguistics and technology, but observed that more impersonality devices were used in applied linguistics and technology than in economics.

Finally, one more aspect that seems to be relevant for this research is that academic articles in soft sciences, social sciences and humanities display more variation in writing as "communication styles respond most strongly to language- and culture-bound discoursal preferences and constraints" (Duszak 1997a, 11). This might become evident in the use of rhetoric devices mentioned in the entire chapter (see sub-chapters 2.5.1–2.5.8). While this theory helped build the research model, my own contrastive rhetoric study might reveal completely different tendencies, and come up with different linguistic devices. This will however, only further emphasize the polypragmatic nature of stance devices, their multifunctionality and variety, as stance itself is a very complex notion.

2.8 Summary

To sum up, this chapter set out to review previous research on the areas closely related to the notion of stance, so as to create a theoretical basis for the introduction of the notion of stance (see Chapter 3) and to devise the research model (see Chapter 4) employed in the analysis of stance markers in three disciplines and three languages (see Chapters 7–9). It set out to do so by:

(1) Exploring the characteristics and framing conditions of academic discourse as a social, interpersonal endeavour (sub-chapter 2.1)
(2) Positioning the notion of authorial identity within the context of academic writing (sub-chapter 2.2)
(3) Relating the notion of discourse communities in the context of academic writing, by observing discourse communities in relation to two types of culture: national culture and disciplinary culture (sub-chapter 2.3)
(4) Scrutinizing previous research in terms of how the core concept of *stance* in contextualized within relating overlapping concepts and categories seen as relatives of stance, thereby disentangling the complex web of interrelations between these relatives (metadiscourse, modality, evidentiality, hedging, politeness, evaluation, appraisal, affect and intensity, and positioning) (sub-chapters 2.4 and 2.5)
(5) Scrutinizing previous research focusing on what was established primarily for each of these related categories and their means of expression in the three languages studied here, as well as with regard to different disciplines (sub-chapters 2.6 and 2.7)

This theoretical basis in mind paved the way for the following steps in my research:

(1) developing my own notion of stance pertinent for this research as a multi-facetted, dynamic, largely interpersonal category which will be introduced in detail in Chapter 3
(2) extracting a pertinent inventory of linguistic expressions with a potential of expressing authors’ stance which will be discussed in detail in Chapter 4
(3) discussing markers of authorial stance in academic discourse from both quantitative (Chapter 6) and qualitative (Chapter 7–9) point of view
(4) discussing markers of authorial stance in academic discourse as context-dependent notion in both the context of national culture (English, Serbian, and German) and disciplinary culture (linguistics, economics, and technology/engineering) (Chapters 10 and 11)

Chapter Three
The Concept of Stance

Now that the theoretical background for this dissertation has been established from a broader perspective and all related terms defined (see Chapter 2), in this chapter, I will focus more closely on the concept of **stance as used in this study.** I will offer my own definition of stance and introduce its formal expressions related to previously related concepts (Chapter 3.2), in order to build the research model employed in this dissertation (see Chapter 4) and explain the actual analysis conducted in this research (see Chapter 7–9).

3.1 Defining the concept of stance

As discussed in Chapter 2, in any instance of writing (or speaking), we do not only convey content, "but also our relation to that content, both personally and socially, as well as our relationship to our audience, either implicit or explicit" (Reilly, Zamora and McGivern 2005, 186). Therefore, in researching academic writing, we are reviewing the web of relations between the author and their piece of writing, as well as other pieces of writing by other authors, and their interlocutors (in this case their readership – consisting of both their colleagues in the field and other readers). When writing, authors are simultaneously "trying to set out a claim, comment on its truth, establish solidarity and represent their credibility" (Hyland 2005a, 176–177), while also expressing their point of view, attitude and opinion. All these facets of the authors' writing activities fall under the notion of stance. Stance, therefore, is seen as "an essentially relational concept, since it involves the interaction between text as discourse and sender/receiver as speaker–writer or hearer– reader" (Berman 2004, 109). While this notion is not universally used in literature, but rather described under very different theoretical frameworks, in this research, the notion of stance acts as an umbrella term for all the previously mentioned notions related to writer involvement, presence, and evaluation in the text. It incorporates interpersonal pragmatic, semantic, and stylistic elements such as politeness, indeterminacy, mitigation, vagueness, and softness, as well as personal attribution, intensification, and directness.

The central figure in the universe of writing, the one who shapes the text of the article, who makes the corresponding language choices and expresses their identity and personal stance is, of course, the writer/the author, and the author is constructing their identity "through the act of writing itself" (Ivanič 1998, 94). As Schramm (1996, 142) puts it: "The writer is embedded in a particular sociolinguistic setting, from which s/he makes the lexical, grammatical, and rhetorical choices indicating the purpose and the point of view of a statement." These choices reflect the author's stance on the matter – the way they evaluate their research and thought process, bearing in mind that this is dependent on certain circumstances – the results of the research, the conventions of the community (both disciplinary and linguistic/cultural) and possibly, individual characteristics, thereby inserting in the text their personal stance – "attitude, commitment, approach" (Boucher 2018, 522).

Following Ivanič's claim (1998, 38) that "language is a means of expressing social identity", stance is seen as a textual manifestation of the speaker's identity and the way the writer's thoughts, attitudes, perceptions, and opinions are projected into the text. Hyland captures this in saying that "academic prose is not completely impersonal […] writers gain credibility by projecting an identity invested with individual authority, displaying confidence in their evaluations and commitment to their ideas" (2002a, 1091). These attitudes are precisely inserted into the text in order to be able to communicate with the audience, and stance devices serve an interpersonal function, which is possibly the main instigator of writing as it explicitly denotes the author's persona and position. Stance is not always explicitly attributed but is more often inferred as belonging to the writer (Biber 2006, 99). By inserting themselves explicitly into their text, the authors of scientific articles wish to point out the subjectivity of the text, which is the most overt and explicit way to express stance (Biber 2006, 99). However, as also mentioned in Baratta (2009), they may wish to do this implicitly, by using depersonalised language, such as passive voice, general and impersonal statements.

Just like evidentiality and epistemic modality, stance is also a highly intersubjective concept (Du Bois 2007, 159; Haddington 2012, 2), as it is simultaneously used to present one's subjective opinions and attitudes, display one's identity, and express alignment with the discourse community. Indeed, stance could be seen as a personalization of the author's contributions in the text, indexing attitudes and evaluations, and initiating a dialogue and negotiation with the readership. It is a multifunctional tool meant to balance "objective information, subjective evaluation and interpersonal negotiation", which is valuable for gaining acceptance for scientific claims (Hyland 2005a, 180) while acknowledging and respecting disciplinary and cultural norms of academic argument. Much like in the discussion on evidentiality (see 2.5.3), there is a fine line between subjectivity and intersubjectivity in stance-taking, as the stance of the speaker is only a stance once it is public and intersubjective – which is again relevant for the publishing culture of academic articles:

> Stance is not something you have, not a property of interior psyche, but something you do – something you take. Taking a stance cannot be reduced to a matter of private opinion or attitude. Using the language of Wittgenstein (1953) we might say: There are no private stances. We deploy overt communicative means – speech, gesture, and other forms of symbolic action – to arrive at a dialogic achievement of stance in the public arena. (Du Bois 2007, 171)

Although in their research they focus on student exchanges in peer dialogue journals, Beach and Anson (1992, 337) deem stance to be an elaboration on texts, an attempt to "create and maintain social relationships". Meanwhile, G. Thompson and Hunston (2000, 8) also state that the maintenance of the relationship between the writer and the reader "is done through evaluation by manipulation, hedging and politeness".

Hyland's model of writer-audience interaction is particularly valuable in this respect, as he sees it as a dualistic one, consisting of "two sides of the same coin" (2005a, 176) – *engagement* and *stance*. While the former, engagement, as the way writers relate to readers by acknowledging their presence, connecting with them, including them explicitly in the dialogue and guiding them through writing (2005a, 176), is not the subject of research here, the latter, "attitudinal dimension" (2005a, 176) of stance is. Fully in tune with the notion of stance as used in this research, Hyland's notion of stance concerns "writer-oriented features of interaction and refers to the ways academics annotate their texts to comment on the possible accuracy or credibility of a claim, the extent they want to commit themselves to it, or the attitude they want to convey to an entity, a proposition, or the reader" (2005a, 178). Elaborating on the complex relations between authors, the discourse of the scientific community and their readers, Hyland states the following:

> The motivation for these writer–reader interactions lies in the fact that readers can always refute claims and this gives them an active and constitutive role in how writers construct their arguments. Any successfully published research paper anticipates a reader's response and itself responds to a larger discourse already in progress. This locates the writer intertextually within a larger web of opinions (Bakhtin, 1986), and within a community whose members are likely to recognize only certain forms of argument as valid and effective. Results and interpretations need to be presented in ways that readers are likely to find persuasive, and so writers must draw on these to express their positions, represent themselves, and engage their audiences. (Hyland 2005a, 176)

Another very important point Hyland brings up is the relation of the piece of writing to the academic community the author belongs to. The piece of writing is both a mirror of the community, discipline and culture in which it was created, as well as a reconfirmation of the author's membership to it, as "writers situate themselves and their work to reflect and shape a valued disciplinary ethos" (Hyland 2005a, 176).

Bearing all this in mind, it can be said that the process of stance expression in a text is a dynamic and emergent process, as it is both individually and socially constructed. Firstly, as discussed in the context of culture-embedded identity construal, the writer's personal identity "is an obvious link to how the individual is revealed within the text" (Baratta 2009, 1411) and it is therefore "often integral to stance" (Baratta 2009, 1409). Secondly, the negotiation and expression of stance is inherently connected to the medium, register, context, and in this case, scientific field or discipline, and culture, with each of these presumably having their own distinctive and preferred patterns of stance expression. This is precisely what I am setting out to research, bearing in mind that "stances represent cultural attitudes and group allegiances" (Beach and Anson 1992, 338) and that "what the writer thinks reveals the ideology of the society that has produced the text" (G. Thompson and Hunston 2000, 6). In this sense, the use of particular patterns is dependent on individual characteristics and social contexts, meant to both present and confirm the belonging to a particular scientific community. As Beach and Anson (1992, 337) put it, "[g]roup members are therefore socialized to adopt stances constituting membership in specific discourse communities". In addition, stance is constantly renegotiated via the semantic and grammar structures in the text itself and the rhetorical structures employed. According to Schramm (1996, 143), "rhetorical considerations influence the semantic structure of a sentence, and the semantic structure, in turn, influences the grammatical choices that a technical writer has to make to get a point across". Kiesling concurs in stating that "stances are always negotiated and interactionally created in context" (2011, 1) and context is "a means to correctly determine stance" (Baratta 2009, 1410).

Even though stance is an incredibly complex and context-dependent notion, it can be said that it has been researched to a fairly great extent, although not always under this denomination. The following collection of definitions illustrates the multifaceted, oscillating and often fuzzy nature of this concept, which researchers have approached from different dimensions and perspectives. The concept of stance is defined in previous literature either exclusively in terms of conceptual categories, or, on the other hand, in terms of linguistic means and strategies authors use in order to take stance (thereby oscillating between onomasiological and semasiological perspectives).

Conceptual categories related to the concept of stance include epistemic, evaluative, deontic, and emotional modality, as well as authorial identity and positioning. Stance is defined in relation to these conceptual categories as the writer's expression of "personal feelings, attitudes, value judgments, or assessments" (Biber et al. 1999, 966) which involves, i.a., the communication of assessments and value judgments according to the source of knowledge (evidentiality), assessment of the degree of likelihood (epistemic modality), and assessment regarding the necessity or desirability of the situation (deontic modality), grouped into three major semantic categories – epistemic, attitudinal, and style of speaking (Biber et al. 1999, 966, 972–975). The three types of stance – epistemic, attitudinal, and style – are evidenced in Conrad and Biber's definition, as "personal feelings and assessments in addition to propositional content" (2000, 57).

Along these same lines, relating it to the notions of evidentiality, epistemic modality, and affect/intensity, Ochs defines stance as a "socially recognized disposition" (1990, 2), which includes epistemic stance – "a socially recognized way of knowing a proposition, such as direct (experiential) and indirect (e.g. secondhand) knowledge, degrees of certainty and specificity" and affective stance – "socially recognized feeling, attitude, mood, or degree of emotional intensity". Bucholtz and Hall define it similarly as "the display of evaluative, affective, and epistemic orientations in discourse" (2005, 595). The relation to different types of modality is also evidenced in Berman's (2004, 107; Berman, Ragnarsdóttir and Strömqvist 2002, 258) definition of stance (which is related to *attitude*), and can be epistemic (referring to the belief about the truth of a state of affairs), deontic (an evaluative viewpoint) and affective (writer's emotions toward a state of affairs); Trbojević Milošević defines the notion of *stav* (Serbian, meaning *stance* or *attitude*) as "the determination of the speaker towards the truthfulness of the proposition" (Trbojević Milošević 2004, 123), which is the definition of epistemic modality (Trbojević Milošević 2004, 124); Reilly, Zamora and McGivern define it as "[…] the level of personal involvement of the writer or speaker with the text, as well as his or her moral evaluation, degree of certainty, and/or emotional perspective and response to the content of the text" (2005, 186); finally, Kiesling claims it is "how a speaker signals their relationship towards the talk they are producing", related to modality (certainty) or source of information (2011, 4).

A more ideology-oriented view of stance is evidenced in Beach and Anson's definition of stance as an "ideological orientation or perspective" (1992, 336), as well as Kockelmann's as “the ideology, or set of beliefs and values, of authors insofar as it affects how they position themselves both in a text and to a text” (2004, 129). As it is also indicated in Kockelmann’s definition, stance is overtly associated with *positioning*, also in the definitions given by Jaffe (2009, 3) and Parini and Fetzer (2019, 114), that stance involves “taking up a position with respect to the form or the content of one’s utterance”, as well as Haßler’s: “Stance-taking indicates how the speaker’s position with respect to a particular utterance is to be interpreted. At a basic level, stance can be expressed by contextualisation cues, culturally specific tools or resources for stance taking. Stance-taking has to do with indexing one’s orientation to the propositional content of discourse, to one’s interactional partners or to conventional social identity categories.” (2015, 184) Haßler’s definition also tunes in with Du Bois’s view of stance in terms of the *stance triangle*: “Stance has the power to assign value to objects of interest, to position social actors with respect to those objects, to calibrate alignment between stancetakers, and to invoke presupposed systems of sociocultural value.” (2007, 139)

Linguistic means and strategies used for stance-taking, which incorporate both onomasiological and semasiological perspectives, are also used to define stance. In such definitions, stance is viewed as the “lexical and grammatical expression of attitudes, feelings, judgments, or commitment concerning the propositional content of a message” (Biber and Finegan 1989, 93), and “the marking of attitudinal perspective” (Biber and Finegan 1988, 2) towards the information, as well as its sources (Biber and Finegan 1988, 1) which also relates to the notion of evidentiality. Additionally, it is seen as the “expression of certainty, generalization, and actuality” to mark “some aspect of speakers’ (or writers’) attitudes towards their messages, as a frame of reference for the messages, an attitude toward or judgment of their contents, or an indication of the degree of commitment towards their truthfulness” (Biber and Finegan 1988, 2), which is in relation to the notion of epistemic modality.

Similar definitions are also given by Biber, as “epistemic or attitudinal comments on propositional information” (2004, 107), as well as a manner of conveying “many different kinds of personal feelings and assessments, including attitudes that a speaker has about certain information, how certain they are about its veracity, how they obtained access to the information, and what perspective they are taking” (2006, 99); Kärkkäinen, as ways to “assess something as more or less reliable, or express their belief that such and such is the case” (2003, 18); Lempert, as “lexical and grammatical resources [used] for evaluating the propositional content expressed by an utterance, whether in terms of ‘epistemic modality’ (expression of degree and type of speaker ‘certainty’) or ‘evidentiality’ (expression of ‘information source’)”

(2008, 570), thereby equating epistemic stance to epistemicity; Baratta, as “ways in which writers reveal personal thought and feeling within their texts” (2009, 1407), in order to “reveal their opinions, evaluations and feelings on a given matter” (2009, 1406), and “as a reflection of the writer’s attitude” (2009, 1407); Hyland, as “the ways writers present themselves and convey their judgements, opinions, and commitments” and “the ways that writers intrude to stamp their personal authority onto their arguments or step back and disguise their involvement” (2005a, 176); and Vázquez Orta, as ways in which “[h]umans evaluate the world around them, express emotions, beliefs, and desires, and align or disalign with other human beings in social interaction” (2010, 79).

Vázquez Orta also brings about an important dimension of stance – its interpersonal function, which is related to the role stance plays in the relationship established with the audience. This function is illustrated in the definitions given by Johnstone, as “methods […] by which interactants create and signal relationships with the propositions they utter and with the people they interact with” (2009, 30–31); Kiesling, as a primary way of organising language in interaction – “a person’s expression of their relationship to their talk (their epistemic stance – e.g. how certain they are about their assertions), and a person’s expression of their relationship to their interlocutors (their interpersonal stance – e.g. friendly or dominating” (2009, 172) and Hyland and Jiang, who see stance as “a consistent series of rhetorical choices that allow authors to conduct interpersonal negotiations and balance claims for the significance, originality, and plausibility of their work against the convictions and expectations of their readers.” (2016b, 254) These definitions once again tie in with Du Bois’ model of the *stance triangle* regarding the three stance consequences the stance act creates – evaluation, positioning, and alignment (Parini and Fetzer 2019, 115) – “a public act by a social actor, achieved dialogically through overt communicative means, of simultaneously evaluating objects, positioning subjects (the self and others), and aligning with other subjects, with respect to any salient dimension of the sociocultural field” (Du Bois 2007, 163).

Looking back on some of the categories from Chapter 2, as well as these definitions, we can clearly see that stance is intertwined with concepts of hedging, positioning, metadiscourse, evidentiality, modality, politeness etc. and ways of expressing authorial identity and attitude. This is why the theoretical background concerning all these concepts is applicable to authorial stance, at least in the scope of this dissertation. This interrelatedness is visually presented in Figure 2, which may not even reflect the complexity of the relationship between all these notions, but it may be a good starting point:

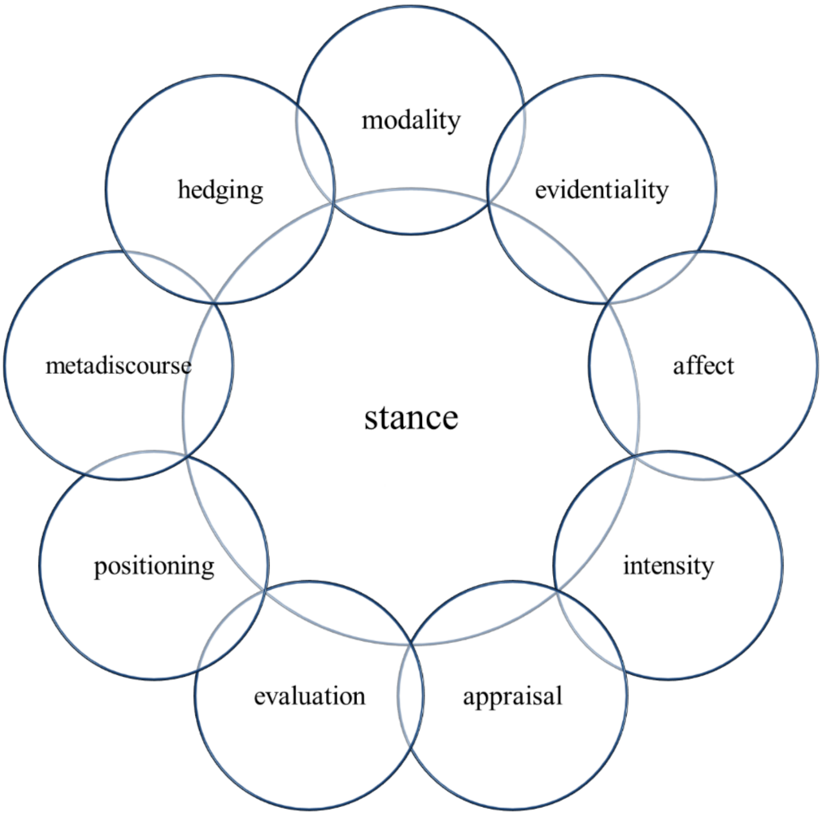

Figure 2: The interrelatedness of stance with other conceptual categories, Rodić

In addition, both Jaffe and Hyland capture the complex nature of stance succinctly in their definitions and in accordance with how it is seen in this research as well, reflecting the relationships depicted in the above diagram. These two quotations also illustrate to varying extents the two different perspectives on stance. Jaffe's definition can be said to be more narrow in scope, focusing on notional/conceptual categories in a sociological context and in relation to the construction of identity. This can be tied in with my own approach, as this research focuses on the construction of identity and expression of stance within the scope of linguistic and disciplinary culture:

> Stance saturates talk about others, in which speakers engage in both explicit and implicit forms of social categorization and evaluation, attribute intentionality, affect, knowledge, agency to themselves and others, and lay claim to particular social and/or moral identities. (Jaffe 2009, 9)

On the other hand, drawing on Biber (2006), Hyland seems to be integrating both conceptual categories (textual voice, community recognised personality, an attitudinal, writer-oriented function, judgements, opinions and commitments, epistemic attitude, etc.) and different types of linguistic expressions reflecting these concepts (hedging and boosting devices, authorial self-mention, attitude markers):

> Stance refers to the writer's textual 'voice' or community-recognised personality, an attitudinal, writer-oriented function which concerns the ways writers present themselves and convey their judgements, opinions and commitments (Biber 2006; Conrad and Biber 2000). This includes the use of hedging and boosting devices to express an epistemic attitude, conveying either tentativeness and possibility or assurance and certainty (Hyland, 1998a), authorial self-mention to give prominence to the role of the author in the text (Hyland, 2001b) and attitude markers, which indicate the writer's affective attitude to propositions, conveying surprise, agreement, importance, frustration and so on. (Hyland 2012: 40–41)

Hence, we can agree with Baratta in his claim that stance (including its linguistic forms of expression) is not a closed category, but rather "[falls] along a continuum, ranging from hedging, in order to reveal doubt about one's personal claims and/or show modesty for them […] to offering a personal opinion regarding the claims of others […]" and "has several properties or dimensions" (2009, 1407), which is also in accordance with the taxonomy presented in this research (see Chapter 4).

The linguistic devices indicating stance in this research span across numerous semantic and syntactic forms and structures, displaying "a multiplicity of linguistic forms" (Berman 2004, 109). Expressions of stance in this dissertation correspond to Fraser's findings on hedges in two respects:

1. They can be found in every syntactic category (2010b, 23), and that is why hedges, or in this case, stance markers, have no grammatical categories. Writers express their stance through various syntactic and semantic categories.
2. Different linguistic devices – lexical items, syntactic structures, prosodic features, and multiple syntactic forms – words, phrases, even sentences may function as hedges (Fraser 2010a, 202–203), that is, stance markers.

Fraser's observations concerning hedges are in accordance with the approach adopted in this dissertation, especially in its onomasiological nature, as the context is crucial for the interpretation of particular expressions as markers of stance. Therefore, as Vázquez Orta (2010, 79) also notes, "stance meanings can be linguistically realized through different grammatical and lexical devices" the latter involving affective or evaluative words, and "[t]he existence of a stance is inferred from the use of an evaluative lexical item, usually an adjective, main verb or noun". Hence, our linguistic choices signal a stance, even if seemingly neutral, which represents a contrast to other semantic options (Jaffe 2009, 3). Clemen (1997, 236) is in agreement with this in stating that “hedging typically depends on context and situation and is not determined by individual lexical units or phrases”.

Based on the numerous and various classifications of all concepts related to that of stance (see Chapter 2), it may be concluded that the concept of stance adopted here would, to a certain extent, be a revision of these concepts. The classifications in previous literature as discussed in Chapter 2 clearly indicate linguists’ disagreements on this topic, as they are based on different criteria and differing terminology, often encompassing quite different notions. In addition, as also exemplified in Fraser (2010a), their formal diversity might hinder any classifications of stance markers and their functions. On the other hand, stance markers are largely context-dependent and almost any expression can be interpreted as a stance marker, with some stance markers acquiring this interpretation only based on their context and co-text. My hope is that the taxonomy developed in my research model (see Chapter 4) might reconcile these phenomena, as it takes into account previous classifications and carves out certain common threads between the various notions feeding into stance-taking which bring these different notions together, as many of them rely on the same forms of expression. To do so, this research relies on an onomasiological approach, starting from the multi-facetted concept of stance and checking the data systematically for the broad variety of linguistic expressions with a potential to express stance, rather than the other way round (therefore not relying solely of form, but rather the performing function of stance markers). This way, the current research adheres to Haßler‘s finding that “[s]tance is an emergent property of interaction which is not transparent in the linguistic form, but must be inferred from the empirical study of interactions in social and historical context”. This corresponds to the observation made by Gray and Biber (2014) that stance is often expressed implicitly in academic writing and overt marking of stance is more common in spoken than written genres.

Finally, to conclude this sub-chapter, following this extensive overview of stance definitions, and relying on many previous views of stance, as well as other conceptual categories, my own definition of stance would be as follows: Stance entails all the ways in which authors project themselves into the text, to signal their attitudes, opinions and evaluations towards both the content as well as the audience of their text.

It can be said that stance in this research falls along a continuum: it is the expression of attitudes and opinions on both first-hand knowledge, as well as second-hand knowledge; it entails the expression of the authors’ attitudes and opinions in terms of both doubt and mitigation, as well as certainty and assertion, and in both implicit and explicit ways, as it can indicate both explicit presence and involvement in the text, as well as detachment from the text.

This indicates that expressions of stance are viewed as polypragmatic and multifunctional, as one form may have several different functions, and one function can be expressed by several different forms, all of which are context-dependent. Formally, my view of stance includes a variety of rhetorical and linguistic resources, which were presented to a certain extent in Chapters 2 and 3 so far. The formal realisations of stance will be presented further in Chapter 3.2 in relation to other conceptual categories explored in this research, which will feed into the model of stance I devised for this research, presented in Chapter 4.

3.2 Formal realisations of stance

In this sub-chapter, an inventory of expressions for stance-taking in the three languages and disciplines as explored in previous research (see sub-chapters 2.5.1–2.5.4) will be given, outlining the structures identified for the concepts related to stance discussed in Chapter 2 and given in Figure 2 above. Furthermore, the means of expression directly related to the concept of stance and described in the literature have been extracted across languages and disciplines to provide a solid basis for my own qualitative corpus research. The overlap in these formal expressions across different concepts confirms their mutual interrelatedness and connection to the concept of stance as well.

Linguistic expressions of metadiscourse

In her analysis of metadiscourse markers by Serbian and English speakers, Blagojević (2008) makes a distinction between textual and interpersonal metadiscourse markers. However, the former group of metadiscourse markers including markers of textual connection and markers of discoursal action is not discussed in this research and will therefore be left out. Rather, the group of interpersonal metadiscourse markers is more relevant, as some of these markers directly influence the taxonomy of this research and are given in Table 3.

	English	**Serbian**
markers of doubt and hedging	modal verbs (*can, could, may, might, would*) verbs *appear* and *seem*	the modal verb *moći* modal expressions (*moguće je, možda, verovatno je*)

	conditional clauses and hypothetical expressions clauses with a complex subordinator of restrictive meaning (*as far as, in a sense*) modal adjectives (*possible, probable, likely*) adverbs (*possibly, probably, perhaps*) indeterminate adverbs (*somewhat, somehow, around, about*) authorial absence from the text (nouns like *data, facts, results, analysis*; impersonal constructions or passive constructions) authorial explicit presence in the text (personal pronouns or possessive adjectives)	conditional clauses and *potencijal*, hypothetical expression (*ukoliko*) particle *bar* prepositional phrase *u izvesnom smislu* adverbs (*manje-više, nešto*) nouns referring to the article (*hipoteza, primeri, rezultati, podaci*) performative and hypothetic verbs (*ukazati, sugerisati*) adverbial clauses (*kako nam je poznato, kao što znamo, poznato je, zna se da*) impersonal constructions (*izgleda da, čini se da, pretpostavlja se*) authorial explicit presence in the text (personal pronouns or possessive adjectives)
markers of categorical assertions	discoursal and premodifying adverbs (*clearly, indeed, of course, no doubt, evidently*) emphatic adjectives in predicative and attributive functions (*evident, clear, apparent, obvious, certain*)	discoursal adverbs (*očigledno, naravno, svakako*) and modifying adverbs (*nesumnjivo, zasigurno, očigledno*) impersonal constructions (*očigledno je, evidentno je, izvesno je, jasno je*) verbs (*sigurni smo*) phrases (*bez sumnje, nema sumnje*) adjectives (*veoma jasno*)
markers of authorial stance towards propositional content	discoursal adverbs (*interestingly, unfortunately, ideally, ironically, overwhelmingly*) adjectives in impersonal constructions (*it is difficult, it is remarkable, it is essential*) adjectives (*ample, modest, scarce, problematic*) modal verbs (*must* and *should*) nouns (*paradox, danger*) intensifiers (*rightly, significantly*)	discoursal adverbs (*nažalost, interesantno, neočekivano*) impersonal constructions (*važno je, značajno je, neophodno je*) adjectives (*neosporne, drastičan, značajne*) nouns (*ironija, aktuelnost*) modal verbs (*trebati, morati, smeti*) modifying adverbs (*teško, znatno, delimično, naizgled paradoksalno*)

markers of authorial commentary	direct address towards the readers and questions – either direct or rhetorical, in both English and Serbian, but these are pretty rare

Table 3: The classification of interpersonal metadiscourse markers in academic discourse, as per Blagojević (2008)

This classification is, in part, relevant for the taxonomy of stance markers in my own research, but, as discussed in Chapters 4 (on the research model) and Chapters 7–9 (analysis), there are many subcategorizations in it which do not completely correspond to my taxonomy. As many of these markers in English and Serbian are not direct translation or formal equivalents, they are given in the table according to their functional classifications.

The overview of literature related to German metadiscourse markers revealed a tendency towards investigating organisational, and not interpersonal discourse, in both spoken (Tiittula 1993) and written academic discourse (Andresen and Zinsmeister 2018; Fandrych and Graefen 2002). However, in their investigation of text-commenting linguistic devices, Fandrych and Graefen (2002) do tackle many forms denoted in this research as stance markers (see Chapter 4), especially in relation to text-deictic, attributive and parenthetical passive constructions (see Chapters 7–9). They relate their findings to the use of modal verbs and conclude that root modality can be found more frequently in text commentaries, while epistemic modality, related to the concept of hedging, "does not seem to be compatible with text commenting actions, because there is no need to strengthen or weaken claims here" (2002, 30).

Linguistic expressions of modality

While corresponding largely to some of the classifications of metadiscourse discussed in the previous sub-section, the multitude of modality markers in English includes: adverbs, impersonal constructions that take clausal complements (Reilly, Zamora and McGivern 2005, 190); epistemic phrases, adverbs, adjectives, nouns, lexical verbs, and participial forms expressing epistemic modality (Kärkkäinen 2003, 20); modal idioms (*had better, would rather, would sooner*), modal adverbs (*certainly, clearly, evidently, obviously, of course*), modal-adverb collocations (*couldn't possibly, would inevitably, must surely*), adjectival frames (*it is likely/possible/sure that*); nominal frames (*there's a/the possibility/likelihood/certainty that*), modal lexical verbs (*doubt, reckon, believe*), as well as some more "colourful locutions" (Hoye 2009, 117); evidential and modal expressions, verbs of cognitive attitude, and expressions of factivity (Marín Arrese 2015, 210), modal verbs, mood, particles, and clitics (Palmer 1986, 33), tentative forms, *might, would, should* (Palmer 1990, 58–59), and a variety of lexical items

(Giannoni 2009, 327). Therefore, the category of modality can be seen as a semantic-pragmatic category (Palmer 1990), intertwined with notions of subjectivity and intersubjectivity.

The polypragmatic and multifunctional nature of modal expressions can also be seen in German and Serbian. In German, modal verbs include *können, dürfen, mögen, müssen, sollen, wollen* (Öhlschläger 1989; Palmer 1986, 34) as well as modal particles *ja, doch, denn, schon, wohl* (Palmer 1986, 45–46). Palmer also notes that two of these verbs (*sollen* – paraphrased with 'it is said that…' and *wollen* – paraphrased with 'he/she/they claim that he/she/they…') have evidential uses, while English has none (1990, 12). König and Gast (2018, 109) refer to this use of *sollen* and *wollen* as *quotational*. In addition, in comparing English and German modal verb systems, Palmer notes that modal verbs are "a fairly easily established category" in English, while "similar verbs in German […] have fewer formal markers" (1990, 3).

In Serbian, the *modal usages* of verbs are related to the category of *modus*, which is defined as the personal attitude towards action, state, or event described by the verb (Trbojević Milošević 2004, 119), which is indeed very similar to the definitions given above for the notion of (epistemic) modality. However, in Serbian, the classification of modal meanings is based on their communicative functions, e.g. intention, reprimand etc. (Trbojević Milošević 2004, 119). Likewise, the systematisation of modal verbs is nowhere near as advanced as it is in English, as they are not as well defined and seen as prototypical exponents of modality in Serbian (Trbojević Milošević 2004, 155).

Kalogjera (1982, 27–32) conducted a contrastive analysis of modal expression equivalents in English and Serbo-Croatian, claiming that certain meanings can also be expressed by other means, such as adverbs, quasi-modals and paraphrases, but noting the following equivalents:

- **(obligation)** must/have to/should/ought to/need = morati/trebati/conditional of morati and trebati;
- **(permission)** may/can = moći/smjeti; **(prohibition)** may not = ne smjeti
- **(certainty, probability, prediction)** must/have to/ought to/should/will = morati/trebati/valja/conditional of morati/trebati/the enclitic form of htjeti
- **(uncertainty, improbability)** can not = neće biti/ne može biti/neće to biti/nije moguće-ne bi trebalo
- **(possibility)** can/may = moći/možda
- **(ability)** can/be able to = moći/umjeti/znati

Kalogjera (1982, 52–53) notes that the expression of modality in Serbo-Croatian is similar to English, as it encompasses verbs, adverbial and adjectival means, and conditional or potential mood. Possibility is expressed by the verb *moći*, adverbials *možda, moguće, valjda*; logical necessity by *morati, sigurno, vjerojatno* [verovatno]; obligation by *morati, trebati, biti dužan, biti prisiljen*; permission by *moći, smjeti, biti dopušteno, biti dozvoljeno*.

In Serbian, the modal verbs *morati* and *moći* are considered to be central epistemic verbs, while *trebati, smeti, hteti* and *umeti* are peripheral evidential verbs (Trbojević Milošević 2004, 156). The verb *moći* is a central epistemic modal verb in Serbian, and it embodies both possibility and permission (Trbojević Milošević 2004, 156). It is present in several constructions: *može se + infinitive*, *može biti*, *moguće je* etc. (Trbojević Milošević 2004, 160). The verb *trebati* has both deontic and epistemic meaning and is used in impersonal constructions to indicate a form of necessity (Piper et al. 2005, 640; Trbojević Milošević 2004, 162). The verb *smeti* has epistemic meanings in its negative form (Trbojević Milošević 2004, 164), and *hteti* and *umeti* express willingness and ability, respectively (Trbojević Milošević 2004, 164). Modal adverbs in Serbian include *verovatno, moguće, sigurno* (Čikara 2017, 82) but these forms are characterized by syncretism, as they can denote both adjectives and adverbs (Čikara 2017, 83). They can act as both amplifiers and attenuators (*apsolutno, potpuno, sasvim, veoma, vrlo; gotovo, skoro*) or factives (*stvarno, zbilja, odista, uistinu*) (Trbojević Milošević 2004, 170–171). The adverb *navodno* has an evidential function (Trbojević Milošević 2004, 172). Lexical verbs include *verovati* and *misliti* (*think* and *believe*) (Čikara 2017, 88; Trbojević Milošević 2004, 165), verbs of cognition, reportative and perceptive verbs (Čikara 2017, 88), which can be multifunctional, as they are also evidential markers. Another form typical of Serbian, which also indicates epistemic modality is the *potencijal* (conditional) – implying possibility, as well as the speaker's attitude or stance (Čikara 2017, 97), and the speaker's assumption that an action will become true, thereby expressing uncertainty and doubt in terms of its realisation (Čikara 2017, 97). The conditional form is often used with the modal verbs *morati* and *moći* in order to amplify the epistemic distance (Trbojević Milošević 2004). Finally, non-factive verbs *izgledati* and *činiti se* are a form of evidentials, as they provide distance of the speaker from the truth value of the propositional content, rendering the claim epistemic, and not categorical (Trbojević Milošević 2004, 168). Finally, some nouns can also imply the factivity of a proposition: *istina, činjenica, mogućnost* (Trbojević Milošević 2004, 172).

Stanojčić and Popović (2000, 390) discuss the modal use of several verb forms and tenses (prezent, perfekat, futur I, aorist) – denoting the attitude of the speaker towards an unrealised action. They can denote an intention, condition, hypothesis, command, possibility, or conviction, along with modal particles *možda, valjda, sigurno* (2000, 390). In addition, Trbojević Milošević (2004, 124) lists tense and aspect systems (prezent, perfekat, future I, future II, aorist, potencijal, kondicional), mood system, modal verbs, modal adverbs/particles and modal idioms as carriers of epistemic modality.

Linguistic expressions of evidentiality

Both Lazard (2001) and Cornillie (2009) point out the universality of evidentiality as a concept, as "all languages have means of qualifying utterances by introducing references to the origin of information, [but] not all languages have an evidential grammatical category" (Lazard 2001, 360). Lazard gives an example of English and French as languages where there is no grammatical or morphological marking of evidentiality, but evidential expressions are part of the lexicon. Marín Arrese (2015, 212) notes that these lexical means include "a broad array of expressions, open lexical classes (verbs, adverbs and adjectives), [the] closed subclass of modal verbs, parentheticals, particles and various evidential constructions". This can also be seen in Lazard's view that "evidential meanings are not conveyed by specific forms, but occasionally expressed by forms whose central meaning is something else" (Lazard 2001, 360) – which explains why the category of evidentiality is often seen as overlapping with other categories (such as epistemic modality). In the context of this research, evidentiality is seen as a semantic-pragmatic category (Haßler 2015, 182), consisting of different semantic and lexical categories, which, while seemingly similar, are actually different (Lazard 2001, 364). As Chafe (1986, 261) notes, "different languages focus on different kinds of evidentiality".

When it comes to the three languages investigated in this dissertation, English, German, and Serbian, none of them have a grammatical category of evidentials (see Lazard 2001). However, this does not mean that evidentiality is not expressed in these languages at all. Other means used to express evidential meanings can be denoted as "evidential strategies", comprising modal verbs (Aikhenvald 2018, 4) as well as lexical means, verbs of perception and cognition (2018, 5). In fact, languages which do not have the grammatical category of evidentials do have a variety of other lexical and semantic devices functioning as evidentials. In English, there is a "myriad" (Whitt 2011, 347) of evidential devices: modal verbs, adverbs, modal idioms (Chafe 1986, 261); adverbs (allegedly and presumably) and evidential auxiliaries (*seem*) (Cornillie 2009, 46); modal auxiliaries, modal adverbs or lexical expressions referring to direct and indirect sources of knowledge (Fetzer 2014, 335), modal verbs *can*, *may* and *must*, and sensory perception verbs *appear* and *seem* (Fetzer 2014, 334), which are polyfunctional and can express both epistemic and evidential meanings (Aijmer 2009, 64; Fetzer 2014, 334); modals, sentential adverbs, conjunctions, prepositional phrases and predicative constructions (Barton 1993, 746). In Serbo-Croatian, Wiemer and Vrdoljak (2011a, 2011b) made a preliminary inventory of evidential markers, including adverbs and particles – *navodno, očito, očigledno, prividno, naizgled, tobož(e), (kao) bajagi, kao, pa*, as well as verbal constructions in various personal and impersonal forms – *kažu, vele, priča se, izgleda (da), čini se (da), mora (da), biće (da)* (which are still debatable, according to the authors, and can be further extended). They also found that inferential (i.e. evidential) meanings are primarily found within an epistemic modality framework, while axiological functions can also occasionally overlap with evidentiary ones (2011b, 379). Čikara (2017, 127) sees evidentiality as a semantic category in Serbian, which is realised through markers of other grammatical categories and a multitude of lexical devices: lexical units and syntagms, epistemic operators, modal verbs and adverbs, reportative and perception verbs, verbs of cognition, and catenative verbs *izgledati* and *činiti se* (2017, 129). She concludes that similar forms may have both epistemic and evidential functions (2017, 129). By relying on Popović (2010, 2012), Čikara (2017, 130–133) differentiates between markers of zero, inferential and reportative evidentiality – the first marking direct personal experience through perception (declarative non-modalized statements and perceptive verbs *videti, čuti, gledati, slušati*); the second one indicates indirect experience through deduction/inference (*izgleda, očigledno, naizgled, prividno, na prvi pogled, čini se, primetio sam, zaključio sam, po mom mišljenju,* verbs *morati* and *trebati* in impersonal constructions and adverbs *već* and *još*); the last one indicates a second-hand source of information (*navodno, kao, bajagi, tobož(e), prema x, sudeći po x, po mišljenju x, priča se, govori se, kažu, govore, vele*). All these markers indicate the indeterminacy (and therefore unreliability) of information, bringing the notions of evidentiality and epistemic modality together. Finally, Piper et al. (2005, 645) relate evidentiality to imperceptive modality, as the speaker is not the source of the information, but the information is obtained from a different source. In German, there are no specialised morphemes to express evidentiality, but this is rather done through grammatical and lexical means, thereby making evidentiality a semantic-functional domain (Diewald and Smirnova, 2010, 2; Haßler 2015, 183). As already mentioned above, evidentiality and epistemic modality do overlap in German (Diewald and Smirnova 2010, 7), evidenced in certain uses of the German modal verbs *sollen* and *wollen* carrying evidential meanings, and "[a]dding markers of the source of the speaker's knowledge often limits the degree of responsibility of the speaker for the content of the utterance", which can be done through evidential adverbs (Haßler 2015, 182). It is also noted that evidentiality in German "appears to be based primarily on verbs with an altered meaning […] the inclusion of additional evidential properties in the modal verbs" (Haßler 2015, 197).

Finally, Biber and Finegan (1989) discuss evidentiality in relation to stance, seeing stance as "the lexical and grammatical encoding of both evidentiality and affect in English" (1989, 94). Affect as a notion is elaborated on in its own sub-chapter (see 2.5.7) and in relation to the notion of intensity, which Biber and Finegan describe as marking both affect and evidentiality. Within the evidentiality category of stance, they differentiate among those forms indicating certainty (adjectives *impossible, obvious, true*; verbs *conclude, demonstrate*; adverbs *assuredly, indeed, without doubt*; emphatics *for sure, really, so*; predictive modals *will, shall*) and doubt (adjectives *alleged, dubious, uncertain*; verbs *assume, indicate*; adverbs *allegedly, perhaps, supposedly*; hedges *at about, maybe, sort of*; possibility modals *might, could*; necessity modals *ought, should*) (1989, 98). It can be seen that these structures correlate with expressions of (epistemic) modality, underlining their common structural framework.

Hedging expressions

The most prominent guide for the classification of stance markers in this dissertation is the onomasiological taxonomy of Martín-Martín (2008), who mentions five out of six strategies delineated in my own analysis, albeit some under different names and under different functions. Viewing hedges as a socio-pragmatic phenomenon (similarly to what was done in this dissertation), Martín-Martín (2008, 138–139) categorises hedges on the basis of their major lexico-grammatical forms expressing different functions in three distinct strategies[18]:

1. The Strategy of Indetermination gives a proposition a colouring of lesser semantic, qualitative and quantitative explicitness, as well as of uncertainty, vagueness, and fuzziness. It encompasses

1.1. Epistemic modality, which can be realised by means of:

- Modal auxiliary verbs expressing possibility, such as *may, might, can*.
- Semi-auxiliaries such as *to seem, to appear*.

[18] As can be seen from the examples, there is a significant amount of overlap among the three strategies. These overlaps are addressed and disentangled in Chapter 4, containing the research model, as well as in Chapters 7–9, tackling the qualitative analysis of the three disciplinary corpora (see particularly sub-sections on *Combinations*).

- Epistemic lexical verbs such as *to suggest, to speculate, to assume*, that is, verbs which relate to the probability of a proposition or hypothesis being true.
- Verbs of cognition such as *to believe, to think*.
- Modal adverbs *perhaps, possibly, probably*.
- Modal nouns *possibility, assumption, suggestion*.
- Modal adjectives *possible, probable, likely*.

1.2. Approximators of quantity, frequency, degree and time such as *generally, approximately, most, relatively, frequently*, etc., which indicate an unwillingness to make precise and complete commitment to the proposition expressed.

2. The Strategy of Subjectivisation includes:

2.1. The use of first personal pronouns (*I/we*) followed by verbs of cognition (*think, believe*) or performative verbs (*suppose, suggest*), that can be interpreted as the writers signalling that what they say is simply their personal/subjective opinion. In this way, the writers show respect for the reader's alternative opinion and invite the reader to become involved in the communicative situation. This subcategory also includes those linguistic devices which express the author's personal doubt and direct involvement such as *to our knowledge, in our view, in my experience*.

2.2. Quality-emphasising adjectival and adverbial expressions such as *extremely interesting, particularly important*; that is, emphatic expressions that Hyland (1998a) names "boosters" and which are equivalent to what Salager-Meyer (1994, 1998) terms as "emotionally-charged intensifiers", which are used to convince the readers of the importance/truth of the propositions expressed by revealing the writer's emotional state. At the same time, these expressions can be considered as a positive politeness strategy (Myers 1989) as they show solidarity with the discourse community by exhibiting responses that assume shared knowledge and desires.

3. The Strategy of Depersonalisation refers to those cases in which the writers diminish their presence in the texts by using various impersonal, agentless, and passive constructions in order to relieve themselves of the responsibility for the truth of the propositions expressed. This strategy is syntactically realised by means of:

3.1. Agentless passive and impersonal constructions such as *an attempt was made to see..., it seems/appears that;*

3.2. Impersonal active constructions in which the personal subject is replaced by some non-human entity such as *findings, results, data*, as in: *The findings suggest/reveal..., these data indicate...*

(adapted from Martín-Martín 2008, 138–139)

As will be discussed in Chapter 4, following Prince, Frader and Bosk (1982), Martín-Martín's single strategy of indetermination will be split into two in my own research model – the strategy of indetermination and the strategy of approximation. Prince, Frader and Bosk (1982) also differentiate between Approximators and Shields. While the former exhibits "fuzziness within the propositional content", the latter exhibits "fuzziness in the relationship between the propositional content and the speaker, that is, in the speaker's commitment to the truth value of the proposition conveyed" (Prince, Frader and Bosk 1982, 84). According to them, "Approximators contribute to the semantics, by indicating some markedness, i.e. non-prototypicalness, with respect to class membership, while Shields affect the pragmatics, by inducing implicatures conveying markedness with respect to speaker-commitment" (Prince, Frader and Bosk 1982, 85). They further go on to differentiate Approximators to Adaptors and Rounders, and further classify Shields into Plausibility Shields (related to an expression of doubt and lack of certainty) and Attribution Shields (attributing the proposition to someone else rather than the speaker). Both types of Shields have found their way into the research conducted in my own analysis, the Plausibility Shields as a part of the strategy of indetermination (see Chapter 4.2) and Attribution Shields as a part of the strategy of evaluative reference to a certain extent (see Chapter 4.6). While the attribution of knowledge is discussed in this thesis, it does not necessarily involve the same expressions as Prince, Frader and Bosk (1982) mention, which will be elaborated in Chapter 4.

Hyland (1996a, 1996b) takes a different approach and categorises hedges into content-oriented (or motivated) hedges (accuracy-oriented hedges and writer-oriented hedges), as well as reader-oriented (or motivated) hedges, based on the kind of expected opposition from the reader, as both categories "signal a writer's anticipation of the negatability of claims" (Hyland 1996a, 255). He starts by asserting that claims have to meet *adequacy conditions* ("correspond to what is thought to be true according to beliefs about the nature of external reality") and *acceptability conditions* ("incorporate an awareness of interpersonal factors") and observes that claims that meet both conditions "are likely to be ratified" (Hyland 1996a, 255).

Content-oriented (or motivated) hedges are used to either present claims with accuracy, precision and caution, differentiating facts from judgements (*accuracy-based hedges*) (Hyland 1996a, 256) or to "anticipate possible negative consequences of being proved wrong by limiting commitment to claims", by indicating possibility and personal doubt and avoiding responsibility for the claims (*writer-based hedges*). While accuracy-based hedges increase the precision of claims, writer-based hedges diminish the author's presence in the text through passive constructions and abstract agents (Hyland 1996a, 257). Reader-oriented (or motivated) hedges, on the other hand, stress interpersonal relationship with the readers through deference and cooperation. Readers are invited to take part in the claim-making process through "the use of personal attribution which subtly hedges the universality of the writer's claim by implying that a position is an individual interpretation" thereby marking "a statement as a personal opinion rather than a definitive statement of truth" (Hyland 1996a, 257–258). Hyland's classification also has an onomasiological quality, as it does not simply name the parts of speech performing the role of a hedge (e.g. modal verbs, nouns, adjectives and adverbs), but rather – his classification differentiates between the functions the hedges perform, corroborated by the examples from his corpus.

On the other hand, Fraser (2010b) takes a semasiological view of hedges and offers a compilation of linguistic devices which may serve as hedges. This compilation of linguistic markers relies on Hyland's view that lexical hedging devices may be a predominant choice to express doubt and tentativeness (1994, 245). Fraser (2010b, 23–24) includes in his taxonomy, i.a.: adverbs and adjectives *(approximately, roughly, about, often, occasionally, generally)*, impersonal pronouns *(one, it)*, introductory phrases with a first-person pronoun *(I believe, to our knowledge, it is our view that, we feel that)*, modal adverbs *(perhaps, possibly, probably, practically, presumably, apparently)*, modal adjectives *(possible, probable, un/likely)*, modal nouns *(assumption, claim, possibility, estimate, suggestion)*, modal verbs *(might, can, would, could)*, epistemic verbs *(to seem, to appear, to believe, to assume, to suggest)*, agentless passive *(many of the troops were injured)*.

Furthermore, Fraser (2010a, 202) found hedges to be an important rhetorical device in academic discourse, as the speaker (i.e., the writer) uses specific expressions to impact the interpretation of a claim. In his onomasiological model, Fraser makes a differentiation between propositional hedges and illocutionary force hedges (somewhat similarly to Shields and

Approximators), with the majority of the abovementioned devices serving as illocutionary force hedges, used for the purpose of force mitigation (Fraser 2010a, 204–205).

On the other hand, in Fraser's (2010a, 204) taxonomy, propositional hedges are used for the purpose of content mitigation, including markers such as, i.a.: *about, actually, almost, approximately, basically, especially, essentially, generally, kind of, largely, more or less, mostly, often, occasionally, particularly, pretty much, principally, rather, really, regular, relatively, roughly, somewhat, sort of, typically, very.* This list certainly does not exhaust the inventory, but it does include expressions found in two strategies in my model, the strategy of intensification (see Chapter 4.4) and the strategy of approximation (see Chapter 4.5).

Finally, Crompton (1997, 284) also proposes a semasiological model of hedged expressions in academic writing, particularly relying on the expression of uncertainty for interpersonal purposes, including: sentences with copulas other than *be*; sentences with modals used epistemically; sentences with clauses relating to the probability of the subsequent proposition being true; sentences containing sentence adverbials which relate to the probability of the proposition being true; sentences containing reported propositions where the author(s) can be taken to be responsible for any tentativeness in the verbal group, or non-use of factive reporting verbs (*show, demonstrate, prove*) – authorial responsibility for the proposition is either explicitly shown, or denoted through the use of an impersonal subject; and sentences containing a reported proposition that a hypothesized entity X exists and the author(s) can be taken to be responsible for making the hypothesis.

The linguistic structures discussed in the classifications of hedging expressions so far all show a considerable amount of overlap in their respective functions. Therefore, the best way to observe hedges is as "polypragmatic" devices that can simultaneously convey several different meanings (Hyland 1996b, 437), as their interpretation is context-sensitive (and the same form does not always have the same function in each context). Lewin concurs with this in stating that "there is clearly not a one-to-one relationship between the rhetorical act of hedging and a particular class of lexical, grammatical, or semantic representations" (1998, 90) and that "hedging must be considered in context" (1998, 91). Hedges are construed as a combination of "context (type of discourse), the colloquial situation and the speaker's/writer's intention, plus the background knowledge of the interlocutors. […] The pragmatic function of hedging is implicit at the level of utterance and not explicit in any lexical unit" (Clemen 1997, 243). Hedges are indeed "a productive linguistic device" and "can be achieved in an indefinite number of surface forms" (Brown and Levinson 1987, 146). They may also take "unpredictable forms” (Hyland 1994, 243). Due to their polypragmatic, multifunctional, heterogenous, and open-ended (Adamczyk 2015) nature, we could say that their number is practically indefinite, and that any merely form-based categorisations are impossible.

While most of the categorizations of hedges have fed into the classification in this dissertation as an invaluable resource (see Chapter 4 for a detailed discussion), one aspect in which the classification in this dissertation differs from classifications of hedges is in the perception of what a hedge is in relation to the concept of stance.

The notion of hedging only corresponds to one strategy described in my taxonomy – the strategy of indetermination (based on Martín-Martín’s (2008) strategy of the same name – see Chapter 4.2 for a detailed discussion). The notion of stance, on the other hand, is more encompassing, and therefore chosen as the umbrella term including all the strategies devised and described in the Chapter 4, which introduces the research model of my analysis. However, given the narrower nature of the notion of hedge, it will be related to the concepts of mitigation, attenuation, indeterminacy etc. in the remainder of this sub-chapter, in order to anchor it firmly in the strategy of indetermination as used in the current work (see Chapter 4.2). In this sense, following Crismore and Vande Kopple (1988, 184–185, 1997, 84), the notion of hedges used here can correspond to weakeners, downtoners, detensifiers, and understatements, as well as to indicators of degrees of reliability.

Contrastive, as well as interdisciplinary work on the notion of hedging is abundant. While some research has been relevant for the research model, despite dealing with other genres, such as political discourse (Al-Rashady 2012; Fraser 2010a; Furko 2017; Rabab’ah and Abu Rumman 2015), there is plenty of work done in the area of hedging in academic writing (Crismore and Vande Kopple 1988, 1997; Crompton 1997; Dudley-Evans 1994; Grabe and Kaplan 1997; Hyland 1994; Lewin 1998; Varttala 2001; Ventola 1997) and especially in science (Hyland 1996a, 1996b), economics (Bloor and Bloor 1993; Clemen 1998; Channell 1990; Crawford Camiciottoli 2001; Lakić 2015), medicine (Prince, Frader and Bosk 1982; Salager-Meyer 1994; Varttala 1999), economics, medicine, and technology (Varttala 2001), marketing, biology, and mechanical engineering (Vázquez and Giner 2008). Schröder and Zimmer (1997), in particular, in addition to giving an overview of the development of the concept of hedging, discuss the research conducted on this notion in other languages (i.a. German, French, Spanish, Italian, Russian) and relate it to other notions and communicative purposes – much like I did – vagueness, politeness, mitigation. Blagojević (2007) refers to hedging as a rhetorical strategy aimed to signal caution and prudence in the presentation of research results and claiming that hedging can be expressed differently in academic discourse of different national cultures.

In Serbian, contrastive work includes i.a. Blagojević (2007), D. Đorđević (2016) and Vučićević and Rakić (2020b). To start with, Blagojević (2007) relied on Hyland's (1996b) classification of hedges as content-oriented and reader-oriented. The former can be expressed, according to Blagojević (2007, 128–129), through epistemic modality markers, as it concerns the notion of uncertainty (*može biti, bar za sada*), and the latter concerns the author's presence in the text (through the use of personal pronouns – *po mojoj proceni*) or their absence (through impersonal constructions – *navedeni primeri ukazuju*). In this sense, Blagojević's categorisation is more functional, while D. Đorđević's (2016) is strictly semantic:

- verbs: epistemic modal hedges (modal verb *moći*) and lexical hedges (*sugerisati, implicirati; misliti, verovati; izgledati, činiti se; nastojati, pokušati*)
- adjectives: *verovatan/na/no, nesiguran/na/no, moguće*
- adverbs – in Serbian, modal adverbs can be seen as personal stance particles (Stanojčić and Popović 2000): approximative (*otprilike, približno, blizu, oko, gotovo*), epistemic (*možda, verovatno, eventualno*), truth (*praktično, u suštini, suštinski*), indeterminate (*nešto, relativno, neznatno, delimično*)
- nouns: *sugestija, implikacija; verovatnoća, mogućnost; pretpostavka, mišljenje*

Vučićević and Rakić (2020b, 86–88) combined these two approaches in the following:

- Content-oriented hedges regarding reliability: verbs (modal verbs *moći, trebati, morati*; lexical verbs *pretpostaviti, verovati, smatrati, očekivati, nastojati, želeti, težiti, pokušati, činiti se*), adjectives (*moguć, eventualan, verovatan, potencijalan, izvestan, poznat*), adverbs (*moguće, eventualno, verovatno, možda, navodno, suštinski, praktično, naizgled*), nouns (*ideja, pretpostavka, hipoteza, utisak, pravilo, mišljenje, polazište, teza, verovatnoća, mogućnost, potencijal, tendencija, namera, pokušaj, implikacija, indikacija*), conditional clauses (*ako, ukoliko, kad*)
- Content-oriented hedges regarding precision: adjectives (*približan, prosečan, neki, jedan, svojevrstan, pojedini, određeni, kakva-takva*), adverbs (*skoro, oko, gotovo, približno, prosečno, manje-više, nešto, relativno, donekle, pomalo, bar, barem, makar*) and prepositional expressions (*u izvesnoj meri, u izvesnom smislu, u proseku, u osnovi*)

- Reader-oriented hedges with authorial absence: passive construction, the use of nouns referring to the article (*činjenica, parametar, analiza, rezultat, primer* + *ukazati, ilustrovati, pokazati*)
- Reader-oriented hedges with authorial presence: personal pronouns (*ja, mi, nas, nam*), possessive pronoun (*naš, našem, našeg*), first person verbs and substantive lexeme *author*

My own taxonomy, of course, does not coincide with these ones in their entirety. However, the combination of semantic and functional approaches derived from these three studies proved to be valuable for my own classification of stance markers (see Chapter 4).

In German, on the other hand, contrastive analyses were conducted in comparison to English (Clyne 1987, 1991; Kreutz and Harres 1997), which is seen as relevant for this study too. Clyne (1987, 213, 1991, 57) noted that German academic register is marked by the use of agentless passives, and impersonal and reflexive constructions; hedged performatives using modals *kann, muss,* and *darf* and passive infinitives; 'empty' discourse markers with *es*; nominalizations and compound nouns, and syntactic complexity, and is meant to "confirm the status of the writer" (Clyne 1987, 213). The first three were seen as markers of cultural differences between English and German academic discourse (Clyne 1991, 57).

Clemen's (1998) contrastive analysis of hedges found in economics articles written in English and German included a semantic taxonomy similar to D. Đorđević's (2016) above (only German hedging devices will be given here):

- modal verbs: *kann/können, muss, darf/dürfen, will/wollen, soll, mag/möchte, werden*
- modal words: *vermutlich, möglicherweise, wahrscheinlich; glücklicherweise, leider*
- modal particles: *ja, nun mal, eben auch* (see Burkhardt 1994; Waltereit 2001)
- epistemic verbs: *scheinen, erwarten, halten* (Diewald and Smirnova (2010) also see *scheinen* + *zu* infinitive constructions as evidential in present-day German)
- vague expressions: *viele, knapp über, schätzungsweise*
- hypothetical sentence structures and expression of reference signal/hearsay expression: Konjunktiv I and Konjunktiv II
- adversative/concessive/restrictive conjunctions: *aber, (je) doch, nur, sondern; obschon, obwohl, wenngleich; aber, jedoch, sondern*
- impersonalization constructions: impersonal constructions and indirect phrases with impersonal sentence beginnings (*es ist zu/es ist notwending/sicher*) (Öhlschläger 1989);

impersonal/inanimate subjects (*Daten, Zahl*); impersonal pronouns (*man*); passive constructions (including modal passive and reflexive structures)

- parenthetical constructions
- rhetorical questions
- attribution: Konjunktiv I and indirect speech, hearsay markers and evidentials (*X soll, dem Vernehmen nach, entsprechend*)

In addition, Kreutz and Harres (1997) conducted an analysis of hedging devices – impersonal constructions, passive agentless constructions, passive infinitive constructions (*ist zu + infinitive, es + modal passive*), reflexives, modals (*können, müssen*) and particles (*ja, zwar, doch, vielleicht, durchweg, natürlich, etwa, wohl, mindestens, allerdings, offensichtlich, durchaus, kaum, also, immerhin*) in German, as well as English. Burkhadt (1994) also mentions the following particles: *denn, halt, ja, eben, einfach, doch, schließlich, schlicht, irgendwie, natürlich, allerdings, freilich, nur, dabei, immerhin, wenigstens, schon, nämlich*, claiming they are characteristic of German language (see also Waltereit 2001). In German, passives and impersonal reflexives are seen as scientific jargon, and used to establish academic authority (Kreutz and Harres 1997, 190). On the other hand, in English, agentless impersonal constructions were found to express more categorical statements, and fewer passives are used (1997, 191). As seen in the examples given, modal particles in German hold a special place for downtoning and are combined with modals and passives as hedging devices in academic writing (1997, 192). Downtoners – *doch, ja, durchaus, offensichtlich* – secure and justify factual statements and appeal for agreement from the readers; *wohl* and *eigentlich* serve as mitigators; *allerdings*, *immerhin* and *zwar* serve to limit the proposition; *etwa* expresses a logical consequence and provides additional evidence for the factual correctness of a proposition (1997, 193). These particles are, above all, seen as multifunctional devices with a pragmatic function – encoding pragmatic information, presentation of the communicative intention from the author and its interpretation from the reader (Abraham 1991; Fraser 1990, 1996; Jacobs 1991; Kreutz and Harres 1997, 195), thereby not adding anything to propositional content (Aijmer 1996, 2015; Furko 2017; Waltereit 2001). Finally, Clyne (1991, 58) mentioned reflexive constructions such as *zeigen sich, lassen sich* (modal-passive meaning in Duden 2022), which have shown to be quite prominent in my corpus as well.

However, as amply stressed in previous research and suggested by the taxonomies of metadiscourse, modality, evidentiality and hedging expressions given above, speakers signal their stance linguistically, choosing from a broad variety of linguistic expressions, which can at times overlap. This overlap indicates that each of these concepts can usually be expressed by several structures, which in themselves are polyfuntional, i.e., they usually can be assigned not just to one category, but rather to several of them. This is illustrated in Figure 3, in which the inner layer exhibits the relatives of stance, while the outer layer exhibits the linguistic variety of stance expressions. The polyfunctionality of these expressions is illustrated graphically here by the arrows, suggesting rotation in the flexibility of these expressions.

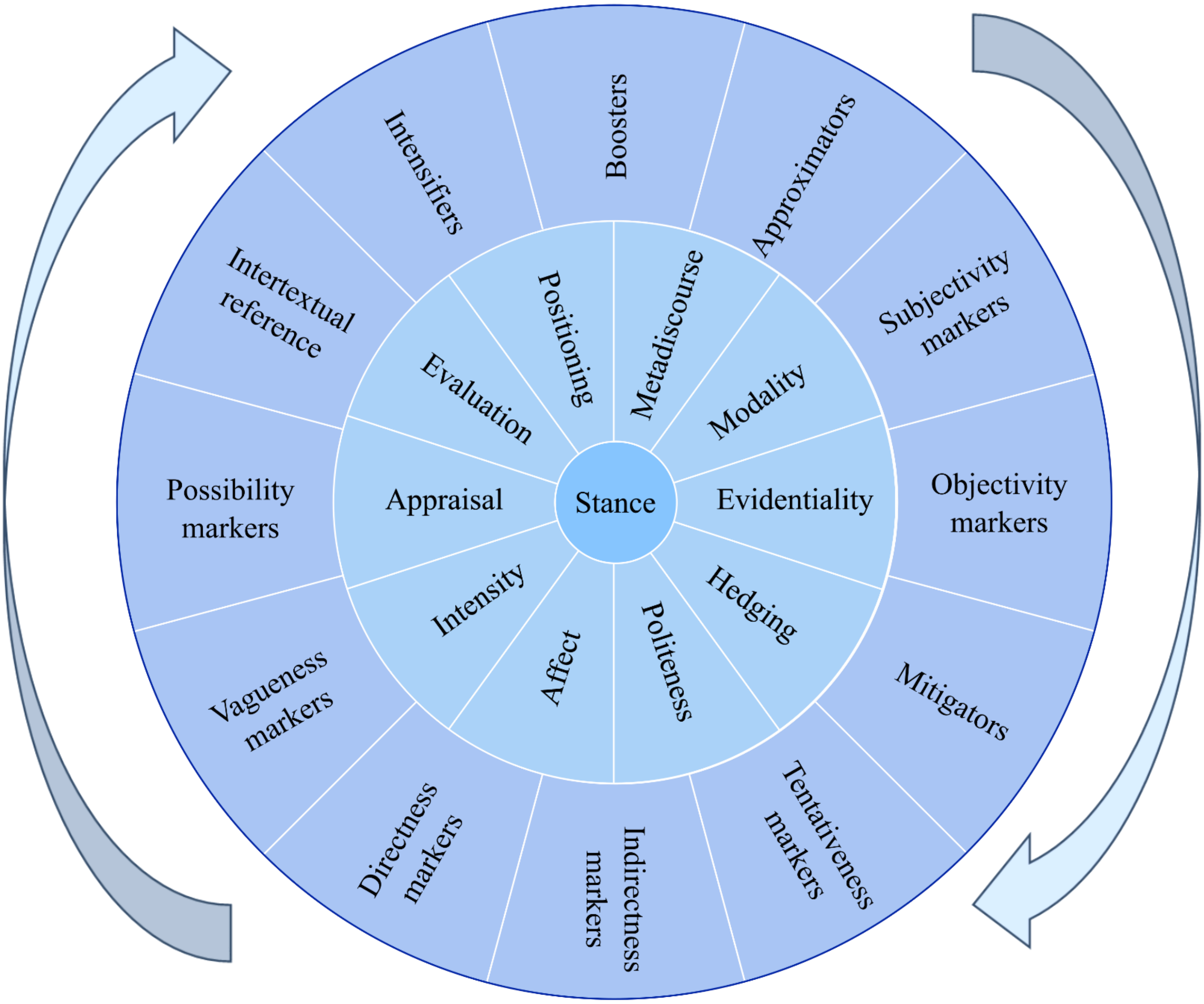

Figure 3: The interrelatedness of stance with other conceptual categories and formal means of expression, Rodić

In relation to these taxonomies, a comparative analysis of formal and linguistic categories of stance markers is important to make here, as there are certain overlaps in most salient stance expressions in previous literature.

Douglas Biber conducted the most comprehensive research on stance markers in English in various works, taking a rather broad view on stance which includes several related categories as also outlined in Figure 2: in some of his works, he derived these markers from several categories and word classes and categorised them according to different semantic and grammatical criteria, focusing on verbs, adverbs and adjectives (Biber and Finegan 1989, 119–122), and further, on adverbs, adjectives, lexical verbs, modal verbs, nouns, prepositional phrases and different types of clauses (Biber et al. 1999, 972–975), as well as established stance adjective and stance noun structures characteristic of academic writing (Gray and Biber 2014). On the other hand, Biber and Finegan (1988), as well as Conrad and Biber (2000) focused solely on adverbials as stance markers, noting that "most adverbial forms that function as stance markers can serve other functions as well" (Biber and Finegan 1988, 8). In addition, stance adverbials play a crucial role in academic prose which "is often concerned with the certainty of information, and with giving some evidence of sources" (Biber et al. 1999, 860); e.g. Diani (2008) focused on *really* as an emphasizing marker of certainty and Silver (2003) focused on *evidently* as a metadiscoursal epistemic marker of stance.

Among these different formal categories, a differentiation can be made between three distinct kinds of meanings they express – be it only adverbs (Biber 2006, 100), or other parts of speech and more complex types of expressions (Biber et al. 1999, 854–857; Conrad and Biber 2000, 57):

- epistemic stance (certainty, doubt, reliability, limitation, source of information, degree of likelihood, perspective),
- attitudinal stance (attitudes, evaluations, feelings, value judgements, or assessments of expectations)
- style stance (manner of speaking or conveying a message, or the perspective that the information is given from, the manner in which the information is being presented).

Biber (2004, 109) related stance markers to modal meanings, including among them expressions introducing complement clause constructions (*seem to, appear that, intention to, fact that*) and stance adverbs (*apparently, certainly*), as well as stance markers of personal expression – attitudinal expressions (*surprisingly, hopefully, be annoyed that, would prefer to*). He also mentioned different communication verbs as conveying different kinds of stance and attitude (2004, 111) and emphasized modal verbs and complement clause constructions as "especially common" stance devices (2004, 115). This will be elaborated in Chapter 4.

Even though hedging expressions are most closely related to my classification of stance markers, there are many forms that express stance which "[relate] to meanings of modality" (Biber 2004, 109). Among them, semantic meanings of epistemic items can be said to inherently carry speaker's subjective stance (Kärkkäinen 2003, 22). It is not only modals that are considered in this category, but also "a rich diversity of modal expressions that provide speakers with considerable latitude in the modulation of their worldviews" (Hoye 2009, 100). Next to evaluation, attitude, appraisal, affect, modality, evidentiality – "knowledge of, belief in or commitment to propositional content" (through the notion of epistemic stance), Jaffe (2009, 6) discussed a further notion related to stance: *assessment*, defined as "claims to authority or responsibility", which directly intertwines these notions, much like it is discussed in my theoretical background (see Chapter 2), in my restructuring of the concept of stance (see Figure 2) as well as in my research model of analysing stance outlined in Chapter 4.

The main grammatical, lexical, and semantic structures found in previous literature as expressions of stance (and the relating concepts) are condensed in Table A 1 in Appendix 1. This table focuses on the seven types of expression discussed most extensively in the literature and across the board of disciplines and languages compared here. It is meant to provide an attempt at a comprehensive review of some grammatical concepts which were often assigned to the concept of stance. They have been extracted here for the purpose of helping build the research model and to aid an important step in the subsequent analysis of my data (see Chapter 4 and Chapter 5 on the methodology for details).

While providing an attempt at a comprehensive review of some of the lexical and grammatical concepts most frequently assigned to stance and its related concepts (as discussed in Chapter 2.5), Table A 1 cannot account for the broad and open-ended inventory of lexical expressions used in stance-taking, as discussed in the literature. These categorisations and their varied uses are based on differing functions and motivations behind their use. These range from the use of modal verbs, as well as other modal markers (adverbs, adjectives, and nouns) to denote possibility and indeterminacy, but also certainty and attitude (through adverbs and adjectives) and frequency (through adverbs), to the use of subjective statements to indicate probability and personal opinions, or impersonal statements to indicate detachment. All these forms have shown to be pertinent in my own research model as well (as outlined in Chapter 4).

Upon careful review of the previous research, for my own model, I chose to focus on the strategies one might employ to express their attitude in writing, and in this respect, my own taxonomy relied heavily on Martín-Martín's (2008) classification discussed above. However, Martín-Martín uses the term *hedging* and focuses on the "frequency of occurrence and distribution of the various strategies and the linguistic devices associated to each strategy which perform a hedging function in the different structural units of the articles" (Martín-Martín 2008, 133). I am going to expand on this, looking at stance as the main concept, rather than hedging. Even though the notion of hedging is also multi-faceted and overlaps with the notion of stance in many respects, it is traditionally most tightly connected to uncertainty and vagueness, used for down-toning statements (Salager-Meyer 1994, 150) and expressing "academic modesty" (Baratta 2009, 1407), which does not seem broad enough to encompass all aspects of stance. Therefore, hedging is considered an integral part of the devised concept of stance in this dissertation, as a strategy (of indetermination). In addition, Martín-Martín's taxonomy is based on lexico-grammatical forms and strategies seen as hedges within his corpus (Martín-Martín 2008, 136), and my own taxonomy is based on stance markers. Much like him, I view stance markers as a highly context-sensitive and context-dependent socio-pragmatic concept and a subjective phenomenon, so my taxonomy of stance markers takes into account "both the linguistic and situational context" (Martín-Martín 2008, 137–138).

In tune with Hyland (1998a, 156), I claim that stance marking devices are polysemous and polypragmatic, as they "[…] often have different semantic interpretations, [… and] may also convey a range of meanings for particular users in particular contexts". In this respect, they can again be viewed as similar to hedges, as they also "convey a range of functions simultaneously, preventing the formation of discrete descriptive categories" (Hyland 1998a, 251).

The goal of this chapter was to address Kiesling's (2011, 1) claim that "[…] stance is still a remarkably contested concept; it is still not clear [whether] all researchers use the term in a similar way, and especially whether they agree on the linguistic resources a speaker can use to make a stance claim". This is why I tried, firstly, to see stance as a term which co-exists with many others as outlined in Chapter 2 and illustrated in Figure 2, and secondly, to provide an overview of some linguistics resources which are most prominent and salient in literature, in order to provide a sound basis for my own research model outlined in Chapter 4, which attempts at taking all these interrelated notions and devices into account. My desire for this dissertation is a similar, corpus-based and onomasiologically conducted analysis, which leans on this abundant previous research.

Chapter Four

A Unified Research Model of Stance

Following the outline of conceptual categories related to the concept of stance-taking in my research (see Chapter 2), as well as my own understanding and definition of *stance* for this research and its formal means of expression (as given in Chapter 3), I was able to devise an operationalizing research model of linguistic strategies of authorial stance-taking and their respective formal markers to be used in the actual analyses in this research, in accordance with Research Question 1 (see Chapter 1).

Therefore, this research model is, on the one hand, a unified conceptual model of stance relying on and including the previously mentioned empirically based conceptual categories, and onomasiological in its approach of bringing form and function together. An onomasiological (function to form), rather than semasiological (form to function) approach means that the expressions scrutinized for their potential to express authorial stance were not only discovered in the corpus through a word search inspired by the lexical and grammatical means outlined in Chapter 3.2, focusing, e.g., on a particular part of speech, such as modal verbs (*can*) expressing possibility, indeterminacy, or mitigation. Rather, the corpus was analysed qualitatively, i.e., contextually, in order to determine whether a particular form can be characterized as denoting a strategy, e.g. that of indeterminacy or approximation. Additionally, this model goes beyond the related conceptual categories of stance in employing the onomasiological approach in the qualitative analysis, as the design of the research model is drawing on the corpus itself, carving out the central strategies of authorial stance-taking in my data dynamically, by combining the categories from previous research (outlined in Chapter 3.2) and adding new ones where necessary, based on the socio-pragmatic context.

On the other hand, this concept-based, onomasiological approach in linguistic analysis must be operationalized through the identification and classification of formal means of expression as indexical structures, in order to deduce how functional categories are expressed. Therefore, for operationalizing stance in terms of expressions in this research, I relied on the many previous indexical formal means of expression of stance and its related notions described in previous research (see Chapter 3.2), systematically supplementing the model in the course of the qualitative analysis of my corpus, based on their concrete interpersonal pragmatic function in each context. Explicating the complex links between the conceptual components of authorial stance and potential linguistic means of expression which realise these are a prerequisite for the actual linguistic analyses of stance in natural texts in the sense of spotting potential token structures for the various functions. These have been amalgamated into the six strategies expressing authorial stance – depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference, which are the subject of this chapter. These strategies proved central for my data and were devised for the purpose of this dissertation as the core of my unified research model. They were concurrently deduced from functions fulfilled by groups of formal expressions discussed in Chapter 3.2, which served as the semasiological starting points for the detailed qualitative contextual analysis in my own research. Despite some of these categories being mentioned to different extents in previous literature (especially the first five), though often under differently delineated and overlapping conceptual and formal categories, the last strategy was hardly ever mentioned and never systematised until now in the context of academic writing.

The distinction between the first five categories and the last one is in its core the stance the author takes towards knowledge acquired first-hand vs. second-hand and ultimately, rests in the dialogic nature of scientific writing. Just as the scientific articles constituting the corpus for this research are largely empirical, so is the knowledge the authors' acquired when conducting the research also empirical: it is knowledge acquired by means of senses, particularly by observation and experimentation. Inevitably, when conducting this research, the authors of scientific work adopt their stance towards their own work and position themselves and their work in relation to the audience and previous work conducted in their field. This way, even this seemingly passive form of communication is actually a dialogue, as Bex (1996, 53) notes:

> If we characterise this process as a form of dialogue, then it is a dialogue involving a number of participants. On the one hand, it is a dialogue with all previous written texts; on the other, it is a specific dialogue with its intended audience. In the construction of a text world, writers, to a greater or lesser extent and deliberately or otherwise, refer to such anterior texts as will situate their texts in an ongoing dialogue and in the process reorder the text-world that has been constructed through these anterior texts. Readers, on the other hand, also need to appreciate where the new text stands in relation to previous texts in order to interpret texts successfully.

The former part of the dialogue, corresponding to previous texts, might align with the sixth strategy of evaluative reference, whereas the latter part of the dialogue, corresponding to the audience, might align with the first five strategies. Whether the strategies concern expressing stance regarding the piece of writing towards the audience, or towards previous work, it is nonetheless an expression of stance or position towards empirical knowledge. This stance may be expressed via markers of indeterminacy, possibility, subjectivity, objectivity, vagueness, tentativeness, directness or indirectness, mitigators, approximators, intensifiers, boosters, and intertextual reference (as indicated in the outer layer of Figure 3 in Chapter 3).

Throughout the six functional strategies, by using the denoted pragmatic markers of stance, the author modifies their illocutionary act. Through their linguistic choices, authors can signify certainty or lack of certainty, desire to express conviction or lack thereof, and ultimately, influence the perlocutionary act of their audience, i.e., how their intentions are interpreted, with the ultimate hope of persuading or convincing their audience (Hyland 1998a, 23). As Hyland (1996b, 436) puts it:

> Research scientists acquire academic credibility by gaining readers acceptance of the most significant assertions their findings will support. Securing this objective involves relating illocutionary acts to perlocutionary effects. A writer wants a message to be understood (an illocutionary effect) and to be accepted (a hope for perlocutionary effect).

By expressing their speculation or detachment from the claim, or assuming the responsibility or subjectivity related to the claim, the author would potentially want to prevent the reader from opposing the claim, or disagreeing with them, which is what the readers should infer from the text. The very use of these stance markers, expressing an assumption or subjectiveness of claim, rather than factuality, shows an "unwillingness to make a commitment to conclusions" (Hyland 1996b, 442). This means that the author is flouting the Maxim of Quality – "Try to make your contribution one that is true" (Grice 1975, 46), with the aim of maintaining the cooperative principle (Grice 1975) by preventing opposition. Writers rely on context, even more so than on linguistic cues, and "so implicatures are an important way of drawing and exploiting knowledge shared with readers about the purpose, subject and assumptions of the discourse" (Hyland 1998a, 41). Fraser does note, however, that there is no certainty that the intended perlocutionary effect, the mitigation, will actually be achieved, as "it is ultimately, up to the hearer to determine whether or not an unwelcome effect has been softened" (1980, 349). This is also confirmed by the analysis of my data (see Chapters 7–9), which indicates that the readers' perceptions of illocutionary acts are highly subjective and discipline-dependent.

Upon careful consideration of the manners in which the dialogue with the audience can be established and how the authors attempt to influence the perlocutionary act of their audience, these six strategies proved to be most prominent in the corpus (see Chapters 4.1–4.6).

4.1 Strategy 1: Depersonalisation

This strategy is used to diminish the presence of the author in the writing, and it is related to the notion of impersonal and objective reporting on the results of the research. If one were to think of a prototypical piece of academic writing, it would most probably include impersonal forms and passive voice. Biber (1988, 14) claims the use of passives and nominalizations, along with scarce use of pronouns and contractions, to be a feature of a scientific text, whereas an abundant use of first and second person pronouns and contractions and scarce use of passives and nominalizations is a feature of conversational text. For the most part, impersonality is strongly believed to increase persuasion, authority and credibility of the author and contribute to objectivity, and is therefore the preferred and recommended form of writing in science. There is a clear preference for the depersonalised type of reporting, especially in the hard sciences, as "academic research is purely empirical and objective, and therefore best presented as if human agency was not part of the process" (Hyland 2001a, 208), and the subject is deemphasized (Baratta 2009, 1406).

This strategy was also adapted from Martín-Martín (2008), and while he claims that the expressions denoting depersonalisation (see Chapter 3.2) are used by the authors "in order to relieve themselves of responsibility for the truth of the propositions expressed" (2008, 139), I believe more impersonal constructions can actually be used to strengthen the claims made (see depersonalisation sections in Chapter 7–9 for a systematic presentation of examples). By diminishing the authorial presence and using impersonal constructions, the authors may want to claim that something could be taken for granted. Lachowicz claims that "a function of the passive in scientific discourse is to reflect objectivity; i.e., to signal or underscore an impersonal perspective in research" (Lachowicz 1981, 106), which would mean that this perspective is clear of any subjective opinion. This is supported by Hyland's view that objectivity in reporting disguises "interpretive responsibilities and […] rhetorical identities" (2005b, 147).

Depersonalisation corresponds to Hyland's writer-based hedges, which "enable writers to refer to speculative possibilities while alluding to personal doubt, thereby avoiding personal responsibility for statements and limiting the damage which may result from categorical commitments" (1996a, 257). Hyland often discusses the issues of subjectivity and objectivity in academic writing, and notes that "impersonality is seen as a defining feature of expository writing as it embodies the positivist assumption that academic research is purely empirical and objective" (2002a, 1095, 2012, 128). Hence, it is not important who conducted the experiment, only that the experiment has been conducted and that a subsequent conclusion has been made.

Baratta agrees with this in stating that "the 'recorded results' are the focus, not the 'recorder'" (2009, 1409). Objectivity in reporting the results puts the actors/authors of experiments performed in the background, so that "the authority of individual is secondary to the authority of the text and facts should be allowed to 'speak for themselves'" (Hyland 2005b, 147).

Reilly, Zamora and McGivern (2005, 190) differentiate between characteristics of expository and narrative texts, the former being characterized "by an impersonal stance and [the presentation of] universal ideas and propositions", and the latter by "a higher frequency of personal pronouns because of their personal, involved stance". They claim that the purpose of expository texts is "to inform the reader or listener rather than to entertain or engage" and that they are therefore "characterized by a detached, impersonal stance, and express an attitude of possibility and of irrealis mood, rather than of certainty", which is indicated through the use of impersonal pronouns, modals of possibility and passive constructions (2005, 192). On the other hand, "more personal pronouns, fewer modals and other markers of propositional attitudes, and fewer passive constructions" are characteristics of narrative texts (2005, 192). However, as will be seen from the corpus examples in the analysis (see Chapters 7–9), while scientific writing could be said to fall under the characteristics of expository writing, some characteristics of narrative writing are also present, especially for the purpose of engaging the audience and conducting a dialogue.

While in this thesis I will not delve into certain societal factors which may influence the use of passive stance (such as gender, race and age – see Ivanič 1998), I will support Hyland's and Lachowicz's position that this is discipline-dependent, as Hyland notes that impersonality is more common in hard science papers (2005b, 144, 147) and Lachowicz's observations confirm that objectivity is common in science and technology (1981, 108). Both findings will be clearly corroborated by the findings in this dissertation (see Chapters 7–9).

The strategy of depersonalisation can also be related to evidentiality, as the claim is deictically removed from the author, and the origin of the claim is attributed to a different source rather than the author – explicitly (through the use of impersonal active constructions with non-human entities acting as an extension of agentivity, e.g. *research shows*) or non-explicitly (through the use of agentless passive and impersonal constructions).

Hinkel also relates the use of passive voice with politeness in claiming that it "serves to remove direct reference to the speaker and the hearer, and […] avoid[s] a potential imposition or a threat to the speaker's/hearer's face" (1997, 379). She also sees nominalization of verbs and adjectives in written English as having the same function (1997, 380).

There are two opposing views regarding the motivation behind the use of passive constructions (Hyland 1998a, 77): either to distance and detach oneself from the text (Reilly, Zamora and McGivern 2005, 191) or to show more responsibility for the statements (Lachowicz 1981, 106) and give them more weight (1981, 107). Lachowicz adds that passive voice is used to "emphasize the important aspects of the subject matter which results in objectivity of tone" (1981, 108), subsequently maximizing credibility (1981, 111). Objectivity in research ensures replicability and verifiability (1981, 108), which is confirmed by Hyland: "Removing the agent helps remove the implication of human intervention and the possible subjectivity and distortions this might introduce, maintaining instead the authority of scientific knowledge as built on non-contingent pillars of replication, falsification and induction." (Hyland 2005b, 160) Depersonalisation also demonstrates "a grasp of scholarly persuasion as it allows the research to speak directly to the reader in an unmediated way" (Hyland 2001a, 208). On the other hand, according to Reilly, Zamora and McGivern (2005, 191), passive voice allows "opinions to be presented and generalized without overt attribution". Hyland summarizes these views:

> The use of an impersonal scientific discourse, for instance, implies that the writer has a commitment to universalistic knowledge motivated by conceptual issues. It helps construct an identity as someone who sees truth as originating in direct access to phenomena in the external world and who believes this truth is recoverable through controlled experiments (e.g. Whitley, 1984). We recognise here an individual who has confidence in methods of explaining the world through familiar procedures and relatively clear criteria of acceptability. By downplaying his or her personal role in the research, then, he or she not only highlights the phenomena under study and the generality of the findings, but his or her credibility as a scientist. The avoidance of first person strengthens the objectivity of interpretations by suggesting the research outcomes would be the same irrespective of the individual conducting it. (Hyland 2012, 18)

The following list of expressions consists of markers of depersonalisation found in Martín-Martín (2008, 139) and has been supplemented with expressions found in my own corpus after a first round of qualitative data analysis:

- Agentless passive and impersonal constructions with impersonal pronouns (*one, it*): *an attempt was made to see, it seems/appears that, an analysis was conducted, it is concluded, it is shown, one might think* – these impersonal pronouns "enable a speaker or writer to make universal, unspecified, or generic reference without invoking a specific or individual entity" (Reilly, Zamora and McGivern 2005, 189); constructions with *one* can be seen as equivalents of the passive (Wales 1996, 81)

- Impersonal active constructions in which a non-human entity, such as <u>findings, results, data, study, paper, analysis, article</u> acts as the subject of the sentence and has the role of the instrument (Quirk et al. 1985, 743): *findings suggest/reveal, these data indicate, the results suggest* – meaning the evidence for the claim is the research source itself and this is an explicit attribution of the source of knowledge to this non-human entity; the use of these nouns "reflects an ideology in which facts speak for themselves and where the role of the researcher is hidden" (Charles 2006, 501)
- Passive constructions: *was investigated, was concluded* – where the agent can be deemed redundant (Quirk et al. 1985, 165) and the source of knowledge is implicitly given as being distanced from the author as the agent and contributing to objectivity (Baratta 2009, 1406); Lachowicz (1981, 107) concurs with this in stating that "[passive constructions with inanimate, depersonalized subjects] are intended to emphasize what is important at the particular stage of research described, to the deliberate exclusion of everything else"

In relation to these three clusters of expressions, the process of depersonalisation refers to instances "[…] where the experimenter describing a process, methodology, or relationship between parts of a whole considers the information about himself as a human being irrelevant" (Lachowicz 1981, 107), which again puts the emphasis on the scientific process, rather than the scientists themselves. Lachowicz also claims that these forms add to "the economy of expression, [which is] most valued by technologists" (1981, 107) and which will be corroborated by my findings outlined in Chapters 7–9.

While Biber et al. (1999, 977–978) refer to impersonal markers as an ambiguous attribution of stance, I would argue that, depending on the context, this is indeed an implicit, but still clear, attribution of stance, as authorial stance can often be inferred as belonging to the writer[19]. These include (Biber et al. 1999, 977–978):

[19] While the focus and the emphasis are indeed removed from the agent in passive constructions, such passive constructions are still a valuable resource for expressing stance, as "[they] [allow] the expression of speaker/writer viewpoint" (Schramm 1996, 158) and the author to shift the focus and thereby put personal emphasis on a particular piece of information in the text (Baratta 2009, 1411).

- passive verb + complement clause (where stance is easily inferred as the author's action depending on the context, e.g. *was expected*),
- adverbial ed-clauses (e.g. *as expected* – authorial stance is easily inferred as the author's expectation, depending on the context)
- noun + complement clause/prepositional phrase (e.g. *the expectation, the claim* – authorial stance can easily be inferred from the context).

With regard to the strategy of depersonalisation, as well as the strategy of subjectivisation (see Chapter 4.3), some further important distinctions can be made between the use of active (used in both strategies) and passive voice (used only in the strategy of depersonalisation). As observed in astrophysics journal papers by Tarone et al. (1981, 135), the use of passive voice (e.g. *was performed*) as well as the use of the personal pronoun 'we' with a verb in active voice (e.g. *we performed*) and the respective rhetorical strategies show different patterns of use, some of which have been noted in my own corpus as well (see Chapters 7–9):

1) the first-person plural active *we* form indicates the author's unique procedural choice; the passive is used when the authors are following an established or standard procedure, accepted equations or describing what logically follows from their earlier procedural choice;
2) the first-person plural active *we* form is used to describe the author's own work, the passive voice is used for the work being contrasted; the active form of the verb is used to cite other contemporary work which is not in contrast to their own;
3) the passive is used to refer to the authors' own proposed future work;
4) the use of either active or passive is conditioned by discoursal functions of focus or by the excessive length of certain sentence elements.

Finally, Baratta (2009, 1406) juxtaposes the use of passive constructions as a means of expressing stance in a more covert and subtle way, as opposed to expressions which may suggest subjective attitudes, either through the use of first person or the use of emotionally charged words. As such, the strategy of depersonalisation can be seen as the other side of the coin of the strategy of subjectivisation which will be discussed below under 4.3.

4.2 Strategy 2: Indetermination

This strategy is related to means of formal stance expression of mitigation and indeterminacy, used to give a proposition less explicitness, more uncertainty and more vagueness, usually marked by hedging expressions and related to the concepts of evidentiality, epistemicity, and (epistemic) modality. Nugroho (2004, 17) states that hedging is "the way people express their uncertainty about something or state something uncertain". However, this is not to say that uncertainty or hedging is to be seen as something negative.

The use of any marker of uncertainty may, alternatively, be seen as a desire to be more precise in making scientific claims in academic writing (Salager-Meyer 1994, 151), a device for flexibility of expression, scientific uncertainty, or confident (im)precision (Skelton 1988), in order for authors to make their claims "indisputable and irrefutable" (Nugroho 2004, 20). Therefore, markers of this strategy convey academic modesty, as their research is only a drop contributing to the knowledge in the field, as Tarantino (1991) captures in her observation:

> In their search for truth (a direction in which all scientists are moving but which is not something one ever finally achieves) and 'through the attentive and painstaking organization of their thoughts, scientists acknowledge that their contribution is a mere glimmer of light in the stream of endeavours to investigate and penetrate the wondrous mystery which include man and the universe.' (Tarantino 1991, 33 in Salager-Meyer 1994, 151)

The strategy of indetermination was also adapted from Martín-Martín (2008, 138 – see Chapter 3.2). Indetermination markers are used to "implicate that the speaker is less than fully committed, or committed in some marked way, to the truth of the proposition" (Prince, Fraser and Bosk 1982, 85) and in this function appear to correspond to Prince, Fraser and Bosk's (1982) *Shields*. However, I have not differentiated between *plausibility* and *attribution shields* in this dissertation, because the authors' *plausibility shields* are supposed to signal a "lack of certainty" (Prince, Fraser and Bosk 1982, 90), which in my data would not necessarily be the case. Especially in scientific work, conclusions that are brought about are a result of careful preparation, investment of knowledge, and hard work, so it is quite unlikely that after years of studying and working in a particular field, a scientist would be uncertain in a claim they make. What can, however, be assumed, is that the writers of scientific articles are aware of different conditions influencing their work, certain findings potentially being false under different circumstances, so the vagueness in the language most likely comes from the expression of natural language as "neither true, nor false, nor nonsensical, but rather true to a certain extent and false to a certain extent, true in certain respects and false in other respects" (Lakoff 1973, 458), i.e. in different conditions. Authors may hedge due to "preliminary results, small samples, doubtful evidence, uncertain predictions, imperfect measuring techniques" (Hyland 1995, 35), or when expressing their speculations and surmises. In addition, the use of indetermination might aid authors to make their claims more acceptable through mitigation and prevent any opposition from other researchers (Martín-Martín 2008; Myers 1989). In that context, indetermination has an interpersonal character, aimed to make claims more acceptable through the expression of potential uncertainty, rather than actual uncertainty in the claims being made.

This is also supported by Salager-Meyer (1994), despite this claim being made for hedges as merely one, though rather prominent marker in this particular paper:

> […] hedges are first and foremost the product of a mental attitude which looks for prototypical linguistic forms (such as modals, epistemic verbs, approximators, etc.) for its realization, but these linguistic forms do not always carry a hedging nuance. Such an ambiguity – one linguistic form may serve many functions and the same function may be expressed using different forms – leads to the difficulty of identifying which of these linguistic forms are hedges and which are not. (Salager-Meyer 1994, 152)

Salager-Meyer (1994) confirms that, due to the polyfunctionality of hedges, markers that can function as hedges may have other meanings, apart from epistemic attitudes. This is in agreement with my own view that there is no one-to-one relation between form and meaning in stance markers (as discussed in Chapter 3). It is precisely because of this that an onomasiological approach proves to be extremely valuable, as well as a contextual analysis of the corpus, as the function of a particular expression can only be assigned once the situational context is also taken into account.

The following list of expressions consists of markers found in Martín-Martín (2008, 138), as well as Fraser (2010a, 204–205, 2010b, 23–24) and Salager-Meyer (1995, 131–133). Unlike the more general lists given in Chapters 3.2, this list has been tailored to capture the means of expression of stance-related concepts in relation to the strategy of indetermination, and has been supplemented with expressions found in my own corpus after a first round of qualitative data analysis:

- Modal auxiliaries: *may, might, can, would, could, should,* used to express possibility or hypothetical meaning (Quirk et al. 1985, 233–234)
- Semi-auxiliaries: *to seem, to appear, to tend, to look, to sound* – perceptive verbs for (R. Đorđević 2007, 442), which are used to express uncertainty (corresponding to *plausibility shields* in Prince, Frader and Bosk 1982); *appear (to), seem (to), tend (to)* belong to catenative verbs (R. Đorđević 2007, 558–559) – similar to modals, they have some copular properties, but are not equal to them, as they also express speaker attitude

- Epistemic lexical verbs: *to suggest, to speculate, to propose, to indicate, to estimate, to argue, to imply, to assume*, used to mitigate claims, "verbs which relate to the probability of a proposition or hypothesis being true" (Martín-Martín 2008, 138)
- Verbs of cognition: *to believe, to think, to surmise, to wonder* – non-factive verbs expressing an indeterminate degree of modalization (Trbojević Milošević 2004, 90)
- Modal adverbs or probability adverbs: *perhaps, possibly, probably, practically, presumably, apparently, seemingly, arguably, reasonably, not necessarily, maybe* etc.
- Modal nouns or stance nouns (also found in Biber et al. 1999, 970): *possibility, assumption, suggestion, tendency, claim, estimate*
- Modal adjectives: *possible, probable, likely, unlikely, potential, comparable, suggestive, indicative* – sentences with modal adjectives are exact paraphrases of modal adverbs in impersonal constructions (Bellert 1977, 345)
- Conditional clauses: *if true,* concessive conjunctions: *although, though, while, whereas, even though, even if*, conditional subordinators *as/so long as, assuming that, given that*
- Compound devices consisting of several expressions of this strategy (see also Salager-Meyer 1994, 1995) – consisting of combinations of modal and lexical epistemic verbs and modal adjectives and adverbs: *it would appear that, it seems reasonable that, it may suggest that this probably indicates, it could be suggested that, it seems reasonable to assume that, it would seem somewhat unlikely that it may appear somewhat speculative that* (these were seen as single markers of the strategy of indetermination in the corpus, despite consisting of several expressions marking indeterminacy)

Biber et al. (1999, 970) also refer to modals and semi-modals as stance devices, but less clearly marked. These markers denote an implicit attribution of stance, as it is inferred as belonging to the speaker (Biber et al. 1999, 977). However, the authors emphasize that it is impossible to overtly associate the stance with the writer by using the modal verb (Biber et al. 1999, 981). On the other hand, Vázquez Orta (2010, 79) also sees modals as common stance markers, "expressing either the degree of certainty of the proposition (epistemic modality), or meanings such as permission, obligation or necessity (deontic modality)", while also noting that they are "the least clear grammatical marking of stance" (2010, 79). Trbojević Milošević (2004, 93) claims that sensory evidentials inevitably carry an epistemic judgement, so that evidentials are epistemic judgements based on direct or indirect evidence. Trbojević Milošević (2004, 95) also notes that evidential constructions containing the catenative verbs *seem* and *appear* become objects of another, "objective" type of epistemic modalization – where the speaker epistemically judges an existing evidential judgement.

Some modal adverbs could be said to fall under the category of epistemic stance adverbials denoting doubt and certainty (Biber et al. 1999, 854), but while adverbs expressing doubt fall under the strategy of indetermination, adverbs of certainty fall under the strategy of intensification, which will be described below in 4.4.

Through the use of indetermination, "writers can maintain a commitment to truthfulness, while simultaneously hedging their confidence in the reliability of their assertions" (Hyland 1998a, 41). However, indeterminate utterances could also be seen as in and of themselves flouting Grice's maxims, as they may seem "over-informative, irrelevant, imprecise, or vague" (Hyland 1998a, 43). While these attributions may suggest that the claim is non-factive (Hyland 1998a, 44), I would claim that expressions such as these do not influence the ascribed truth value of an utterance, but rather take into account other possible outcomes and alternative views, and therefore simply open the door for other interpretations and possibilities, rather than signal lack of commitment and lack of security in the claim made. Expressions of indeterminacy, above all, convey deference, inviting the audience to join the conversation and judge the claims made – an interpersonal function especially plausible when one takes into account that other researchers may reach completely different results in different circumstances. This has also been observed by Salager-Meyer (1994, 150) who stresses that the authors of scientific articles might use these expressions in order to convey imprecision, vagueness, tentativeness, through understatements, "to make sentences more acceptable to the hearer/reader, thus increasing their chance of ratification and reducing the risk of negation".

Hyland discusses *hedges* (as an overwhelmingly overlapping notion with this particular strategy) as being "common in many academic writing traditions as a means of conveying indirectness, opening a rhetorical space for alternative views and avoiding responsibility for the certainty of the proposition" (Hyland 2005b, 132), and points out that:

> [h]edges are devices […] which indicate the writer's decision to recognize alternative voices and viewpoints and so withhold complete commitment to a proposition. Hedges emphasize the subjectivity of a position by allowing information to be presented as an opinion rather than a fact and therefore open that position to negotiation. (Hyland 2005b, 52)

It is interesting here that Hyland also relates the notion of subjectivity with hedging, which is, at least in this dissertation, reserved for the strategy of subjectification – one in which self-mention aims to express personal opinions and inject author's opinions overtly into the text, which will be discussed below (see 4.3). While some notion of subjectivity (as the expression of authors' assumptions and speculations) can be considered as a part of indetermination, especially in the case of empirical research, it cannot be said that findings from such research are mere "opinion[s]". In the context of indetermination, the notion of subjectivity can relate to the authors' speculations and surmises, as well as to acknowledging the possibility of alternative views and interpretations, based on diverging conditions of research.

4.3 Strategy 3: Subjectivisation

Subjectivisation acts as the other side of the coin of the previously mentioned strategy of depersonalisation (see 4.1) and is used to very overtly and explicitly insert the authorial persona into the writing, as well as to indicate that what is expressed is the author's personal stance, opinion and attitude. By overtly inserting themselves into the text, the authors are "taking a different ideological stance from those who don't" (Ivanič 1998, 308). This strategy is also mentioned in Martín-Martín (2008, 138) and Salager-Meyer (1994, 155), but in my own research it also includes the insertion of the authorial identity into research-related actions – to claim that the research is their doing. Subjectivity markers denote an explicit attribution of stance (Biber et al. 1999, 976). Lachowicz directly contrasts authors' use of active voice with that of passive, as an emphasis of "his own or somebody else's partial contribution or modification to the concept or theory" (1981, 111).

Subjectivisation is probably the most overt manifestation of authorial identity (Ivanič 1998; Hyland 2002a), especially through the use of first person (Hyland 2001a; Kuo 1999; Tang and John 1999). In academic writing, this is most commonly realised by subject pronouns (Hyland 2001a, 2002a) at the very beginning of the sentence, which clearly "announce the writer in the text" (Hyland 2012, 128). By putting a personal pronoun in the forefront, the claim in question has a strong personal indication, signalling the author's overt presence in the text and the research process (Hyland 2001a, 218). This is a manner of an author "unequivocally getting behind one's views to assert a confident and authoritative stance" (Hyland 2012, 129), which is "a key element of successful academic writing" (Hyland 2002a, 1094).

Subjectivisation is also referred to as **self-mention** – "an explicit intrusion into the text to stamp a personal authority onto one's views" (Hyland 2012, 183) and "clearly [demarcate] the writer's role in the research" (Hyland 2005a, 181). As I will show below, self-mention markers are used to denote processes connected to the research, writer's direct involvement in the research process and the conclusions derived from it. This explicit authorial presence is seen in the frequency of first-person pronouns and possessive determiners (*I, me, mine*, exclusive *we, our, ours*) (Hyland 2005b, 53). Their strategic use signals the presence of the author in the paper, emphasizes their role in the research and stresses their personal contribution to the field (Kuo 1999, 132). By implementing markers of authorial self-mention, authors are able "to emphasize, and to seek agreement for, their own contributions", leaving no room for doubt about their stance (Hyland 2002a, 1093). "Self-mention is a key way [sic] through which writers are able to promote a competent scholarly identity and gain accreditation for their research claims" (Hyland and Tse 2004, 172) as well as a "powerful rhetorical strategy for emphasising a writer's contribution" (Hyland 2001a, 207). The use of self-mention markers may seem controversial and daunting, but by inserting themselves into their text, the writers are actively breaking free of their role as simple narrators, instead becoming interlocutors in a dialogue with their audience, thereby constantly negotiating, adopting and inventing their 'selves' (their persona) in their writing (Tang and John 1999, 24).

Markers of authorial self-mention are particularly salient in previous literature and in my corpus, and show a wide variety of both disciplinary and formal expressions, evidenced in the three usages below:

(1) The use of first personal pronouns (*I/we*) followed by verbs of cognition (*think, believe*) or epistemic verbs (*suppose, suggest*) is used to indicate that what the authors are stating is their personal/subjective opinion (see also Aijmer 1996): *we believe, we think, we suppose, we surmise*; it can also have a hedging function (Kuo 1999) or alternatively, serve to convey certainty and "assurance of conviction" (Hyland 2001a, 221), thereby displaying "both individuality and community-derived authority" (Barton 1993, 750)

(2) The use of first personal pronouns (*I/we*) followed by verbs of performance (*conduct, perform*) used to indicate that the authors were closely involved in the experimental process, by "explaining what was done" (Kuo 1999, 132); this use contrasts the use of passive voice in the strategy of depersonalisation: *we are interested in, we focus on, we selected, we used* – the emphasis here is on the scientists who actually performed the experiment, and who made subsequent observations and conclusions

(3) Linguistic devices used to express the author's personal doubt and direct involvement (see also Salager-Meyer 1994, 155) and express the viewpoint and perspective of the authors, which they find to be true (Biber et al. 1999, 855): *to our knowledge, in our*

view, in my experience, it is our view that, we feel that; our approach, our findings – this possessive is supposed "to highlight what is proposed by writers themselves in the research, and emphasize writers' unique contributions", as well as to explain what was done, show results and findings and compare approaches or opinions (Kuo 1999, 135); these devices also mark "the writer's responsibility for [the claims] and property rights over them" (Ivanič 1998, 308)

The second usage, in particular, is referred to by Kuo as "exclusive we" (1999, 132) and by Wales as "authorial *we*" (1996, 66). It is used by authors to explain the conducting of an investigation, as well as to propose a theory or approach, state a goal or purpose, show results or findings, show contribution to research, compare and express expectations, and overtly emphasize their presence and their role in the research, all of which can also be found in my corpus. In addition, the observation made by Ivanič (1998, 307) proves to be very true: "[t]here is a continuum from not using 'I' at all, through using 'I' with verbs associated with the process of structuring the writing, to using 'I' in association with the research process, and finally to using 'I' with verbs associated with cognitive acts". These correspond to clusters of examples in my data as well, the first one corresponding to the strategy of depersonalisation (see 4.1) and the others to the three uses denoted above (1–3).

Hyland (2002a, 2012) also stresses the polyfunctionality of self-mention as serving various purposes, which correspond to my clusters as well:

- stating a goal/purpose (2012, 137) – stating the direction of the research and schematic structure of the argument, in the sense of a metadiscoursal intervention, as it does not concern the author's attitude, but is rather organisational (2012, 138), which corresponds to the second usage mentioned above as (2);
- explaining a procedure (2012, 138) – i.e., alignment of the author with the performed procedure (2012, 139), also partly corresponding to the second usage mentioned above as (2); this usage "might display disciplinary competence and emphasise the writer's unique role in making fine qualitative judgements […] [to] remind readers that personal choices have been made and that, in other hands, things could have been done differently" (Hyland 2002a, 1102)
- elaborating an argument (2012, 139) and stating results/claims is potentially the most self-assertive use of self-mention (2012, 140), as this "explicitly foregrounds his or her distinctive involvement in the paper and commitment to a position: it is the most

explicit feature of positioning and the adoption of a confident, assertive identity" (2012, 141), corresponding to the first (1) or third usage (3) mentioned above.

Much like in strategies (1) and (2), the use of subjectivisation can be seen as contributing to more or less certainty in reporting findings and conclusions, as well as the course of the research itself. On the one hand, "the use of first person allows writers to emphasise, and to seek argument for, their own contributions, speaking with authority and leaving readers in no doubt where they stand" (Hyland 2012, 129). In this sense, subjectivisation "assists authors to make a personal standing in their texts and to demarcate their own work from others" (Hyland 2001a, 217, 2012, 19). On the other hand, some authors mention that this type of markers is meant to convey uncertainty and indeterminacy (Urbanová 1995, 60), adding to attenuation through subjectivity. However, I would argue that this might only be true in the combination of subjectivity markers and epistemic verbs denoting doubt or speculation, such as in *we surmise* (but as noted above, the latter may also be done for interpersonal purposes[20]), but this is not necessarily true in other usages. Rather, the first person might indicate more certainty, confidence, authority and taking of responsibility for the claim and the arguments, as is also illustrated in my data (see especially Chapter 7). However, in combination with epistemic verbs, authors are indicating that something stated is only their personal interpretation and they "show respect for the reader's alternative opinion and invite the reader to become involved in the communicative situation" (Martín-Martín 2008, 138). Given its adaptability to various interpersonal aims, subjectivisation is an important display of competent academic identity and while it can be used by authors to highlight their expertise, in combination with epistemic verbs, it can also suggest that "in other hands, things could have been done differently" (Hyland 2012, 84). Therefore, this strategy "plays a crucial role in mediating the relationship between writers' arguments and their discourse communities, allowing writers to create an identity as both disciplinary servant and persuasive originator" (Hyland 2001a, 223).

Just as depersonalisation (see 4.1), subjectivisation can also be related to evidentiality, where the source of the claim is overtly attributed to the author, clearly indicating the source of the claim and the judgement behind it. Regarding this strategy, the word order of the proposition is crucial, since the rheme details the concept discussed in the research, and the foregrounding of the first-person pronoun identifies the writer as the source of the statement

[20] As noted in 4.1, the combination of subjectivisation and indetermination markers (as the expression of authors' assumptions) may be used by the authors to acknowledge the possibility of alternative views and interpretations, based on diverging conditions of research, and not as a mere opinion.

(Hyland 2002a, 1093). In addition, by clearly stating the subjective and personal source, the writer can signal that "the claim is left open to the reader's judgement" (Hyland 1998a, 182), which is also related to the notion of subjectivity.

Hyland also tackles disciplinary differences in relation to the differences between the abovementioned strategy of depersonalisation and the strategy of subjectivisation:

> In the humanities and social sciences, in contrast, the use of the first person is closely related to the desire to both strongly identify oneself with a particular argument and to gain credit for an individual perspective. Personal reference is a clear indication of the perspective from which a statement should be interpreted, enabling writers to emphasize their own contribution to the field and to seek agreement for it. (Hyland 2005a, 181)

According to Hyland, self-mention, i.e. the strategy of subjectivisation "has a far more visible role in the soft sciences" (Hyland and Tse 2004, 173) and is more likely to be more present "in humanities and social science papers […] where authors are more concerned to link themselves with their ideas more explicitly rather than subsume their voice to that of nature" (Hyland 2012, 129) – which complements the claim of more frequent use of markers of depersonalisation (see 4.1) in hard science papers. Hyland elaborates this by stating:

> In contrast, academics who work in the soft fields see knowledge as altogether more socially contingent and employ a discourse which projects a very different identity. Their language choices recognise that variables are generally less precisely measurable and less clear-cut than in the hard sciences, and so they need to adopt a form of argument that puts the real writer in the text. Here then, self-mention can help construct an identity as an intelligent, credible and engaging colleague with the desire both to strongly identify him- or herself with a particular argument and to gain credit for an individual perspective […]. (Hyland 2012, 18)

Based on this information, however, it is impossible to deduce which of the two previously mentioned strategies embodies more authority: on the one hand, the use of first person shows authority in a very clear, very visible manner and conveys no doubt on the stance of the author (even if it is only their personal interpretation – which can be assumed to bear enough authority if they are accomplished scientists); on the other hand, the use of impersonal forms does not leave room for any notion of subjectivity, as the reporting is solely factual and there is no possibility of alternative interpretation. It is my opinion that this is a matter of disciplinary practices, and that the visibility of personal voice is dictated by community routines and rules, which this research aims to disentangle for academic texts from three different disciplines written in three different languages.

4.4 Strategy 4: Intensification

This strategy includes emphatic expressions used to express the author's commitment to the truth-value of the proposition, as well as the authors' attitude towards the content of their text, corresponding closely to the concept of *booster* (Hyland 1998b, 2000, 2005b) or *emotionally-charged intensifier* (Salager-Meyer 1994, 1998). Martín-Martín (2008, 139) also mentions these expressions as part of the strategy of subjectivisation as "[q]uality-emphasising adjectival and adverbial expressions". While the majority of expressions found in the corpus do correspond to Martín-Martín's classification, this is a separate strategy in this dissertation, as I did not find the function of the strategy of intensification to be the same as the strategy of subjectivisation. While there might be some tangential similarities, the role of markers of intensification is to convey to the audience that the author is emotionally invested and wants to convince them of the truth and importance of their claim. These markers are used to project the authors' reactions and strong feelings, and "are used to convince the readers of the importance / truth of the propositions expressed by revealing the writer's emotional state" (Martín-Martín 2008, 139). As such, markers of this strategy can be seen as the other side of the coin of the abovementioned strategy of indetermination. Martín-Martín also sees the use of these expressions as a positive politeness strategy used to "show solidarity with the discourse community by exhibiting responses that assume shared knowledge and desires" (2008, 139).

While the usage of these markers may be seen as more forceful and potentially risky, it is an instruction to the reader on how certain things should be perceived. By using these expressions, the authors mean to convey assuredness and persuade their readers, and these intensifying expressions may serve to "mark information as beyond the realm of dispute in one way or another" (Biber and Finegan 1988, 21). Hyland (2005b, 53) refers to these markers as "attitude markers", which are used to "indicate the writer's affective, rather than epistemic, attitude to propositions", but as my own analysis will show (see Chapter 7–9), markers of intensification in my corpus are used to indicate both. When describing boosters, corresponding to markers of this strategy, Hyland notes that:

> Boosters […] allow writers to close down alternatives, head off conflicting views and express their certainty in what they say. Boosters suggest that the writer recognizes potentially diverse positions but has chosen to narrow this diversity rather than enlarge it, confronting alternatives with a single, confident voice. By closing down possible alternatives, boosters emphasize certainty and construct rapport by marking involvement with the topic and solidarity with an audience, taking a joint position against other voices […]. (Hyland 2005b, 52–53)

I would, however, argue, that this is not necessarily a means through which alternatives are limited, but rather that authors intend to establish solidarity with the audience and confirming their membership in the "disciplinary in-group" (Hyland 1998b, 353), therefore acting as a positive politeness strategy[21] (such as in the example *overwhelmingly felicitous* indicating the author's personal attitude towards the research observations, which they are conveying to the audience – see sections on intensification in Chapters 7–9). The only reason why writers feel confident using these markers is the common ground, the shared knowledge and the comity they perceive as having established with their audience.

Intensification markers in this corpus include Biber et al.'s semantic categories of stance adverbials (1999, 854). On the one hand, they can denote epistemic meanings, which express the speaker's judgment about the certainty and reliability of the proposition – expressing certainty (*certainly, undoubtedly*), actuality and reality (*really, actually*), source of knowledge (*apparently, evidently*) (Biber et al. 1999, 854–855), corresponding to Jaffe's notion of epistemic stance (2009, 7). In my own taxonomy, these are referred to as **certainty markers**, which are also used to emphasize statements, thereby being directly related to notions such as intensity and affect (see sub-chapter 2.5.7). They include emphasizers (*really, definitely, certainly*), intensifiers (*completely*) and amplifiers (*absolutely, extremely, highly, much*) (Quirk et al. 1985, 583–591). This list can also be complemented with Hinkel's (2003, 1058, 2005, 39) emphatics that reinforce truth value and amplifying adverbs, which strengthen verbs and adverbs. Reilly, Zamora and McGivern (2005, 190–191) also mention these markers, adding that modality markers may convey the speaker's attitude of certainty and necessity, which is especially true for deontic modals (used in epistemic functions, such as *must*).

On the other hand, intensification markers may denote affective meanings, expressing the authors' evaluation, attitude, feelings or assessment concerning the content of the proposition, thereby qualifying it according to their personal disposition. These markers correspond to Biber at al.'s attitude adverbials, and in part, style adverbials (1999, 856–857), as they can be seen as corresponding to Jaffe's notion of affective stance (2009, 7). In my own taxonomy, they are referred to as **attitude markers**. Whether an attitude marker is seen as a prototypical expression of the authors' feelings and attitudes may be dependent on the authors' personal disposition in the choice of a particular marker, its context of use, as well as the readers' personal interpretation. Therefore, these markers are seen as differing "in terms of [their]

[21] According to Brown and Levison (1987, 104), use of intensifying modifiers implies exaggeration to indicate interest and sympathy with the hearer and is a positive politeness strategy.

intensity and force”, falling somewhere on the spectrum between low, medium, and high intensity (Bednarek 2006, 47). The following list of these markers consists of examples from my own corpus, while corresponding examples can be found in Biber and Finegan (1988, 33–34), Fraser (1996, 179–184), Lester (1967, 61), and Martín-Martín (2008, 139). The respective structures can be seen as a lexical field, being similar in meaning (cf. Dragićević 2007; Prćić 1997): *extremely interesting/difficult, unexpectedly, surprisingly, overwhelmingly felicitous, particularly important/interesting, indeed, (un)fortunately, much more impressive* etc.

4.5 Strategy 5: Approximation

As another instance of *modalization*, outlined in Halliday’s (2004, 128) modality framework, related to speaker’s assessment of usuality of a proposition, markers indicating this strategy are often classified as another type of the polyfunctional category of hedging. However, this strategy is separate from the category of hedging in my own taxonomy, in order to carve out more precisely the often subtle differences in the various interpersonal aspects of stance-taking.

Approximation is used to express an estimation of, e.g., quantity, frequency, degree and time, by presenting the propositional content as vague, through approximators, adaptors, rounders, or qualifiers of quantity, frequency, degree, and time. Unlike the markers of the abovementioned strategy of indetermination (see 4.2), the markers of this strategy do not convey the author’s point of view regarding the proposition, but they nonetheless semantically influence the propositional content (Prince, Frader and Bosk 1982).

This is another group of expressions Martín-Martín (2008, 138) subsumes under his strategy of indetermination, but unlike him, I differentiate approximation from my own strategy of indetermination, as these markers differ analogously to the way content-motivated (content-oriented) hedges differ from reader-motivated (-oriented) hedges (Hyland 1996a, 1996b) (see Chapter 3.2). Markers of approximation are not used to “indicate an unwillingness to make precise and complete commitment to the proposition expressed” (Martín-Martín 2008, 138), but rather to implement an estimation into the propositional content itself, possibly, at an interpersonal level, for “self-protection of the speaker, the reason for which may be insufficient knowledge of the partner’s wants, opinions or beliefs […]” (Wilamova 2005, 89). Prince, Frader and Bosk (1982) make a similar differentiation between hedges related to propositional content and hedges related to the relationship of the speaker towards what is conveyed by the propositional content and its truth value. In this dissertation, the former – Prince, Frader and

Bosk's *Approximators* – would correspond to the strategy of approximation, whereas the latter – Prince, Frader and Bosk's *Shields* – would correspond to the strategy of indetermination. Their differentiation between these two strategies corresponds roughly to mine:

> One class of hedges introduces, or is responsible for, fuzziness *within the propositional content* proper [Approximators, MR], while the other class of hedges correlates with fuzziness *in the relationship between the propositional content and the speaker* [Shields, MR], that is, in the speaker's commitment to the truth of the proposition conveyed. (Prince, Fraser and Bosk 1982, 85)

Despite the strategy of approximation being semantically marked through expressions "that [affect] the propositional content but not the speaker-commitment", it is still a marker of authorial stance, as the author uses particular expressions to semantically and pragmatically influence the propositional content. These markers indicate that a statement "[…] is not categorically true, but rather true in some statistical sense; it may of necessity be true only as an approximation, a tendency, a mean" (Chafe 1986, 265).

Approximation expresses "some markedness, i.e., non-prototypicalness, with respect to class membership" (Prince, Frader and Bosk 1982, 86) of something stated within the proposition. In this way, approximation strategy markers may be closest to Lakoff's notion of a *hedge*, as what is stated within the proposition is "not simply a yes-or-no matter, but rather a matter of degree" (1972, 460). Brown and Levinson (1987, 145), relating hedging to negative politeness, agree with this in stating that "[…] a 'hedge' is a particle, word, or phrase that modifies the degree of membership of a predicate or noun phrase in a set; it says of that membership that it is *partial*, or true only in certain respects, or that it is *more* true and complete than perhaps might be expected".

While Bonanno (1982, 36) argues that markers of vagueness are used to "describe things that are difficult to quantify" (indicating an approximation), Salager-Meyer (1994, 155) states that not all approximators contribute to vagueness, as "some are used when exact figures are irrelevant or unavailable or when the state of knowledge does not allow the scientists to be more precise [...]. Approximators is the hedging category which most closely [reflects] [sic] what we could call the 'institutionalized' language of science". In this way, markers of approximation may even allow "greater precision in describing reality" (Hyland 1998a, 72). Hyland identifies these kinds of expressions as hedges too (1998a, 41), aimed at expressing tentativeness, and used to adhere to the Maxim of Quantity – "Make your contribution as informative as is required" (Grice 1975, 45). They can also be referred to as Hinkel's downtoners (1997, 375, 2003, 1059, 2005, 38), which reduce the force of statements and frequency adverbs (2005, 38) rendering statements indefinite.

The following list consists of examples from my own corpus, while similar lists of adverbs expressing some kind of approximation, limitation or estimation (as a lexical field) can be found in Biber and Finegan (1988, 7–8, 33–34), R. Đorđević (2007, 646, 652), Fraser (2010a, 204–205), Hinkel (1997, 375, 2003, 1059, 2005, 38), Martín-Martín (2008, 138), Quirk et al. (1985, 590): *generally, approximately, relatively, about, frequently, roughly, broadly, somewhat, quite, rather, occasionally, partially, scarcely, kind of, sort of, just, a bit, a few, a little, almost, just about, mainly, typically, hardly, slightly, fairly, hardly, merely, nearly, pretty, relatively, simply, slightly, sometimes, usually* etc.

4.6 Strategy 6: Evaluative Reference

In the same way that writers of scientific articles can express their positions in relation to their own body of work, so can they express it in relation to previous research conducted in the field. The last strategy of my model is used to position the author towards the conclusions and work of other authors (Baratta 2009, 1407), and the contribution of their own research in relation to the already existing body of knowledge. In this strategy, stance can be seen as corresponding to the three components of Du Bois' *stance triangle* (2007, 162)[22]: the authors *evaluate* their own work in the context of other work, and thereby *position* themselves in relation to that work, their peers and audience, simultaneously *aligning* themselves with them, either convergently or divergently. Therefore, stance is not only subjective, but also intersubjective. In the context of academic writing, every new research has to be positioned within the framework of the existing research, requiring interaction between stance subject and their respective evaluations.

One might think that this strategy is related to attributing knowledge to one's predecessors in the field, and corresponding citations and paraphrases, which Hyland and Tse (2004, 174) include in their discussion of *metadiscourse*. However, in this dissertation, no emphasis was placed on direct quotations, but rather positioning of the authors towards the knowledge they acquired, which does indeed sometimes also include the proper attribution of ideas. While Ivanič (1998, 3) also discussed plagiarism in academic writing as the erroneous attribution of ideas and theft of originality, stating that "[w]riters have to decide when to attribute a word or

[22] In the same volume, Englebretson (2007, 20) mentions three functions of stance: subjectivity, evaluation and interaction, which correspond to the three functions mentioned by Du Bois (2007) as well.

an idea to another writer, and when not" (Ivanič 1998, 3), there is another metadiscoursal level which is related to the commentary of these ideas and the alignment of your own ideas with these traditions and sets of values. This is also where the sense of authors' identity comes into play, as individuals do not create their identity solely based on group membership, "[t]hey also have a sense of themselves as defined by their difference from others they encounter" (Ivanič 1998, 14). This is related to the recognition of ideas, their ownership and proprietary rights, primary work in a field or on an idea, as well as to how the current research contributes to the said field or builds upon previous research, i.e., what has been done before and what differs from previous work. In this respect, the notion of evidentiality comes into play again, as the use of evidentials "[…] [provides] intertextual support for the writer's position, a frame within which new arguments can be both anchored and projected" (Hyland and Tse 2004, 174). As Barton also points out, evidentials of citation do not only introduce the source material, but "actively interact with authors' problematizations and argumentation" (1993, 751), thereby not only citing, but also "appropriating the literature" (1993, 752).

Therefore, simple reporting of previous research is not included in my own analysis, but rather the authors' commentary on other work in the area, their agreement or disagreement with the expressed ideas, their personal views on them, balancing between averral and attribution[23] of ideas (Charles 2006, 494; Hunston 1995, 133). Hunston (1995, 134) notes that attribution is used "to hedge a statement, to introduce information which corroborates the writer's own view, to indicate a gap in research, or to set up a point of view against which the writer wishes to argue", corresponding to the dimensions of evaluative reference given in this sub-chapter, as attribution involves "implicit evaluation" (Hunston 1995, 134). Therefore, direct quotations and paraphrases of other author's work are excluded from the study within the scope of this paper as not pertaining to the expressions of stance[24].

[23] Through *averral,* "a writer […] [avers] all the propositions in the text and thus takes responsibility for their veracity"; through *attribution,* "a proposition is credited to a source other than the writer and responsibility is assigned to that person or entity" (Charles 2006, 494).
[24] When it comes to the inclusion of quotations in the analysis, it has to be borne in mind that quotations serve to embed content in the text (Bednarek 2006, 15), simultaneously attributing it to a different source. It can be said that direct quotations exhibit a low degree of subjectivity, as they are a verbatim representation of a quote (Fetzer 2020, 93; Fetzer and Weiss 2020, 86), thereby not expressing the author's/quoter's stance. On the other hand, indirect quotation "is generally seen as expressing a higher degree of subjectivity than direct quotation, as the former encodes the quoter's interpretation of the source's illocutionary force" (Fetzer and Weiss 2020, 86), but the individual stances of the quoter and the quote cannot always be clearly disambiguated. This is also true for paraphrases, reportatives, mixed and embedded quotations with varying degrees of subjectivity (Fetzer 2020, 93; Fetzer and Weiss 2020, 86). In instances when anything but a direct quotation was used in my corpus, the use of the quotation/paraphrase signal was crucial, as certain descriptive verbs (Snell-Hornby 1983) do ascribe evaluative dimension to these signals, in which case they were included in the analysis in the dimension *evaluation of previous research*.

In my data, the markers of evaluative reference are an amalgamation of critical observations of previous work and claims made therein, as well as how the authors' current work aligns with them. Their current findings may contradict existing literature and in academic discourse, evaluating previous literature could be risky. As much as indetermination is used by authors to evade the potential risk of opposition when presenting their claims, authors also seem to be aware of the inherent risk of opposition concerning their evaluation of other authors' previous research. To circumvent the inherent interpersonal risks of positioning their own work and themselves within the academic field, authors resort to different techniques of accounting for previous work. As Kuo notes (1999, 128), "[…] reference to other researchers shows a journal article writer's familiarity with the research field (Bavelas, 1978) and helps create a personal research space (Swales, 1990). In addition, it may help writers establish a relationship with other researchers and secure themselves a position in the scientific–academic community".

Therefore, this strategy is a crucial one in academic writing, as it shows solid academic practice. As Hyland (2005b, 158) puts is, "[t]he embedding of arguments in networks of references not only suggests an appropriate disciplinary orientation, but also reminds us that statements are invariably a response to previous statements and are themselves available for further statements by others". While he might have made this comment in relation to quotations and paraphrases, the above statement still holds true for evaluative reference, in that it recognises the alignment of current ideas with previous ones, as well as how current work might fit into the existing body of knowledge. It is another important form of metadiscourse between writers and their audience. "Explicit reference to prior literature is a substantial indication of a text's dependence on context and thus a vital piece in the collaborative construction of new knowledge between writers and readers." (Hyland 2005b, 158)

The markers in this strategy might be slightly different from strategies (1) – (5), in the sense that they might not be as clearly delineated. It is, however, an example *par excellence* of the usefulness of the onomasiological approach adopted in this dissertation, as all its markers were assigned based on their function in context, so that, in terms of its linguistic realizations, this strategy may seem like the most eclectic one. The strategy of evaluative reference represents a new level of description of authorial stance in academic texts, which is emergent from my own data and can be conceived of as connected by a common thread of authorial stance. Therefore, at this stage, comprehensiveness cannot be claimed regarding all facets of use of this strategy, and further research would be needed to describe it in greater detail. Some of the structures used to express evaluative reference can be found in strategies (1) – (5) as well, once again confirming the polyfunctionality of the linguistic structures used to express authorial stance. As previous research has, to the best of my knowledge, not accounted for linguistic expressions of my strategy of evaluative reference anywhere in the previous research literature related to academic writing, the expressions given in the following are all drawn from my own corpus:

- Gaps in previous research: while several authors signal the stating of such gaps as important moves in academic papers, as "[t]he starting point of an academic paper is typically the identification of a gap or shortcoming in earlier research (Swales 1990), but in establishing this gap, writers largely attempt to respond to a general body of more-or-less impersonal literature […] or particular theories […] rather than individual authors […]" (Hyland 2012, 39–40), they do not, however, provide any lists of linguistic structures serving this purpose. By indicating this gap in previous research, a space for new research is opened, or rather, created (Kuo 1999, 128; Lakić 2015, 52; Swales 1990). In my data, authors use (clusters of) markers identifying such gaps, including the following examples from my corpus: *has not been thoroughly investigated, not clearly uncovered in the literature, there are no studies, has been less studied, relatively few studies, ignored in the literature, limited information* (usually negative exponents)
- Extensive research being done in the field: *there exists a significant body of work, it has seen extensive study*
- Evaluations of potential shortcomings, as well as (dis)advantages of previous research[25]: *there are disadvantages, are very interesting and have many advantages, this approach is useful, in their groundbreaking work, there are serious limitations, this could be interpreted as a positive finding* – this dimension of evaluative reference is also expressed with markers of either the strategy of indetermination (2) or the strategy of intensification (4), as described above in 4.2 and 4.4, related to the notion of knowledge attribution (Hunston 1995, 134)

[25] Lakić (2015, 54) mentions this dimension among one of the rhetorical moves of questioning the validity of previous research, by not expressing the negative attitude directly, but rather indicating that previous research might have some disadvantages.

- Denoting of similarities and differences with previous literature, and the way current research builds on the existing body of work[26]: *in contrast to the usual model, these ideas connect to previous work, we follow, consistent with, these results contrast with/resonate with, this confirms, builds on, similar to, correlates with, in line with*
- Contribution of current research to the existing research landscape[27]: *we contribute to this literature by, this study is one of the first to focus on, a novel approach, our paper is novel, this study seeks to make a contribution, these results are the first, our main contribution, the novelty of our paper* – it can be seen here that this strategy can be expressed with markers of both the strategy of depersonalisation (1) and the strategy of subjectivisation (3), the former likely expressing modesty and the latter explicitly emphasizing the personal contribution to the field (Kuo 1999, 132)
- Recognition of possible limitations of the research that was conducted, as well as plans and suggestions for future research[28]: *cannot necessarily be extended to, relevant to future work, our work suggests areas for future research, limitations include, is outside the scope of this study, it would be interesting to explore.*

4.7 Summary

The unified research model presented in this chapter brings different sources together, as it combines formal expressions of stance and its relatives from previous research (see Chapter 3.2) and goes beyond these sources to include formal expressions of stance identified in the corpus. Additionally, the onomasiological approach allows for the analysis of pertinent structures and their assigning to one or more strategies, based on their concrete interpersonal pragmatic function in context. Due to the overlap of conceptual categories related to stance and the formal markers of expression of all these conceptual categories, as well as their polyfunctionality in their strategic uses (i.e., they can be assigned to more than one strategy – see Chapters 4.1–4.6), Figure 3 in Chapter 3 can be supplemented with an additional layer of the six strategies denoted in my research. Their polyfunctionality is once again illustrated

[26] Vuković and Bratić (2015, 91) mention this dimension as a part of the move of consolidating the research space, by offering to fill a research gap.
[27] Vuković and Bratić (2015, 92) mention this dimension as a part of the move concerning the indication of research significance.
[28] Vuković and Bratić (2015, 93) mention this dimension as a part of the move concerned with the recommendation of further research.

graphically here by the arrows, suggesting rotation in the flexibility of these expressions (Figure 4).

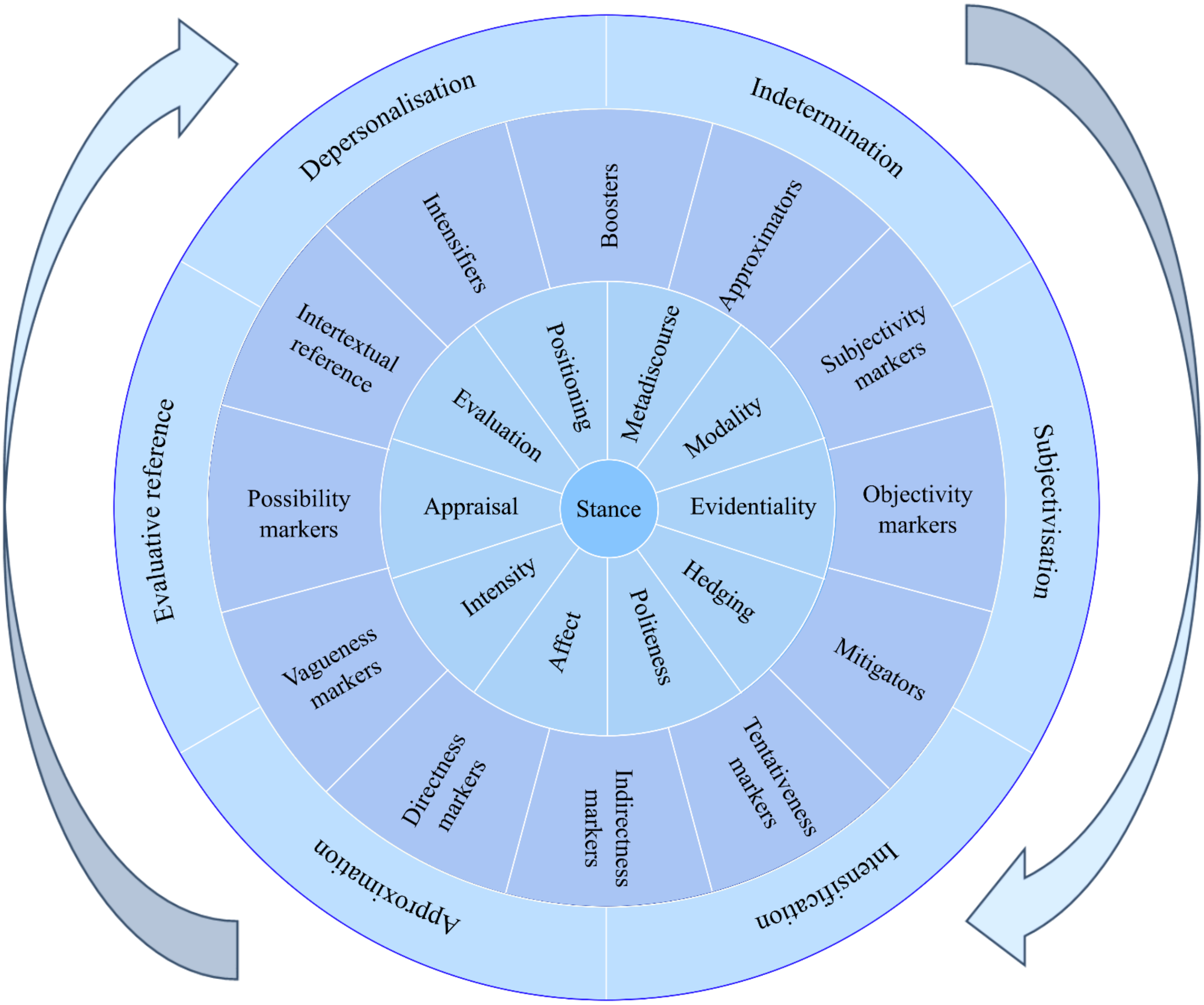

Figure 4: The interrelatedness of stance with other conceptual categories, formal means of expression and strategies of stance-taking, Rodić

By assigning collections of formal means of expression as potential indexical markers to the six strategies of authorial stance-taking, which have both been identified on the basis of previous research and my own corpus, this research model can serve as the basis for operationalizing authorial stance in both my own quantitative analysis (see Chapter 6) as well as in my own qualitative analysis (see Chapters 7–9).

Chapter Five

Data and Methodology

This study is conducted in order to analyse the frequency and context of use of authorial stance markers in research articles written in three languages – English, Serbian, and German, and three scientific disciplines – linguistics, economics, and technology/engineering. The aim is to investigate how native speakers of English, German, and Serbian use these markers in their writing, and how their use differs both cross-linguistically and cross-disciplinarily.

5.1 Data

5.1.1 The compiling of the corpus

The process of compiling the corpus for this research started with the identification of the academic articles which could potentially serve as a source for the corpus to be analysed in this dissertation. A corpus is defined as a collection of linguistic data chosen based on certain criteria in order to represent a language (R. Đorđević 2004, 108).

The current analysis builds on a pilot study on the qualitative and quantitative use of pragmatic hedges, which was conducted on a corpus of only six academic articles, written in Serbian, English, and Spanish in philosophy and military technology using Martín-Martín's (2008) onomasiological and dynamic model of hedges. The results of this study showed only slight differences in the frequency of hedges in two scientific disciplines (philosophy and military technology, belonging to humanistic and engineering sciences). However, this corpus was not representative enough to make any substantial claims, due to both article accessibility and corpus size. It did, however, instigate further research (evidenced in this dissertation) and emphasize the need for both the expansion of the data set and more systematicity regarding corpus selection in further research, therefore inspiring the set of criteria for corpus selection. With this in mind, the corpus for this analysis was compiled in two steps:

The first step of corpus compiling consisted of a very broad investigation of online data bases in search for articles which could constitute the corpus, based on the following criteria: the field of research (linguistics, economics, and technology/engineering), the language the article was written in (English, Serbian, and German), as well as the time span when these articles were published (at the time, roughly 2009–2020). At this stage, around 1500 articles were identified which were complying to these three criteria. However, the majority of these articles were written in English. Therefore, an amount of 1500 articles was established as the upper limit in order to ensure manageability, as well as to deal with quantitatively unbalanced corpora (in English, as opposed to Serbian and German). This still very high number of articles (especially for the envisaged qualitative aspects of analysis) also emphasized the need for more refined criteria in the second stage of data collection.

Therefore, in the second stage of corpus compiling, the following seven more refined criteria were introduced to ensure both manageability and accessibility for qualitative analysis:

1. **Field of research**

One of the goals of this research, following the pilot study, was to investigate disciplinary differences in authorial stance-taking. Previous research for my pilot study hinted at different frequencies and means of stance-taking in different disciplines, which inspired the choice of linguistics and technology/engineering[29] as belonging to two opposite ends of the spectrum ranging from soft sciences (i.e. humanities) to hard sciences. Accordingly, the field of economics was selected as a social science, falling somewhere in the middle of this spectrum, allowing for empirical research[30] (see criterion 5 below).

2. **Language in which the research was written**

As this research required focused corpus analysis of often very complex linguistic phenomena, good command of the languages used in this research was a prerequisite, and ultimately a personal choice in accordance with my personal linguistic skills. In addition, the different nature of English-, Serbian- and German-speaking contributions in the genre proved to be an instigator for the research conducted as a part of this thesis. Finally, the comparison of smaller writing cultures (such as Serbian and German) to the global writing culture would be able to provide valuable contrastive, descriptive, and pedagogical observations.

3. **Nationality of the author**

In order to establish whether the author of the research article to be included in the corpus is indeed a native speaker of one of the three languages (English, Serbian, or German), in most

[29] The terms technology/engineering and solely technology are used interchangeably in this research to denote the same field, focusing on the practical application of engineering principles and techniques.
[30] While different disciplines might be seen as more representative of humanities and social sciences (e.g. literary studies and sociology, respectively), the methods and the language they use might be quite dissimilar to the disciplines chosen for this research. In addition, they might not always allow for empirical research, but rather more theoretical considerations.

cases, the family name and university/institutional affiliation of the first and/or second author were observed, in addition to the academic CV, where this was available. This criterion was important for ordinary and acceptable language use, in order to ensure the pragmatic competence of the authors guiding their authorial stance-taking.

4. **Year of publication**

The time period for articles constituting this corpus was set from 2010 to 2020, that is, ten years from the moment the corpus was compiled. This time period was inspired by O'Neil's (2018, 146) observation about the pervasiveness of publications in English in both social and natural sciences at the start of the decade. I therefore wanted to capture a fairly synchronic view of the current state of affairs regarding the expression of stance across different writing cultures, as rhetorical practices are in constant state of change (see Kuo 1999, 122; Scollon 1994, 44).

5. **Genre of research article: empirical**

The purpose of this research, as indicated in Chapter 4, is to investigate the stance the author takes towards knowledge acquired first-hand vs. second-hand (as evidenced in the first five strategies and the sixth strategy, respectively). With regard to this criterion, it is the first five strategies that are especially relevant: the authors take a stance on the knowledge they acquired during the course of the research, obtained empirically – by observation and experimentation. Therefore, the articles constituting this corpus were empirical, rather than survey articles, in order to ensure the text contains enough instances of stance-taking towards knowledge obtained first-hand, obtained during empirically-conducted research.

6. **Accessibility of the articles**

The accessibility of the articles refers to linguistic inequalities derived from the current state of the research landscape, which is related to the time period of publication mentioned under criterion 4 and will also be discussed in the seventh and final criterion. The general tendency of writing culture nowadays relies mostly on being able to write in English, so as to be able to communicate with an international scientific community and to be able to publish in English-written international journals. As a result, to avoid being published in a smaller impact factor journal, authors from other academic communities tend to publish in English rather than in their mother tongues, which diminishes the range of articles written in German and Serbian and the availability of articles in these languages. However, the three chosen disciplines, as well as the time period still allowed for a representative corpus of articles for the analysis, paired with the introduction of the seventh and final criterion, which is discussed below.

7. Academic credibility

This last criterion is possibly the most complex one, as well as the one that required and allowed for most flexibility.

O'Neil's observation could also be noted in my corpus, protruding into all three disciplines to a certain extent, and proving that the general inclination in all academic communities is to write in English. This indicates that the research landscape for all three languages is quite different. Writing in English implies writing for a broader, international academic audience, which opens doors to publishing in peer-reviewed international journals. On the other hand, writing in Serbian or German implies writing in a "small, peripheral, internationally little known [sic] culture, whose academics must struggle for international recognition by employing languages other than their own" (Mauranen 1993c, 158). Therefore, it means writing for a much smaller audience and mostly in national journals. Consequently, the articles published in Serbian or German are inevitably of smaller impact and subsequently of a smaller impact factor (information on their impact factor was at times not even available), which makes the corpora in Serbian or German virtually incomparable to that of English.

Therefore, solely looking at the impact factor of journals would have resulted in a disbalance of the corpus in favour of the English sub-corpus. As a result, the concept of academic credibility was introduced, to compensate for the problems related to the impact factor. As many journals are published by renowned national and academic institutions, which is not necessarily reflected in their impact factor, the status of the publisher was taken into account when selecting the journals for the corpus according to their scientific value. Hence, in Table 4 below, information on the publishers was included for the purpose of establishing that these national journals are published by expert organizations and institutions. Besides well-established publishers, especially for journals publishing in English (and on occasions, also in German), many journals were published by university-affiliated institutions, associations and societies linked to a particular field, as well as libraries. Furthermore, the authors of these articles are often affiliated with these institutions and universities, and many of the articles included in the corpus were published as parts of projects.

Once all seven criteria were introduced, it turned out that the corpus that was left was too small to ensure representativeness. Therefore, in the third step of corpus compiling, I decided to slightly adjust the criteria, in order to avert the relative shortage of German and Serbian data. The criterion of academic credibility was introduced in this step to be able to extend the corpus, as well as the inclusion of other data bases (with regard to the sixth criterion of accessibility). While the majority of Serbian journals in my corpus are open-access, this is not always the case for German and English journals and articles, which were mainly obtained through the online catalogue for libraries of Heidelberg University (HEIDI)[31]. However, a slight fitting of criteria 6 (regarding accessibility of articles) and 7 (regarding academic credibility) meant that the corpus was extended to include enough comparable data for a qualitatively balanced corpus.

In doing so, this research therefore follows the corpus compilation process outlined in Holliday (2015, 51): an initial broad observation of what is going on – establishment of relevant data – more focused data collection – refinement of focus and data collection choices. For example, there are only a handful of Serbian journals which are referenced in Web of Science (SCI-E, SSCI, AHCI) and Journal Citation Report (JCR) – international citation bases, and therefore awarded impact factors. The list of these journals is available on the website of the Ministry of Science, Technological Development and Innovation for Serbian journals (Ministarstvo nauke, tehnološkog razvoja i inovacija 2023) and it includes the following journals in my corpus: *Hemijska industrija, Panoeconomicus, International Journal of Electrochemical Science*. Their impact factors, as found in this list, are included in Table 4 below. The journals *Panoeconomicus* and *International Journal of Electrochemical Science* are included in this corpus as parts of the English sub-corpus, in two articles written by native speakers of English, while the journal *Hemijska industrija* is included in this corpus as a part of the Serbian sub-corpus, in articles written by Serbian native speakers.

Other articles published in Serbian journals are classified by a different denominator of importance, marked in Table 4 by the letter M (KoBSON 2020). Four different types of denominators are relevant for the journal constituting my own corpus.

- **M23[32]** – international journal [međunarodni časopis] (journal can be found in the JCT database, but based on its IF2, i.e., IF5, is not ranked among top 60% of journals in its field)
- **M24** – internationally relevant national journal [nacionalni časopis međunarodnog značaja] (journal that, according to the bibliometric indicators of the National Database

[31] I would like to thank my friend Hélène Trister for letting me browse through the University of Sheffield library catalogue to complete my corpus in this stage of my research. It was thanks to her that I was able to acquire articles [42] and [44] in my corpus (see Appendix 2).
[32] The impact factor refers to the average number of citations received during the current year for works published in the previous two years – IF2, or for works published in the previous five years – IF5 (Kobson 2020).

of Scientific Journals, is in the top 10% in its field; these journals are referenced in WoS/SJR but do not yet have an impact factor)

- **M51** – top journal [vrhunski časopis] (journal that, according to the bibliometric indicators of the National Database of Scientific Journals, is in the top 30% in its field)
- **M52** – leading national journal [istaknuti nacionalni časopis] (journal that, according to the bibliometric indicators of the National Database of Scientific Journals, is in the top 30%–60% in its field)

While both an international journal and a national journal, as denoted here, can be a journal published by a Serbian or any foreign publisher, a national journal is not referenced in any international database. As certain journals have been discontinued in the last 14 years, the categorization in the year the article came out was included, as available on the website of the Ministry of Science, Technological Development and Innovation is given, along with the year.

Title	**Field**	**Language**	**Impact Factor**	**Publisher**
Applied Linguistics[33]	Linguistics	English	3.6	Oxford Academic
Journal of English Linguistics	Linguistics	English	0.8	SAGE Journals
Journal of Pragmatics	Linguistics	English	1.6	Elsevier
Filološki pregled	Linguistics	Serbian	M51	Filološki fakultet, Univerzitet u Beogradu
Jezik, književnosti, diskurs: Jezička istraživanja[34]	Linguistics	Serbian	/	Filozofski fakultet, Niš
Južnoslovenski filolog	Linguistics	Serbian	M23	Srpska akademija nauka i umetnosti, Beograd; Institut za srpski jezik SANU, Beograd
Primenjena lingvistika	Linguistics	Serbian	M52	Društvo za primenjenu lingvistiku, Novi Sad; Filološki fakultet u Beogradu; Filozofski fakultet u Novom Sadu

[33] Journals constituting the corpus in Table 4 were ordered alphabetically and grouped according to their respective disciplinary and language sub-corpora.
[34] While the Ministry of Science, Technological Development and Innovation for Serbian journals (Ministarstvo nauke, tehnološkog razvoja i inovacija 2023) does not assign a denominator for published conference proceedings, according to the Ministry of Education (Ministarstvo prosvete 2017) in the currently valid method of evaluation of scientific research results assigns a denomination M33 for articles from international conferences. This can apply to conference proceedings after the international conference *Jezik, književnosti, diskurs* at the University of Niš, Serbia, April 25–26, 2014 (Balkanološki institut SANU 2014).

Zbornik Matice srpske za filologiju i lingvistiku	Linguistics	Serbian	M23	Matica srpska, Novi Sad
Zeitschrift für Dialektologie und Linguistik	Linguistics	German	0.407 (Scopus)	Franz Steiner Verlag Stuttgart GmbH
Zeitschrift für germanische Linguistik	Linguistics	German	0.2	De Gruyter
Zeitschrift für Literaturwissenschaft und Linguistik	Linguistics	German	0.2	Springer
Applied Financial Economics	Economics	English	2.2	Taylor & Francis Online
Econometrica	Economics	English	6.1 (SJR)	Wiley
Econometrics	Economics	English	1.5	Multidisciplinary Digital Publishing Institute (MDPI)
Panoeconomicus	Economics	English	1.0 M23	Savez ekonomista Vojvodine, Novi Sad
Swiss Journal of Economics and Statistics	Economics	English	0.997 (SJR)	Swiss Society of Economics and Statistics (SSES) and the Swiss Academy of Humanities and Social Sciences; Springer Open
The Journal of Law and Economics	Economics	English	2.2 (JCR)	The University of Chicago Press
The Review of Financial Studies	Economics	English	8.2	Oxford Academic
The Quarterly Journal of Economics	Economics	English	13.7	Oxford Academic
Bankarstvo	Economics	Serbian	M52	Udruženje banaka Srbije, Beograd
Economics	Economics	Serbian	0.5 (SJR)	De Gruyter Open Access
Ekonomija – teorija i praksa	Economics	Serbian	M51	Univerzitet Privredna akademija; Fakultet za ekonomiju i inženjerski menadžment, Novi Sad
Ekonomske teme	Economics	Serbian	M51	Ekonomski fakultet, Niš
Ekonomski izazovi	Economics	Serbian	M51	Univerzitet u Novom Pazaru, Novi Pazar

Ekonomski pogledi	Economics	Serbian	M52	Ekonomski fakultet u Prištini, Kosovska Mitrovica
Jahrbuch für Wirtschaftswissenschaften / Review of Economics	Economics	German	0.159 (SJR)	De Gruyter
Perspektiven der Wirschaftspolitik	Economics	German	0.234 (SJR)	De Gruyter
Wirschaftsdienst	Economics	German	0.6	Springer
Zeitschrift für Bankrecht und Bankwirschaft	Economics	German	/	De Gruyter
Zeitschrift für Betriebstwirschaft	Economics	German	1.2	Springer-Verlag GmbH Germany
AgriEngineering	Engineering	English	2.8	Multidisciplinary Digital Publishing Institute (MDPI)
Bioengineering	Engineering	English	4.6	Multidisciplinary Digital Publishing Institute (MDPI)
Chemical Engineering and Technology	Engineering	English	2.165 (Scopus)	Wiley-VCH GmbH, Weinheim
Engineering	Engineering	English	12.8	Elsevier
International Journal of Electrochemical Science	Engineering	English	1.5 M23	Elsevier; Electrochemical Science Group, Belgrade
International Journal of Engineering Science	Engineering	English	6.6	Elsevier BV
Journal of Carbon Research	Engineering	English	4.1	Multidisciplinary Digital Publishing Institute (MDPI)
Journal of Manufacturing and Material Processing	Engineering	English	3.2	Multidisciplinary Digital Publishing Institute (MDPI)
Propellants, Explosives, Pyrotechnics	Engineering	English	1.887 (WoS) 2.151 (Scopus)	John Wiley & Sons, Ltd.
The Journal of Physical Chemistry	Engineering	English	2.9	ACS Publications

Hemijska industrija	Engineering	Serbian	0.9 M23	Savez hemijskih inženjera Srbije, Beograd
Letopis naučnih radova Poljoprivrednog fakulteta	Engineering	Serbian	M52	Poljoprivredni fakultet, Univerzitet u Novom Sadu
Rudarski radovi	Engineering	Serbian	M24 (2012)	Institut za rudarstvo i metalurgiju, Bor i Komitet za podzemnu eksploataciju mineralnih sirovina, Resavica
Savremena poljoprivredna tehnika	Engineering	Serbian	M52 (2016)	Nacionalno naučno društvo za poljoprivrednu tehniku, Novi Sad
Tehnika – Novi materijali	Engineering	Serbian	M51 (2017)	Savez inženjera i tehničara Srbije, Beograd
Tehnika – Rudarstvo, geologija i metalurgija	Engineering	Serbian	M51 (2017)	Savez inženjera i tehničara Srbije, Beograd
Termotehnika	Engineering	Serbian	M52 (2013) / (2014)	Univerzitet u Beogradu, Institut za nuklearne nauke Vinča, Beograd i Društvo termičara Srbije, Beograd
Vojnotehnički glasnik	Engineering	Serbian	M51	Vojna akademija, Univerzitet odbrane u Beogradu
Zaštita materijala	Engineering	Serbian	M52	Inženjersko društvo za koroziju, Beograd; Udruženje inženjera Srbije za koroziju i zaštitu materijala, Beograd; Crnogorsko društvo za zaštitu materijala, Podgorica
BHM Berg- und Hüttenmännische Monatshefte	Engineering	German	/	Springer
Chemie Ingenieur Technik	Engineering	German	1.9 1.7 (Scopus)	Wiley-VCH GmbH, Weinheim
Chemie Unserer Zeit	Engineering	German	0.8 0.2 (Scopus)	Gesellschaft Deutscher Chemiker; Wiley-VCH GmbH, Weinheim

Keramische Zeitschrift	Engineering	German	0.06 0.115 (SJR)	Springer Nature

Table 4: Information on the corpus: impact factor and publishers of journals in the corpus

As can be seen in Table 4, there is great disparity among these journals, both from a language and disciplinary point of view. The difference in impact factors is especially prominent for German and Serbian journals, for obvious reasons. However, bearing in mind that the average impact factor is less than one (Tsai 2022), the majority of the journals with an indicated impact factor included fall within this average.

As a result of these three steps of corpus compiling, it can be said that all the articles in the corpus fulfil the first 5 criteria. The sixth criterion is slightly bent, as 122 out of these 124 articles were not directly accessible to me, but downloaded through the online library catalogue of the University of Sheffield. The seventh criterion is considered quite flexible, due to the inequalities among the three language sub-corpora and the overall inaccessibility – either because of the declining number of journals publishing in national languages other than English, or because of their general inaccessibility in online libraries and compendiums of knowledge.

The majority of the articles in the English and German sub-corpora were obtained through the online catalogue for libraries of Heidelberg University (HEIDI)[35]. The situation for the Serbian sub-corpus was somewhat different, as all the journals constituting this sub-corpus are available online, and were obtained via:

- Matica srpska, n.d.: [11], [13], [17] – [22]
- Filološki fakultet Univerziteta u Beogradu, n.d.-a: [16]
- Filološki fakultet Univerziteta u Beogradu, n.d.-b: [14]
- Institut za srpski jezik SANU, n.d.: [12]
- Filozofski fakultet Univerziteta u Nišu 2015: [15], [23], [24]
- Ekonomski fakultet u Nišu, n.d.: [48], [49], [51]

Finally, Srpski citatni indeks (SCIndeks, n.d.) is an online citation base which also contains full texts of a range of national and international journals via open access. All the remaining articles

[35] All articles were obtained through HEIDI, with the exception of articles [10], [62], [64], [67], [70], [73], [83], [114], [123], as well as article [52] in the Serbian sub-corpus, which were obtained via open access journals.

were obtained via SCIndeks[36]. Appendix 2 contains the corpus bibliography for all 124 research articles analysed in this research.

5.1.2 Corpus information

As a result of these three stages of data collection, the text corpus for this dissertation encompasses 124 research articles. The articles in the field of linguistics deal with topics such as: phonetics and phonology, prosody, morphology, metaphor, semantics, lexicology, syntax, pragmatics, discourse analysis, politeness, corpus linguistics, language acquisition, speech act theory, modality, language and gender, multilingualism and bilingualism. The articles in the field of economics deal with topics such as: financial market, macroeconomics, monetary policy, econometrics, statistics, banking, economic development, international commerce, taxing and fiscality, financial analysis, entrepreneurship, and big data. The articles in the field of technology deal with topics such as: nanotechnology, ecology, agricultural technology, chemical technology, military technology, biotechnology, electrochemistry, bioengineering, agricultural engineering, physical chemistry, mining technology, mechanical engineering, instrumental chemistry, materials technology, polymer technology, food technology, thermal technology, inorganic technology, and mechanical technology. For my own research, the following parts of the articles were excluded from the total words counts: abstracts, appendices, acknowledgements, additional notes and footnotes, as well as lists of references. Within the articles themselves, textual examples from the corpus included in the research as well as direct quotations from other works were not analysed, but these were included in the total word count. For more detailed information on the number of articles and the word counts see Tables 5 and 6 below.

In accordance with the seven criteria outlined in 5.1.1, the articles constituting this corpus are empirical research articles written by native speakers of the respective languages (English, Serbian, and German) in the respective fields of interest (linguistics, economics, and technology) and published in journals between 2010 and 2020, producing an electronic corpus of 535,433 words. Table 5 below offers information on the sub-corpora according to the number of articles constituting each sub-corpus, as well as word count per sub-corpus, while Table 6 offers total word counts per disciplinary and language sub-corpora.

[36] This includes articles [46], [47], [50], [53] – [61], [89] – [105] (see Appendix 2).

Field	Language	Articles	Word count
Linguistics	English	10	83,457
	Serbian	14	63,132
	German	10	64,839
Economics	English	11	84,659
	Serbian	16	57,120
	German	12	69,836
Technology	English	15	68,581
	Serbian	17	47,701
	German	19	64,689

Table 5: Information on sub-corpora: number of articles and word count

Discipline	Total word count	Language	Total word count
Linguistics	211,428	English	236,697
Economics	211,615	Serbian	167,953
Technology	180,971	German	199,364

Table 6: Information on sub-corpora: total word counts per discipline and per language sub-corpora

Adhering to the seven criteria resulted in a corpus of a total of 124 articles with the distribution of word count as given in Tables 5 and 6. As can be seen, both language and disciplinary sub-corpora are uneven, concerning their word count. The difference in the number of articles constituting each sub-corpus can be explained by differing word counts in articles in different disciplines. For example, while linguistics articles are generally longer and include fewer figures, technology articles are generally shorter and include more figures. This results in a varying number of articles and a varying word count per discipline too. Therefore, more articles were added in technology sub-corpora, in order to bring the overall word count closer to that of linguistics. However, as will be discussed in Chapter 6 in terms of quantitative results, the frequencies of stance markers have been normalised and reveal a more accurate picture of the distribution of stance markers in each sub-corpus, irrespective of the word counts.

5.2 Methodology

The research presented here entails a contrastive and cross-disciplinary empirical study of linguistic means of expression of authorial stance, in order to uncover cross-disciplinary and cross-cultural tendencies in the use of authorial stance markers and provide an account of the use of stance markers in scientific discourse. It combines corpus analysis with discourse analysis, integrating corpus-based research with manual text analysis[37]. As the text analysis was conducted manually by a single researcher, it demanded a small-scale corpus. However, due to the size of my corpus, my conclusions are not always statistically definite and wholly representative of the entire discourse, but they can nevertheless serve to indicate some tendencies and deduce distributional patterns from the corpus in the quantitative analysis.

In order to examine a concept as complex and multi-faceted as stance, the approach that had to be adopted in this research was dynamic in all of the following aspects – the data retrieval process, the research model, as well as the corpus analysis.

Firstly, each piece of data, "in itself a single instance of behaviour" (Holliday 2015, 51), like a piece of a puzzle, contributed to a larger image of the state of affairs in my corpus. This meant that the conceptualization of stance as a process was emergent, both in the course of data collection, as well as the ensuing analysis (Bucholtz and Hall 2005, 587).

Secondly, the dynamic approach was also employed in the creation of a unified research model of stance (outlined in Chapter 4). This model is essentially onomasiologically organized, but still includes a semasiological level, drawing on a broad range of groups of formal expressions indexically marking authorial stance as discussed in Chapter 3.2, but continuously modifying, enriching and adapting it according to the data-driven findings of the actual empirical analysis. This approach therefore relied on the indexicality principle, as outlined in Bucholtz and Hall (2005, 593), in that the expressions of authorial stance were reliant on the interactional context for their meaning. Therefore, this model simultaneously combined previous taxonomies of linguistic means of expression on stance, metadiscourse, modality, evidentiality, and hedging (see Chapter 3.2), complemented by formal markers from the corpus and the functional pragmatic-semantic and rhetorical categories denoting the functional aspect of these formal expressions. The model developed here relied on Martín-Martín's (2008) onomasiological model including three (hedging) strategies – depersonalisation,

[37] An account of methodology which corresponds to my own methodological approach was found in Bednarek (2006, 8 – 9) and will be relied on here for the detailed explanation of the analytical approach of this study.

indetermination, subjectivisation. The three strategies were further developed into the first five strategies of stance-taking in my own model: **depersonalisation, indetermination, subjectivisation,** supplemented by **intensification** and **approximation**, which were identified in the first coding pass. The strategy of **evaluative reference** emerged based on the corpus analysis, through an onomasiological perspective, as the expressions were systematically coded in the corpus.

Thirdly, the data-driven, dynamic process of data collection called for a dynamic coding of the corpus for the qualitative analysis, implying that the data analysis is also recursive in this research, as it starts off with some categories for the data collection, and is then refined during the analysis in order to account for all the data (Flowerdew 2002, 237–238), leading to systematic supplementation. Dynamic coding also accommodated the submission of subjective preferences to data, allowing the unexpected to emerge and change the direction of the research (Holliday 2015, 52), as evidenced in the strategy of evaluative reference.

The approach that I adopted in the analysis itself was onomasiologically motivated, as I was assigning a strategy to each identified form based on the performing function of that form in a concrete context in an article. An onomasiological, function-to-form approach seemed to be a reconciliation of the context-dependent inventory, dynamic construal in text, semantic variety, cross-linguistic and cross-disciplinary differences (related to established discourse habits), and it contributed to not observing these markers as mere translation equivalents, but in terms of their respective expression properties in a particular context. Additionally, an onomasiological approach proved to be convenient for cross-cultural and cross-disciplinary analysis, as it allowed for a more systematic quantitative and qualitative analysis.

As mentioned before, stance markers are a semantically varied, polypragmatic and multifunctional category of expressions, whose meaning and interpretation is context-dependent. As White (2001, in Bednarek 2006, 8) claims, these expressions show "context dependent polysemous functionality", which means that the context, as well as co-text, have to be included in the analysis. A simple word search, based on pertinent structures discussed in previous research would not have aided the analysis process, as there is no one-to-one relation between form and pragmatic function. As my own research model shows, stance expressions are an open class of expressions, as even their extensive lists discussed in Chapter 3.2 and Appendix 1 are not fixed and closed, but new expressions can be added to it.

Therefore, the six strategies of authorial stance-taking were each realised by a range of different linguistic expressions, which by the same token, tended to fulfil several functions across the six strategies used in the articles. Accordingly, some structural types of expressions turned out to be more relevant for some strategies than others. For example, in the strategies of indetermination and depersonalisation, a classification was made based on parts of speech, whereas in the strategy of evaluative reference, a classification was made based on the function of coded segments, as the variety of expressions did not allow for a classification merely relying on the formal types of linguistic expressions determined for other strategies.

The structures that are recorded form the basis of the empirical, data-based, but category-inspired qualitative investigation of the polyfunctional linguistic categories in their respective functions in their concrete context. As will be shown in Chapters 7, 8 and 9, all three languages employ different lexical, syntactical and grammatical forms of expressing a particular function within the corpus, but the motivation behind the use of such forms is largely similar.

In the analysis, in the majority of cases, scrutinizing the immediate context of token structures limited the number of fuzzy cases. However, potential interpretations proved to be not as clearly delineated in some modal, as well as modal passive constructions. For example, while the modal verb *can* (as well as the Serbian equivalent *moći* and the German equivalent *können*) was usually seen as a marker of indetermination, denoting possibility and assumption, in some instances, it could also denote the authors' ability and as such, it was not tagged as a marker of indetermination. The meanings of modal verbs as described in the representative grammars of the respective languages were seen as the guiding factor for the respective potential ranges of interpretation, but the deciding factor for the assignment of a particular strategy to a form was ultimately its immediate context of use. There could, however, still exist a degree of subjectivity in coding, as the respective token structures can be differently interpreted by different researchers (Holliday 2015, 49; Phakiti 2015, 33). Such instances are further analysed and elaborated in Chapters 7–9 (the qualitative analysis of the corpus).

In the methodological approach adopted in the qualitative analysis of the corpus, which will have an impact on the ensuing quantitative analysis (see Chapter 6), all stance markers were tagged as a single token when they were seen as denoting a single function in the concrete context, regardless of the number of words they encompass. For example, markers of indetermination constituting of multiple forms indicating a single function (e.g. *would suggest*) were tagged as a single compound marker (as indicated in Chapter 4.2). This is also true for markers of intensification constituting of a certainty marker and an attitude marker (e.g.

particularly important or *increasingly significant*), as the marker signalling emphasis (*particularly* or *increasingly*) was followed by the marker signalling attitude (*important* or *significant*). In such cases, both markers were seen as a compound attitude marker and therefore tagged as a single marker. Finally, as will be seen for certain examples of the German passive voice (see Chapters 7.3.1, 8.3.1 and 9.3.1), the passive voice is often split, and the auxiliary verb *werden* is at the beginning of the clause, while the participle is all the way in the end, with multiple words in between (e.g. *wurden einer Verarbeitungskette (bestehend aus HTML-Stripping, Sprachidentifikation, Satzsegmentierung sowie musterbasierten Tests auf Wohlgeformtheit) unterworfen* or *wurden strukturelle Marker sowie verschiedene Funktionen von Fragen, Frageanhängseln und turneinführenden Antwortsignalen ausgewählt*). These examples are still tagged as one marker of depersonalisation.

However, the instances when multiple strategies applied were seen as polypragmatic rather than fuzzy and were tagged accordingly for each pertinent category. These cases are indicated in the analysis under the headings *Combinations*. These markers include combinations of strategies of depersonalisation and indetermination, subjectivisation and indetermination, depersonalisation and intensification, as well as subjectivisation and intensification. For instance, the following polyfunctional categories in the corpus were tagged for all relevant strategies: the expression ***this finding suggests*** was tagged for two strategies, thereby simultaneously carrying tags of two markers (depersonalisation and indetermination), while the expression ***our data suggest*** *the following* was tagged for three strategies, thereby simultaneously carrying tags of three markers (depersonalisation, indetermination and subjectivisation), each counted in their own right in the quantitative analysis.

The nature of this research is both qualitative and quantitative, and the corpus is coded dynamically according to the six strategies described in Chapter 4 (depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference). Such coding of data allowed for the classification and grouping of data, in order to provide systematicity and simplification of analysis, as well as easier quantification of data (Phakiti 2015, 32). However, written language, even when as formalised as academic written discourse, can ultimately be characterized as data open for qualitative analysis, as it comprises pragmatically nuanced data whose specific function(s) can only be determined by thorough analysis of their immediate context of use. This research, therefore, was focusing on a qualitative analysis regarding the discourse function of authorial stance markers, while the quantitative analysis was used for a broader outlook regarding their distribution and the indication of certain trends in the cross-disciplinary and cross-cultural analysis.

In order to be able to value the importance of a strategy and their linguistic expressions in the data, this research employed mixed methods research in order to create a broader picture of a problem (Ivankova and Greer 2015, 64) as both qualitative and quantitative results are used to explain stance expressions. In the concurrent quantitative and qualitative mixed-methods research design (Ivankova and Greer 2015, 70) the qualitative analysis was combined with quantitative observations of the frequency of occurrence of token structures of each type of linguistic expression for each strategy. To do so, the analysis was conducted with the software MAXQDA – which combines qualitative and quantitative, as well as mixed-methods data analysis, allowing for an efficient and transparent way to code the relevant token structures according to the strategy authors opted for in a specific context. As it works with a wide range of document types, MAXQDA allowed for an easy upload of PDF files onto the programme, and the qualitative, dynamic, data based and data-driven but category-inspired creation of codes for authorial stance strategies and their linguistic realisations. For the purpose of this research, nine different projects were formed, corresponding to the nine sub-corpora being researched, in order to be able to focus on each one separately. Upon reviewing the articles for their suitability to be used in the analysis based on the data selection criteria indicated in Chapter 5.1.2, the articles were uploaded into MAXQDA for analysis.

It was during the corpus analysis that the dynamic approach in the creation of the research model became prominent, as the strategies constituting the operationalizing model of stance for this dissertation are a result of an amalgamation and restructuring of many previous classifications of formal categories related to markers of stance (see Chapter 3.2), as well as the broader theoretical background of stance and its related conceptual categories (as outlined in sub-chapters 2.5.1–2.5.8), language- (see Chapter 2.6) and discipline-related (see Chapter 2.7) differences in the expression of stance. These categories were redefined several times in the course of both the theoretical review and empirical analysis and ultimately systematically supplemented in the course of the qualitative analysis of my corpus of 124 articles.

The analysis itself was conducted by coding all instances of token structures of the pertinent means of expression in the corpus in accordance with the devised taxonomy (see Chapter 4), in terms of functions of stance-taking and formal expressions identified in previous research. Markers of authorial stance were identified and manually tagged in the text according to the strategies identified, simultaneously driven by corpus data and the context-related qualitative analysis of use of stance markers, which allowed for adjusting the model of analysis according to newly emerging patterns dynamically, enriching the existing inventory (where appropriate) “bottom-up”. Therefore, my own function-to-form approach is both category-inspired and data-driven, as it aimed at developing new categories (such as evaluative reference or more nuanced functions of other strategies) in the theoretical framework and respective inventories of expressions. Additionally, this research integrated descriptive, contrastive, discipline and language comparative pragmatic empirical analysis in the corpus, in analysing language in context and within three language and disciplinary cultures, grouped according to the six strategies described in Chapter 4 (depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference) in order to uncover distributional patterns of use of stance markers from the corpus.

In Chapter 6, the quantitative results of the analysis will be presented through normalised frequencies and descriptive statistics, in order to deduce distributional trends in the corpus. Subsequently, in Chapters 7–9, the empirical corpus analysis will be presented, divided according to the discipline – linguistics, economics, and technology, and then according to the language – English, Serbian, and German, in order to give an outline of the different forms expressing a particular function of authorial stance-taking across languages and subjects.

Chapter Six

Quantitative Analysis: Results

Following the presentation of the research model (Chapter 4) and the elaboration on the data retrieval and methodology applied in the dissertation (Chapter 5), in this chapter, quantitative results will be discussed for the language and disciplinary sub-corpora, as outlined in Chapter 5. Firstly, I will attempt to answer Research Question 2 (see Chapter 1), how different the frequency of stance markers is in the three scientific fields – linguistics, economics, and technology, and the three languages – English, Serbian, and German. Secondly, I will attempt to answer Research Question 3 (see Chapter 1), how different the frequency of stance markers is in the six strategies outlined in Chapter 4 – depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference.

6.1 Quantitative differences in language and disciplinary corpora

To start with, and as mentioned in Chapter 5, the 124 articles constituting the corpus for this research yielded an electronic corpus of 535,433 words in total. Table 7 below is an extended version of Table 5 (see Chapter 5) presenting additional information on the nine sub-corpora constituting this corpus, three for each language and each discipline.

Field	Language	Articles	Word count	Markers	Markers per 1,000 words
Linguistics	English	10	83,457	2796	33.5
Linguistics	Serbian	14	63,132	1790	28.4
Linguistics	German	10	64,839	2442	37.7
Economics	English	11	84,659	2599	30.7
Economics	Serbian	16	57,120	1506	26.4
Economics	German	12	69,836	2269	32.5
Technology	English	15	68,581	2785	40.6
Technology	Serbian	17	47,701	1797	37.7
Technology	German	19	64,689	3007	46.5

Table 7: Information on sub-corpora: number of articles, word count, number of markers and normalised frequency per 1,000 words

As can be seen in Table 7, additional information on all nine sub-corpora includes the number of articles constituting each sub-corpus, their word count and number of authorial stance markers identified in each sub-corpus. The final column shows a proportionally calculated normalised frequency of these markers per 1,000 words, on account of differing word counts across language and disciplinary sub-corpora. As these normalised frequencies show, in all three disciplines, markers of authorial stance are most frequent in articles written in the German language, with the sub-corpus of articles in the field of technology written in German showing the highest overall frequency of markers. The frequency of stance markers is somewhat lower in the English sub-corpora, and lowest in the Serbian sub-corpora. Additionally, the field of technology consistently has the highest overall frequency of stance markers out of all three disciplines, followed by linguistics, and finally economics, with articles in the field of economics written in Serbian showing the lowest overall frequency of stance markers in all nine sub-corpora. This difference in the normalized frequencies is confirmed in the relative frequencies in these nine sub-corpora – the technology sub-corpus in German shows the highest number of occurrences, and the economics sub-corpus in Serbian the lowest number of occurrences.

Based on normalised frequencies in Table 7, we can determine that authorial stance markers are most frequent in scientific articles written in the German language (in all three disciplines), followed by English, and finally Serbian. In addition, we can determine that stance markers are most frequent in scientific articles written in the field of technology (in all three languages), followed by linguistics, and finally economics. This answers Research Question 2.

Additionally, as the purpose of this research is to investigate the quantitative and qualitative differences in the distribution of stance markers in three languages – English, Serbian, and German, and three disciplines – linguistics, economics, and technology, as per Research Question 2 (see Chapter 1), the statistical test employed for this purpose is aimed at examining group, i.e., inter-language and inter-disciplinary differences. To this end, an analysis of variance – ANOVA test was conducted. Therefore, in comparing the measures of frequencies in nominal data, as well as the measure of statistical significance in the sub-corpora, the quantitative research is a combination of both descriptive and inferential statistics (Phakiti 2015, 36–37).

Analysis of variance – ANOVA – was conducted via an Excel Add-In for Anova Single Factor solution (Carr 2008; Larson and Hsu 2010). Anova is an independent-samples *t*-test aimed at determining whether the mean scores between three groups (in our case) are equal and statistically significant (Phakiti 2015, 41).

	English	Serbian	German
Linguistics	33.5	28.4	37.7
Economics	30.7	26.4	32.5
Technology	40.6	37.7	46.5

Table 8: Normalised frequencies of all nine sub-corpora per 1,000 words for ANOVA comparison

As shown in Table 8, two analyses of variance are conducted, one referring to the language groups (English, Serbian, and German) and one to the disciplinary groups (linguistics, economics, and technology). The null hypothesis (H_0) is that all groups' (language and disciplinary) means are equal, and therefore there is no statistically significant difference among them. The alternative hypothesis (H_a) is that they are not equal (at least two are not equal to one another), and therefore a statistically significant difference exists (Mishra et al. 2019, 408).

For the analysis of variance, we rely on the probability and significance values. Probability "is related to the degree to which the statistical finding occurs by chance" (Phakiti 2015, 38), whether it is true or incidental, and the probability value (*p*-value) is "the likelihood that we will be wrong in the statistical inferences that we make from the data", which is data-driven (Phakiti 2015, 38). On the other hand, the significance value is fixed and, in this case, set at 0.05 (Phakiti 2015, Mishra et al. 2019; Brereton 2019). The following *p*-values are generated by Excel for the Anova Single Factor solution, as indicated in Table 9.

***p*-Value (Languages)**	***p*-Value (Disciplines)**
0.339191	0.032785

Table 9: Comparison of *p*-values of language sub-corpora and disciplinary sub-corpora, as per Table 8

As can be seen, the *p*-value for inter-language group comparison (between English, Serbian, and German) is above 0.05 ($0.33919 > 0.05$). This means that the likelihood of being wrong in the statistical inferences made from these data is more than 5 in 100, meaning that the null hypothesis cannot be rejected, as there is no sufficient evidence to say that there is a statistically significant difference between the means of the three language groups. On the other hand, the *p*-value for inter-disciplinary group comparison (between linguistics, economics, and technology) is below 0.05 ($0.032785 \leq 0.05$), meaning that the null hypothesis can be rejected, as there is enough statistically significant difference between the means of the three groups, meaning that there are less than 5 in 100 chances of being wrong (Phakiti 2015, 38). This significant p-value indicates that there is a statistically significant difference at least for one pair among the three groups. This significant pair was not identified through *post-hoc* tests in this research (Mishra et al. 2019, 407) as the difference among all three groups was compared.

6.2 Quantitative differences in six strategies

The aim of this research is also to compare the frequencies of stance markers according to the six strategies (depersonalisation, indetermination, subjectivisation, intensification, approximation, evaluative reference) in three scientific fields – linguistics, economics, and technology, and three languages – English, Serbian, and German, as per Research Question 3 (see Chapter 1). To this end, frequencies for all six strategies in all language and disciplinary sub-corpora were normalised through a proportional calculation per 1,000 words in Table 10.

Strategy	Discipline	English	Serbian	German
Depersonalisation	Linguistics	7.2	7.4	18.1
	Economics	7.9	10.6	19.9
	Technology	22.9	28.4	27.3
Indetermination	Linguistics	6.9	4.5	5.6
	Economics	4.6	2.6	4.1
	Technology	5.9	3.1	5.5
Subjectivisation	Linguistics	6.3	5.1	1.5
	Economics	12.0	2.9	1.0
	Technology	1.3	0.1	0.1
Intensification	Linguistics	6.0	5.1	6.3
	Economics	2.9	7.2	4.1
	Technology	4.4	2.5	7.0
Approximation	Linguistics	4.0	4.3	3.9
	Economics	2.5	2.7	2.8
	Technology	4.5	2.7	5.7

Evaluative Reference	Linguistics	3.1	2.0	2.2
	Economics	0.8	0.5	0.6
	Technology	1.7	0.9	0.9

Table 10: Normalised frequencies for all six strategies in language and disciplinary sub-corpora per 1,000 words

As can be seen from Table 10, stance markers expressing the strategy of **depersonalisation** are most frequent in linguistics and economics articles written in German, and in the Serbian sub-corpus of technology. The English sub-corpus consistently demonstrates the lowest frequency of markers of depersonalisation.

On the other hand, stance markers expressing the strategy of **indetermination** are most frequent in the articles written in English in all three disciplines, followed by German and finally Serbian. In addition, stance markers of indetermination are most frequent in the articles in the field of linguistics (in all three languages), followed by technology and economics.

A similar observation can be made for the strategy of **subjectivisation**, as stance markers here are also most frequent in the articles written in English in all three disciplines, followed by German and finally Serbian. However, articles in the field of economics written in English feature the highest frequency of all sub-corpora, while the lowest frequency of markers of subjectivisation can be found in the articles in the field of technology.

Regarding the strategy of **intensification**, articles written in German in the fields of linguistics and technology show the highest overall frequency of intensification markers, while they are most frequent in the field of economics in articles written in Serbian. **Approximation** markers exhibit the highest overall frequency in articles written in German in the fields of economics and technology, and articles written in Serbian in the field of linguistics.

Finally, the strategy of **evaluative reference** shows the lowest overall frequency of stance markers in all sub-corpora. Articles written in English feature the highest overall frequency of evaluative reference markers in all three disciplines, followed by German, and finally Serbian. In addition, articles written in the field of linguistics demonstrate the highest overall frequency of evaluative reference markers in all three languages, followed by technology and economics.

Based on the normalised frequencies in Table 10, we can determine that stance markers most frequently express the strategy of depersonalisation in all three languages and all three disciplines, while they least frequently express the strategy of evaluative reference in all three languages and all three disciplines in this corpus. Intensification is the second most frequent strategy, followed by indetermination, approximation, and subjectivisation. In this corpus, stance markers are most frequent in the technology sub-corpus expressing depersonalisation, and accordingly, least frequent in the technology sub-corpus expressing subjectivisation. In addition, we can observe that stance markers expressing depersonalisation are most frequent in the German sub-corpus, and accordingly, least frequent in the German sub-corpus expressing subjectivisation. This answers Research Question 3.

These differences in the normalised frequencies can also be graphically presented in Figures 5 and 6, aimed to be observed as a unity. In Figure 5, the three colours, purple, green, and blue represent linguistics, economics, and technology, respectively.

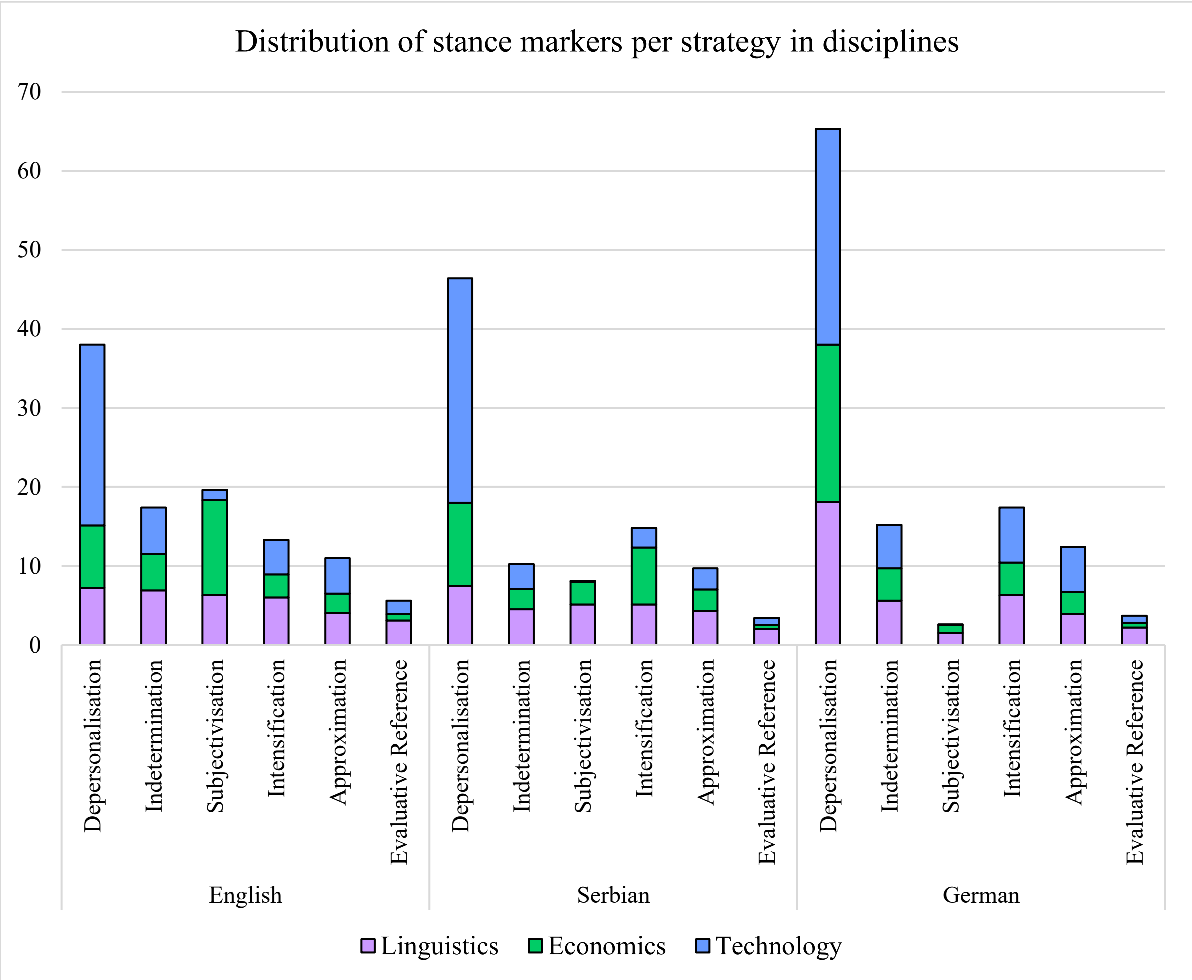

Figure 5: Distribution of stance markers per strategy in disciplines (normalised frequencies)

Similarly, in Figure 6, the three colours, purple, blue, and red represent English, Serbian, and German, respectively.

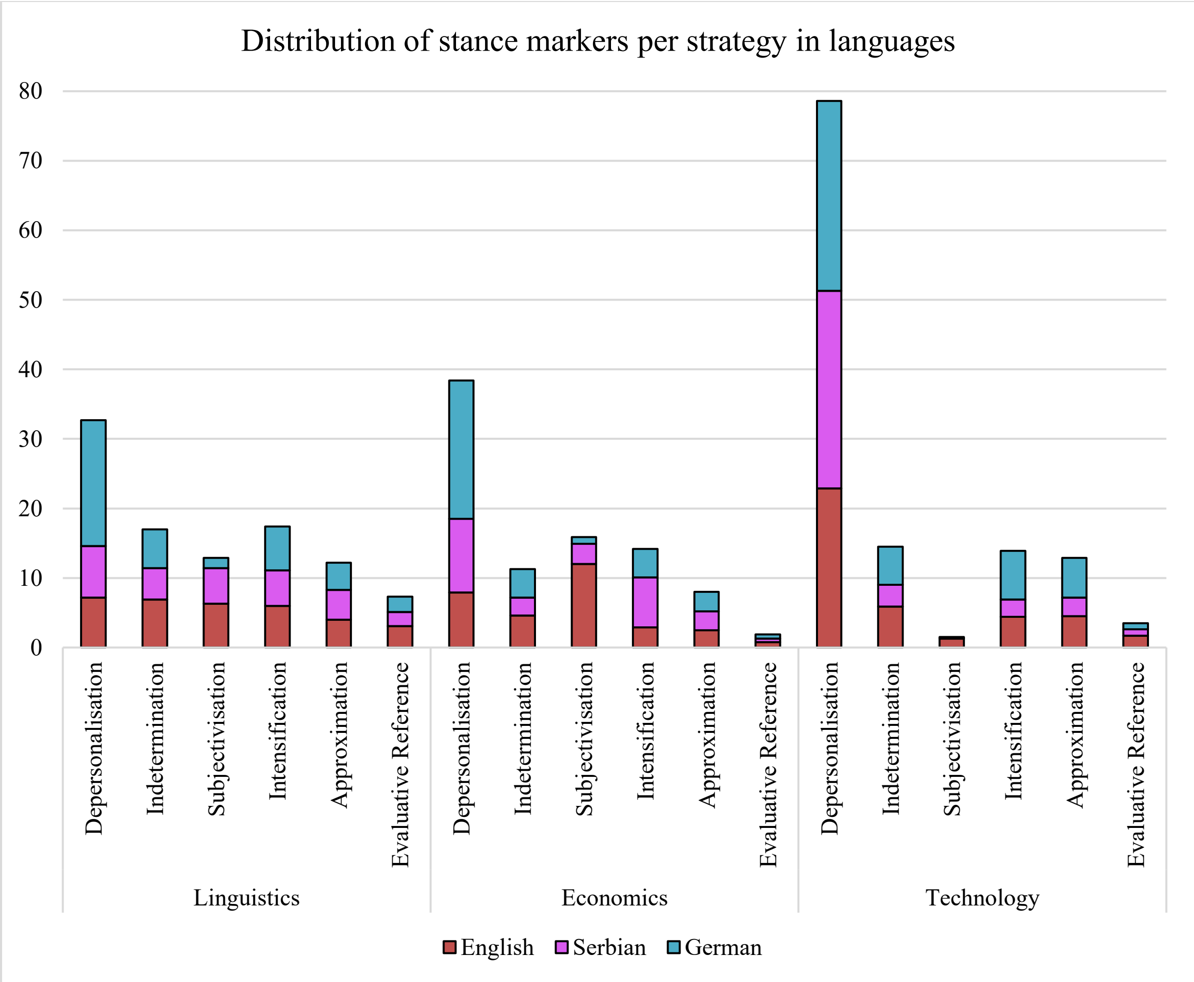

Figure 6: Distribution of stance markers per strategy in languages (normalised frequencies)

As can be seen from these two stacked bar charts (Figures 5 and 6), representing normalised frequencies per 1,000 words, depersonalisation is the overall the most frequently used strategy across all nine sub-corpora, as evidenced across all disciplines (Figure 5) and all languages (Figure 6). Evaluative reference is the overall least frequently used strategy in eight out of nine sub-corpora, as in the German technology sub-corpus, subjectivisation is the least frequent strategy. It can also be seen that depersonalisation is most frequent in the German technology sub-corpus, while subjectivisation is least frequent in the German technology sub-corpus.

Finally, based on the normalised frequencies for all strategies, as given in Table 10, analyses of variance are conducted in order to determine whether these means are statistically significant in language groups (English, Serbian, and German) and in disciplinary groups (linguistics, economics, and technology). The null hypothesis (H_0) in this case is that all groups' (language and disciplinary) means are equal, and therefore there is no statistically significant difference among them. The alternative hypothesis (H_a) is that they are not equal (at least two are not equal to one another), and therefore statistically significant difference exists (Mishra et al. 2019, 408). As in the analysis for inter-language and inter-disciplinary group comparison (see Table 9), the analysis of variance – ANOVA – is conducted via an Excel Add-In for Anova Single Factor solution (Carr 2008; Larson and Hsu 2010). The following *p*-values are generated by Excel for the Anova Single Factor solution, as indicated in Table 11.

Strategy	***p*-Value (Language)**	***p*-Value (Discipline)**
Depersonalisation	0.473728	0.02548
Indetermination	0.063169	0.261117
Subjectivisation	0.200823	0.317411
Intensification	0.674744	0.710967
Approximation	0.659294	0.125445
Evaluative Reference	0.612212	0.006276

Table 11: Comparison of *p*-values for the six strategies in language and disciplinary sub-corpora, as per Table 10

As can be seen in Table 11, the *p*-value is lower than 0.05 (≤ 0.05) for two strategies, the overall most frequently used strategy of depersonalisation and the least frequently used strategy of evaluative reference, both regarded in inter-disciplinary comparison (between linguistics, economics, and technology). This indicates that the null hypothesis can be rejected, as there is enough statistically significant difference between the means of the three groups regarding these two strategies, indicating that these means are not equal. On the other hand, for all inter-language group comparisons (between English, Serbian, and German) and the remaining inter-disciplinary comparisons, the *p*-value is above 0.05 (> 0.05), meaning that the null hypothesis cannot be rejected, as there is no sufficient evidence to say that there is a statistically significant difference between the means of the three language groups. For the language parameter, only one strategy is close to statistical significance in inter-language comparisons – indetermination.

This chapter succeeded in answering Research Questions 2 and 3. The following three chapters – 7, 8 and 9 – will attempt to answer Research Question 4, which linguistic means are used to express often subtle differences in the context-dependent interpersonal functions of authorial stance-taking in these six strategies, three disciplines and three languages. Finally, how these results fit into a potential cultural and disciplinary paradigm, and whether these differences can be accounted for on a larger cultural and disciplinary level (as per Research Question 5) will be discussed in Chapters 10 and 11.

Chapter Seven

Qualitative Analysis: Linguistics

In the field of linguistics as the first field of interest for this dissertation, a total of 34 academic articles (10 in English, 10 in German, and 14 in Serbian) were analysed in MAXQDA for markers of authorial stance.

For purposes of a broad quantitative analysis revealing major tendencies in the use of stance markers, Figure 7 will firstly graphically present the absolute frequencies of the six strategies outlined in Chapter 4 in the entire linguistics corpus, so as to give a broader overview of the predominant strategies in each language. Furthermore, each of the three language sub-corpora will be analysed in greater detail, both qualitatively and quantitatively.

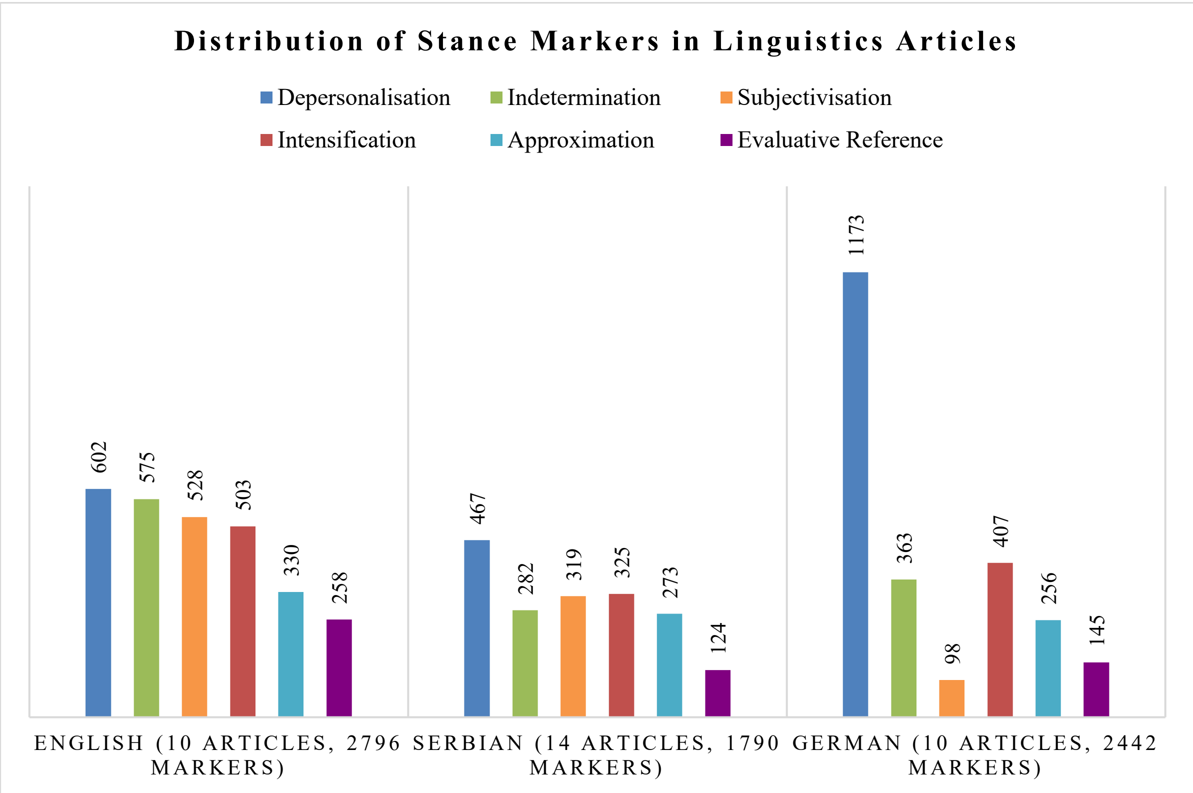

Figure 7: Distribution of stance markers in linguistics articles (absolute frequencies)

As can be seen from Figure 7, in the sub-corpus of linguistics, most markers of stance, in terms of absolute frequencies, are used in the articles written in English, while the fewest number of markers of stance is used in the articles written in Serbian. However, a comparison of normalised frequencies (see Table 8 in Chapter 6) suggests that these markers are most frequent in German (37.7 per 1,000 words), and least in Serbian (28.4 per 1,000 words), with 33.5 markers per 1,000 words used in English. While the distribution of strategies is quite varied across the three languages, the most predominant strategy in all three is that of depersonalisation (including the frequent use of the passive voice).

Now the focus will be turned to a more in-depth analysis of the three language sub-corpora in the linguistics sub-corpus. Following a slightly more detailed quantitative analysis for each language, each strategy will be investigated in more detail, in order to qualitatively elaborate on the most frequent forms within all strategies, their potential functions in each concrete context and possible motivations of the authors behind the use of these strategies. The sub-corpus of English will be examined first, followed by the sub-corpus in Serbian, and finally, the sub-corpus in German.

7.1 Corpus analysis of articles in the field of linguistics written in English

The 10 articles comprising the sub-corpus of linguistics articles written in English deal with phonetics and phonology, morphology, syntax, pragmatics, discourse analysis, and politeness. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of 2796 markers is identified within these 10 articles, with the normalised frequency of 33.5 markers per 1,000 words in the sub-corpus. The distribution of these markers according to the six strategies, in terms of their absolute frequencies and percentage is given in Figure 8:

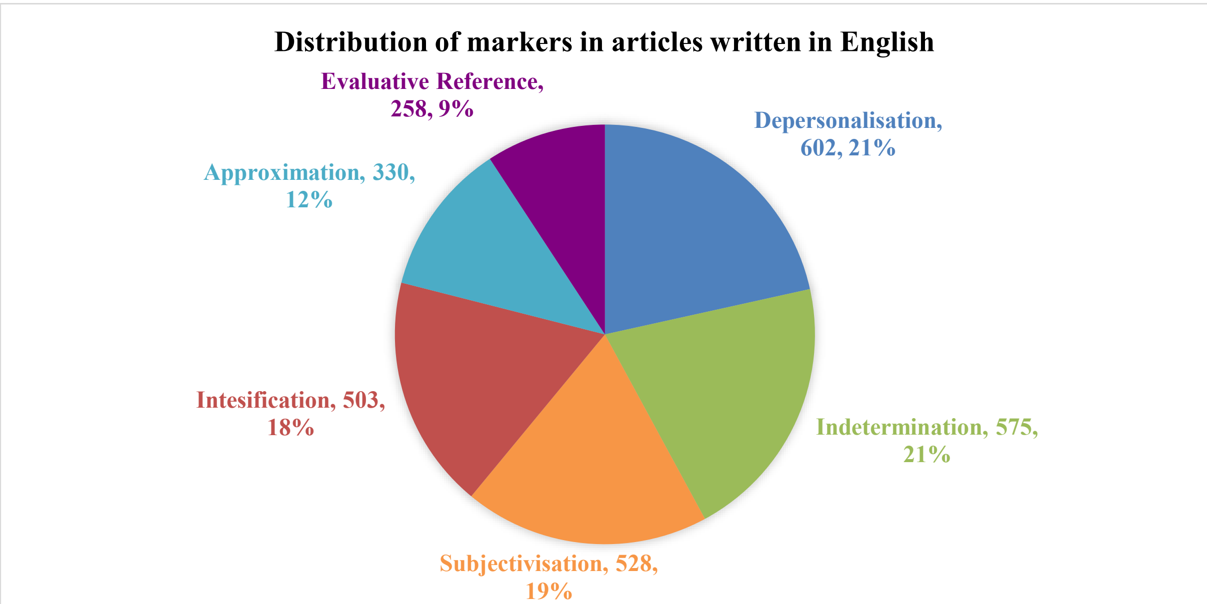

Figure 8: Distribution of stance markers in linguistics articles written in English (absolute frequencies)

As can be seen, the most frequent strategy in this sub-corpus is that of depersonalisation (including the use of the passive voice), followed by indetermination, while evaluative reference is the least frequent one. These strategies will be discussed in the descending order of frequency according to Figure 8: depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference. This order of discussion will be maintained in all other sub-corpora as well, for better reference and more obvious differentiation.

7.1.1 Depersonalisation

As indicated in Figure 7, this strategy is most frequently present in the articles in the field of linguistics written in all three languages, meant to suggest the presence of the author in a less explicit, more covert way. There are a total of 602 markers found throughout this sub-corpus, with an average of 60,2 markers per article. This number includes the use of the passive voice (273 markers). While this may not be as important in the linguistics sub-corpus, it might prove to be more prominent in other disciplines, as will be discussed later (see sections 9.1.1, 9.2.1, and 9.3.1 in particular).

Metonymic use of inanimate nouns

One of the most prominent expressions in this strategy is the use of inanimate nouns (often preceded by a demonstrative determiner or definite article) as an inanimate agent of the research being conducted – thereby being a metonymic reference to the authors of the paper i.e. the researchers doing the research at question[38]. These inanimate nouns functioning as subjects can be seen as having the role of an instrument, "the entity […] which an agent uses to perform and action or instigate the process" (Quirk et al. 1985, 743), which is quite common in academic writing, as noted by Biber et al. (1999, 379)[39].

In the English linguistics sub-corpus, 99 such markers can be identified, including expressions outlined in Table 12:

[38] Charles (2006, 501) discusses these nouns as "research nouns", referring to processes (e.g. analysis, observation); products (e.g. result, data); material entities (e.g. cell, crystal); or abstract phenomena (e.g. predominance, similarity).

[39] Biber et al. (1999, 379) note the tendency of academic writing to use abstract rather than concrete and animate subjects, in sentences in which "[an] inanimate entity functioning as subject is often an abstraction that is somehow instrumental to the meaning of the verb."

study	**paper**	**analysis**	**article**
this case study reveals	*this paper describes*	*the analysis includes*	*this article outlines*
this study will show	*the paper focuses on*	*the analyses demonstrate*	*this article suggests*
this study examined	*the intention of the current paper is*	*the analysis reveals*	*this article seeks to*
the purpose of this study is	*this paper offers*	*an analysis of*	*this article aims to investigate*
this study raises a number of questions	*the focus of this paper*	*the analysis shows*	*the current article examines*
this study tells us	*the purpose of the current paper is*	*this analysis produced*	*the current article focuses on*
this study seeks to examine	*this paper is about*		*the article begins by*
this study makes an important contribution			

Table 12: Metonymic uses of depersonalisation in the English sub-corpus of linguistics

The four abovementioned nouns *study, paper, analysis,* and *article* are the most prominent markers of depersonalisation, denoting metonymic references to the author, also illustrated in examples (1) – (3):

(1) Building on this treatment of the department store studies, <u>*the current paper presents*</u> an analysis of rhoticity in New York City. (Eberhardt and Downs 2015, 120)[40]

(2) <u>*The analysis presented here includes*</u> five consultants featured on the show: Audrey, Camille, Debbie, Dianne, and Keasha, *chosen because* they are the consultants who are variably rhotic. (Eberhardt and Downs 2015, 127)

(3) <u>*The current study was driven by the question of*</u> whether the brides' budgets on this reality television show would act as a marker of social class and thus have an effect on consultants' use of (r), in a similar manner to a shopper's presence in a particular department store in the department store studies. (Eberhardt and Downs 2015, 131)

Other less frequent and often less obvious metonymic realizations of authorial stance-taking include expressions such as: *findings, data, results, tests, experiment,* illustrated in examples (4) – (6):

(4) <u>*Such a result indicates*</u> that the consultants do respond to the budget of their bridal customers in a similar manner to the way in which employees in the New York City department stores

[40] Appendix 3 contains additional selected pertinent examples organized in clusters for strategies of depersonalisation, indetermination, subjectivisation, and evaluative reference in all nine sub-corpora. Appendix 3 does not contain any additional examples of strategies of intensification or approximation.

designed their speech according to the imagined social status of their ideal customers. (Eberhardt and Downs 2015, 132)

(5) *These data clearly demonstrate that* doing politeness is a cultural as well as a language-based phenomenon: knowing how to do politeness in English is not enough – we also have to know how to do politeness in a particular cultural and situational context. (Merrison et al. 2012, 1096)

(6) *The results displayed in Table 10 show* that for the SR task, *the models explain* around 46–61 per cent of the variance in task results across Years 5–7. (Courtney et al. 2017, 840)

Nominalizations

The use of nominalizations is quite common in all sub-corpora, including this one, and it is characterized by variety and flexibility in the nouns used for the purpose of omitting the agent of the clause (Biber and Gray 2010, 11), with 69 markers identified: *comparison, consideration, identification, interpretation, choice, approach, procedure, aim, focus, goal, first/second/third step, process, tasks, research questions, model,* illustrated in examples (7) – (10). These nouns are often either derived with the suffix *-ation* as deverbalized abstract nouns (R. Đorđević 2007, 27) or derived from verbs (R. Đorđević 2007, 29).

(7) *A comparison of 1 million words of spoken and written data taken from the BNC reveals* that the rate of use of thank(s) in the u100u, o1,000 u, and u100n, data is significantly higher than in both spoken and written discourse (all with ll. significantly higher than +6.63), with the most significant difference seen with u100u, then o1,000 u, and so on (i.e. with used items listed by novices utilizing the highest amount of politeness markers and new items listed by experienced sellers utilizing the lowest amount). (Knight, Walsh and Papagiannidis 2017, 249)

(8) *An additional motivation for this study was* methodological—how can change (or lack of change) over time be identified automatically? (Baker 2011, 66)

(9) *Data collection from* GloWbE was similar to COCA. (Skalicky, Berger, and Bell 2015, 21)

(10) As already discussed, *our identification of creative metonyms in this way does not presume* that the remaining metonyms are in any way uniformly 'conventional'. (Littlemore and Tagg 2018, 493)

Nouns such as *excerpt* or *example* are not included in the analysis, as they were not seen as metonymic references to the author and therefore not expressing authorial stance in this context.

Participles

In this sub-corpus, another type of depersonalised expressions can be realised by text-deictic means as a part of the strategy of evaluative reference (see sub-chapter 7.1.6), but when authors refer to specific text-portions of their own articles/papers, this is seen as depersonalisation, such as in expressions with participle clauses (adverbial clauses of comparison), denoted as parenthetical passive constructions in Fandrych and Graefen (2002, 24): *as discussed* *above/below*, *(as) outlined above, as outlined earlier, as mentioned above/earlier, as noted above, as shown above, as documented in this research, as cited above.*

This sub-corpus, while containing many participle token structures, also contains expressions such as *as illustrated by* or *as evidenced by.* These are, however, linked to the examples of test subjects' language use or those given by the authors of the papers analysed in my corpus, and as such do not express a covert authorial stance in this particular context, but rather serve as a text-deictic cohesive device, as seen in the example: *These patterns are comparable to those produced by non-impaired participants engaged in mundane conversations as illustrated by Excerpt 3* (Stickle and Wanner 2019, 55). Such cases had to be identified and excluded in the course of the context-bound qualitative analysis.

Authorial stance is also fairly frequently expressed through covert means and the use of past participles as reduced postmodifying non-finite relative clauses with an attributive function (Fandrych and Graefen 2002, 24) such as: *tokens coded as, the fixed external factors selected as predictors of, utilized here, analysed as, undertaken here, examined in this study, the correction used, classified here as, used in this study, found in, presented here, highlighted in the preceding discussion,* as well as premodifying past-participles with an attributive function such as: *obtained, identified, previously described.* These are meant to implicitly indicate the agent, i.e. the agent is to be inferred from the form, as illustrated in example (11):

(11) One explanation for the changes <u>*observed in the corpora*</u> I used is that certain prepositions are fulfilling the functions of others. (Baker 2011, 77)

There are 30 instances in which whole adverbial non-finite clauses are seen as expressing the strategy of depersonalisation in the sub-corpus, as illustrated in examples (12) – (14):

(12) <u>*Using data from both of these segments of the show*</u>, we tested the hypothesis that the bridal consultants on Say Yes to the Dress would vary in their use of (r) depending on the budget the bride stated at the outset of her appointment. (Eberhardt and Downs 2015, 127)

(13) <u>*To further examine these patterns*</u>, we present the mean [r-1] for each consultant (Speaker), separated by budget category (see Figure 3), though this interaction was not statistically significant in the regression model. (Eberhardt and Downs 2015, 133)

(14) <u>*In order to identify such possible effects*</u>, we included a factor group to control for whether anyone in the bridal party—bride, friends, or family—also exhibited non-rhotic pronunciations. (Eberhardt and Downs 2015, 129)

These non-finite clauses are all used in order to omit the agent of the clause, but they are also used to cataphorically refer to them, in an overt expression through subjectivisation and first-person plural (which will be elaborated in Chapter 7.1.3). While example (12) is meant to explain and give us more information on how the research process was conducted in a covert manner through an adverbial *ing*-clause, the two latter examples employ non-finite adverbial clauses to indicate the purpose of a research step.

Impersonal constructions

Furthermore, impersonal constructions with the impersonal pronoun *it* very frequently act as representative examples of the strategy of depersonalisation in this sub-corpus. In examples (15) – (16) depersonalisation is combined with indetermination through an extraposition construction in which the anticipatory *it* replaces the human agent as a subject (Hyland 1998b, 364). They highlight the argument and the hope of the authors, and their anticipation of the commitment to the truth value of the proposition expressed in the subordinate clause:

(15) *It should be said* that the two categories are not mutually exclusive and a single creative use of metonymy could involve more than one of these forms of creativity. (Stickle and Wanner 2019, 49)
(16) *It is hoped that* this article presents a case for a larger-scale investigation into whether the discursive processes identified in this interview are part of a wider systemic problem with institutional approaches to investigating rape allegations. (Haworth 2017, 211)

Other noteworthy examples include: *it is worth noting, it was found, it is hypothesised, it is argued, it is claimed, it was considered, it has been noted, it is not known, it should be noted, it is necessary to* – in total, there are 47 instances of this usage identified in this sub-corpus, illustrated in examples (17) and (18) with the dummy (semantically empty) subject *it* (Biber et al. 1999, 125) and existential *there* (Biber et al. 1999, 154; Quirk et al. 1985, 1405):

(17) In this section *it is necessary to* provide an explanation of the related (but currently less well known) concept that Davies et al. (2007) have called 'BUT-JUSTIFICATIONS' (or J-BUTS). (Merrison et al. 2012, 1082)
(18) In both cases, *there was an explicit commitment to* anonymise all personal data. (Merrison et al. 2012, 1084)

On the other hand, the use of impersonal pronoun *one* is not very common in this sub-corpus, as there are only three instances of the use of impersonal *one – one can see, one might/would expect.* Additional three tokens include the depersonalised self-reference through the use of the noun *author*, as evidenced in examples (19) – (21):

(19) To use a not unrelated example to illustrate this, *one of the British authors of this paper* recently received an e-mail from a student requesting an academic reference for a postgraduate teaching application in which the student wrote "I'm sure you can write these in minutes by now!" (Merrison et al. 2012, 1094)
(20) *All authors independently coded* this second half of the data and then discussed their results and adjudicated any disagreements. (Skalicky, Berger and Bell 2015, 22)
(21) Again, *both researchers (the authors of this article) coded the items*, and *discussions took place wherever there were disagreements*. (Littlemore and Tagg 2018, 491)

Hyland (2001a, 213) mentions self-citation as the most common function of self-mention, in order to refer to one's own previous research, but this is not particularly frequent in my corpus.

Finally, examples of the modal idiom *be to* are used to express a future plan or intention (R. Đorđević 2007, 554–555; König and Gast 2018, 122; Quirk et al. 1985, 143): *to be presented, to be compared.*

Passive voice

As mentioned before, another very frequent form used to express depersonalisation is the passive voice without an agent *by*-phrase, which is very often used to describe the procedures conducted for the research, similarly to the first-person + Verb constructions in the strategy of subjectivisation (described in 7.1.3 below), but deemphasizing the role of the agent(s), which is typical of passive constructions in academic contexts (Biber et al. 1999, 476). This can be seen in the following examples (which are all drawn from the corpus): *was compared to, were understood, were found, were created, was obtained, were employed, were designed, were constructed, were used, were normalised, were presented, were tested, were told, were selected, were coded, were assigned, were extracted, were collected, were excluded, were calculated, were included, was considered, was conducted, was analysed, were examined, was seen, were identified, were classified, were compared, were considered, was chosen, were investigated, were transcribed, is investigated, were coded,* and illustrated in examples (22) – (23).

(22) Normalized transcripts provided through the CCC portal *were transcribed* using Transcriber software (http://trans.sourceforge.net). The transcripts obtained through the CCC Web portal *were subsequently converted* to meet conversational analytic standards (Atkinson and Heritage 1984; Jefferson 2004). Names and identifying information *were permanently removed* from the audio, and a tone of the exact duration *was substituted* to maintain the length of the audio recordings. Pseudonyms *were ascribed to* the participants in the transcripts to protect privacy. In the transcript excerpts provided, the three-letter code used in the title is associated with a single institutionalized participant's identity (e.g. [sic] WKD indicates a particular institutionalized person with a dementia diagnosis). In the line-by-line transcript excerpts, the institutionalized participant *is referred to* as Mr or Ms plus an initial (e.g. [sic] Mr K); the volunteer co-participant *is identified* using a given name (e.g. Dell). (Stickle and Wanner 2019, 48)

(23) The ethics process for the two sets of data *was carried out* differently, due to the data sets *being collected* at different times and in different locations. For the British corpus of 100 e-mails (collected in 2007), the students concerned *were e-mailed* to ask permission to use their correspondence as data. A copy of their e-mail *was included* in the request, and the general purpose (researching student requests) *was explained*. For the Australian corpus of 90 e-mails (collected in 2009) all students enrolled in a particular lecturer's courses *were told* about the research by e-mail, and they *were asked* for their permission to allow their correspondence to form a part of the resulting corpus. In both cases, there was an explicit commitment to anonymise all personal data. To withdraw their data from the study, students *were required* to actively respond – thus a 'passive consent' mechanism *was used*. In all cases, the authors of

these e-mails were studying in their home country and *were considered to be* native speakers of English by the recipients of the e-mails. (Merrison et al. 2012, 1084)

As can be noted from all the examples above, including (22) – (23), the use of agentless passive voice, a very well-established form in academic texts, is meant to deemphasize the role of the author, but their role is inferred from the context (Biber et al. 1999, 977). Examples (22) – (23) also highlight the tendency of passive constructions towards clustering when being used for the description of procedures outlined by the authors.

It is particularly in this register that the English passive verb phrase exhibits tremendous frequency in this genre, as well as structural flexibility, in that it often combines with marked forms of other analytical grammatical categories of the verb such as the perfective (*have been selected*) and continuous aspect forms (*is being made here*), as well as present (*is presented, is identified, is investigated*), past and future tense (*will be discussed, will be used*).

Strategies of depersonalisation and indetermination (see section 7.1.2) are often combined through modal passive forms, as modal verbs *can, could, may, might* indicate possibility (Biber et al. 1999, 485) and implicit agentivity: *could be interpreted as, could be encoded as, might be explained as, can be described as.*

However, not all instances of (modal) passive constructions are included in the analysis. Examples such as *A summary of this taxonomy can be found in Figure 1* (Littlemore and Tagg 2018, 486) are not included in the strategy of depersonalisation through the use of passive, nor in the strategy of indetermination, as they do not indicate covert stance or epistemic modality on the author's part, but rather serve text-deictic functions.

In addition, impersonal and passive constructions are often employed in the elaboration of procedures not conducted by the authors of the papers analysed, but in reference to research presented in cited works, such as in the examples (24) and (25). These tokens are, however, not counted or included in the analysis.

(24) *The events were chosen* for their linguistic properties, such as transitivity and aspect (there were actions with and without a logical endpoint, such as running versus someone giving someone a flower), and they did not necessarily depict events from participants' everyday lives (such as a snake biting a horse). (Stickle and Wanner 2019, 45)

The use of the passive voice in example (24) – *the events were chosen* – while contextually not substantiated enough, refers to the description of a procedure conducted by other authors in another article. As such, the use of passive voice in this example is not a covert expression of authorial stance (as in first-order stance-taking), nor is it an example of second-order stance-taking, as it does not, in fact, convey stance towards cited work (through the use of passive voice), and is therefore not included as a marker of evaluative reference either (see 7.1.6).

Instances of the passive voice not expressing covert stance are generally not included in the analysis, as they are not seen as expressions of either first-order or second-order stance.

(25) Specifically, we look at how initial choices of verbs and their argument structures were initiated—in full or partial articulation—and whether they were resused, repeated, replaced with either full lexical replacements or through repetition of the initial lexical choice. (Stickle and Wanner 2019, 50)

In example (25), while first-person plural is used as a marker of subjectivisation (elaborated in 7.1.3 below) and explains the procedure conducted by the authors (thereby overtly expressing stance), passive constructions in the example do not refer to the authors, but rather the actions performed by test subjects, and these are therefore not included in the analysis.

Combinations

Finally, in this sub-corpus, depersonalisation can also be combined with the second and third most frequent strategies, indetermination (7.1.2) and subjectivisation (7.1.3), respectively, which often occur simultaneously in the micro-context of a single statement, though these examples are not very frequent: *our data suggest the following* (Stickle and Wanner 2019, 60) – subjectivisation is exhibited in the use of the possessive pronoun *our*, depersonalisation in the use of the noun *data*, and indetermination in the use of the verb *suggest*. Similarly, in the example *the features we have identified may help* (Stickle and Wanner 2019, 61) subjectivisation is exhibited in the use of the second-person pronoun *we*, depersonalisation in the use of the noun *features*, and indetermination in the use of the modal verb *may.*

7.1.2 Indetermination

As can be seen from Figure 8, indetermination is the second most frequently used strategy in this particular sub-corpus, and a fairly frequent strategy across the entire linguistics sub-corpus. A total of 575 markers can be found throughout this sub-corpus, with an average of 57.5 markers per article. Based on the overview of the sub-corpus, it can be noted that the majority of the coded segments in this strategy are expressed through modality markers. As expected, they are used to indicate possibility and probability, and as such, they are most tightly related to hedges in their most immediate sense, or *Shields*, as categorised by Prince, Frader and Bosk (1982) and Salager-Meyer (1994).

Modal and lexical verbs

In these modal expressions, the most prominent forms are modal verbs (250 markers), led by *can, may, might, could and would*, followed by a verb in the infinitive. Second most prominent forms are semi-auxiliaries such as *appear, seem* (96 markers), as well as epistemic verbs such as *suggest, imply* and *assume* (54 markers). For purposes of space, only some examples will be featured in this part of the work for qualitative analysis purposes.

(26) We believe the initial moments of interaction *may contribute* to co-participants' overall impression that the person with dementia is displaying features of linguistic or interactional decrement. (Sticke and Wanner 2019, 57)

(27) That is, persons with dementia *may be seen to* rely heavily on minimal syntactic formulations in their conversations. (Sticke and Wanner 2019, 60)

(28) While participants *may orient* more toward the local audience while filming the events of the show and more toward the home audience during testimonials, *it is possible that* both audiences exert some effect on the speech of participants at all times. (Eberhardt and Downs 2015, 124)

(29) Some consultants, like Keasha, *may be regularly assigned* more high-budget brides for class-based reasons, which *may be intertwined* with language. To draw a further parallel to the department store studies, the hiring decisions made at Saks, Macy's, and S. Klein *may be made at least in part* on the basis of the speech of the prospective employee, so that those who are already more rhotic *are more likely to be* hired at Saks, and, *maybe* within that store, those who are most rhotic *are more likely to be* assigned a post on the upper floors. (Eberhardt and Downs 2015, 127)

While it may seem that some of these examples might be too long and that the meaning of the marker seems pretty straightforward, the entire utterance is given in order to provide the context as precisely as possible. However, this is precisely what the markers instantiating this strategy are aimed to do – rely on context to alter, even if very slightly, the propositional force (Fraser 2010a, 204) of the utterance. Examples (26) – (29) above express the authors' assumptions. This is particularly true for example (29) in which a corpus from a reality TV show is analysed and certain future events may be surmised by analogy to established routines, but the authors cannot be entirely sure whether they will actually happen, which is why modal expressions are being used to express the authors' assumptions on the progress of the show.

However, sometimes even more concrete and palpable evidence, based on the conducted analysis can require the use of these markers, as they are conveying scientific uncertainty, and trying to open up a space for alternative views and interpretations of results, as illustrated in examples (30) – (36):

(30) Mr K's absent noun phrase in tandem with the long pause of 1.4 min of silence (line 255) *suggests* he *may be experiencing* lexical retrieval difficulties. (Stickle and Wanner 2019, 52)

(31) Based on this analysis, *it seems that* experienced users sell more than novice users and use a discourse which is more oriented to professionalism and less personal. Novice users, on the other hand, *tend to* sell less than experienced users and adopt a discourse which is closely

related to personal identity and relationships. The frequent use of such informal multi-word expressions *may be* an attempt to create a sense of closeness, a mutual understanding and sense of rapport between the seller and the buyer, a human identity behind the listing, in the sense that the seller is expressing opinions about and affective associations with the products they are listing. The use of this language *can, therefore, be described as* less clinical and professional, but more interactional than the language of more experienced counterparts. (Knight, Walsh and Papagiannidis 2017, 245)

(32) IE *seems to* defer to IR1's control over his own account. (Haworth 2017, 201)

(33) The word century requires further examination—its high frequency in FLOB *may be* due to some aspect of the sampling process, or it *could be* a genuinely distinctive word of the early 1990s. (Baker 2011, 73)

(34) *It seems likely that* round will remain in usage but as a noun and adjective. (Baker 2011, 80)

(35) In our data, *there appears to be* a distinction between the predominance of strategies employed by the requesters in the different contexts. In the British context, students *seem to* orient to claims that they are weak and of a lower social standing – that they are feeble and ineffectual (at least within the parameters of their CofP) and therefore, because they are in the purview of their institutionally empowered lecturers, they *appear to* construct their e-mails to induce OUGHT-1 help. In the Australian context, obligation *seems to be* presumed to be more of a matter of a peer-to-peer phenomenon. (Merrison et al. 2012, 1096)

(36) At the same time, *it could be that* the phone is being personified as something that is able to speak, in which case *it would be described as* a 'personification metaphor'. (Littlemore and Tagg 2018, 491)

Modal adverbs and adjectives

Along with modal verbs, there are also instances of modal adverbs – *possibly, potentially, likely*, and in fewer instances, *seemingly, arguably, reasonably, presumably* and *apparently* when signalling doubt (102 markers) in this sub-corpus, illustrated in examples (37) – (39):

(37) One unintended but *potentially beneficial* outcome of analyzing conversations involving a person with dementia engaged with a non-intimate, or relative stranger, is the *potential insights* these conversations *may provide* for interactions that occur in the later course of the disease. (Stickle and Wanner 2019, 60)

(38) This is *likely* due to our working with a particular genre of naturally occurring data. (Littlemore and Tagg 2018, 494)

(39) *Possibly*, differences in speech intensity as an utterance unfolds are (unconsciously) provided by a speaker to reinforce that the expressed but insincere opinion is true to the listener. (Fish, Rothermich and Pell 2017, 157)

In example (39) the cataphoric use of the modal adverb *possibly* refers to the entire utterance following it (content disjunct expressing doubt in Quirk et al. 1985, 620). As such, this modal adverb changes the whole meaning of the utterance, by no longer making it a fact, but an assumption.

In several, but not too many instances, the negated form of the adverb *necessarily* also acts as a marker of indetermination, as illustrated in example (40):

(40) Similarly, the rise in references to health *does not necessarily mean* that the United Kingdom has become a healthier society (the opposite may actually be the case), but it does imply that health has become more of a cultural focus. (Baker 2011, 75)

(41) In addition, the increased use of digits is also *suggestive* of truncation (although the full written forms of many small numbers are lockwords). (Baker 2011, 76)

Finally, as illustrated in example (41), besides modal adverbs, there are some instances of modal adjectives in this sub-corpus (24 markers): *possible, potential, comparable, suggestive, indicative.*

Modal nouns, lexical verbs and clauses

Certain expressions containing modal nouns, lexical verbs, as well as whole clauses can be found in this sub-corpus (50 markers) including: *assumption, estimate, connotation, implication, tendency, speculation, potential, tend to, seek to, aim to, try to, show signs of, lends weight to the hypothesis*. They are supposed to indicate the author's assumptions, as well as to politely signal that an attempt at accomplishing something was made, as shown in example (42). Additionally, clauses functioning as stance markers are also not particularly frequent in the corpus (*when possible, if taken seriously*). In example (43), the independent clause also contains a compound marker of indetermination (modal verb *would* and lexical verb *suggest*), while the conditional clause acts as a mitigation device in creation of a possibility of something occurring – a condition:

(42) Finally, I address a small number of interesting case studies for illustrative purposes, *aiming to* demonstrate some of the analytical techniques that could be used to explain patterns of individual words. (Baker 2011, 73)

(43) *If a closer examination of the phrase just kidding and its variants demonstrates that these phrases always coincide with an instance of failed humor*, this *would suggest* that the primary function of just kidding is to mitigate or repair failed humor. (Skalicky, Berger and Bell 2015, 19)

(44) *This may suggest* that after even short durations of talk, participant resources—be they cognitive or linguistic—are taxed in such a way that continuing with the conversation may be burdensome. (Stickle and Wanner 2019, 55)

As also evidenced in examples (43) and (44), there are instances of compound markers comprised of two forms indicating indetermination (*would* and *suggest* / *may* and *suggest*), counted as a single marker:

(45) *Our experiment sought to shed light on* the vocal (paralinguistic) cues that contribute to the perception of sincere and insincere communications. (Fish, Rothermich and Pell 2017, 155)

As well as combining several markers of the same strategy, example (45) illustrates the combination of indetermination with different strategies. It compiles three different strategies into very few words and offers a small glimpse into how the previously mentioned strategy of depersonalisation (7.1.1) and the strategy of subjectivisation (7.1.3) can be combined.

7.1.3 Subjectivisation

Subjectivisation is quite prominent in this sub-corpus, at least in comparison to the sub-corpora of linguistics written in Serbian and German (see sections 7.2.3 and 7.3.3). A total of 528 markers is found throughout this sub-corpus, with an average of 52,8 markers per article.

First-person pronouns

Within this strategy, special attention is directed towards the overt use of first-person pronouns, as well as possessive determiners, as one of the most common ways in which the authors explicitly insert their persona into the text. Thus, the majority of these markers include the use of *I/we, my, our, us* etc. However, in certain instances, these overt markers are not seen as representative of this particular strategy, as they do not express overt authorial stance and are therefore not included in the analysis. Such is the case, for example, when the first-person plural is used to refer to an entity that is broader than that of authors, i.e. the inclusive *we* (Kuo 1999, 126; Wales 1996, 63) used "as a proxy for a larger group of people" (Tang and John 1999, 27), as illustrated in examples (46) – (48):

(46) Specifically, transitivity patterns allow *us* to say who did what to whom. (Stickle and Wanner 2019, 45)

(47) Metonymy is a cognitive and linguistic process whereby *we* use one entity, process, or event to refer to another related entity, process, or event, so for example, we might use 'Hollywood' to refer to mainstream American films, '9/11' to refer to the events that occurred on that date in New York, or 'Shakespeare' to refer to plays by Shakespeare. (Littlemore and Tagg 2018, 482)

(48) In practice, when *we* look at metonymy in corpus data, *we* find that these distinctions shade into one another and that it can be difficult to tell them apart. (Littlemore and Tagg 2018, 485)

This usage of first-person pronouns is not seen as relevant in projecting authorial identity, as it "implies joint activity or involvement" (Wales 1996, 63), but "gestures persuasively towards the audience" (Wales 1996, 66). It may refer to a smaller group, such as an academic discourse community, or a much broader and even abstract entity, possibly even entire humanity, as in example (47) – where *we* refers to speakers who employ metonymy in speech. In this context, *we* can be interpreted as impersonal, as it can also be substituted with *one* and refer to "everyone else" (Kitagawa and Lehrer 1990, 745), but not the authors.

Subjectivisation markers are rather used in this sub-corpus to denote one of the following:

(1) the actions – experiments, analyses – the author(s) of the papers conducted, showing they were involved in the research process;

(2) the assumptions the authors hold in the most overt way, through the use of verbs of cognition (*think, believe*) or epistemic verbs (*suppose, suggest*);
(3) the work and research the authors conducted, their viewpoint and direct involvement (Martín-Martín 2008; Salager-Meyer 1994)

The first of these uses shows the author as an explicit agent behind the research process – "authorial *we*" (Wales 1996, 66) – as illustrated in the following examples (which are all drawn from the corpus, including verbs of cognition, perception, verba dicendi): *we are interested in, we therefore decided to focus on, we follow an approach*, *we note, we look at, we found (that), we discuss, we noticed, we observed, we present, we investigated, we examined, we chose to look, we argue, we adopt in our study, we foreground and develop, we draw on the literature/taxonomy, we studied, we adopted, we employed, we discussed, we excluded from our analysis, we decided, we followed, we identified, we classified, we were interested to see, we focus on, we selected, we searched for, we came to a conclusion, we argue that, we suggest that, we take the view, we are concerned with, we will begin by, we predicted, we shall now consider/examine, we expect,* etc Similarly to depersonalisation, markers of subjectivisation also show great lexical variety and are often combined with present, past, and future tense.

Not all examples that were encountered in the corpus can be mentioned here, but it can already be recognized based on the expressions in (49) that these constructions (first-person plural + cognitive/perception verb) are continually generated by speakers in academic contexts. It could be said that they have become pragmaticalised in these contexts[41]. These constructions do not only denote propositional meaning, but also add procedural meaning to the utterance (Watts 2003, 176–177). Following Halliday (1994), Watts relates ideational meaning to propositional meaning, and interpersonal meaning to procedural meaning (2003, 172). The procedural meaning of these forms indicates to the readers that it is the authors who study, select, and suggest a certain phenomenon, therefore assigning responsibility and agency for the act to themselves, in addition to positioning the readers as their counterparts in the discussion and assigning interpersonal meaning to the utterance. Therefore, it could be said that both the form and the content are carrying the message of explicitly wanting to insert their persona into the text as a way of piggybacking meaning (Levinson 2000, 6). The markers in example (49) illustrate the the overt expression of agency of the author(s) in the research process.

[41] Frank-Job (2006, 361) defines pragmaticalisation as "the process by which a syntagma or word form, in a given context, changes its propositional meaning in favor of an essentially metacommunicative, discourse interactional meaning".

(49) *In our study*, *we pursue* a mixed analytic approach that combines insights from corpus based syntactic analysis with interactional or discourse methods, which *we believe* best capitalizes on the the online, performance data of *our conversation data*. *We start with* a close syntactic analysis of the verbal patterns during actual conversations produced by the persons residing in assisted living facilities who have a diagnoses of dementia. *This allows us to describe* two levels of linguistic production: First, *we characterize* their linguistic behavior in terms of grammatical structures. *In our analysis*, the transitivity pattern types and frequencies are compared to patterns of usage recorded in benchmark corpus studies that capture the syntactic patterns and errors of (presumably) non-impaired persons (Biber et al. 1999). (Stickle and Wanner 2019, 47)

As can be seen in example (49), the authors describe their research process instantiating a combination of all three uses (1) – (3) of this strategy: a description of their research path, which continues even after this paragraph, an expression of their thoughts and beliefs, and an expression of their viewpoint and their direct involvement in the research process, which will be described in more detail below.

The use of the strategy of subjectivisation for the purposes of presenting the author(s) as agent(s) in the research process is not only connected to the description of the order of the experiment, but also the structuring of the article, as first-person is often used for metapragmatic organisational purposes within the article, see examples (50) – (54):

(50) *We have already introduced* BUT-JUSTIFICATIONS in section 2.3. Here *we make* a finer distinction. While *we absolutely maintain* that J-BUTS seem to address either the institutional role of 'good student' or the more generic role of 'good person', and that they operate as means of self-enhancement, whereas ACCOUNTS orient to offence mitigation, *we need to make* a refinement to our earlier (Davies et al., 2007) notion of J-BUTS, namely that *we now wish to distinguish* between two distinct types: (Merrison et al. 2012, 1092)

(51) Thus, for linguistic variables that are stratified by social class, like (r), *we would expect to find* a narrower range of variation within individual speakers than across social class groups. *We return to this* below when we discuss *our study* in more detail. (Eberhardt and Downs 2015, 122)

(52) *We propose* that this is in part a result of the mediated data source *we are working with*, which may affect some speakers more strongly than others. *We return to this* argument below, when *we discuss* the five speakers in more detail. (Eberhardt and Downs 2015, 133)

(53) In the next section, *we will discuss* strategies that speakers in *our corpus* employed to compensate for these difficulties. (Stickle and Wanner 2019, 53)

(54) The article begins by exploring existing research into creativity and metonymy, highlighting the neglect of metonymy in the growing literature on everyday creativity. *We present our analysis* of metonymy use within *our corpus*, outlining the challenges involved in identifying metonymy. Finally, *we introduce* a new framework for categorizing and explaining the ways in which metonymy is used creatively in naturally occurring discourse. (Littlemore and Tagg 2018, 493)

The second use of subjectivisation expresses assumptions and thoughts of the authors through cognitive and epistemic verbs: *we believe, we would prefer, we felt/we did not feel, we surmised, we can assume, we suggest, we might speculate/surmise* etc. Some of these examples combine subjectivisation with indetermination (see 7.1.2), as the authors suggest that their claims are their subjective opinion, and perhaps not universally applicable or true – see example (55):

(55) *We can infer from this* that there is more repetition in the descriptions of men's shoes and the text is likely to be less complex and/or dense. (Knight, Walsh and Papagiannidis 2017, 240)

In addition, they express their hopes for their work and the potential influence their work could have, which can also be connected to the strategy of evaluative reference (see 7.1.6), as shown in examples (56) and (57):

(56) *We hope to contribute* to the linguistic portrait of persons with dementia by providing an analysis of transitivity patterns produced (and processed) by persons with dementia during a communicative task that many may, and *we hope do*, experience, despite research that reports of such few such interaction: conversations on mundane topics. (Stickle and Wanner 2019, 47) – relevant for the strategy of evaluative reference too (see 7.1.6)

(57) Despite the growing number of studies on metonymy, no study has to date focused on the ways in which it is used creatively in a corpus of naturally occurring data from a single genre. *We aim to do this by* identifying creative uses of metonymy within a corpus of text messages and to analyse those uses in terms of both form and function. *We hope to use the findings from our study to* argue that metonymy deserves greater consideration in discussions of the nature of everyday creativity in language. *Our analysis involved* identifying all instances of metonymy, to then decide which are creative. (Littlemore and Tagg 2018, 488)

NP [Possessive determiner + $N_{(inanimate)}$]

The third and final use of subjectivisation implies the use of a possessive determiner, followed by an inanimate noun to refer to the work and the research conducted, as well as to express the authors' viewpoints and opinions: *our study, our investigation, our data set, our corpus, our sample, our object of study, the aim of our study, our aim, our approach, our attempt, our design, our findings, our participants, our observation, our initial assumption, our example, our research question, in our experience, our thesis, our view, our method.* These metonymically used inanimate nouns preceded by possessive determiners are often followed by epistemic verbs (*suggest, show, assume*) giving these inanimate nouns agency, combining subjectivisation with depersonalisation, meaning that these two strategies, functioning as two sides of the same coin, may also operate side by side.

While the expressions from all three functional categories are supposed to clearly indicate the ownership of these objects to the authors of the articles, they can also indicate that these inanimate objects and the findings which proceed therefrom are characteristic solely of these objects and none other, thereby reducing responsibility for them. This means that the results could be reproduced if one were to repeat the steps of the investigation or use the same data set, but they should be seen as pertaining to this set. In addition, it could also be an indication that if there are any errors, they are also solely pertaining to that particular set and analysis.

The first-person singular pronoun is used in only one of ten papers in this sub-corpus, but with the same purpose as the first-person plural pronoun: *I have utilised, I discussed, I did not find evidence, I was interested in, I decided to; I suspect that, I hope that; my own research, my research question, my study, at least to my eyes*. In this paper, there is a single author, whereas in the other single-authored paper, interestingly, first person plural is still used for these purposes. This was noted by Kuo (1999) and Hyland (2002a), as "an intention to reduce personal attributions" (Kuo 1999, 125) and a way to signal modesty (Wales 1996, 63).

7.1.4 Intensification

Intensification is another prominent strategy in this sub-corpus. A total of 503 markers is found throughout this sub-corpus, with an average of 50,3 markers per article. It can be said that intensification acts as the other side of the coin of the strategy of indetermination, as markers of intensification in this study have two functions: certainty markers, used to emphasize statements and express the authors' certainty of the proposition, or attitude markers, used to qualify statements and express the authors' attitude about the proposition (Biber et al. 1999, 854–856). These two categories can also be combined, simultaneously denoting the authors' certainty, as well as attitude.

Certainty markers

Certainty is achieved through several means denoting emphasis, but most prominently, through degree adverbs indicating intensifying and emphasis, such as *very* (as a premodifier of adverbs and adjectives indicating an augmentative degree) and *certainly* (used for emphasis) (R. Đorđević 2007, 641), as well as emphasizers and intensifiers – amplifiers, maximizers, and boosters (R. Đorđević 2007, 651; Quirk et al. 1985, 583–597) such as *indeed, simply, severely, clearly, actually, obviously, extremely, surely, certainly, definitely, really, absolutely, highly, heavily, significantly, markedly, especially, substantially, considerably, strongly,* and disjuncts expressing conviction and truthfulness (R. Đorđević 2007, 654–655), or source of knowledge (Biber et al. 1999, 855), such as *evidently, apparently*[42]*, essentially, inevitably.* These markers

[42] Although the adverb *apparently* is classified elsewhere as a marker expressing doubt (Quirk et al. 1985, 620), a contextual analysis in my corpus shows different meanings of this adverb in some cases, closer in meaning to *evidently*. In these instances, it was used to signal that the statement is a logical deduction based on the evidence

also include focusing subjuncts – restrictive subjuncts of exclusivity (*exactly, only, merely, solely, purely, simply*)[43] and particularity (*especially, particularly, specifically, mainly*) (R. Đorđević 2007, 653), as well as *most* (as a premodifier), *even more* (as a premodifier), *less* (as a premodifier), and emphasizing expressions, such as *in any way, let alone, not at all, in particular, in fact, by and large, by far, sure enough, of course, in all likelihood*. Examples (58) and (59) demonstrate the use of the intensifying degree adverbs *by and large, significantly* (R. Đorđević 2007, 641) and the emphatic subjunct *indeed* used to emphasize the clause (R. Đorđević 2007, 651), along with the viewpoint subjunct *interestingly* (R. Đorđević 2007, 648) as well as the attitude marker *non-significant*, qualifying the differences in task scores, the latter two classified as attitude markers which will be discussed below.

(58) Learners with high L1 literacy levels were *by and large significantly* more confident in their French ability across Years 6–7 than Mid or Low L1 literacy-level learners (Mann–Whitney U Test). (Courtney et al. 2017, 835)

(59) *Interestingly*, girls *significantly* outperformed boys in the language assessments in all three rounds. At the same time, however, the mean L1 literacy score for the girls (9.14, s.d. = 1.74) was *significantly* higher than for the boys (8.13, s.d. = 1.85; $t = 4.476$, $p < .001$). *Indeed*, when L1 literacy was controlled for by using analysis of covariance, the differences between girls and boys on the French task scores became *non-significant* for both tasks in all rounds except for the PD task in Year 5 [$f(1,1) = 7.383$, $p = .007$]. (Courtney et al. 2017, 839–840)

Attitude markers

Attitude marking is achieved through different means, meant to convey the author's attitudes and qualifications of propositions. Attitude markers in this sub-corpus include adjectives, such as *clear, true, prominent, (particularly) interesting/important/reportable, overwhelming, intriguing, compelling, bluntly sexist, genuinely distinctive, overwhelmingly felicitous, not inconsiderable, (un)expected, readily comprehended, unsurprising, unexpected, powerful, pivotal, much more favourable, rather startling, impossible, over-optimistic, perfectly relevant, striking, difficult, intrinsically challenging, strongly determinative, even more necessary, reasonably comprehensive, most differentiated, enormous, considerable, adequate, significant, important, crucial, critical, meaningful, notable, problematic, reasonable, essential, sole, inevitable, much more impressive, most dramatic, confounding.* At times, not only the positive form of an adjective (e.g. *significant*) bears the meaning of the marker of intensification, but

provided, in cases when something else might have been thought to be true. Therefore, depending on the context, it was occasionally assigned to the strategy of intensification, while in other cases, it was assigned to the strategy of indetermination. This is also true for the economics and the technology sub-corpus (see Chapters 8.1.4 and 9.1.4, respectively).

[43] These subjuncts (*only, even*) are also referred to as focus particles in König (1992, 142) and König and Gast (2018, 298), as well as focusing subjuncts in Quirk et al. (1985, 604): exclusives (*just, merely, only, purely, simply, solely*) and particularizers (*especially, particularly, specifically, in particular*).

also the negative form, e.g. *had no significant effect, it has little significance, it does little to, it was not possible, not outlandish,* as a qualifier of a statement. These markers include adverbs of modality and manner (R. Đorđević 2007, 654) and value judgements of content (R. Đorđević 2007, 655) such as[44]: *interestingly, unfortunately, more importantly, facetiously, ostensibly, strikingly, problematically, reassuringly, unexpectedly, worryingly, paradoxically, playfully, successfully, controversially, robustly, (most) notably, delicately, dramatically, noticeably, directly contradicts, of course inevitably, most explicitly, precisely because, fatally, overwhelmingly, easily, effectively, unlikely* (while its opposite form *likely* is a marker of the strategy of indetermination), and *necessarily* (while the negative form of this adverb *not necessarily* is a marker of the strategy of indetermination). Finally, attitude markers of intensification include nominal expressions: *to play a key role, the significant role, of particular significance/relevance, of fundamental importance, to take on heightened importance, with little import, of keen interest, rife with the potential, even greater significance, key evidential aspect/part/weakness/feature/focus, of special interest, an interesting vantage point/avenue.*

Statements are also qualified through the use of extraposition constructions alongside an attitude marker, thereby combining depersonalisation and intensification (*it is important to, it would be inappropriate, it was difficult to, it is clear/true that, is necessary to, it is worth pointing out, it is not outlandish to propose that, it cannot go without comment*), and coded as double markers of both strategies, aimed to express the attitude of the speakers implicitly.

Some verbs serve as markers of intensification. Firstly, verb phrases containing the modal auxiliaries *should* and *must* in deontic sense combine intensification with other strategies (depersonalisation or subjectivisation) in impersonal constructions, passive voice and first-person plural to indicate necessity (see sections 7.1.1 and 7.1.3): *should recognize, should allow and encourage, it should not be assumed, it should be noted, we should not assume, we should also take into account, should therefore not be held up, must do, must take into account*, qualifying a statement and giving the author's personal point of view. Secondly, there are certain verbs that in themselves carry a qualification by the author (either positive or negative): *to be fraught with, to be supported by, to ensure, is/be bound to,* and finally, in emphatic DO+verb patterns found in the sub-corpus, which can be used for emphasis and share this function with adverbs *actually, certainly, really* (R. Đorđević 2007, 309), as in, e.g. *does occur* and in example (60):

[44] These markers are classified as style adverbials in Biber et al. (1999, 857) and emphasizers in Quirk et al. (1985, 583). They are seen as integral to attitude markers in this study (see Chapter 4).

(60) Finally, we found that persons who are institutionalized for dementia *did display considerable interactional competency* in selectively reusing linguistic material put into play by their co-participants and producing interactionally and grammatically well-fitted verbal constructions. (Stickle and Wanner 2019, 51)

As these expressions are easier to present in shorter form, listing their typical predicating expressions, most of the representative examples have been listen here with no additional examples given in Appendix 2.

7.1.5 Approximation

The strategy of approximation is yet another strategy tightly connected to intensification (7.1.4) and indetermination (7.1.2), but less prominent than both of these strategies in this sub-corpus, with a total of 330 markers and an average of 33 markers per article. Unlike indetermination markers, these markers do not attenuate the entire propositional content of the utterance, but only certain aspects of it, similarly to Prince, Frader and Bosk's *Approximators* (1982) and Lakoff's *hedges* (1973).

Adverbs

The structures most systematically used in this sub-corpus to express approximation are adverbs, used as downtoners, i.e., approximators (*almost)*, compromisers (*quite, rather*), diminishers (*partly, slightly*), and minimizers (*barely, hardly*) (R. Đorđević 2007, 652; Quirk et al. 1985, 597), as well as adverbs of low and usual frequency (R. Đorđević 2007, 646)[45]: *occasionally; generally, typically, usually, normally,* and *fairly, relatively, mostly*[46]*, roughly, overall, slightly, similarly, loosely, largely, approximately, mainly, gradually, predominantly, broadly, proportionately, partially, around, circa, about, somewhat, sometimes, somehow,* and style disjuncts (Quirk et al. 1985, 615–618) such as *typically speaking, generally speaking.*

(61) The top third of the word list (ordered by CV) was considered to have *relatively* high variance, the bottom third to have *relatively* low variance, and the middle third to be *relatively* undistinctive and were not examined any further for the purposes of this study. (Baker 2011, 72)

(62) The mean scores for the cohort as a whole on the SR and PD task are shown in Table 6. *Overall*, learners demonstrated steady and significant progress between Year 5 and Year 7 in both the SR task (t-test, $t = 13.69$, $df = 163$, $p < .001$) and the PD task (t-test, $t = 11.28$, df =

[45] While R. Đorđević (2007, 652), like Quirk et al. (1985, 590), sees downtoners as a type of intensifers, she does note that they are used to influence the value of the proposition through approximation, compromise, diminishing, and minimising. Therefore, I refer to them as a separate group from the intensifiers described in 7.1.4.

[46] Quirk et al. (1985, 604) classify *mostly* and *mainly* as focusing subjuncts – particularizers – which restrict the application of the utterance predominantly to the part focused. Due to their restrictive nature, I classify them as approximation markers.

163, p < .001). Nonetheless, with a possible maximum score of 56 for the SR task (28 for grammar and 28 for vocabulary) and 54 for the PD task (30 for grammar and 24 for vocabulary), it is clear that, *in general*, the learners found both tasks challenging. Even though the learners *generally* found the PD task more difficult, the correlation between mean scores of the two tasks was strong and highly significant across all time points (Y5 r = .666**, Y6 r = .707**, Y7 r = .742**). (Courtney et al. 2017, 837)

Quantifiers

Other prominent markers of approximation are the closed-class quantifiers functioning as determiners (Quirk et al. 1985, 262): *several, most (of)* and *some (of),* along with the expressions indicating fuzziness leaning on Lakoff's hedge *sort of* (1973): *some form of, some kind of, some sort of, some air of, at some length, some way to, to some extent, in some instances, in some cases, some way to.*

(63) *Some sort of* correction needed to be used to take frequency into account. (Baker 2011, 72)
(64) *In some cases*, a single expression involved the conflation of two or more metonymic relationships. (Littlemore and Tagg 2018, 494)

Along these same lines, a range of open-class quantifiers (Quirk et al. 1985, 264) can be found in this sub-corpus. Their structure includes nouns of quantity, followed by *of,* which are often preceded by the indefinite article and frequently modified by a quantifying adjective (Quirk et al. 1985, 264) [Det - Premodifier - Head Noun + Postmodifier]: *a number of, a range of, a certain level of, a kind of, a variety of, a degree of, the majority of, something of a, a couple of*[47] (indicating approximately two). Additional examples include prepositional phrases with the structure [Prep + NP] used for quantification: *in any number of, in part, on average, on the whole, in general, at times, in a sense, to a degree,* adverbs: *just over, more or less.* Both the open-class quantifier and the prepositional phrase are illustrated in example (65):

(65) As a result, a large field of second language acquisition research has developed over recent decades, dedicated to investigating learner differences in *a number of* areas such as the role of age, aptitude, affective factors, learner styles, and strategies in second language attainment. *For the most part*, previous studies of individual differences have involved adolescent or adult second language learners. (Courtney et al. 2017, 825)

Adjectives

Finally, adjectives such as *relative, general, similar (to), certain, slight, various* feature quite prominently as markers of approximation in this sub-corpus, with examples such as – *in a similar manner, a similar pattern of, a similar trend, in certain instances, to varying extents.*

[47] The quantifier *a couple of* can be seen as a quantifier of countable nouns, whose head gives the whole phrase a determinate number (in this case two), thereby classified as a collective (R. Đorđević 2007, 273).

7.1.6 Evaluative Reference

The final strategy, evaluative reference, is perhaps the least theoretically endorsed in this thesis, as markers of this kind were rarely seen as stance markers in previous literature on academic discourse. However, the corpus studied here offers many examples in which the authors of the article implicitly evaluate the strength of their work against the work done in the field and express their stance towards knowledge that they use as reference for their own work. This strategy is the least prominent in all three languages, but more prominent in English articles in the field of linguistics, as opposed to those written in Serbian and German. There is a total of 258 markers found in this sub-corpus, with an average of 25,8 markers per article.

As discussed in Chapter 4.6, there is no systematic account of this strategy as an instrument of authorial stance marking in the context of academic discourse. The formal realisations are based on my corpus and serve as a first attempt to compile such inventories. There are certain expressions, which seemingly fit into this strategy, and yet, had to be excluded from the analysis, as they are not, in themselves, seen as a marker of stance. Hence, simple quotations and paraphrases of the work of other authors are not included in the analysis. Expressions such as *[authors] conducted a study […], results showed […]* etc. are not included in the analysis, as they are thought to be only a citation or paraphrase of the results of another study. Likewise, examples including very broad referral to previous works of a descriptive character without a clear marker of stance are excluded from the analysis, as is the case in examples (66) – (68):

(66) Decrement in cognitive and linguistic abilities of persons with any form of dementia *has been shown* to have negative consequence on the types and frequency of their interactions. (Stickle and Wanner 2019, 44)
(67) More recent studies *have demonstrated* a comparable deficit with verbs (Bird et al. 2000; Yi et al. 2007). (Stickle and Wanner 2019, 44)
(68) *One of their findings was* that the nuns who showed signs of Alzheimer's disease tended to be among those whose early essays scored low in idea density and grammatical complexity early on. (Stickle and Wanner 2019, 44)

However, when the strategy of indetermination towards the work of others is utilised, e.g. by means of lexical or modal verbs or combinations thereof, such as in *these studies suggest* or *this may suggest* or *this can be useful for*, authors evaluate another author's work. Such cases are categorised as instances of the strategy of evaluative reference, as the author expresses their position in relation to the previous research conducted in the field and does not merely quote or paraphrase such work, as is exemplified in (69):

(69) *These results suggest that* for persons with dementia of the probable Alzheimer's type, neurocognitive insult *may impair* the neuropathways that link semantic–syntactic modules. (Stickle and Wanner 2019, 46)

Gaps in existing research

The first dimension of the strategy of evaluative reference is the recognition of a gap in the existing research related to a particular field or topic, as well as how the existing research bridges that gap and contributes to the conversation. Gaps in the existing research are usually expressed by whole clauses or complex phrases (20 markers). Examples from the corpus include main clauses, such as *there are few examples cited in the literature; this needs to be tackled; the current body of research suggests that a deeper and more purposed investigation may be in order* (use of indetermination via modal verbs and epistemic verbs)*; little research has focused specifically on; considerably less work examines; there is little work focused on; the phenomenon remains under-investigated; the only study that has attempted to; less attention has been paid to;* subordinate clauses *highlighting the neglect of [phenomenon] in the literature;* clauses of contrast *despite the growing number of studies on [phenomenon], no study has to date focused on; previous work has mostly concentrated on […], not […];* predicate phrases *have received little empirical attention to date; have been studied relatively little; has received very little coverage.* These structures often include determiners, such as *few, little, not many, no,* as well as nouns carrying negative connotations such as *neglect*.

Contribution of current research

The second dimension of evaluative reference includes a statement concerning the ways in which an article contributes to the research landscape explicitly and is usually expressed by finite or non-finite clauses and complex adverbials of manner, as well as evaluative statements in the S-V-C structure (30 markers): non-finite clause *to make a meaningful contribution regarding;* finite clauses *through detailed analysis […], this article seeks to make the following contributions; it is hoped to provoke further investigation into […]; the current study makes an important contribution to; provides richer and more detailed information about [area] than has been found in previous studies; our findings will contribute to […], the contribution of our research is threefold: our study provides a detailed and nuanced account of […]; our findings contribute to the existing literature on […]; our study highlights; our work is important in; the framework that we propose will be useful for […]* – this particular example seems to be really long and is therefore given in its entirety in Appendix 3. In the examples for this dimension, inanimate nouns such as *study/findings/work* are given agency, similarly to the strategy of depersonalisation, but in this strategy, these expressions discuss future research and can be combined with modal verbs, such as *will* (indicating future research), as well as modal and epistemic expressions used to attenuate these claims. In example (70), several instances of markers of evaluative reference are illustrated, as well as their tendency to cluster:

(70) Yet, an understanding of how changes in the linguistic competency of persons with dementia create difficulties in real time *has not yet been explored [satisfactorily] from a linguistic point of view* (Davis 2005; de Lira et al. 2011). *Further research is needed to* gain a nuanced appreciation of both degeneration and resilience of linguistic abilities in productive and receptive skills concomitant with various cognitive pathologies. *We hope to contribute to* the linguistic portrait of persons with dementia by providing an analysis of transitivity patterns produced (and processed) by persons with dementia during a communicative task that many may, and we hope do, experience, *despite research that reports of such few such* [sic] *interaction: conversations on mundane topics.* (Stickle and Wanner 2019, 47)

Failure to contribute and future work

In this sub-corpus, authors also resort to an interesting elaboration of acknowledging gaps in the research landscape, in that they admit their own failure to bridge such gaps (through finite and non-finite clauses). They either state reasons for not doing so through examples such as *such a focus is beyond the scope of the current paper; such questions are outside the scope of the current paper, but they might be well worth considering; we would need more and different data to confirm such a hypothesis; one limitation of the study is*, or they refer to further investigations as desiderata, such as, for instance in *further work on [area] seems to be a promising area; requires further examination; shows the value of conducting more detailed analyses; further research is therefore needed; more research will be needed to understand; it would be interesting to examine […]; work is needed; this is an area that requires further investigation; further studies should seek.* They also explicitly state the potential of such work through examples, such as *this kind of research potentially has interesting implications for; indicates that the phenomenon is worth exploring further; future research on [area] will be able to; we see this genre as having the potential to […]; the potential for research focused on [area] is enormous and likely to result in considerable advances; future studies that build upon our work could benefit by; which remains a goal for future work.*

Comparison with other work

Instantiating a fourth dimension of reference, there are also several markers indicating how the current work of the authors (1) builds upon, or (2) is similar or different to the work of previous authors in the field. Prominent examples from the corpus constitute a total of 108 markers for these two uses out of the total of 257 markers found for this strategy.

The first use (1) is achieved through full finite clauses *we revisit questions posed in these studies and further explore […]; a significant number of studies of [area] in the twentieth century (including the present study) have used; it builds on the existing literature by; this avoids many of the criticisms which have been levelled at […]; were also informed by the system developed by [author]; here we followed [author]; we draw on this taxonomy throughout our analysis,* and non-finite clauses of purpose *to justify why we have not simply adopted any of the previous typologies that were already available*, comparison *this provides further evidence of […] (as described by [author]); while we are interested in […], we would concur with [author]; like the model proposed by [author], we seek to; like much of the research on [area], we focus on; in keeping with research […]; as seen in previous studies;* and manner *following on from an earlier detailed analysis of […]; following [author]; according to the taxonomy proposed by [author]; building upon [author's] findings; following recent studies; based on previous work on [area], we predicted; based on previous research on [area], we would expect*. Examples (71) – (73) illustrate the use of markers indicating how previous research forms the basis for current research:

(71) *Building on this treatment of the department store studies, the current paper presents* an analysis of rhoticity in New York City. (Eberhardt and Downs 2015, 120)
(72) *While we use the department store studies as inspiration for the current work, there are several important differences between the two investigations.* (Eberhardt and Downs 2015, 121)
(73) *Based on previous work on (r) in New York City, as well as Bell's model of audience design, we predict* that the consultants' use of (r) will vary in accordance with the prestige of their clients; (Eberhardt and Downs 2015, 125)

The second use (2) is achieved through varied means indicating contrast and comparison, such as finite clauses *this is borne out as well in the current study; this study thus marks a departure from prior research while casting new light on those previous findings; this project espouses; we would certainly agree with their assessment; this may seem at odds with our thesis; the results tie in with; these assertions support those of [author]; this finding mirrors [author's]; our data support and contribute to [author's] observation; it is clear that the widely held view is unsupported; finding supports their assumption that*, non-finite clauses of comparison *as with other studies of; as is the case in the studies; while [author's] focus is on […], we would nevertheless align ourselves with these views since we; such a finding is interesting given that [authors] claim; echoing the findings of previous studies; re-affirming other work; in contrast to our work, earlier studies report […]; whereas our analysis implies the opposite trend; as compared with/compared to; as in […]*, prepositional phrases *unlike the previous studies; in a similar way to; in keeping with […]; in line with*, adjectival phrases *analogous to; much closer* *to [finding] in the study; consistent with; similar to; reflective of [...]; comparable with; distinct from*, verb phrases *our findings parallel those of [author]; this closely parallels the finding from [...]; the results parallel the studies; it marks a contrast with previous analyses of; resemble the strategies identified by [author]; this seems to confirm aspects; this corroborates [author's] study; contradict the widely held view; compares closely with [...]*, and adverbial phrases *in previous studies as well*. Examples (74) – (75) illustrate the use of these markers to indicate similarities (evidenced in the use of adjectival and noun phrases) between previous and current research:

(74) *The present study has similarities to these corpus-driven studies,* especially Oakes and Farrow (2007). (Baker 2011, 69)

(75) *Similar to Schegloff's (2001) finding on the use of "no" following a joke, we found that* just kidding and its variants function as an attempt to steer discourse back into a serious or non-playful frame. (Skalicky, Berger and Bell 2015, 26)

(76) This emphasises their concern with the syntactic properties internal to the request itself (the speech act), *whereas our focus* has expanded to include the external modification of the entire e-mail request (the speech event). (Merrison et al. 2012, 1080)

(77) *The measures applied in these studies cannot be transferred to our study*, since we are interested in how language is used in conversation, that is in an interactive register. (Stickle and Wanner 2019, 45)

On the other hand, examples (76) – (77) illustrate a marker of evaluative reference indicating a contrast between the body of preceding work, including its influence on the current research, and how it is not directly comparable or useful as e.g., in: *thus is not readily applicable to other situations that sociolinguists may be interested in pursuing,* as is indicated above in the non-finite clauses of comparison.

Relevant to the fourth dimension of this strategy is a direct evaluative reference to either forthcoming or previously published work by the same author(s). While not yielding many occurrences in this sub-corpus, this kind of marker combines evaluative reference with subjectivisation and offers contrast and comparisons with one's own work, showcasing an interesting strategy employed by some authors. It includes finite clauses – *my own research (Baker, forthcoming) [...] provides evidence; we leave the answering of that potential criticism to Davies et al.; we have previously argued in Davies et al. (2007:20ff); we need to make a refinement to our earlier (Davies et al., 2007) notion,* non-finite clauses indicating comparison – *as we have argued elsewhere (Davies et al., 2007:45); as with our work on [...]*, as well as prepositional clauses which indicate this comparison in combination with subjectivisation – *in Davies et al. (2007) we raised the question; in Davies et al. (2007:60) we argued*.

Evaluation of previous research

The fifth and final dimension of evaluative reference in this sub-corpus includes the combination of evaluative reference markers with intensification markers (see section 7.1.4) to evaluate the work of other authors. What is different is that in 7.1.4, the markers of intensification are seen as evaluative of the author's own work, whereas the markers of evaluative reference are seen as evaluative of other author's work (28 markers). The majority of these markers include adjectival phrases: *well-known* study*; clear* stratification*; a more ambitious analysis; is often difficult to ascertain; groundbreaking* work*; most relevant to our study; benchmark corpus studies; useable conclusions; a key role; a notion pertinent to any exploration of interaction; the overwhelming positive results; useful distinctions; useful insight*; noun phrases: *a key success;* verb phrases: *[author] confirms this in their study;* and adverbial phrases: *successfully demonstrated; clearly articulated.*

(78) *In the most comprehensive study of rhoticity on New York's Lower East Side since Labov's groundbreaking work, Becker (2014a) confirms* that some speakers, particularly Chinese, Jewish, and white groups, are showing progress toward rhoticity in apparent time, while African American and Puerto Rican speakers in the region are not. (Eberhardt and Downs 2015, 119)

Example (78) illustrates the use of intensification markers to evaluate the work of other researchers via attitudinal markers, qualifying the work as *groundbreaking* or *comprehensive*. This example also shows the comparison between two previous articles, as findings from one are confirmed in the other.

7.2 Corpus analysis of articles in the field of linguistics written in Serbian

The 14 articles comprising the sub-corpus of linguistics articles written in Serbian deal with morphology, metaphor, syntax, discourse analysis, corpus linguistics, language acquisition, phonology, prosody, semantics, lexicology, and speech act theory. The bibliographical data for the articles included in the analysis is given in the Appendix 2. A total of 1790 markers can be identified within these 10 articles, and the distribution of these markers according to the six strategies of stance-taking is given in Figure 9:

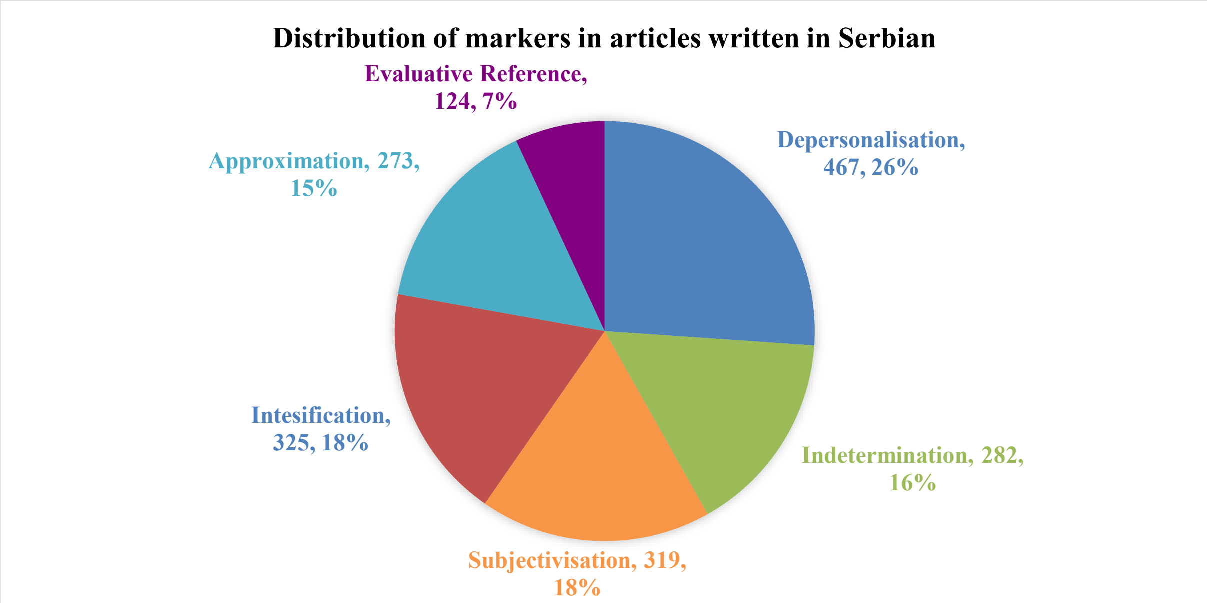

Figure 9: Distribution of stance markers in linguistics articles written in Serbian (absolute frequencies)

As can be seen, the most frequent strategy in this sub-corpus is that of depersonalisation (including the use of the passive voice), followed by subjectivisation, while evaluative reference is again the least frequent one.

7.2.1 Depersonalisation

Much like in the English sub-corpus described in Chapter 7.1, depersonalisation is the most frequently used strategy in the sub-corpus of linguistics articles written in Serbian. A total of 467 markers is found in this sub-corpus, with an average of 33,4 markers per article. This number includes 182 markers of the passive voice.

Metonymic use of inanimate nouns

As was the case in the English sub-corpus discussed in 7.1, the most notable examples are those in which an inanimate noun, preceded at times by a demonstrative determiner – *ovaj, ova, ovo* (Stanojčić and Popović 2004, 99), as Serbian has no definite articles or articles at all (Engel and Mrazović 1986, 304) – is used metonymically as an inanimate agent of the research being conducted instead of the authors of the paper. A total of 117 markers of this usage can be identified in the sub-corpus. These nouns vary in their degrees of abstractness ranging from fairly concrete ones such as in *analiza/istraživanje/rad/rezultati/podaci/nalazi (analysis/ research/paper/results/data/findings*) to fully fledged abstract nouns such as *cilj/predmet/ideja/*

pojam (goal/subject/idea/concept)[48]. Some of these nouns are mentioned in Vučićević and Rakić (2020b, 85) as denoting authorial absence. As all Serbian material discussed here will be given together with their English 1:1 glosses, the pertinent expressions will not be given in a table, but rather one by one in order to enhance clarity and readability: *istraživanje je imalo za cilj da pokaže/cilj sprovedenog istraživanja bio je* (=the goal of this research was to show), *ovo istraživanje je donelo/pokazalo* (=this research brought/showed); *analiza pokazuje/pokazala je/odgovara na pitanje* (=the analysis shows/showed/answers the question), *prema onome što je pokazala analiza/na osnovu sprovedene analize* (=based on the analysis); *podaci su pokazali/pokazuju/nam govore* (=data showed/shows/tells us); *nalazi potvrđuju* (=findings confirm); *rezultati pokazuju/su pokazali/ukazuju na* (=results show/showed/point at), *rad polazi od pretpostavke* (=the paper starts with the assumption). In addition, other inanimate nouns which were often collocating with verbs such as *show, demonstrate* and *confirm* were: *primer(i)* (=example(s)), *izraz(i)* (=expression(s)), *korpus* ili *građa* (=corpus), *merenja* (=measurements), *stavovi* (=stance), *upitnik* (=questionnaire), *pitanja* (=questions), *pregled* (=examination). More abstract nouns used include: *centralni pojam u ovom radu je* (=the central idea/concept of this paper is); *osnovna ideja ovog istraživanja bila je* (=the main idea of this research was); *glavna tema teksta je* (=the main topic of this article is); *predmet ovog rada je* (=the subject of this paper is), *intencija je bila* (=the intention was); *hipoteza je da* (=the hypothesis is); *osnovno pitanje bilo je/ticalo se* (=the main question was/was concerned with), *svrha ovakvog formiranja je* (=the purpose of this kind of formation was), *u centru pažnje je bilo* (=the centre of attention was), *pažnja* je usmerena na (=attention was directed at), *polazna pretpostavka jeste* (=the starting assumption is), *zaključak je* (=the conclusion is), *sa namerom da* (=with the intention of). These nouns are seen as an impersonal way of writing and transferring agentivity from the authors to an inanimate object, as they all have a figurative, non-literal metaphorical meaning and can be seen as animate, wilfully acting entities.

Verbal noun (glagolska imenica)

In addition to these inanimate nouns, there are also different forms of what is referred to in Serbian as a *glagolska imenica* indicating an action or an occurrence (Stanojčić and Popović 2004, 81) with 19 markers found in the sub-corpus: *poređenje rezultata/tri situacije pokazuje*

[48] The glosses provided do not necessarily encompass pragmatic meanings, but solely semantic meanings, as they are provided to ease comprehension and readability for readers who do not speak Serbian (see also 8.2 and 9.2) or German (see also 7.3, 8.3 and 9.3). The translations of the examples are not given in full as this might impede interpretations of stance markers in the concrete context, and it would reduce the notion of a stance marker to a mere translation equivalent.

(=the comparison of results/three situations shows), za *sagledavanje i uočavanje* (=perception and noticing), *tumačenje i poređenje* (=interpretation and comparison), *posmatranje/zapažanje* (=observation), *ova razmatranja* (=these considerations), *pretraživanje* (=search). Another quite prominent form in the Serbian sub-corpus is *glagolski prilog sadašnji***,** denoting an action simultaneous with the one in the finite clause (Stanojčić and Popović 2004, 399). It may function as an adverbial clause of time, cause, manner etc. (Piper et al. 2005, 463) (17 markers): *polazeći od ove pretpostavke* (=starting from the assumption), *analizirajući* (=by analysing), *posmatrajući* (=by observing), *imajući u vidu* (=bearing in mind), *uzimajući u obzir* (=taking into consideration), *sudeći prema* (=judging by), as evidenced in example (79):

(79) *Imajući u vidu prethodno pomenute faktore koji utiču na antonimiju*, *ovde ćemo se osvrnuti na* semantičke, kontekstualne i psiholingvističke, dok ćemo izostaviti morfološke. (Jakić Šimšić and Vesić Pavlović 2020, 56) = bearing in mind the previously mentioned factors, we will look back here on…[49]

Participles (trpni glalgolski pridev)

Another very prominent type of examples is a structure which is analogous to the use of a past participle as an attribute (a marker of the strategy of depersonalisation in the English sub-corpus). However, in the Serbian sub-corpus, it is the form known as *trpni glagolski pridev* (Stanojčić and Popović 2004, 403) – an adjectival form derived from a verb, indicating that an action is performed on something or someone. These forms are characterized by both abundancy and variety in the corpus, with 89 markers identified: *odabrani korpus/tekst/pridev* (=chosen corpus/text/adjective); *u navedenim primerima* (=in the stated examples); *posmatrani korpus/prefiks/parametri/slučaj* (=observed corpus/prefix/parametres/case); *pomenute **i** opisane imenice* (=mentioned and described nouns); *ponuđena rešenja* (=offered solutions); *dobijeni podaci/ rezultati/ nalazi/ primeri* (=obtained data/ results/ findings/ examples); *navedeni primeri/ odlomak/ tekst/ kriterijumi* (=stated examples/ section/ text/ criteria); *prikazani odlomak* (=shown paragraph); *prikupljeni podaci* (=collected data); *snimljeni korpus/ primeri/ materijal* (=recorded corpus/ examples/ materials); *zabeležene lekseme/ glagoli* (=recorded lexemes/ verbs); *analizirani glagoli/ korpus/ građa* (=analysed verbs/ corpus). This form is also used for text-deixis, to refer to different sections of the paper by the authors with an organisational purpose, such as *gore pomenuti* (=above mentioned).

[49] The articles in Serbian were written in both Latin and Cyrillic script, but in order to maintain uniformity throughout the thesis, all examples in Serbian are given in Latin script, as those originally in Cyrillic script have been transcribed.

Impersonal constructions (obezličene rečenice)

Besides these forms, certain impersonal constructions – *obezličene rečenice* – can also be found in this sub-corpus. These clauses are deagentised, as the agent denotes a human entity, and they are very often used in scientific writing (Stanojčić and Popović 2004, 252–253). While they can be seen as extremely close to reflexive passive constructions (which will be described below), the syntactic subject of impersonal constructions in Serbian is simultaneously the agent, which can be omitted (Tanasić 2014, 211). They include the following examples in this sub-corpus: *oseća se kao* (=is sensed as), *očekuje se* (=is expected), *očekivalo se* (=was expected), *pretpostavlja se* (=it is assumed), *može se zaključiti* (=it can be concluded), *moglo bi se reći* (=it could be said), *može se očekivati* (=it can be expected), *može se reći* (=it can be said), *pokazalo se* (=showed to be), *može se govoriti* (=it can be spoken of), *ukoliko se ima u vidu* (=if one bears in mind). Such uses are illustrated in examples (80) and (81):

(80) Kod ispitanika iz grupe Srbistika, malo je izraženija tolerancija na arhaičnije reči, *gde se pretpostavlja da je jedan od ključnih razloga za to činjenica* da su izloženiji takvoj vrsti leksike u okviru studija književnosti i istorije srpske književnosti. (V. Jovanović 2015, 177) = where it is assumed that one of the key reasons for this is the fact....

(81) *Svakako se može reći* da je određeni uticaj nastave o složenicama u engleskom jeziku registrovan kroz rezultate ovog proučavanja, ali posledice istog nisu izražene u tolikoj meri da *se može govoriti* o značajnijem uplivu u domenu razumevanja i tumačenja složenih reči iz maternjeg jezika. (V. Jovanović 2015, 181) = it can certainly be said that; can be spoken of

Example (81) illustrates that impersonal constructions can also combine strategies of depersonalisation and indetermination (see 7.2.2), in order to elaborate on the possibility of something happening. This is also evident in examples such as: *nije moguće objasniti (=is not possible to explain/cannot be explained), moguće je ustanoviti (=is possible to establish/can be established), bilo je moguće utvrditi (=was possible to establish/could be established)*. Finally, the combination of the verb *to be* and an adjective as a nominal predicate – *imenski predikat* (Stanojčić and Popović 2004, 224) is another prominent feature of this sub-corpus: *je uočljiv* (=is noticeable), *je vidljivo* (=is visible), *je očigledna* (=is obvious), *je objašnjiva* (=is explicable). A total of 75 markers of this impersonal usage is identified in the sub-corpus.

Passive voice

Last but not least, another form is reflective of the strategy of depersonalisation in this sub-corpus – the passive voice, similarly to the English data. Passive voice can be expressed in Serbian either through the participle (participial passive with *glagolski pridev trpni*) or through a reflexive construction without the participle, third-person marked verb and reflexive particle *se* (reflexive passive) (Erić Bukarica 2019, 155; Tanasić 2014, 220). A total of 187 markers of passive voice can be found in this sub-corpus.

Participial passive is expressed through a variety and abundance of examples, describing procedures and actions taken by the authors of the papers when conducting the research and is often combined with marked forms of other analytical grammatical categories, such as present, past and future tense. As the same form (present tense of the verb *to be – jesam* and the participle – *trpni glagolski pridev*, discussed above) expresses both present and past passive in Serbian (Tanasić 2014, 13), the glosses will be given in the past tense, as these forms denote resultative actions during research, which are reported on in the scope of the article: *su identifikovane i izložene* (=were identified and stated), *korišćen je* (=was used), *istražene su* (=were researched), *su odabrani/birani* (=were chosen), *obavljeno je* (=was conducted), *sastavljen je* (=was compiled), *zapaženo je* (=was noted), *je očekivano* (=was expected), *je registrovan* (=was registered), *nađeni/pronađeni su* (=were found), *ekscerpirane su* (=were excerpted), *inkorporirane su* (=were incorporated), *izvršeno je* (=was carried out), *merene su* (=were measured), *su/nisu zabeleženi* (=were/were not noted), *su svrstani/klasifikovani* (=were classified), *posmatrani su* (=were observed), *snimljene su* (=were recorded), *su semplovani* (=were sampled), *je segmentiran i analiziran* (=was segmented and analysed), *izračunat je* (=was calculated), *su očekivane* (=were expected), *je izvršeno* (=was conducted), *dobijena je* (=was obtained), *urađena je* (=was done), *označen je* (=was denoted), *nisu razmatrana* (=were not considered), *utvrđene su* (=were established), *konsultovani su* (=were consulted), *uzeti su* (=were taken), *objašnjeno je* (=was explained), *formiran je* (=was formed), *nije potvrđen* (=was not confirmed), *akcenat je stavljen na* (=emphasis was put on). Examples of future tense can also be found: *će biti označeni* (=will be denoted), *biće prestavljeni* (=will be presented). This is a relatively small selection of pertinent examples from the corpus, and the examples below (82) – (84) illustrate the use of passive voice in the sub-corpus:

(82) Dobijeni <u>*su podaci statistički obrađeni*</u>. Za testiranje razlika između obeležja <u>*primenjen je*</u> parametrijski ANOVA test, dok <u>*je za utvrđivanje razlike između dva obeležja grupe obeležja korišćen*</u> Bonferroni post hoc test. (Sredojević 2014, 106) = were processed statistically; was applied; was used to determine the difference between two characteristics of a group of characteristics

(83) Stoga <u>*će se primeri iz korpusa prvo svrstati*</u> u grupe prema navedenoj klasifikaciji, a potom <u>*će se pojedinačno razmatrati*</u> u odnosu na teoriju učtivosti. U korpusu <u>*su nađene*</u> 22 razmene u kojima <u>*su identifikovani*</u> govorni činovi izvinjenja. Predsednik Skupštine koristio je ovakve iskaze šest puta, predsednik Vlade šest puta, a prvi potpredsednik Vlade čak sedam puta u pet obraćanja poslanicima Skupštine. Kod poslanika, međutim, govorni činovi izvinjenja <u>*identifikovani su*</u> samo u tri razmene. (Vekarić and Jelić 2015, 320) = examples from the corpus will be classified first; will be considered individually; are identified; were identified

(84) U radu <u>*su identifikovane i detaljno izložene*</u> najuočljivije metafore *u odabranom korpusu* koji pripada diskursu pravnog akta kao poddiskursu pravnog diskursa. (Stanojević Gocić 2015, 151) = were identified and displayed in detail

On the other hand, the reflexive passive is made up of the reflexive particle *se* and the third-person marked verb. In this type of a passive construction, the noun phrase marking the patient takes the position and functions as the grammatical subject, while the agent is usually omitted (or not expressed by the agent *by*-phrase) (Piper et al. 2005, 624). Examples from the corpus include: *istražuje se* (=is researched), *uočava se* (=is seen), *sreće se* (=is encountered), *koristi se* (=is used), *se analizira* (=is analysed), *se tražilo* (=was asked), *postavlja se pitanje* (=question was raised), *posvetiće se pažnja* (=attention will be given), *vodilo se računa* (=care was taken), *registruje se* (=is registered), *stiče se utisak* (=one gets the impression), *smatra se* (=it is considered); and in combination with indetermination: *može se uočiti* (=can be seen), *može se naći* (=can be found). This type of passive is illustrated in examples (85) and (86).

(85) Sa druge strane, <u>*može se uočiti*</u> *određena kontradiktornost u stavu kod ispitanika u istraživanju*. (V. Jovanović 2015, 169) = a certain contradiction <u>can be observed</u> in the attitude of the respondents in the research

(86) <u>*Sreće se*</u> i metafora pravna zaštita je borba (protection of rights is fight). (Stanojević Gocić 2015, 159) = the metaphor of legal protection is a struggle <u>is also encountered</u>

The difference between the two types of passive can be illustrated in the examples: *Prilikom sastavljanja korpusa* <u>*vođeno je računa*</u> *o tome da se akcentovani vokal nađe između suglasnika jednakih po zvučnosti i načinu tvorbe* (Sredojević and Subotić 2011, 111) and *Takođe,* <u>*vodilo se računa*</u> *o tome da primer ne sadrži dva puta pridev od interesa, kao i da ne sadrži pridev i njegov antonim, niti nejasne ili stilski obeležene reči* (Jakić Šimšić and Vesić Pavlović 2020, 60), where the underlined expression means *care was taken*, but expressed with participial and reflexive passive, respectively. These two examples demonstrate that the passive diathesis with an agentless clause is meant to hide the agent and therefore reduce the role of the researchers in the text. This will be elaborated more closely in Chapter 9 discussing the technology sub-corpus (see 9.2.1).

7.2.2 Indetermination

The strategy of indetermination is not as prominent in the Serbian sub-corpus as in the English sub-corpus, with 283 markers found (an average of 20,2 markers per article).

Modal verbs and conditional (potencijal)

The most prominent marker of indetermination entails the use of the modal verb *moći* (i.e. *can*) denoting possibility (Kalogjera 1982) and other lexical verbs, with 178 markers found in the sub-corpus: *može predstavljati/da predstavlja* (=can represent), *mogu biti* (=can be), *može postati* (=can become), *može imati* (=can have), *može pokazivati* (=can display), *može da ukazuje na* (=can point at), *mogla bi dati* (=could give), *mogu da denotiraju* (=can denote), *može izgledati/da izgleda* (=can seem), *mogli bi biti* (=could be), *mogu sadržati* (=can contain), *može dovesti do* (=can lead to), *mogu se javiti* (=can appear), *može se pronaći/mogu da se nađu/ može se naći* (=can be found), *može se koristiti* (=can be used), *se mogu pripisati* (=can be ascribed), *se može porediti* (=can be compared). Example (87) illustrates the use of the modal verb *moći* denoting possibility:

(87) Ovi iskazi imaju određene formalno-strukturalne karakteristike: u njihovoj se osnovi nalaze upitne rečenice (koje <u>mogu imati</u> specifičan red reči i(li) <u>mogu sadržati</u> upitne reči/izraze), u govoru su realizovani uzlaznom intonacijom, uz upotrebu karakterističnih gestova i mimike, dok su u pisanju rečenice koje im leže u osnovi posebno označene znakom pitanja na svom kraju (Piper 2005: 670–671). [Sredojević 2014, 93] = can have; can contain

The modal verb *moći* shows great formal flexibility in the sub-corpus, being expressed in impersonal forms (*može se/mogu se*) as well as personal (first-person plural *možemo* and third-person singular and plural *može/mogu*), but it is by no means the only means of expressing indetermination. As Čikara (2017) and Trbojević Milošević (2004) note, the Serbian form *potencijal* (conditional) is used to denote possibility, as well as the speaker's attitude or stance (Čikara 2017, 97), with 24 markers found in the sub-corpus: *bi se došlo do* (=would lead to), *bi se nalazile* (=would be), *bi nas navela na zaključak* (=would lead us to conclusion), *bila bi neprimerena* (=would be inappropriate), *pomogli bi* (=would help). The modal verb *trebati* as well as the conditional form *trebalo bi* can also indicate possibility or obligation: *trebalo bi upotrebiti* (=should be used). The form *potencijal* can be used in the conditional sentences in Serbian, also seen as markers of the strategy of indetermination (e.g. *ukoliko je njegovo prisustvo moguće* = if its presence is possible), as *potencijal* denotes the condition for the action to be completed (Stanojčić and Popović 2004, 396), as illustrated in examples (88) – (90):

(88) *<u>Ukoliko navedena informacija (=implicirana premisa) ne bi bila aktivirana</u>* u svesti sagovornika, *adekvatna interpretacija iskaza <u>bi izostala</u>*, u čemu se ogleda supsidijarna narav date implicirane informacije. (Polovina and Knjižar 2019, 19) = <u>if the stated information (=implied premise) were not activated</u> […] the adequate interpretation [...] <u>would be absent</u>

(89) *<u>Ukoliko bi izostalo</u> aktiviranje ove formalno nemarkirane informacije u svesti govornog lica B, <u>došlo bi verovatno</u> do* 'zastoja' u konverzacijskom toku, te *<u>bi on upitao</u>* govorno lice A A šta je u četvrtak, Zašto je dobro da ispit iz sintakse niju u četvrtak ili nešto tome slično, koji *<u>bi potom eksplicirao</u>* impliciranu premisu *<u>kako bi otklonio</u>* šum u komunikaciji. (Polovina and

Knjižar 2019, 20) = if the activation of this formally unmarked information [...] faltered, it would probably lead to [...] would inquire; would then explicate; in order to remove

(90) *Ako bismo želeli da preciziramo ovaj opis, rekli bismo* – upitni *mogu biti* i iskazi koji nemaju nijednu od navedenih pragmatičkih karakteristika upitnosti (Rakić 1987: 90), kao i iskazi koji nemaju navedene morfosintaksičke karakteristike. (Sredojević 2014, 94) = if we wanted to make this description more precise, we would say [...]; can be

Lexical epistemic verbs and modal adverbs and nouns

Furthermore, lexical epistemic verbs can be found in the sub-corpus (23 markers), seen as hedges by D. Đorđević (2016) and Vučićević and Rakić (2020b): *čini se* (=appears), *implicira* (=imply), *pretpostavlja* (=assume), *indirektno sugeriše* (=indirectly suggest); modal adverbs: *možda* (=maybe), *verovatno* (=probably)[50], *potencijalno* (=potentially), *najverovatnije* (=most likely), *eventualno* (=possibly), *naizgled* (=seemingly), *ne mora nužno* (=not necessarily); modal adjectives such as *mogući* (=possible) and *potencijalni* (=potential); epistemic nouns: *indicije* (=indications), *pretpostavka* (=assumption), *nastojanje* (=inclination), *mogućnost* (=possibility), *tendencija* (=tendency), *verovatnoća* (=probability), *mišljenje* (=opinion).

(91) Pored toga što je ovo istraživanje pokazalo da se nešto bolje percepiraju složenica od izvedenice sa sličnim ili istim značenjem, što je bio slučaj sa četiri od sedam parova, dok je kod grupe Srbistika taj procenat još i veći, *čini se da se može smatrati potvrđenim* da je višeznačnost određenih oblika izvedenica jedan od ključnih faktora koji utiču na bolje razumevanje složenica. (V. Jovanović 2015, 181) = it appears it could be considered

(92) *Postoji pretpostavka da bi ovde takođe mogla da se uspostavi korelacija* između percepcije i frekventnosti oblika u jeziku, ali *bi odgovor na ovo pitanje zahtevao* i neka dodatna istraživanja kako bi se dobili neki autentičniji pokazatelji na većem uzorku. (V. Jovanović 2015, 177) = there is an assumption that a correlation could also be established here; the answer to this question would require

Example (91) illustrates the use of the lexical hedge *čini se* to denote a distance from the author, while example (92) illustrates the use of the epistemic noun *pretpostavka* (=assumption) along with the use of *potencijal* (conditional) to express possibility.

Combinations

Indetermination is also often combined with depersonalisation (see 7.2.1) in impersonal and passive constructions with the modal verb *moći*: *može se očekivati* (=can be expected), *se može pretpostaviti* (=can be assumed), *može se uočiti/videti* (=can be seen), *može se reći* (=can be said), *mogla bi se očekivati* (=could be expected), *može se pripisati* (=can be ascribed), *moglo bi se reći* (=could be said), *može se zaključiti* (=can be deducted), *ne može se potvrditi* (=cannot be confirmed), *može se zaključiti* (=can be deducted), *može se naći* (=can be found). Thus, these

[50] The adverbs *možda* and *verovatno* are also classified by Engel and Mrazović as modal particles (1986, 912).

are seen as double markers for both strategies. The combination of indetermination and depersonalisation is also evidenced in impersonal forms such as *pretpostavlja se* (=is assumed), as well as the modal expression *moguće je* + infinitive (=is possible to): *moguće je formirati i razumeti/klasifikovati/odgovoriti/opaziti/razumeti/percipirati/ustanoviti* (10 markers).

The frequency of the modal verb *moći* is evidenced in the combination of indetermination and subjectivisation to denote the presence of the author explicitly and mark their opinion and stance (which will be further discussed in 7.2.3): *možemo zaključiti* (=we can conclude), *možemo uočiti/zapaziti* (=we can notice), *možemo reći* (=we can say), *mogli bismo zaključiti* (=we could deduce), *možemo smatrati* (=we can consider), *možemo predstaviti* (=we can present), *mogli bismo dodati* (=we could add) etc. This combination is also evident in the use of lexical epistemic verbs in first-person plural: *pokušali smo da istražimo* (=we tried to research), *pretpostavljamo* (=we assume), *verujemo da* (=we believe that), *koliko nam je poznato* (=as far as we know), *smatramo* (=we think).

(93) *Verujemo da bi ovo bio pouzdan način* kojim bi se utvrdilo koji su to faktori koji određuju stepen usvajanja značenja predloga u ranom dečijem govoru (Milenković 2012, 234) = we believe that this would be a reliable way...

On the other hand, in the examples in which inclusive (collective) WE is used, this is not seen as a marker of subjectivisation, but only of indetermination, denoting possibility: *možemo konceptualizovati* (=WE can conceptualise), *možemo govoriti* (=WE can speak of), *možemo tražiti* (=WE can seek), *možemo da zamislimo* (=WE can imagine), *moglo bi nam se učiniti* (=it could seem to US).

7.2.3 Subjectivisation

The strategy of subjectivisation is fairly prominent in this sub-corpus, with a total of 319 markers found (an average of 22,8 markers per article).

First-person pronouns

The markers of subjectivisation in this sub-corpus are quite straightforward, as they are expressed through verb forms marked by inflection for first-person plural, and these verb forms are combined with marked forms of other analytical grammatical categories of the verb, such as the present, past, and future tense (with different functional purposes, as will be elaborated below). It is important to note that the personal pronoun *ja/mi* for first-person singular and plural, respectively, can be omitted in Serbian, as the verb inflection at the end is used to mark person and number.

Past tense is usually used to denote the processes conducted as a part of the research: *uvrstili smo* (=we included)*, kao korpus za ovo istraživanje koristili smo* (=we used as corpus for this research)*, ekscerpirali smo* (=we excerpted)*, sortirali ih* (=we sorted)*, uzimali smo u obzir* (=we took into consideration), *svrstali smo* (=we classified), *primetili smo* (=we noticed), *nismo razmatrali* (=we did not consider), *želeli smo* (=we wanted), *ustanovili smo* (=we established), *zapazili smo* (=we noticed), *očekivali smo* (=we expected), *pošli smo od pretpostavke* (=we started from the assumption), *merili smo* (=we measured), *analizirali smo* (=we analysed), *izračunali smo* (=we calculated), *posmatrali smo* (=we observed), *zaključili smo* (=we deduced), *dobili smo* (=we obtained), *ispitivali smo* (=we researched), *razlikovali smo* (=we differentiated), *klasifikovali smo* (=we classified), *koristili smo* (=we used), *uporedili smo* (=we compared), *primetili smo* (=we noticed), *pronašli smo* (=we found), *razmotrili smo* (=we considered), *pokazali smo* (=we showed), *istakli smo* (=we pointed out), *potvrdili smo* (=we confirmed), *videli smo* (=we saw), *proverili smo* (=we checked), *nismo uzeli u obzir* (=we did not take into consideration), *odabrali smo* (=we chose), *vodili smo računa* (=we took care of), *utvrdili smo* (=we established) etc, as also illustrated in example (94):

(94) Prilikom ove analize, ipak, <u>*nismo uzeli u obzir*</u> sve slogove, već <u>*smo zanemarili*</u> one koji ispoljavaju izrazito duženje pred prozodijskom granicom (eng. pre-boundary lengthening), odnosno kod nenaglašenih slogova koji čuvaju jak vokal (kao što je, na primer, slučaj sa drugim slogom reči someone). (M. Marković 2011, 141) = we did not take into consideration; we neglected

Present tense is usually used to denote the research processes, as well as certain assumptions and observations related to the authors. For example, this is also done in combination with the strategy of indetermination (as mentioned in 7.2.2) in the expressions containing lexical hedges (Vučićević and Rakić 2020b, 83): *mišljenja smo* (=we are of the opinion), *smatramo* (=we think), *naše je mišljenje* (=our opinion is), *pretpostavljamo* (=we assume), *verujemo* (=we believe), *koliko nam je poznato* (=as far as we know), and *zaključujemo* (=we conclude); *u korpusu beležimo* (=we note in the corpus), *koristimo* (=we use), *posmatramo* (=we observe), *primećujemo/uočavamo/zapažamo* (=we notice), *podsećamo* (=we remind), *polazimo od postavke* (=we start from the postulate), *ovde prikazujemo* (=here we show), *poredimo* (=we compare), *pokušavamo da utvrdimo* (=we are trying to establish), *pitamo se* (=we wonder), *u radu se bavimo* (=in this paper we deal with), *predstavljamo* (=we present), *nalazimo* (=we find), *pitanje koje postavljamo* (=the question we ask), *ispitujemo* (=we research), *ne možemo odgovoriti* (=we cannot answer), *osvrnućemo se* (=we look back on).

Future tense is usually used for certain organisational purposes within the article, i.e. to denote what processes are going to be conducted throughout the research process, but also as part of the writing process: *ćemo predstaviti/predstavićemo* (=we will present), *analiziraćemo* (=we will analyse), *ćemo navesti/navešćemo* (=we will state), *pomenućemo* (=we will mention), *ćemo koristiti* (=we will use), *posmatraćemo* (=we will observe), *prikazaćemo* (=we will show), *ćemo razmotriti* (=we will consider), *ćemo opisati* (=we will describe), *ćemo pokazati* (=we will show), *ćemo prokomentarisati* (=we will comment on), *najviše pažnje posvetićemo* (=we will give most attention to).

The first-person pronoun *mi* is evident in this sub-corpus in its dative (*nama, nam*) and accusative form (*nas*)[51]. Hence, in the example *cilj nam je da ispitamo i da utvrdimo* (=*our goal is to question and establish*, but more accurately *the goal of us is to question and establish*), the dative form *nam* marks the subject of the clause as a dative experiencer, the carrier of a need, desire, or will (Piper et al. 2005, 179). Similarly, in the examples *koja nam govori dosta* (=which tells us a lot about), *omogućila nam je* (=enabled us to), *pokazuje nam* (=shows us), *govori nam* (=tells us), the authors are also seen as indirect objects in Serbian, as this form is in the dative. In the examples *interesuje nas* (=interests us) and *navela nas je na zaključak* (=leads us to the conclusion), the author functions as a semantic subject marked by the accusative, as the carrier of a mental state (Piper et al. 2005, 195).

As observed for the use of *we* in its inclusive meaning in the English data (see 7.1.3), the inflectional first-person plural realizations in the Serbian sub-corpus are polysemous and may have an extended referential scope beyond the authors of a paper. Such cases are excluded here, as they are not seen as markers of subjectivisation and do not refer solely to the author of the article, but also the wider audience, as illustrated in examples (95) – (99):

(95) *Dokaz da se ta zaštita konceptualizuje kao zdravstvena zaštita* <u>*nalazimo*</u> ne samo u metaforičkom izrazu pravni lek (legal remedy) i pravna pomoć (legal aid) kao prepoznatljivoj konkretizaciji ove metafore, već i u leksici koja se može povezati sa lečenjem. Operacija, instrument, tretman, slučaj ili procedura su samo neke od leksema koje se vezuju za medicinu i lečenje, a <u>*nalazimo ih*</u> u pravnom diskursu uvok kada dođe do povreda ili kršenja prava. (Stanojević Gocić 2015, 157) = <u>we find</u> evidence that this protection is conceptualized as health care….; we find them…

[51] Unlike English that has an eroded case system (Kortmann 1998, 146), Serbian differentiates among seven cases: Nominative, Genitive, Dative, Accusative, Vocative, Instrumental and Locative (Stanojčić and Popović 2004, 289).

(96) *U tekstu PZ iz 2006. god., Svetac koji je prodavao Politiku, nailazimo* na crkvenu leksiku, a to su one lekseme i izrazi čija se semantika odnosi na pojmove crkve i crkvenih obreda, npr.: (Janković Popović 2016, 256) = in the text […] we encounter…
(97) Mnoštvo terminologije koja se odnosi na vojsku i ratovanje, *nalazimo* u tekstu PZ takođe iz 2006. god., Srpski Kozarski puk, u kojem se govori o bitkama vođenim za vreme Prvog srpskog ustanka 1807. godine, npr.: (Janković Popović 2016, 257) = we find…
(98) Tako u PZ iz 2012. god., u tekstu Čujemo li boje?, čija je tema iz domena zanimljive nauke, *pronalazimo* sledeće primere: (Janković Popović 2016, 260) = we find…
(99) I ovde *imamo* realizacija refleksa jata u negaciji enklitičkog oblika lične zamenice biti, nijesam, kao i oblici sa jekavskim jotovanjem, đetinjstvu, đe. (Janković Popović 2016, 260) = we have…

NP [Possessive determiner + $N_{(inanimate)}$]

Furthermore, the use of possessive determiner – *prisvojna zamenica* (Stanojčić and Popović 2004, 98) followed by an inanimate noun is also seen as a prominent part of this strategy. They denote the authors' viewpoint and that the claims are relevant to their own research and as such, might be challenged in other studies (as in 7.1.3). It should also be born in mind that the nouns in question are marked for different cases, but the translation equivalent is nominative in English. These examples include: *našeg istraživanja/naše istraživanje/u našem istraživanju* (=our research), *našeg izlaganja* (=our presentation), *prema našoj oceni* (=according to our estimation), *naše je mišljenje* (=our opinion), *našu pažnju* (=our attention), *naši ispitanici* (=our respondents), *iz našeg korpusa/u našem korpusu* (=our corpus), *naša pretpostavka* (=our assumption), *naši opisi* (=our descriptions), *u svim našim primerima* (=in all our examples), *u našem uzorku* (=our sample), *našeg interesovanja* (=our interest), *naš cilj je bio* (=our goal was), *naši su podaci pokazali* (=our data shows). The last two examples – *goal* and *data* – are also tagged as the strategy of depersonalisation, as inanimate nouns exhibiting agentivity.

Combinations

As was already noted in 7.2.2, subjectivisation is often combined with indetermination, by using the verb *moći* (i.e. *can*) marked for person and number, indicating the authors' observations and assumptions: *možemo zaključiti* (=we can conclude), *možemo reći* (=we can say), *mogli bismo dodati* (=we could add) etc. Additionally, this combination of strategies is also achieved through the use of lexical epistemic verbs denoting intention (Vučićević and Rakić 2020b, 86) marked for person and number: *pokušali smo da istražimo* (=we tried to research), *pokušali smo da odgovorimo na pitanje* (=we tried to answer the question), *pokušali smo da utvrdimo* (=we tried to establish), *pokušaćemo da damo odgovor* (=we will try to answer), *nastojaćemo da pokažemo* (=we will strive to show).

Finally, an interesting occurrence is the use of this strategy in dependent clauses, through the use of verb forms with first-person plural inflection, followed by another use of the verb forms with first person plural inflection in the independent clause: *kako bismo uporedili* (=in order for us to compare), *kada poredimo realizacije* (=when we compare the realizations), *kako bismo ustanovili/utvrdili* (=in order for us to establish), *da bismo ispitali* (=in order for us to research), *pre nego što pređemo na tumačenje, moramo konstatovati* (=before we move on to the interpretation, we need to establish), indicating the condition and the intention of the authors, as illustrated in examples (100) – (103).

(100) <u>*Da bismo izračunali*</u> *govorni tempo, najpre* <u>*smo merili*</u> trajanje intonacijskih celina kod kontrolne govornice i kod svake od ispitanica. (M. Marković 2011, 140) = in order to calculate the speaking tempo, we first measured…

(101) <u>*S ciljem da ispitamo*</u> intonaciju upitnih iskaza u srpskom jeziku – <u>*preduzeli smo*</u> *ovo istraživanje*. Posebno <u>*smo želeli da ispitamo*</u> da li iskazi u kojima je upitnost izražena leksičko-gramatičkim sredstvima imaju specifičnu upitnu intonaciju koju odlikuju uzlazni krajevi intonacionih kontura ili su intonacione konture ovih iskaza, zapravo, slične konturama obaveštajnih iskaza. (Sredojević 2014, 94–95) = with the goal of examining […], we undertook this research; we wanted to investigate…

(102) <u>*Kako bismo videli*</u> da li su upitni iskazi realizovani tonski više od obaveštajnih iskaza, <u>*posmatrali smo*</u> f0av – srednju vrednost f0 čitave intonacione fraze. <u>*Da bismo ustanovili*</u> da li je u upitnim iskazima tonski vrhunac viši nego u obaveštajnim, <u>*posmatrali smo*</u> f01max. Po navedenim parametrima <u>*poredili smo*</u> dva tipa upitnih iskaza sa obaveštajnim iskazima, ali i upitne iskaze međusobno. (Sredojević 2014, 107) = in order to see […], we observed; in order to establish […], we observed; we compared

(103) <u>*Kako bismo precizno rasvetlili pitanje*</u> prozodije novosadskog govora i aktuelnim opisom upotpunili saznanja savremene srbistike o nastanku, ali i pravcu razvoja novoštokavskih akcenata – preduzeto je istraživanje čiji <u>*ćemo deo predstaviti*</u> u ovom radu. (Sredojević and Subotić 2011, 110) = in order to precisely shed light on the issue […]; we will present

It is interesting to note that even in certain articles by a single author, the first-person plural is still being used as a part of this strategy. Out of the 14 articles used in this sub-corpus, 10 are single-authored, and four were written by two authors. However, there is only one article in which first person singular is used as a part of this strategy, producing one single marker: *размотрићу* (I will consider). This corresponds to findings in the literature on the general preference in Slavic academic discourse towards using the first-person plural form *mi* to indicate that the author is part of a community and not an individual, thereby exhibiting their academic modesty and humility (Blagojević 2011a, 209).

7.2.4 Intensification

The strategy of intensification is a fairly prominent strategy in this sub-corpus, as it is the third most frequently used strategy, after depersonalisation and subjectivisation, with a total of 325 markers found, with an average of 23,2 per article. Unlike the English sub-corpus described above, intensification is used more frequently than indetermination (and slightly more often than subjectivisation). However, similarly to English, these markers are either used to emphasize the authors' certainty in the statement they are making (certainty markers), or to express the authors' attitude and evaluation regarding a claim (attitude markers).

Certainty markers

Certainty markers include: adverbs such as *samo* (=only), *tek* (=only just), *čak* (=even, as a premodifier), *posebno/naročito/izuzetno/pogotovo/osobito* (=especially), *svakako* (=certainly), *upravo* (=precisely), *zapravo* (=actually), *suštinski* (=essentially), *sasvim*[52] (=absolutely, as a premodifier), *daleko* (=far more, as a premodifier), *obavezno* (=necessarily), *izrazito* (=distinctly), *svega* (=only), *posebno* (=especially), *mnogo* (=much, as a premodifier), *primetno* (=noticeably), *u stvari* (=actually), *prevashodno* (=primarily), *visoko* (=highly), *veoma* (=very, as a premodifier), *pre svega* (=above all), *značajno/znatno* (=significantly), *slabije/manje* (=less), *nužno* (=necessarily), *potpuno/u potpunosti/sasvim* (=completely), *nema sumnje/nesumnjivo* (=indubitably), *uopšte* (=at all), *striktno* (=strictly), *fundamentalno* (=fundamentally), *sigurno* (surely), as well as adverbs *i te kako* (used for emphasis), *zaista* (=indeed), *naravno* (=of course), *još* (=even more, as a premodifier), *dosta* (=a lot), and the conjunction *mada* (=even though)[53]. The emphasizing quality is illustrated in example (104):

(104) I ovde se *upravo* preko leksike koja je u funkciji teme teksta čitalac upoznaje sa jednim istorijskim periodom. Upotreba arhaizama predstavlja stilsko obeležje teksta ali i čitav jedan leksički korpus koji se *posebno* mlađim čitaocima stavlja na uvid time što im postaje dostupan. Na taj način, *upravo* posredstvom leksike i to arhaizama, ostvaruje se jedna od osnovnih uloga PZ da obrazuje čitaoca. (Janković Popović 2016, 255) = precisely; especially; precisely

Attitude markers

Attitude markers are meant to convey the authors' evaluation of a statement and display a variety and abundance of adjectival and adverbial phrases. Adjectival phrases include expressions with an attributive and a predicative function as modifiers of noun phrases: *intrigantno* (=intriguing), *upečatljiv* (=striking), *zanimljiv* (=interesting), *neobičan* (=unusual), *uspešan* (=successful), *ključno* (=key), *neophodan* (=necessary), *neobičan je i netipičan* (=is unusual and atypical), *ne previše dominantna* (=not too dominant), *nedovoljno stabilna*

[52] Engel and Mrazović also classify *sasvim* and *veoma* under modal-modificative adverbs (1986, 755), and *puno, dosta, mnogo* and *još* under modal-graduative adverbs (1986, 751, 753).
[53] Engel and Mrazović also classify these as modal particles, e.g. *nesumnjivo* (1986, 912), ranging particles, e.g. *upravo* and *zapravo* (1986, 916) and grading particles, e.g. *mnogo, naročito, upravo, veoma, vrlo* (1986, 919).

(=insufficiently stabile), *dobro poznata* (=well known), *nije zanemarljiv* (=not negligible), *veoma je važno* (=very important), *pažnje vredan* (=attention-worthy), *nemoguće* (=impossible), *nepotrebno kompleksne* (=unnecessarily complex), *lako prepoznatljiva* (=easily recognisable), *primetan* (=noticeable), as well as superlative forms of some of these adjectives *najznačajniji* (=most significant), *najzanimljivije* (=most interesting), *najupečatljiviji* (=most striking), *najpoželjniji* (=most desirable), *najvažnije* (=most important), and expressions which are a combination of an emphasising premodifier and an adjective: *posebno zanimljiv* (=especially interesting), *svakako nije zanemarljiv* (=certainly not negligible), *sasvim izvesno* (=quite certain), *sasvim razumljivo* (=completely understandable), *sasvim je neosporno* (=completely indisputable). Adverbial phrases include the following structure [Prep + Premodifier + Noun], functioning as an adverbial of manner – *priloška odredba za način* (Stanojčić and Popović 2004, 241): *na interesantan način* (=in an interesting way), *na autentičan način* (=in an authentic way), as well as adverbs *veoma problematično* (=very problematic), *neočekivano* (=unexpected), *neminovno* (=inevitable), *očito/očigledno je* (=obvious), *kontradiktorno* (=contradictory), *adekvatno* (=adequate), *izlišno* (=superfluous).

Both certainty and attitude markers are illustrated in examples (105) – (107):

(105) Zapaženo je da bi tek nešto manje od jedne trećine ispitanika, ili 32,7 % upotrebilo složenicu, dok je *<u>ono što je najzanimljivije</u>* činjenica da se procenat *<u>suštinski</u>* ne razlikuje bez obzira da li je grupa filološkog ili nefilološkog obrazovnog profila. *<u>Najizrazitiju</u> sklonost* demonstrirali su ispitanici profila strane filologije u iznosu od 2 do 4% više u odnosu na ostale. (V. Jovanović 2015, 169) = what is most interesting; essentially; most pronounced inclination

(106) U nekoliko primera nažalost se može posmatrati kao marker prebacivanja odgovornosti [20, 21], ili *<u>čak</u>* kao marker izvinjenja, koje *<u>je izlišno</u>* jer je situacija strogo određena formalnim pravilima date situacije [22]. (Vekarić and Jelić 2015, 324) = even; is superfluous

(107) Govornik A2 iz gore pomenutog razloga eksplicira 'opštu' implikaciju koja *<u>je neophodna</u>* za tumačenje sagovornikovog iskaza u replici B1; pre nego što ju je izgovorio, on ju je, *<u>naravno</u>*, rekonstruisao u svojoj svesti, te *<u>uspešno</u>* dekodirao iskaz: Neke stvari, kao što je izraz 'd džoj of lajf' ne možeš ozbiljno da izgovoriš pošto su već iživakane. (Polovina and Knjižar 2019, 25) = is necessary; of course; successfully

Certainty markers include the adverbs *čak* (=even) and *suštinski* (=essentially), as well as the modal particle *naravno* (=of course), all meant to emphasize the statement. Attitude markers are used by the authors to qualify the statement by expressing their evaluation, including the adverb of manner *uspešno* (=successfully), adjectives in the attributive and predicative function *izlišno* (=superfluous), *neophodna* (=necessary), *najizrazitija* (=most pronounced), as well as in the form of a clause, functioning as a premodifier of a noun in *ono što je najzanimljivije* (=what is most interesting).

In addition, two modal verbs in Serbian denoting certainty are *trebati*, found in this corpus in its impersonal form *treba*: *treba istaći/napomenuti* (=should be pointed out)*, treba imati na umu/ne treba smetnuti s uma* (=should be borne in mind)*, ne treba isključiti* (=should not be excluded), as well as *morati*: *mora se početi od* (=one must start from)*, se moraju posmatrati* (=must be observed as)*, moramo konstatovati* (=we must establish)*, moralo je doći do* (=it had to come to). These modal verbs in their deontic sense are used to denote necessity or obligation deemed by the authors. Besides these, there are certain expressions denoting the authors' evaluation in this sub-corpus, including both finite and non-finite clauses: *gde leži uzrok najveće razlike* (=here lies the cause of the biggest difference)*, predstavljalo potvrdu* (=is a confirmation of)*, govori u prilog* (=supports), *što se i očekuje* (=which is to be expected), *to ni ne čudi* (=this is not surprising), *s pravom se može tvrditi* (=it can rightly be claimed).

7.2.5 Approximation

Approximation is one of the less prominent strategies in this sub-corpus, with a total of 273 markers found (19,5 markers per article). As already mentioned in 7.1.5, this strategy might be somewhat less semantically varied, and it might be the one containing most unambiguous cases without overlapping and fuzzy examples, as opposed to the other strategies, especially given the smaller number of markers found in this sub-corpus and in this strategy overall.

Adverbs

It can be said that the most prominent type of markers within this strategy includes adverbs of approximative meaning (D. Đorđević 2016, 155): g*eneralno* (=generally), *delimično/delom* (=partially), *sporadično* (=sporadically)*, relativno* (=relatively), *obično* (=usually)*, uobičajeno* (=usually)*, uglavnom* (=usually)*, prosečno* (=on average)*, pretežno* (=predominantly), *prilično* (=quite), *skoro* (=almost), *postepeno* (=gradually), *gotovo/skoro* (=almost), *približno* (=pretty)*, donekle/ nešto* (=somewhat), *oko* (=around), *povremeno* (=occassionally), *mahom/umnogome* (=mainly), *ponekad/nekad/katkada* (=sometimes)*, nalik* (=similar to)[54].

Adjectives

It has to be taken into account in this subsection that, unlike English, Serbian differentiates adjectives according to their case, number and gender, so in cases when this is possible, various

[54] Engel and Mrazović also classify some of these as modal particles, e.g. *gotovo* (1986, 912).

forms will be given to account for the one form in English. This is true for adjectives found in the corpus such as: *određene, određenu, određeni, određenom, određena, određenih, određene* (all meaning *certain*), as well as *izvesna, izvesnu* (also meaning *certain*), *pojedinih, pojedinim, pojedini, pojedine* (also meaning *certain*). Other adjectives include: *uobičajen* (=usual), *slična/slično/slični/slične* (=similar), *generalna* (=general), *svojevrsna* (=some kind of), *razni* (=various), *bliski* (=close), *sporadična* (=sporadic).

Other lexical expressions

Other very prominent markers are indefinite pronouns – *neodređene pridevske zamenice* (Stanojčić and Popović 2004, 98): *neki, neke, neka, nekim* (=*some*), *nekoliko* (=*several*), *kakve* (=*some*), as well as adjectival phrases: *nešto složenija, nešto drugačije, nešto bolje, tek nešto manje* (with the premodifying adverb *nešto*[55] = *somewhat*), *ukupno gledano/posmatrano u globalu* (=overall); nominal phrases *na neki način, neki vid, u nekim slučajevima*, *jedan broj* (=a number of), and prepositional expressions (Vučićević and Rakić 2020b, 84): *u izvesnoj meri* (=to a certain extent), *po pravilu* (=as a rule), *u načelu* (=in principle), *u proseku* (=on average), and adverbs *manje ili više/više ili manje/u manjoj ili većoj meri* (=more or less), *bar/barem* (=at least).

(108) Selimovićevi primeri <u>*sporadično*</u> pokazuju da se strah-predmet može konkretizovati kao dobrodošla prepreka, koja ograničava <u>*neke*</u> još manje poželjne čovekove nagone ili stanja. Pripisujući strahu-predmetu <u>*neke*</u> neuobičajene osobine, pisac ovakvom razradom metafore strah je predmet postiže u delu efekat figurativnosti. (J. Jovanović 2015, 540) = sporadically; some; some

(109) Nalazi potvrđuju da ispitanici <u>*slično*</u> značenje <u>*nešto bolje*</u> razumeju kad je uobličeno u složenice. (V. Jovanović 2015, 177) = similar; somewhat better

(110) Kolokacije <u>*uglavnom*</u> određujemo kao leksičke kombinacije koje se često koriste zajedno uz <u>*izvesna*</u> ograničenja, pri čemu je značenje <u>*relativno*</u> transparentno. Drugim rečima, kolokacije se razlikuju od slobodnih leksičkih nizova po <u>*izvesnim*</u> ograničenjima u kombinacijama, a od klasičnih idioma po <u>*relativnoj*</u> transparentnosti značenja. (J. Marković 2018, 170) = mainly; certain; relatively; certain; relative

Examples (108) – (110) illustrate the use of approximation markers denoted above and their variety – here focusing on the adverbs *sporadično* (=sporadically), *uglavnom* (=usually), *relativno* (=relatively), *nešto* (=somewhat), adjectives *slično* (=similar), *izvesna* (=certain), *relativna* (=relative) and pronoun *neke* (=some).

[55] Engel and Mrazović also classify *nešto* under modal-graduative adverbs (1986, 751).

7.2.6 Evaluative Reference

Finally, evaluative reference is the least prominent strategy in this sub-corpus, with a total of 124 markers found (average of 8,9 markers per article), significantly less than English (see 7.1.6). As with the previous sub-corpus in English, this strategy encompasses expressions used to evaluate the strength of the current work, discussed against the background of previous work in the field by the authors in my corpus, as well as to express the stance of the authors towards knowledge that they use as reference for their own work.

Gaps in existing research

The first dimension in this strategy refers to forms indicating a gap in the existing research related to a particular field or topic, as well as how the existing research bridges that gap and contributes to the conversation. Gaps in the existing research are expressed through structurally-varied forms (12 markers) such as nominal and adjectival phrases, non-finite and finite clauses: *nedovoljno istraženu i nezasluženo zanemarenu oblast* (=under-researched and undeservedly neglected area), *bezrazložno zanemarena* (=needlessly neglected), *do sada se malo pažnje u literature posvećivalo* (=so far little attention has been given in literature), *nedovoljno ispitana u nauci* (=insufficiently examined in science), *nisu sistematski proučavane, tako da o tome postoji srazmerno mali broj studija* (=have not been systematically studied, so there are relatively few studies on it), *usled nedovoljne količine preciznih podataka o ovome* (=due to the insufficient amount of precise data on this), *ove specifičnosti su ukazale na potrebu za detaljnijim ispitivanjem* (=these specificities indicated the need for a more detailed examination). The use of adjectives indicating small quantities, such as *malo* (=small, little), as well as adjectives carrying negative connotations, such as *nedovoljno* (=insufficient), *zanemareno* (=neglected), *retko* (=rare) are supposed to indicate the lack of attention given to a specific area of research, as illustrated in example (111):

(111) *U retkim istraživanjima* eksperimentalno je ispitivana antonimija u kontekstu jedne reči, ali, koliko nam je poznato, do sada ne postoje *eksperimentalna istraživanja* antonima u rečeničnom kontekstu na materijalu srpskog jezika. (Jakić Šimšić and Vesić Pavlović 2020, 58) = in rare research; as far as we know, so far there are no experimental studies

Contribution of current research

The second dimension of evaluative reference includes the markers through which authors state the ways in which the article in question contributes to the research landscape. It is expressed through finite or non-finite clauses or complex adverbials of manner or purpose (9 markers):

kako bismo precizno rasvetlili ovo pitanje i upotpunili saznanja, preduzeto je ovo istraživanje (=in order to shed light on this issue and complete the findings, this research was undertaken), *želeli smo da preciznije utvrdimo* (=we wanted to determine more precisely). This dimension often combines evaluative reference with subjectivisation through the use of first-person plural to indicate the intended research to be done by the same authors. On the other hand, evaluative reference is also combined with depesonalisation, through metonymic agentivity given to an inanimate noun, such as *istraživanje* (=research): *ovo istraživanje je pionirsko nastojanje da se ustanovi* (=this research is a pioneering effort to establish), *ovo istraživanje će na nov način rasvetliti problem* (=this research will shed light on the problem in a new way), as illustrated in examples (112) and (113):

(112) *Rezultati istraživanja* *mogu biti upotrebljivi u pravcu potvrđivanja ili opovrgavanja nekih postavki u literaturi* u vezi sa percepcijom i identifikacijom reči, ali i *pružiti uvid u* *pravce pospešivanja* izrade materijala za nastavu tvorbene morfologije u srpskom jeziku i engleskom jeziku kao stranom. (V. Jovanović 2015, 163–164) = the results of the research can be usable for confirming or refuting some statements in the literature [...] and give a glimpse into

(113) S obzirom na to da su brojne studije pokazale da neadekvatne prozodijske karakteristike u velikoj meri negativno utiču na razumevanje govora stranih govornika, *empirijska studija ovakve vrste predstavlja prve korake ka* savladavanju ove teškoće u učenju engleskog jezika među izvornim govornicima srpskog jezika. (M. Marković 2011, 137) = an empirical study of this kind is a first step towards...

Failure to contribute and future research

On the other hand, if authors thought their own research was not contributing to the research area significantly, or if certain direction was not pursued, but left for future research, this dimension is expressed through the following markers, including non-finite and finite clauses (19 markers): *ali to zahteva drugačiju vrstu istraživanja* (=but that requires a different kind of research), *ali bi odgovor na ovo pitanje zahtevao i neka dodatna istraživanja* (=but the answer to this question would require some additional research), *kritička analiza diskursa mogla bi dati precizniji uvid* (=critical discourse analysis could provide a more precise insight), *ovo je tema koja zahteva detaljniju analizu, što ćemo ostaviti za sledeći rad* (=this is a topic that requires a more detailed analysis, which we will leave for the next paper), *ovom istraživanju bi trebalo posvetiti više pažnje* (=more attention should be paid to this research), *za potvrdu takvog stava potrebna su dodatna istraživanja* (=additional research is needed to confirm such a position), *u nekom budućem istraživanju trebalo bi analizirati* (=this should be analyzed in some future research), *u budućim istraživanjima svakako treba težiti* (=future research should certainly strive for). Example (114) presents a marker of intentions for future work:

(114) Imajući u vidu dobijene nalaze, <u>*postoje brojni mogući pravci za buduća istraživanja*</u>. (Jakić Šimšić and Vesić Pavlović 2020, 69) = there are many possible directions for future research

Comparison with previous research

The fourth dimension, as in the English sub-corpus (see 7.1.6), includes markers used to indicate how the current work of the authors (1) builds upon, or (2) is similar or different to the work of previous authors in the field, with a total of 33 markers found in the sub-corpus.

Type (1) is expressed through finite and non-finite clauses: *ovaj korpus već je korišćen kod [drugog autora]* (=this corpus was already used by [another author]), *podaci za ovu situaciju preuzeti su iz prethodnog istraživanja* (=data for this situation were taken from previous research), *primenjivali smo procedure koje se preporučuju u literaturi* (=we applied the procedures recommended in the literature), *ovaj uticaj je poznat na osnovu ispitivanja* (=this effect is known from research), *istraživanje koje su sproveli [autori] potvrdilo je nalaze ranijih istraživanja* (=the research conducted by [authors] confirmed the findings of earlier research), *ovaj rad je motivisan opažanjem [autora], sa kojim se možemo složiti* (=this paper is motivated by an observation made by [author], with which we can agree), *ne postoji potpuno slaganje autora po brojnim pitanjima* (=there is no complete agreement of the authors on numerous issues), *možemo zaključiti da neki autori smatraju* (=we can conclude that some authors consider); *nadovezujući se na tvrdnju [drugog autora]* (=building on [another author's] claim), *posmatrano sa stanovišta ove teorije* (=from the point of view of this theory), *kako je to u literaturi već utvrđeno* (=as it has already been established in the literature), *zahvaljujući ovim metodološkim neujednačenostima* (=due to these methodological inconsistencies), *po uzoru na istraživanja s kojima smo poredili naše rezultate* (=based on the research with which we compared our results), *kako to literatura sugeriše* (=as literature suggests). It can be seen that inanimate nouns such as *istraživanje* (=research) and *literatura* (=literature) are often mentioned, again giving agentivity to inanimate nouns.

Type (2) is expressed through nominal phrases: *najočiglednija je razlika* (=the most obvious difference is), *jedina razlika je* (=the only difference is), *ovo je potvrda našeg stava/pretpostavke* (=this is a confirmation of our position/assumption), *glavna razlika među njima je* (=the main difference between them is); adjectival phrases: *znatno manji od onih zabeleženih kod naših govornica* (=significantly smaller than those recorded with our respondents), *daleko manji nego kod naših govornica* (=far smaller than with our respondents), *veoma su slične realizacijama naših govornica* (=very similar to the realizations of our respondents), *donekle slične našim nalazima* (=somewhat similar to our findings), *slično našim* *govornicima* (=similar to our respondents), *razlika je izrazitija* (=the difference is more prominent), *približno je jednak našem* (=approximately equal to ours), *suprotno sugestiji [drugog autora]* (=contrary to [another author's] suggestion), *naši su opisi saglasni sa ranijim istraživanjima* (=our descriptions are consistent with earlier research); prepositional phrases: *za razliku od naših govornica, kod [drugog autora] je to* (=unlike our respondents, [other author] noted), *za razliku od prethodnih istraživanja* (=unlike previous research), *ovi nalazi su u skladu sa prethodnim istraživanjima* (=these findings are consistent with previous research), *u suprotnosti sa nalazima studije [drugog autora]* (=contrary to the findings of [another author's] study), *što nije u skladu sa nalazima [autora]* (=which is inconsistent with [author's] findings); verbal phrases: *razlikuje se od onih nađenih kod naših govornica* (=is different than those found with our respondents), *realizacije opisane u našem istraživanju razlikuju se od realizacija koje su opisali drugi autori* (=realizations described in our research differ from realizations described by other authors). In this dimension, the use of approximators is prominent, as well as adjectives describing similarities, consistencies, and differences.

(115) <u>*Na ovo je već ukazano u istraživanjima*</u> koja su uglavnom vršena na materijalu stranih jezika, ali i u nekim ispitivanjima srpskog jezika. (Sredojević and Subotić 2011, 123) = this was already mentioned in previous research...

(116) Međutim, <u>*za razliku od prethodnih istraživanja*</u>, ovim je istraživanjem ispitano i u kojim se segmentima upitni iskazi razlikuju od obaveštajnih iskaza, kao i da li su te razlike statistički, ali i perceptivno značajne. (Sredojević 2014, 112) = unlike previous research...

(117) <u>*Time su naši zaključci saglasni sa*</u> *zaključcima* do kojih su došli drugi istraživači na materijalu srpskog i hrvatskog jezika. (Sredojević and Subotić 2011, 123) = our conclusions are thereby consistent with the conclusions...

Example (115) illustrates how the research builds upon previous research, and examples (116) and (117) indicate the difference and the similarity, respectively, with previous research.

Evaluation of previous research

The fifth and final dimension of evaluative reference in this sub-corpus includes the combination of evaluative reference with markers of intensification (see section 7.2.4) to evaluate the work of other authors. Similarly to English sub-corpus (see 7.1.6), markers of intensification in this use are seen as evaluative of other author's work (29 markers). The majority of these markers include adjectival and nominal phrases: *svakako jedan od* <u>*najzanimljivijih*</u> *modela* (=certainly one of the <u>most interesting models</u>), *ono što je* <u>*važno za nas*</u> *je da ovaj model predviđa* (=what <u>is important for us</u> is that this model predicts), *ostavlja utisak da se* <u>*ne pravi jasna razlika*</u> (=gives the impression that <u>no clear distinction is made</u>), *situacija* <u>*nije ni blizu*</u> *tako jednostavna* (=the situation is <u>nowhere near as simple</u>), *ova ideja je* *pod znakom pitanja* (=this idea is questionable), *iznosi zapažanja koja smatramo korisnim za dalju diskusiju* (=gives observations that we consider useful for further discussion).

(118) *Iako ne izražavamo sumnju u tačnost rezultata merenja dvojice autora, njihova zapažanja prihvatamo s izvesnom dozom rezerve*. *Vrlo je verovatno* da je opisana fonetska realizacija fonološka realnost u oblastima iz kojih potiču neki od ispitanika, ali ne u svim. (Sredojević and Subotić 2011, 125) = although we do not doubt the accuracy of the measurement results of the two authors, we accept their observations with a certain amount of reserve; it is very likely...

As illustrated in example (118), this particular dimension of this strategy is not only supposed to evaluate the positive, but also the negative sides of previous research, as the authors state they are not doubting the results of the previous research, but taking them with a grain of salt.

Following the analysis of the Serbian sub-corpus, this chapter will close with the analysis of the final sub-corpus in this discipline, the German sub-corpus of articles.

7.3 Corpus analysis of articles in the field of linguistics written in German

The 10 articles comprising the sub-corpus of linguistics articles written in German deal with phonetics and phonology, morphology, discourse analysis and language use, multilingualism and bilingualism, semantics and modality, language and gender. The bibliographical data for these articles is given in Appendix 2. A total of 2442 markers has been identified in these 10 articles, and their distribution according to the six strategies, in terms of their absolute frequencies and percentage is given in Figure 10:

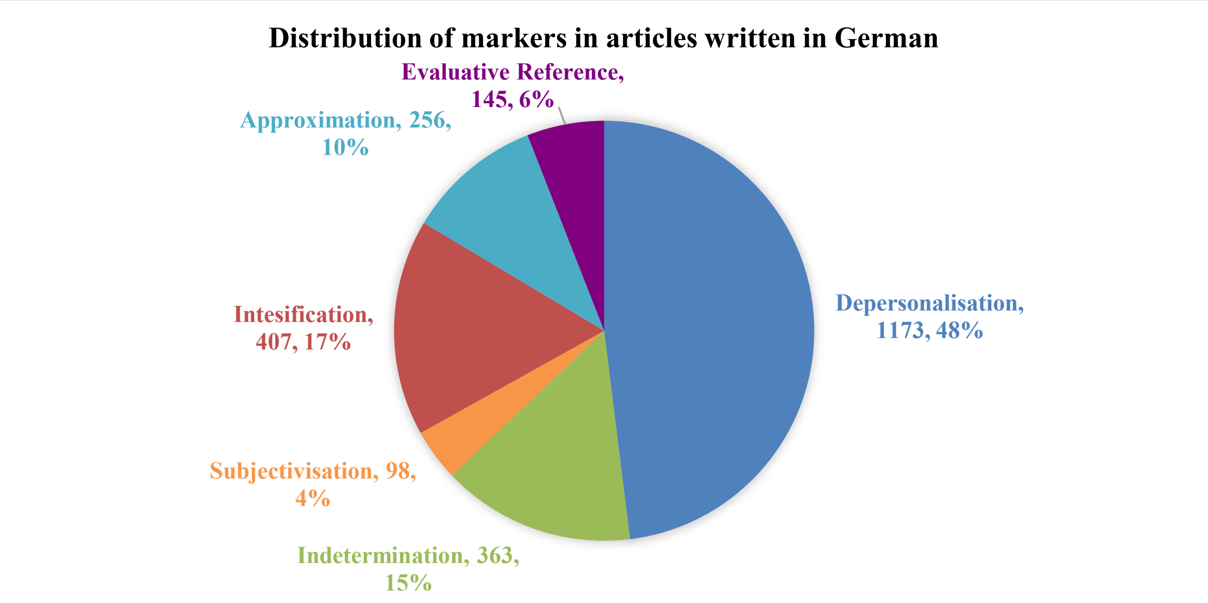

Figure 10: Distribution of stance markers in linguistic articles written in German (absolute frequencies)

The strategy of depersonalization is once again the most frequent strategy in this sub-corpus, while evaluative reference is once again the least frequently used, as seen in Figure 10.

7.3.1 Depersonalisation

As can be seen from Figure 10, the strategy of depersonalisation is by far the most frequent strategy in this sub-corpus, accounting for as much as 48% of all markers identified in this sub-corpus. With a total of 1173 markers, there are 117,3 markers on average per article. This number also includes the 508 markers of the passive voice.

Metonymic use of inanimate nouns

To start with, the markers featuring a metonymic use of an inanimate noun, preceded by a demonstrative determiner or a definite article are most frequent in this strategy. Similarly to the Serbian sub-corpus (see 7.2.1), the German sub-corpus also features nouns that vary in their degrees of abstractness ranging from fairly concrete ones such as *Untersuchung/Beitrag/Studie (investigation/contribution/study)*[56] as metonymically-based substitutes for the agents of the research instead of the authors of the paper, to abstract nouns such as *Ziel/Fokus (goal/focus)*, with a total of 197 markers identified. The following nouns can be found in the sub-corpus: *der folgende Beitrag befasst sich mit* (=the following article deals with), *die Untersuchung, die auf Korpusdaten basiert ist, soll prüfen* (=the corpus-based investigation should prove), *dieser Aufsatz ist ein Teil eines größeren Projekts, das sich zum Ziel gesetzt hat* (=this paper is a part of a larger project that aims to), *die Ergebnisse dienen* (=the results serve), *ermöglicht die Tabelle* (=the table enables), *diese Studie gezeigt hat* (=this study showed), *ermöglicht unser Korpus* (=our corpus enables), *dieses Ergebnis deutet darauf hin* (=this result suggests that), *die Analyse zeigt* (=the analysis shows), *zeigen die Ergebnisse* (=the results show), *die vorliegende Studie basiert auf diesen Einsichten und hat zum Ziel, herauszufinden* (=the present study is based on these insights and aims to find out), *die Studie zeigt* (=the study shows), *diese Studie konzentriert sich* (=this study focuses on), *wird die qualitative Untersuchung beschreiben* (=the qualitative investigation will describe), *diese Methode ermöglicht* (=this method enables), *diese Untersuchung arbeitet* (=this investigation operates), *ergeben die Daten* (=the data reveal), *dieses Ergebnis stärkt die These* (=this result strengthens

[56] The glosses provided do not necessarily encompass pragmatic meanings, but solely semantic meanings, as they are provided to ease comprehension and readability for readers who do not speak German (see also 8.3 and 9.3).

the thesis), *der Fokus des Artikels verlagert sich*[57] (=the focus of the article shifts), *die Beispiele zeigen* (=examples show), *die Forschung zeigt* (=research shows), *die qualitativen Befunde unterstützen* (=qualitative findings support), *der Rest des Artikels konzentriert auf* (=the remainder of the article focuses on*), die quantitative Analyse scheint zu zeigen* (=quantitative analysis appears to show), *die Forschungsfragen, denen diese Studie versucht, nachzukommen* (=the research question this study seeks to address), *weitere Hypothesen der Studie besagen, dass* (=further hypotheses of the study say that), *die Untersuchung erfolgte in zwei Teilen* (=the study was carried out in two parts), *das festgelegte Ziel der Teilstudie ist* (=the specified object of the sub-study is), *die Ergebnisse bestätigen die Hypothese* (=the results confirm the hypothesis), *das macht die Analyse von AS42 besonders anschaulich* (=the analysis of AS42 makes this particularly clear), *Untersuchungsgegenstand sind* (=the objectives of the study are), *Ziel war es* (=the goal was) etc. They are also illustrated in examples (119) – (122):

(119) *Der Artikel leistet* damit einen Beitrag zur Untersuchung der sprachlichen Universitätskultur und ist damit im Bereich der kulturanalytischen Linguistik verortet. (Acke 2019, 305) = the article makes a contribution...

(120) *Das Ergebnis einer Auszählung der in den 112 Texten des ersten Datensets verwendeten Nominalphrasen und Zuordnung zu den Gruppen ergibt* folgendes proportionales Bild: (Schroeder 2014, 31) = the result of counting the noun phrases used in the 112 texts of the first data set and assigning them to the groups...

(121) *Der vorliegende Artikel befasst sich mit* der Analyse solcher Texte, wie sie im *zitierten* Entführungsfall vorlagen. (Fobbe 2014, 198) = the article deals with...

(122) *Die Analyse hat auch gezeigt*, dass die Emittenten im Bereich der einfachen NP die Tilgung gegenüber dem Abbau markierter Kategorien bevorzugen. (Fobbe 2014, 218) = the analysis also showed...

Examples (119) – (122) offer an illustration of the metonymic use of nouns such as *Artikel/Ergebnis/Analyse* (=*article/result/analysis*) acting as agents of the research. Example (120) also illustrates the use of a noun *Auszählung,* derived from the verb *auszählen* with the suffix *-ung,* one of the most productive suffixes in German (Fleischer and Barz 2012, 225). Additional markers of verbal nouns, derived through the process of nominalisation – *Nominalisierung* (Duden 2022, 403) refer to the actions undertaken by the authors of the studies (indicated by the base verb) but their agency is covert: *[d]ie ersten Korpus-Beobachtungen führen uns* (=the first corpus observations lead us to), *Diskussion des theoretischen Rahmens* (=discussion of theoretical framework), *mit Berücksichtigung* (=with consideration), *im Vergleich der* (=in comparison to), *nach der Feststellung der* (=after the establishing of), *die Auswertung* (=the evaluation), *die Auswahl* (=the selection), *Durchführung der Studie*

[57] This example is one of co-reference (König and Gast 2018, 175), merging the agent and the patient, where *sich* can be replaced by an antecedent.

(=carrying out of the study), *die Überprüfung* (=the review), *bei der Betrachtung der* (=when looking at), *die Vorgehensweise bei* (=the procedure of), *zum Zweck der Klassifizierung* (=for the purpose of classification), *eine Differenzierung zeigt* (=a differentiation shows), *wichtiger für die Bewertung ist* (=more important for the evaluation is), *die Datenerhebung erfolgte* (=the data collection was done by), *nach Prüfung der Ergebnisse* (=after checking the results). These nouns have the role of an instrument, an inanimate entity which the agent uses to perform an action or instigate a process (Quirk et al. 1985, 743), as also illustrated in examples (123) – (125). While the first two nouns in (123) and (124) are not post-modified, the noun in (125) is post-modified by a prepositional phrase (*mit*+NP in Dative):

(123) *Ein Vergleich der verschiedenen analysierten Dokumente zeigt, dass* die Anzahl an geschlechtergerechten Personenbezeichnungen mit 95,7% in den *untersuchten* Amtlichen Mitteilungsblättern der Universitäten am höchsten ist. (Acke 2019, 313) = a comparison of...

(124) *Die Kategorisierung der* Sprecher hinsichtlich ihrer verwendeten Sprachlagen spiegelt sich mehr oder weniger in den Ergebnissen der phonetischen Analyse. (Schaufuß and Siebenhaar 2012, 104) = the categorisation of...

(125) *Ein Vergleich mit einigen authentischen Erpresserschreiben an anderer Stelle (Fobbe 2006) hat gezeigt, dass* Fehler, wie sie in den Beispielen (10)–(13) *zu finden sind*, auch in echten Schreiben auftreten, ganz so wie auch im eingangs zitierten Fall. (Fobbe 2014, 207) = a comparison of…

Participle constructions

Similarly to the two other sub-corpora, participles are used in the German sub-corpus as well, either (1) in reference to something done or mentioned as part of the research undertaken, previously in the article, with metadiscoursal organisational purposes or (2) acting as an adjective and closely explaining the actions conducted as part of the research. The first use is achieved through participle adjectives with an attributive function, acting as premodifiers of noun phrases: *oben formulierten* (=formulated above), *hier analysierten* (=analysed here), *oben beschriebene* (=above described), *hier angewandten* (=applied here), *hier untersuchten* (=researched here), *hier verwendete* (=used here), *hier herausgestellten* (=featured here), *hier vorgestellten* (=introduced here), *die oben geschilderte* (=described above), *hier etablierten* (=established here), *hier bereits beschriebenen* (=already described here), *oben dargestellte* (=shown above), oben berichtete (=reported above), denoted as parenthetical passive constructions in Fandrych and Graefen (2002, 24): *wie oben kurz erwähnt* (=as briefly mentioned above), *wie oben ausgeführt* (=as stated above), *wie oben argumentiert* (=as argumented above), *wie oben bereits gesagt* (=as already said above), *wie bereits angesprochen* (=as already mentioned), *wie erwartet* (=as expected), *wie vermutet* (=as assumed), *wie prognostiziert* (=as predicted) or with adverb of manner *erwartungsgemäß* (=as expected).

The second type is achieved through participle adjectives functioning as attributive constructions, as premodifiers in noun phrases: *herangezogenen synonymen Wörter* (=synonymous words used), *hier gewählten* (=chosen here), *die gesammelten Texte* (=the collected texts), *frequenzsortiert* (=sorted according to frequency), *die zwei untersuchten Diskursgenres* (=two discourse genres analysed), *besprochenen* (=discussed), *aufgestellte Behauptung* (=assertions made), *isoliert betrachteten* (=viewed in isolation), *alle aufgenommenen Probanden* (=all recorded subjects), *hintereinandergeschaltete* (=cascaded), *verwendeten Ebenen* (=levels used), *erwartbaren* (=expected), *das eben angeführte Beispiel* (=the example just given), *bei den untersuchten Sprechern* (=among the speakers studied), *zitierten* (=quoted), *mehrfach überprüfte* (=checked several times), *in den untersuchten Texten* (=in the texts researched), *den genannten Bedingungen* (=the conditions mentioned), *die vorgestellten Ergebnisse* (=the presented results), *der ausgewählten Beispiele* (=the chosen examples), *die beobachtete Diskrepanz* (=the observed discrepancy), *die hier verwendete Datensatz* (=the data set used here), *die zuvor beschriebenen* (=the previously described). A total of 124 markers containing participles is identified in the corpus, see example (126).

(126) *Die vier untersuchten sprachlichen Mittel* werden hier kurz erläutert und zum Sprechergeschlecht in Beziehung gesetzt. *Detailliertere Beschreibungen* sind in Tabelle 1 zu finden. (Schleef 2012, 4) = the four linguistic means examined; more detailed description

In example (126), the participial adjective acts as a premodifier of a noun phrase, while the verbal noun refers to the action undertaken by the authors of the study.

Impersonal constructions

Impersonal forms and clauses are also used as markers of depersonalisation. Firstly, this is achieved through the impersonal construction with the impersonal pronoun *man*, aimed at generalizing or not expressing details (Duden 2022, 760), with 14 markers found in the sub-corpus: *kann man von lexical sets sprechen* (=one can speak of lexical sets), *so könnte man sagen* (=one could say), *weiß man* (=one knows), *für den man vermutet* (=for which one suspects), *von denen man annimmt* (=of which one assumes). In relation to this, clauses can also be found in the corpus in which the third-person singular neutrum form is used as a semantically empty subject of the sentence (Duden 2022, 485), even though the syntactic subject does not need to be expressed in German (Kortmann 1998, 150): *es fällt sofort auf* (=it is immediately noticeable), *es zeigt sich hier* (=it is shown here), *es sei nur kurz erwähnt* (=it should only be mentioned briefly), *es ist […] noch nicht noch* [sic] *klar entscheidbar* (=it still cannot be clearly decided). These clauses have the same meaning even without the subject:

wird deutlich (=it is clear), *nachvollziehbar wird* (=is understandable), *wird kaum mehr möglich* (=is hardly possible anymore).

Three types of impersonal clauses found in the corpus, include, firstly, *um… zu* final clauses – *Finalsätze* (Duden 2022, 172), e.g. *um Antworten zu erhalten*, denoting a certain goal of the actions conducted in the research – illustrated here only by several examples, as all pertinent instances in my corpus serve the same purpose (23 markers):

(127) Im Folgenden werden phonetische Aspekte aus drei unterschiedlichen Aufnahmesituationen diskutiert, *um die Abgrenzung der von den Gewährspersonen genannten Sprachlagen auch in den Sprachdaten zu überprüfen*. (Schaufuß and Siebenhaar 2012, 98) = in order to...

(128) Zunächst wurden Sprachdaten erhoben, *um hieraus individuell-typologische Inventare von Diskurspartikeln zu erstellen*. (Pistor 2017, 56) = in order to...

(129) *Um dem Problem entgegentreten zu können*, müssen die relativen und nicht die absoluten Frequenzwerte dargestellt werden. (Pistor 2017, 60) = in order to...

The second type of impersonal clauses are those with the verb *lassen (sich)*[58], functioning as a passive substitute form (Duden 2022, 385), with 69 markers identified. It is "a typically German construction with no equivalent in English" (Clyne 1991, 58). Only several examples are given here, as they all serve the same purpose (130) – (133):

(130) Zusammenfassend *lässt sich also feststellen*: (Schaufuß and Siebenhaar 2012, 97) = it can be established

(131) Zumindest *lässt sich für die Perzeption die Annahme der potenziellen Universalität der hier vorgestellten prosodischen Einheiten auch für das Isländische bestätigen*. (Pistor 2017, 72) = it can be confirmed [...]

(132) *Es lassen sich drei Strategien identifizieren*, die nachfolgend anhand von Beispielen erläutert werden, nämlich: (Schroeder 2014, 34) = three strategies can be identified

(133) Nicht immer *lässt sich mit Sicherheit sagen*, was genau die Probanden mit ihrer Wahl markieren. (Fobbe 2014, 216) = it can be said with certainty

The third impersonal construction noted in this sub-corpus is the use of the copular verbs *sein (to be)* or *bleiben (to remain)* with the *zu* infinitive (Kreutz and Harres 1997, 188) in expressions such as: *ist zu vergleichen* (=is to be compared), *anzumerken ist* (=is to be noted), *zu erwarten ist* (=is to be expected*), zu betrachten ist* (=is to be considered), *sind zu werten* (=are to be evaluated), *bleibt festzuhalten* (=remains to establish), *ist zu erwarten* (=is to be expected), *zu schließen ist* (=is to be deduced), *zu untersuchen ist* (=is to be researched), *sind [...] zu sehen* (=are to be seen), *zu beobachten war* (=was to be observed), *bleibt [...] zu kennzeichnen* (=remains to be marked), *ist zu bewerten* (=is to be evaluated), *bleibt zu erwarten* (=remains to be expected), *ist davon auszugehen* (=it is to be assumed), *ist zu bemerken* (=it is to be noted) (121 markers). They indicate possibility or necessity of a passive process (Duden

[58] *Lassen sich* is not a traditional reflexive construction, but rather a middle voice construction leaning towards modal passives (König and Gast 2018, 162).

2022, 386), but in this context, they are interpreted as expressing intention of the authors. As can be seen in examples (134) and (135), the verb in the infinitive denotes the action that the authors intend to perform.

(134) Dementsprechend *ist auch der Transkription mit Vorbehalten zu begegnen*. (Schaufuß and Siebenhaar 2012, 98) = the transcription is also to be approached with reservations

(135) Hyperdialektalismen finden sich bei den untersuchten Gewährsleuten nicht. Auffällig ist, dass der Anteil dialektaler Formen bei einzelnen Gewährspersonen im Interview sogar höher ist als bei der Übersetzung in den Dialekt. Allerdings sind die dialektalen Formen lexikalisch gebunden. Das deutet darauf hin, dass der Dialekt als nicht mehr existent *zu beurteilen ist*. Sächsisch *ist damit nicht mehr als Dialekt zu beurteilen*, sondern als Substandard, der auf dialektale Elemente zurückgreift, ohne dass diese jedoch systematisch genutzt werden. (Schaufuß and Siebenhaar 2012, 101) = is to be assessed; can therefore no longer be considered a dialect

Lexical verbs

The lexical verb *gelten*[59] can also be seen as a marker of this strategy, as it refers to conclusions made by the authors about a certain phenomenon found in their research, as (136) and (137) illustrate, but this may not necessarily be the case in other examples:

(136) Die Nichtflexion von Nominativ Maskulinum und Neutrum sowie Akkusativ Neutrum innerhalb des Paradigmas *gilt als markiert*, da die Determinative üblicherweise Kasus und Genus markieren (vgl. Bittner 2006, 356). (Fobbe 2014, 216) = is considered marked

(137) In diesem Sinne kann die häufige Verwendung des Nullallomorphs nicht nur als systematisch durch das Paradigma der adjektivischen Wortgruppenflexion initiiert, *sondern auch als Vereinfachungsverfahren im Sinne eines Abbaus von Markiertheit gelten.* (Fobbe 2014, 217) = but is also considered a simplification procedure in the sense of a reduction of markedness

The lexical verb *zeigen (sich)*[60] (=*shows*) is found in reflexive constructions used by the authors to show their conclusions about certain phenomena found in their research, as illustrated in examples (138) – (143):

(138) Insgesamt *zeigt sich* im fiktionalen Text aber, dass die pränominale Position für possessive (und bedingt auch für subjektive) Genitive reserviert ist – das bedeutet aber wiederum nicht, dass possessive und subjektive Genitive nicht auch postnominal auftreten könnten. (Peter 2015, 217)

(139) Dies *zeigt sich* daran, dass Konstruktionen mit zwei Genitivattributen stark markiert sind: (Peter 2015, 220)

(140) Zusammenfassend *zeigt sich* also, dass bei den objektiven Genitiven, die in pränominaler Stellung auftreten, andere Lesarten sehr unwahrscheinlich sind. (Peter 2015, 221)

(141) Bei den verbleibenden Belegen *zeigen sich* in erster Linie informationsstrukturelle Besonderheiten. (Peter 2015, 227)

(142) Und in der Tat *zeigt sich, dass* diese Verben in der Regel mit etwas können paraphrasiert werden und häufig in Kombination mit können verwendet werden. (Sonnenhauser 2012, 67)

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[59] *gelten* = gültig sein, wert sein, als etwas angesehen werden, für etwas gehalten werden (Wahrig-Burfeind 2008, 594) – to be valid, to be worthy, to be seen as something, to be held for something, can be considered as

[60] However, it is more likely that the use of the *sich* form is not a reflexive pronoun, but rather indicating *middle voice* (König and Gast 2018, 177) and leaning towards modal passives (König and Gast 2018, 162).

(143) In Bezug auf die Frage der Produktivität *zeigt sich, dass* Bildungen wie (14) problemlos möglich sind und von den Informanten auch dann akzeptiert werden, wenn sie selbst die entsprechende Form noch nicht verwendet haben (auch der nicht-muttersprachliche Informant weist diese Intuition. (Sonnenhauser 2012, 73)

Passive voice I (Vorgangspassiv with werden)

Finally, as established above, the use of passive voice is much more prominent within this sub-corpus than in either of the two previous sub-corpora. The purpose of the use of passive voice is to report on the procedures conducted as a part of the research while not overtly mentioning the authors (form and content both convey the meaning of omitting explicit agency – a way to piggyback meaning, as per Levison 2000, 6). It therefore completely overshadows markers of subjectivisation, which are much less prominent in this sub-corpus (see section 7.3.3).

In the use of passive voice in German, unlike the two previous languages, it is very often the case that the passive voice is split, and the auxiliary verb *werden* is at the beginning of the clause, while the participle is all the way in the end, with multiple words in between. While there are straightforward examples where they are next to each other, there are also examples in which they are separated by more than 10 words[61] (e.g. *wurden einer Verarbeitungskette (bestehend aus HTML-Stripping, Sprachidentifikation, Satzsegmentierung sowie musterbasierten Tests auf Wohlgeformtheit) unterworfen* or *wurden strukturelle Marker sowie verschiedene Funktionen von Fragen, Frageanhängseln und turneinführenden Antwortsignalen ausgewählt*). For space purposes, these examples will be given omitting intervening material marked by angular brackets ([…]). They are still, however, tagged as one marker of depersonalisation. This *werden*-passive is referred to in German as *Vorgangspassiv*, indicating a process that is not completed. The examples that follow do not constitute a finite list, as they are abundant in this sub-corpus: *betrachtet werden* (=are considered), *formuliert werden* (=are formulated), *ermittelt werden* (=are determined), *wurden […] ausgewählt* (=were chosen), *gezählt wird* (=is counted), *werden […] entfernt* (=are removed), *wurden [...] addiert* (=were added up), *wurden […] einbezogen* (=were included), *wurde […] erstellt* (=was created), *wurde […] durchgeführt* (=was carried out), *wurden […] identifiziert* (=were identified), *wurde […] normalisiert* (=was normalised), *wurde […] berechnet* (=was calculated), *genutzt werden* (=are used), *wird hier argumentiert* (=is argued here), *wird […]*

[61] This is possibly related to the degree of freedom surrounding word order, which is rather rigid in English (with the SVO pattern) and rather free in German (Kortmann 1998, 149), with either verb-final or verb-second in German main clauses (Hawkins 1986, 48), while in subordinate clauses, German has (finite) verb-final ordering. In German, the finite verb (in the case of passive voice, the auxiliary verb) takes the second position (Hawkins 1986, 161), while the non-finite form takes the final position – SauxOV (Hawkins 1986, 48).

untersucht (=is examined), *werden […] besprochen* (=are discussed), *muss natürlich darauf hingewiesen werden* (=must of course be pointed out), *wird […] verwendet* (=is used), *wurden [...] gesammelt* (=were collected), *wurden [...] aufgenommen* (=were recorded), *wurden transkribiert* (=were transcribed), *berücksichtigt wurden* (=were taken into account), *wurden […] analysiert* (=were analysed), *wurden manuell annotiert* (=were manually annotated), *zugeordnet wurden* (=were assigned), *wurden die Daten normalisiert* (=the data were normalised), *wurde […] benutzt* (=was used), *wurden [...] gefunden* (=were found), *wurde festgestellt* (=was ascertained), *wird gezeigt werden* (=will be shown), *wird [...] kurz skizziert* (=is briefly outlined), *die schon oben hervorgehoben wurden* (=which have already been highlighted above), *gezeigt wurde* (=was shown), *wurde beobachtet* (=was observed), *wird hier die Frage gestellt* (=the question is asked here), *werden [...] beschrieben* (=are described), *wurden [...] überprüft* (=were checked), *wird angenommen* (=is assumed), *wird hier […] verstanden* (=is understood here), *klassifiziert werden* (=are classified), *wurden [...] befragt* (=were interviewed), *wurde [...] gefragt* (=was asked), *wurde sichergestellt* (=was made sure), *werden [...] bezeichnet* (=are designated), *wurden [...] kontaktiert* (=were contacted), *wurden [...] aufgezeichnet* (=were recorded), *wurden [...] überprüft* (=were checked), *wurden [...] gemessen und evaluiert* (=were measured and evaluated), *wurde [...] eliminiert* (=was eliminated), *wurden [...] zusammengefasst* (=were summarized), *wurden [...] festgelegt* (=were established), *wurde [...] definiert* (=was defined), *soll ermittlet werden* (=should be determined), *wurden erstellt* (=were created), *wurde begrenzt* (=was limited), *dargelegt wurde* (=was set forth), *bezeichnet wird* (=is referred to as), *wurden verglichen* (=were compared), *wurde [...] entwickelt* (=was developed), *werden [...] präsentiert* (=are presented), *wurde [...] geführt* (=was run), *wurden eingesetzt* (=were used), *wurden [...] transkribiert* (=were transcribed), *kategorisiert und vorgestellt werden* (=are categorized and presented), *wurden [...] unterteilt* (=were divided), *wurde [...] unterschieden* (=was differentiated), *wird [...] erfasst* (=is recorded), *gesucht wurde* (=was searched), *wurden [...] extrahiert* (=were extracted), *ausgeschlossen werden* (=are excluded), *wurden [...] diskutiert* (=were discussed), *wird interpretiert* (=is interpreted), *getestet wurden* (=were tested).

As examples (144) – (146) illustrate, passive constructions tend to cluster in the description of procedures conducted by the authors:

(144) Basierend auf diesem Korpus *werden nun Nachbarschaftskookkurrenzen mit dem Log-Likelihood-Maß berechnet* (Heyer/Quasthoff/Wittig 2005). Für die attributive Verwendung von vorzüglich *werden deshalb die statistisch auffälligen rechten Nachbarn der Wortformen vorzügliche, vorzüglichen, vorzüglicher und vorzügliches gesucht*. Die Einschränkung auf Substantive als rechte Nachbarn *wird der Einfachheit halber durch die Forderung nach einem*

großen Anfangsbuchstaben ersetzt. (Dalmas et al. 2015, 17) = are […] calculated; are […] looked for; is […] replaced

(145) In den folgenden Absätzen *werden diese Grundannahmen detaillierter beschrieben*. (Schleef 2012, 2) = are [...] described

(146) Auf der phonologischen, der funktionalen Ebene der Prosodie *werden nach dem hier angewandten Modell prosodische Einheiten beschrieben*, die auf prosodischen Merkmalen beruhen und auf der lexikalischen Ebene distinktive Funktion tragen. Auf der postlexikalischen Ebene kann die Funktion redeorganisatorischer, syntaktischer und emotionaler Art sein. Die Einheiten *werden aufgrund ihrer Ausdehnung, ihrer Art und Weise der Form-Funktionszuordnung und ihrem primären auditiven Korrelat eingeteilt*. Die relevanten prosodischen Einheiten dieser Arbeit sind lokale Intonationsmuster, die als diskrete prosodische Einheiten auf der Äußerungsebene *beschrieben werden können*. (Pistor 2017, 48) = are […] described; are […] classified; can be described

As can be seen from example (146), the passive voice is also often preceded by modal verbs, but these are not always seen as a double marker of indetermination, as will be discussed in greater detail in Chapter 7.3.2. Examples of modal passive voice include uses of circumstantial possibility or dispositional possibility (König and Gast 2018, 107), in which case it is not an example of an epistemic modal indicating the author's point of view (see sub-chapter 2.5.2 on modality): *gefunden werden kann* (=can be found), *erreicht werden konnte* (=could be reached), *kann also festgestellt werden* (=can therefore be ascertained), *konnte so allerdings nicht bestätigt werden* (=could however not be confirmed), *können [...] zusammengefasst werden* (=can be summarized), *zugeordnet werden konnten* (=could be assigned), *konnten [...] ermittelt werden* (=could be determined), *können [...] beobachtet werden* (=can be observed), *verstanden werden können* (=can be understood), *kann [...] angenommen werden* (=can be assumed as), *kann [...] angesehen werden* (=can be viewed as), *interpretiert werden kann* (=can be interpreted), *kann [...] verglichen werden* (=can be compared), *können gebildet werden* (=can be formed), *angesetzt werden konnten* (=could be scheduled), *kategorisiert werden können* (=can be categorised), *vermutet werden kann* (=can be assumed), *kann erwartet werden* (=can be expected), *konnte gezeigt werden* (=could be shown), or intention in *sollte [...] erhoben werden* (=will be raised), *soll [...] bearbeitet werden* (=will be edited), *soll [...] diskutiert werden* (=will be discussed), *soll [...] überprüft werden* (=will be checked).

Passive voice II (Zustandspassiv with sein)

Finally, the passive voice with the auxiliary verb *sein* (to be) (i.e. *Zustandspassiv*) is also prominent in this sub-corpus and an important part of the strategy of depersonalisation, as seen in examples such as: *entnommen ist* (=is taken), *basiert ist* (=is based), *ist aufgebaut* (=is built), *ist vorausgegangen* (=has preceeded), *waren verteilt* (=were distributed), *vonnöten sind* (=are needed), *sind aufgeteilt* (=are divided), *sind zugeordnet* (=are assigned), *sind ausgeschlossen*

(=are excluded), *praesupponiert ist* (=is presupposed), *ist angesprochen* (=is addressed), *sind nicht berücksichtigt* (=are not included) etc. This kind of passive indicates that the action is completed, and the copula construction focuses on the resultant state. As the process-related agent is only relevant if it is characteristic of this resultant state in some way, this type of construction can be seen as a predicative structure consisting of a copular verb and a participial adjective, rather than a passive construction (Duden 2022, 387), evidenced by example (147):

(147) Im Falle unserer Untersuchung, die als Pilotstudie *konzipiert ist*, kommt hinzu, dass in erster Linie intendiert war, Verfahrensweisen und Instrumente auf ihre Verwendungstauglichkeit zu testen. (Duarte et al. 2014, 82) = is designed

7.3.2 Indetermination

Indetermination is the third most frequently used strategy in this sub-corpus, with a total of 363 markers found (an average of 36,3 markers per article). It can be noted that the majority of the coded segments in this strategy are expressed through modality, and similarly to English and Serbian data (see 7.1.2 and 7.2.2), they are used to indicate possibility and probability regarding author's own findings (differing from evaluative reference in 7.3.6).

Modal verbs

The most notable usage includes the modal verb *können* (=*can* and its distal form =*could*), indicating possibility or assumption (Duden 2022, 229; Helbig and Buscha 1981, 110), which can be found in abundance across the sub-corpus: *kann/könnte sein* (=can/could be), *haben könnte* (=could have), *erklären können* (=can explain), *es kann durchaus sein* (=it may well be), *bezeichnet werden kann* (=can be designated), *könnte [...] bestehen* (=could consist of), *können hier gelten* (=can apply here), *kann [...] interpretiert werden* (=can be interpreted), *werden konnte* (=could become), *beitragen können* (=can contribute), *kann nützlich sein* (=can be useful), *können in Verbindung stehen* (=can be related), *können genutzt werden* (=can be used), *kann [...] in Verbindung gebracht werden* (=can be linked), *kann erwartet werden* (=can be expected), *kann [...] ausdrücken* (=can express), *transferieren können* (=can transfer), *können erzielen* (=can achieve), *kann haben* (=can have), *kann als [...] interpretiert werden* (=can be interpreted as), *erscheinen können* (=can appear), *können erarbeiten* (=can elaborate), *indizieren kann* (=can index), *was andeuten könnte* (=what might imply), *geschaffen werden können* (=can be created), *konnten [...] ermittelt werden* (=could be determined), *aufgefasst werden kann* (=can be grasped), *übersteigen kann* (=can exceed), *konnten [...] abgeleitet werden* (=could be derived), *vorkommen könnte* (=could happen), *kann [...] variiert werden*

(=can be varied), *können auch in Kombination auftreten* (=can also occur in combination), *kann aktiviert werden* (=can be activated), kann [...] enthalten (=can contain), *kann gelingen* (=can succeed), *kann es auch sein* (=it can also be), *zu [...] führen kann* (=can lead to), *könnte [...] veranlasst sein* (=could be caused), *was ein Grund dafür sein könnte* (=which could be a reason for this), *verantwortlich sein könnten* (=could be responsible), *könnte eine Rolle spielen* (=could play a role), *angenommen werden können* (=can be accepted), *beeinflussen können* (=can influence). These examples, as abundant as they seem, are only a small portion of all the forms marked in the sub-corpus. All the forms of the verb *können* are supposed to signal epistemic possibility, as one of the most salient hedging devices in German (Clemen 1998; Kreutz and Harres 1997), as also illustrated in examples (148) and (149):

(148) *So können sowohl die thematische Domäne als auch die Diskurspraxis eine entscheidende Rolle bei der Wahl des einen oder anderen Lexems (in unserem Fall eines Adjektivs der ›sehr gut‹-Semantik) in einem bestimmten Kontext spielen*. (Dalmas et al. 2015, 23) = can play […] a crucial role in a particular content

(149) Im Gegensatz dazu *können orate Äußerungen satzförmig realisiert werden*, müssen dies jedoch nicht. Auch *kann die Möglichkeit zur Sprachplanung im schriftlichen Text zu einer Erhöhung der Dichte an Informationen genutzt werden* (vgl. ebd., S. 106). Die Informationsdichte einer Äußerung oder eines Satzes richtet sich nach den darin enthaltenen Prädikationen. So *kann das Verhältnis der Anzahl der syntaktischen Prädikate zur Anzahl der nominalen Ergänzungen Auskunft über dessen literate oder orate Orientierung geben* (vgl. ebd., S. 113). Auch *können sogenannte ›sekundäre Prädikationen‹ weitere Informationen in eine Äußerung einbringen und somit zu einer Verdichtung von Informationen führen* (vgl. Maas 2008, S. 342). (Schroeder 2014, 25) = can be use; can provide information; can lead to

The modal verb *können* is not the only one present in the corpus, as other modal verbs can also be found: *dürfen – dürften [...] die wichtigere Rolle zukommen* (=should play the more important role), *dürfte uns weiterhelfen* (=should help us), *darf angenommen werden* (=may be accepted), as it expresses an assumption (Helbig and Buscha 1981, 109); *sollen – beitragen sollen* (=should contribute), *soll […] eine Rolle spielen* (=should play a role). This use of *sollen* relates to evidentiality, as it expresses the state of speaker's knowledge and resembles epistemic meaning (Duden 2022, 230; König and Gast 2018, 109), meaning something along the lines of *it is supposed to* (Fandrych and Graefen 2002, 31), further emphasized by the use of *Konjunktiv II* (König and Gast 2018, 112); *mögen – warum das so sein mag* (=why that might be), *auch wenn sie [...] abgeleitet sein mag* (=even if it may be derived), *mag zusammenhängen* (=may be related), *dies mag erklären* (=this may explain), expressing an assumption (Helbig and Buscha 1981, 110). These modals are used to denote possible predictions and assumptions by the authors, and to offer tentative claims, realised by a total of 169 markers with modal verbs in the sub-corpus. Example (150) illustrates the use of the modal verb *dürfen* denoting epistemic possibility meaning, especially in combination with *Konjunktiv II* (Duden 2022, 230), which indicates an epistemic meaning (König and Gast 2018, 112):

(150) Unser Befund stützt eher die auf theoretischen Erwägungen (Cummins 2000) und Ergebnissen früherer Untersuchungen (Durgunoglu u. a. 2002; August/Shanahan 2006) beruhende Vermutung, dass für die Herausbildung bildungsrelevanter Fähigkeiten in der Majoritätssprache der häusliche Input <u>*einen geringen Einfluss haben dürfte*</u>, u.a. weil diese Kompetenzen in den Familien eher selten vorausgesetzt werden können. (Duarte et al. 2014, 81) =should have little impact

Konjunktiv II

Konjunktiv II can also be found in this corpus (17 markers), especially of the auxiliary verb *sein* (=to be) in an independent declarative clause, which is used to attenuate claims by indicating a hidden potential or unreal condition (Duden 2022, 237), as Konjunktiv II expresses “greater tentativeness and less certainty” than the indicative (König and Gast 2018, 113): *wäre ein Lösungsvorschlag* (=would be a solution), *es wäre wünschenswert* (=it would be desirable), *stark markiert wären* (=would be heavily marked), *inferierbar wäre* (=would be inferrable), *wäre dies ein potentieller Hinweis* (=this would be a potential clue). Konjunktiv II of the verbs *haben* (=have): *beeinflusst hätte* (=would have influences) and *werden* (=become or will) can also be found: *anzeigen würde* (=would show), *würde [...] führen* (=would lead to), *würde [...] erklären* (=would explain). Examples (151) and (152) illustrate hypothetical situations with Konjunktiv II being used in both the conditional clause and the main clause (Duden 2022, 237).

(151) Eine solche Fehlerhäufung <u>*würde,*</u> *wenn man die kognitive Belastung einer bewussten Fehlerproduktion* <u>*berücksichtigt*</u>, eine zusätzliche Anstrengung bedeuten, die <u>*vermeidbar wäre*</u> und die, wie bereits gezeigt wurde, durch einen einfachen Genuswechsel auch vermieden wird. (Fobbe 2014, 216) = would [...] be, if [...] is taken into account; could be avoided

(152) <u>*Würde allein dieser fiktionale Text untersucht, läge der Schluss nahe*</u>, die pränominale Position könne ausschließlich von Personennamen besetzt werden. (Peter 2015, 215) = if this fictional text alone were examined, the conclusion would be...

Lexical epistemic verbs

It is not only modal verbs which can be used as a part of this strategy, but also lexical epistemic verbs (65 markers). Among these, the most prominent are verbs *scheinen* (=seem) and *erscheinen* (=appear), which can also be markers of evidentiality (Diewald and Smirnova 2010, 1) and are used to attentuate claims: *ausreichend scheint* (=seems sufficient), *zu funktionieren scheint* (=seems to work), *so scheint es doch, dass* (=it seems that), *scheint diese Ergebnisse zu unterstützen* (=seems to support these results), *scheint vor allem entscheidend* (=seems particularly important), *scheint [...] verantwortlich zu sein* (=seems to be responsible), *scheint präferiert zu werden* (=seems to be preferred), *scheint [...] möglich zu sein* (=seems to be possible), *scheint [...] plausibel* (=seems plausible), *scheint [...] wahrscheinlicher* (=seems more likely); *erscheint deutlich höher* (=appears significantly higher), *erscheint stärker ausgeprägt* (=appears more pronounced), *erscheint als entsprechend problematisch* (=appears to be correspondingly problematic), as illustrated in examples (153) and (154):

(153) *Die quantitative Analyse scheint jedoch zu zeigen, dass* Lehrende und Studierende selten ihre Identitätsressourcen ausschöpfen und hauptsächlich von ihrer institutionellen Rolle und den damit verbundenen Diskursrestriktionen (z. B. in Bezug auf Sprecherrolle und akademische Disziplin) beeinflusst werden, die sie auf engere situationsgebundene Identitäten und Rollen eingrenzen. (Schleef 2012, 30) = however, the quantitative analysis seems to show that...

(154) Diese Vermutung *scheint zunächst durch das häufige Vorkommen von Resultat in den Paraphrasierungen bestätigt*. (Sonnehauser 2012, 75) = seems initially confirmed [...]

Another very prominent lexical verb found in this sub-corpus is *nahelegen* (=suggest), which is also used to attenuate claims (as also seen in example (153) above and example (155) below): *legen auch eine andere Möglichkeit nahe* (=suggest another possibility), *legen die Vermutung nahe* (=suggest in assumption), *sie legt die Annahme nahe* (=it suggests the assumption). Two other prominent lexical verbs are *hinweisen* and *hindeuten* (=to indicate/suggest): *was darauf hinweist* (=which indicates), *das deutet darauf hin* (=this suggests), *deutet auch die Tatsache hin* (=also indicates the fact), *dieses Ergebnis deutet darauf hin* (=this result indicates), and their nominal forms: *auch finden sich Hinweise darauf* (=there are also indications), *es gibt Hinweise darauf* (=there are indications) and the noun *Indiz***.** Finally, a marker of this strategy is seen in the verb *tendieren* and its adverbial and nominal forms *tendenziell* and *Tendenz*.

(155) Diese Texte *legen durch ihre Fehlerhaftigkeit nahe, dass* sie nicht von Sprechern des Deutschen stammen sondern von Nicht-Muttersprachlern mit einer geringen Sprachkompetenz im Deutschen. (Fobbe 2014, 198) = suggest by their error that...

Modal adverbs and adjectives

Furthermore, both adjectives and adverbs are used to express indetermination in this sub-corpus. Modal adverbs (*epistemische Satzadverbien*), indicating authors' assessments (Duden 2022, 799) include i.a *wahrscheinlich* (=probably, presumably), *vermutlich* (=presumably), *womöglich* (=possibly), *möglicherweise* (=possibly, illustrated in example (156) below), *theoretisch* (=theoretically), *eventuell* (=probably), *potenziell/potentiell* (=potentially), *gegebenenfalls* (=possibly), *nicht notwendigerweise* (=not necessarily), *vielleicht* (=perhaps), *hypothetisch* (=hypothetically), *scheinbar* (=seemingly), summing up to a total of 63 markers[62].

[62] Engel and Mrazović classify *möglicherweise* and *vermutlich* as modal particles (1986, 910) and *womöglich* as a ranging particle (1986, 915) – both categories serve to express the speaker's stance towards the proposition; Weinrich classifies *möglicherweise, womöglich, vielleicht, wahrscheinlich, scheinbar, eventuell, vermutlich* as adverbs of validity (*Geltungs-Adverbien*) (2005, 599).

These modal adverbs are often combined with the verb *können*: *kann vermutlich, kann möglicherweise,* as illustrated in example (157):

(156) <u>*Möglicherweise*</u> wird diese Tendenz in den uns vorliegenden Texten aber eben auch dadurch verstärkt (oder kommt dadurch zustande), dass die Schreiberinnen und Schreiber wissen, dass literate Strukturen sich eben auch durch eine höhere Explizitheit auszeichnen, u.a. in der Besetzung von Argumentstellen des Verbs, die in der (konzeptuellen) Mündlichkeit ko(n)textuell rekonstruiert werden dürfen. (Schroeder 2014, 38) = possibly

(157) Dieser Eindruck <u>*kann möglicherweise*</u> auf die Art der Datenerhebung, die seinem und den anderen hier vorgestellten Ansätzen zugrunde zu liegen scheint, zurückgeführt werden. (Sonnenhauser 2012, 68) = can possibly

Modal adjectives are also found in the corpus (22 markers): *mögliche(n)* (=possible), *möglich ist* (=is possible), *zwar prinzipiell möglich* (=possible in principle), as well as modal nouns: *mit großer/hoher Wahrscheinlichkeit* (=with a high probability), *unter der Annahme, dass* (=under the assumption, that), *die Vermutung, dass* (=the presumption that).

Another adjectival structure found in the data includes adjectives with the suffix *-bar*, as these also have a modal function (König and Gast 2018, 99): *vergleichbar sind* (=are comparable), *übertragbar sind* (=are transferrable), *entscheidbar* (=decidable), *sind denkbar* (=are conceivable), *ist erkennbar* (=is recognisable), *konzipierbar* (=conceivable). This suffix indicates that there is a possibility of something happening, as the object has the ability of being compared, conceived, recognised etc. Such adjectives correspond to the modal passive (*Vorgangspassiv*) with the modal verb *können* (Duden 2022, 386), and have a passive-modal meaning when derived from transitive verbs (Fleischer and Barz 2012, 333). According to Fleischer and Barz (2012, 332), this suffix enriches the possibilities of passive expression and is primarily a model for the formation of syntactic alternative constructions, as illustrated in example (158):

(158) Aber selbst Belege mit nur einem Genitivattribut in subjektiver Lesart <u>*sind denkbar*</u>: (Peter 2015, 219) = are conceivable

Combinations

Finally, as indicated in sub-chapter 7.3.1, there are many cases of double markers in this sub-corpus. These include the combination of indetermination and depersonalisation through the use of passive voice, used to indicate both the possibility and to not express the agent overtly: *kann betrachtet werden* (=can be viewed), *können formuliert werden* (=can be formulated), *charakterisiert werden können* (=can be characterised), *erklärt werden können* (=can be explained), *kann festgestellt werden* (=can be ascertained), *beschrieben werden können* (=can be described), *konnten beobachtet werden* (=could be observed), interpretiert werden kann

(=can be interpreted), kann verglichen werden (=can be compared), *identifiziert werden können* (=can be identified), *vermutet werden kann* (=can be presumed). The modal passive is illustrated in examples (159) and (160) as a part of scientific jargon in German (Clemen 1998):

(159) Die 22 finalen Diskurspartikeln *können durch die Betrachtung der Verbalisierungen und Kontextangaben in der Hörerrolle zunächst zu den folgenden vier Funktionsklassen zusammengefasst werden*: „Reaktionssignal", „Turnhalten", „Quittieren" und „positive Bewertung". (Pistor 2017, 60) = can [...] be summarized

(160) Die Konnexion von lokal steigendem Intonationsmuster und Fragesatzintonation *kann als Ursache für die differenten Ergebnisse des Isländischen im Vergleich zu den anderen erhobenen Sprachen angesehen werden.* (Pistor 2017, 71) = can be seen as...

However, indetermination and depersonalisation are also combined in impersonal constructions containing the impersonal pronoun *man*: *so kann man feststellen* (=so one can determine), *kann man von lexical sets sprechen* (=one can speak of lexical sets), *so könnte man sagen* (=so one could say), *wie man annehmen könnte* (=as one might assume), *man sollte annehmen* (=one should assume), and in examples without this impersonal form such as: *ist davon auszugehen* (=it is to be assumed), *wird angenommen, dass* (=it is assumed that). In addition, the strategy of indetermination is combined with the strategy of subjectivisation, as in the example: *so können wir davon ausgehen* (=so we can assume), which will be discussed in the following sub-chapter (7.3.3).

7.3.3 Subjectivisation

Subjectivisation is used significantly less frequently than depersonalisation in this sub-corpus, with only 98 markers found. This constitutes just under 4% of all markers identified in this sub-corpus and an average of 9,8 markers per article. Based on this difference in frequency, it can be said that German authors in this discipline prefer covert, rather than overt techniques of reporting, as they tend to use fewer personalised statements (Siepmann 2006, 143). Out of these 10 articles, there were 4 in which no subjectivisation markers are used at all.

First-person singular

As with the two previous sub-corpora, an overt marker of subjectivisation is the use of first-person pronouns, as well as possessive determiners and pronouns, as an explicit way in which the authors insert themselves into the text. In German, this is the use of first-person singular pronoun *ich* in nominative case, *mich* in the accusative case, and *mir* in the dative case, as well as the first-person plural pronouns *wir* in the nominative case and *uns* in the dative and the accusative case.[63]

The first-person singular in all three cases is used to describe the actions undertaken as part of the research, when it concerns only one author, in expressions such as: *beschäftige ich mich* (=I deal with), *widme ich mich* (=I dedicate myself to), *analysiere ich* (=I analyse), *ich untersuche* (=I research/analyse), *ich stelle [...] vor und analysiere* (=I introduce and analyse), *gebe ich* (=I give), *konzentriere ich mich* (=I focus on), *werfe ich [...] einen Blick auf* (=I take a look at). The majority of the expressions are in the present tense, to describe the processes that are taking place as part of the research, as illustrated in example (161):

(161) Diese Varietät *möchte ich im Weiteren fingierte Lernersprache nennen*. (Fobbe 2014, 198) = I would like to call this fictitious learner language

When the authors use the present perfect (with reference to past events), it is used to refer to actions taking place before the research, or to refer back to certain parts of the research undertaken (e.g. in repeating the actions in the conclusion): *habe ich mich entschieden* (=I decided to), *habe ich [...] untersucht* (=I researched), *habe ich [...] ausgewählt* (=I chose), *habe ich [...] herausgesucht* (=I picked out), *ich bisher argumentiert habe* (=I argued until now). The future tense is used as an organisational metadiscourse marker, in which the author talks about the actions about to take place in the paper related to the research that was done: *werde ich im Folgenden diese Behauptung relativieren* (=I will qualify this claim below).

First-person plural

The first-person plural is more common in this corpus, as it is used in both single-authored and multiple-authored articles. The present tense is used to describe the processes that are taking place as part of the research: *geht es uns im Rahmen eines größeren Projekts darum* (=we are concerned with this as part of a larger project), *wir teilen diesen Standpunkt nicht* (=we do not share this point of view), *bringen wir hier einige Beispiele* (=we give here some examples), *beschränken uns* (=limit us), *beschränken wir uns* (=we limit ourselves), *möchten wir* (=we want), *wir betrachten* (=we consider), *wir planen* (=we plan), *haben wir noch einen langen Weg vor uns* (=we still have a long way ahead of us), *wir beginnen hier mit* (=we start here with), *die uns hier vorrangig interessieren* (=which are of primary interest to us here), *so können wir davon ausgehen* (=so we can assume), *nehmen wir* (=we take), *sehen wir* (=we

[63] As mentioned above for Serbian (see 7.2.3), German also makes a distinction in the case system among Nominative, Genitive, Dative and Accusative case (Kortmann 1998, 146).

see), *stellen wir [...] fest* (=we notice), *widmen wir uns* (=we dedicate ourselves to), *wir suchen* (=we are looking for), *wir ordnen* (=we arrange), *wir untersuchen* (=we investigate), *so finden wir* (=so we find), *werfen wir einen Blick auf* (=we take a look at), *konzentrieren wir uns auf* (=we focus on), *wir nehmen daher an* (=we therefore accept), *erwarten wir* (=we expect), *vermuten wir daher* (=we therefore assume), *operationalisieren wir* (=we operationalize), *wir nicht davon ausgehen* (=we do not assume), *der von uns verwendete Indikator* (=the indicator used by us). Examples (162) illustrates the use of present tense in markers of subjectivisation to denote what the authors intend to research, while example (163) illustrates the description of the research process:

(162) Durch unsere Ergebnisse *möchten wir* eine erste Antwort auf folgende, sprachtheoretisch höchst relevante Frage geben: (Dalmas et al. 2015, 12–13) = we would like to...
(163) Als familiale Sprachpraxis *operationalisieren wir* die Einschätzung (Eltern-angaben) der Sprachverwendung in den Interaktionen der Mitglieder der Kernfamilie. (Duarte et al. 2014, 74) = we operationalise

On the other hand, the past tense or present perfect is used as reference to actions taking place before the research, or to certain parts of the research undertaken (e.g. in repeating the actions in the conclusion): *wie wir gerade festgestellt haben* (=as we have just established), *wir konnten nicht zeigen* (=we could not show), *wir haben uns beschränkt* (=we limited ourselves), *wir nun feststellen konnten* (=we could now determine), *das ist von uns so nicht erwartet worden* (=we didn't expect that), *konnten wir [...] feststellen* (=we were able to determine).

Finally, the future tense is used for organisational metadiscoursal purposes, when the author discusses the actions about to take place in the paper related to the research that was done: *wir werden (im Folgenden) zeigen* (=we will show (below)), *wir im Folgenden näher eingehen werden* (=we will go into more detail below), *wir werden weiter unten darauf eingehen* (=we will get into that below).

NP [Possessive determiner + $N_{(inanimate)}$]

Another characteristic structure of subjectivisation are possessive determiners *unser(e/es/en/em)* and *mein(e/es/en/em)*, followed by and inanimate noun: *unsere Arbeitshypothese* (=our working hypothesis), *unsere Untersuchung* (=our investigation), *unsere Ausgangshypothesen* (=our initial hypotheses), *unser Korpus* (=our corpus), *unsere Hypothese* (=our hypothesis), *in unserem Fall* (=in our case), *in meine Untersuchung* (=in my research), *in meinem Untersuchungsmaterial* (=in my research material), *meines Erachtens* (=my opinion), *meine Analyse* (=my analysis), *meine Ergebnisse* (=my results), *unsere Studie*

(=our study), *unser Befund* (=our finding), *unsere Ergebnisse* (=our results), *im Falle unserer Untersuchung* (=in the case of our investigation), *unsere Fragestellungen* (=our questions), *unsere Analysen* (=our analyses), as illustrated in example (164):

(164) *In unseren Hypothesen* *waren wir davon ausgegangen*, dass bei Kontrolle der Qualität des deutschsprachigen Inputs der Effekt des quantitativen Inputs schwächer wird. (Duarte et al. 2014, 77) = in our hypothesis we assumed that...

As in my English and Serbian data, authors use the possessive determiners to highlight that their findings might only be characteristic of their own results and their own presuppositions, as well as to directly claim ownership of them, as illustrated in example (164).

7.3.4 Intensification

Intensification is the second most prominent strategy in this sub-corpus, with a total of 407 markers found (an average of 40,7 markers per article). Intensification markers are either used to expressing the authors' attitude by evaluating a statement (attitude markers), or to denote the certainty of the author, by emphasising a particular statement (certainty markers).

Attitude markers

The former dimension of qualification, constituting attitude markers used to evaluate a notion, is expressed mainly through adjectives: *wichtige Merkmale* (=important characteristics), *wichtiges Element* (=important element), *eine wichtige Funktion* (=an important function), *eine wichtige Verbindung* (=an important connection), *die wichtigsten* (=the most important), *interessante Eigenschaften* (=interessting properties), *interessanten Überblick* (=interesting overview), *notwendige Voraussetzung* (=necessary requirement), *eine prominente Rolle* (=a prominent role), *große Unterschiede* (=big differences), *grundlegend* (=fundamental), *auffällig* (=noticeable), *so genannte* (=so-called), *signifikant* (=significant), *nötig* (=necessary), *schwierig* (=difficult), *bemerkenswert* (=remarkable), *gewisse* (=certain), *deutlich* (=clear), *drastisch* (=drastic), *entscheidend* (=decisive), *verwirrend* (=confusing), *marginal* (=marginal), *klare* (=clear), *bedeutsam* (=significant), *vorrangig* (=of priority), *der vitalsten* (=the most vital), *deutliche Unterschiede* (=clear differences), *ein besonderes Phänomen* (=a special phenomenon), *markante Unterschiede* (=striking differences), *zunehmend an Bedeutung gewinnen* (=are becoming increasingly important), *augenfällig* (=obvious), *offenkundig* (=evident), *fragwürdig* (=questionable), *offenbar* (=apparent), *naheliegend* (=obvious), *einen beträchtlichen Anteil* (=a considerable portion), *überraschend* (=surprising), *unklar*

(=unclear), *auffallend* (=striking), *um so wichtiger* ist es (=this is all the more important), dies trifft *umso mehr* zu (=this is all the more true) and the adverb *idealerweise* (=ideally). A qualifying meaning may also be expressed by two nouns – *Besonderheit* and *Bedeutung* which both occurred in the data in expressions such as: *von (großer) Bedeutung* (=of great importance), *eine Besonderheit ist* (=a special feature ist). Examples (165) and (166) illustrate the use of adjectival phrases in predicative constructions used to qualify statements:

(165) Des Weiteren *ist es wichtig*, anzumerken, dass Funktion und nicht Form im Mittelpunkt dieser Studie steht. (Schleef 2012, 10) = it is important

(166) Die Erklärung der Fähigkeiten des Kindes im Deutschen durch den Input verliert gleichzeitig etwas an Stärke, *bleibt aber signifikant*. Für die Erklärung schriftsprachlicher Fähigkeiten in der Familiensprache verliert der Effekt des quantitativen Aspekts der Familiensprache seine Signifikanz, der des qualitativen Aspekts *bleibt relativ stark und signifikant*. (Duarte et al. 2014, 79) = remains significant; remains relatively strong and significant

Furthermore, these adjectives are often premodified and emphasised by adverbs preceding them: *sehr feine* (=very fine), *sehr negative* (=very negative), *sehr stark* (=very strong), *sehr kooperatives* (=very cooperative), *sehr gut* (=very good), *sehr bezeichnend* (=very significant), *sehr deutlich* (=very clear), *sehr niedrig* (=very low), *sehr geringe* (=very low), *sehr unterschiedlich* (=very different), *sehr ähnlich* (=very similar), *sehr unwahrscheinlich* (=very unlikely); *ganz sicher* (=quite surely), *ganz deutlich* (=completely clear), *ganz klar* (=completely clear), *ganz anders* (=completely different), *so häufig* (=so often), *besonders oft* (=especially often), *besonders gut* (=especially good), *besonders weitgehend* (=particularly extensive), *besonders interessant* (=particularly interesting), *besonders relevant* (=particularly relevant), *besonders aussagekräftiger* (=particularly meaningful), *besonders deutlich* (=particularly clear), *besonders augenfällig* (=particualrly striking); *höchst relevante* (=highly relevant); *außerordentlich wichtig* (=extremely important); *viel differenzierteres* (=much more differentiated), *viel deutlicher* (=much clearer); *deutlich sichtbar* (=clearly visible), *deutlich mehr* (=clearly more), *deutlich stärker* (=clearly stronger), *eindeutig subjektiv* (=clearly subjective), *zwangsläufig defizitär* (=inevitably in deficit), *durchaus möglich* (=quite possible), *ziemlich schwierig* (=pretty difficult), *erkennbar höher* (=noticeably higher), *nur in einem Fall* (=only in one case), *nur wenig* (=only a few), *grundsätzlich stark beschränkt ist* (=is generally very limited), *ganz besonders bemerkenswert ist* (=is particularly noteworthy).

Certainty markers

These adverbs denote the latter dimension of this strategy, expressing the certainty of the author through emphasis of a statement: *lediglich* (=only, merely), *sogar* (=even), *sicher* (=surely), *in* *der Tat* (=indeed, actually), *vor allem* (=above all, particularly), *natürlich* (=naturally, certainly), *unbedingt* (=absolutely), *tatsächlich* (=actually), *grundsätzlich* (=basically), *erheblich* (=significantly), *durchaus* (=quite, absolutely), *allerdings* (=certainly), *insbesondere* (=especially), *gerade* (=just), *eben* (=just), *selbstverständlich* (=of course, obviously), *praktisch* (=practically), *überwiegend* (=predominantly), *gar nicht* (=not at all), *eindeutig* (=clearly), *vielmehr* (=much more), *wesentlich* (=considerably), *zwar* (=indeed), *ausschließlich* (=exclusively), *am wenigsten* (=at least), *vornehmlich* (=especially), *sicherlich* (=surely), *erst* (=only), *zwangsläufig* (=inevitably), *eigentlich* (=actually), *schon* (=really), and *nur* (=only)[64]. The combination of emphasizing adverbs with modal verbs (usually used to denote the strategy of indetermination, as indicated in 7.3.2 above) serves as a marker of intensification: *können durchaus zu einem kooperativen Sprechstil beitragen* (=can definitely contribute to a cooperative speaking style), *nur ein Effekt der stärkeren Förderung der Zweisprachigkeit in der Schule A sein kann* (=can only be an effect of the stronger promotion of bilingualism in school A), *die keineswegs als entschieden gelten kann* (=which can by no means be regarded as decided), as they indicate the authors' certainty, rather than possibility and uncertainty.

(167) Es *wird vor allem deutlich*, dass die expliziten Normformulierungen in Form von Richtlinien und Verordnungen *eine hohe Verbindlichkeit* *insbesondere* für die inneruniversitäre Verwaltungssprache haben. Normen werden somit sowohl über metasprachliche Sollensforderungen als auch über die Verwendung von Sprachmitteln etabliert. (Acke 2019, 316) = it becomes clear; a high level of commitment; in particular

Example (167) illustrates the use of both dimensions: qualifying adjectives indicating the authors' attitude and emphasizing adverbs used in order to reinforce the authors' statements.

Negative forms of adjectives and adverbs

As important as positive forms of adjectives and adverbs are as a part of this strategy, their negative counterparts should not be neglected as attitude markers, found in this sub-corpus as either adjectival phrases or finite impersonal clauses: *nicht unstrittig* (=not indisputable), *es verwundert nicht* (=it is not surprising), *so gut wie keine Rolle* (=as good as irrelevant), *ist hier kaum möglich* (=is hardly possible here), *nicht wirklich nötig* (=not really necessary), *nicht wenige* (=not a few), *schon deshalb nicht möglich* (=therefore not possible), *es ist unumstritten* (=it is undisputed), *es ist irrelevant* (=it is irrelevant), *nicht besonders groß* (=not particularly big), *wenig überzeugend* (=unconvincing), *ist es nicht verwunderlich* (=it is not surprising),

[64] Both *erst* and *nur* function as adverbs (=only, no more than) and as modal particles (*Abtönungspartikel*) (=at all/*gar;* just/*bloß*) (Wahrig-Burfeind 2008, 473; 1082); *nur* is a focus particle in König and Gast (2018, 298).

nicht überraschend (=not surprising). Additionally, negative pronouns are also seen as a part of this strategy: *in keiner Weise* (=in no way).

Lexical and modal verbs

Furthermore, lexical verb phrases can be used to qualify statements, having the potential to intensify statements expressed by different strategies, e.g. depersonalisation: *fällt es besonders auf* (=it is particularly noticeable), *es fällt sofort auf* (=it is immediately apparent), *eins ist klar* (=one this is clear), *so überrascht es nicht* (=so it is not surprising), *liegen auf der Hand* (=are obvious). Finally, the modal verb *müssen* is used in this corpus in its epistemic sense to denote authors' certainty (Helbig and Buscha 1981, 112): *davon ausgegangen werden muss* (=must be assumed), *müsste zwangsläufig zu falschen Monophthongen führen* (=had to inevitably lead to false monophthongs), as well as in its deontic sense to denote a necessity: *muss gleich betont werden* (=must be emphasized immediately), *ernst nehmen müssen* (=have to take seriously), *müssen erachtet werden* (=must be considered), *müssen dargestellt werden* (=must be shown).

(168) An dieser Stelle *muss natürlich darauf hingewiesen werden*, dass die vorliegende Studie nicht alle Kritikpunkte an den oben vorgestellten Methoden lösen kann. (Schleef 2012, 7) = must of course be pointed out

By using the modal verb *müssen* in its deontic sense in example (168), the author is not indicating their certainty in a claim, but rather expressing a logical necessity of a claim based on previous statements, thereby qualifying the statement that follows.

7.3.5 Approximation

Approximation is yet again less prominent than intensification and indetermination, with a total of 256 markers found throughout this sub-corpus (an average of 25,6 markers per article). Approximation markers function as approximators (Prince, Frader and Bosk 1982; Salager-Meyer 1994), attenuating only certain aspects of the claim, not the whole utterance.

Adverbs

It can once again be said that this strategy is somewhat less semantically varied as opposed to the other strategies, consisting mainly of adverbs approximating the degree and frequency: *pauschal* (=generally), *näherungsweise* (=approximately), *verhältnismäßig* (=relatively), *eher* (=rather), *mindestens/zumindest* (=at least), *ausreichend* (=sufficiently), *nahezu* (=nearly), *relativ* (=relatively), *hauptsächlich* (=primarily, mainly), *zum Teil* (=partly), *grob* (=roughly), *recht* (=quite, fairly), *teils* (=partly), *gewissermaßen* (=sort of), *kaum* (=hardly, barely), *insgesamt* (=overall), *teilweise* (=partly), *gelegentlich* (=occasionally), *zumeist* (=mostly), *generell* (=generally), *vorwiegend* (=mainly), *meist* (=usually), *durchschnittlich* (=on average), *normativ* (=normatively), *vorzugsweise* (=mainly), *weitestgehend/weitgehend* (=largely), *mal* (=sometimes), *größtenteils* (=mostly), *vereinzelt* (=occasionally), *manchmal* (=sometimes), *mitunter* (=sometimes), *normalerweise* (=normally), *zuweilen* (=occasionally), *gemeinhin* (=overall), *bedingt* (=conditionally), *geringfügig* (=slightly), *prinzipiell* (=in principle), *mehr oder weniger* (=more or less). Some of these belong to quantity adverbs – *Quantitätsadverb* – indicating measure and intensity, e.g. *teilweise* (Duden 2022, 797)[65]. The use of approximation of degree of frequence is illustrated in examples (169) and (170):

(169) Häufig wird dabei auf die jüngere Bevölkerung Bezug genommen, die nach Aussagen der Gewährspersonen *kaum* noch Sächsisch spricht, also hier die jungen Leute […] die sprechen alle hochdeutsch und die Kinder auch. (Schaufuß and Siebenhaar 2012, 92) = barely/hardly

(170) Beides weist darauf hin, dass die Schüler vor allem unsicher in Bezug auf die strukturellen Anforderungen sind, die das formelle Register an sie stellt: *Mal* entsprechen sie den Anforderungen, *mal* bleiben sie hinter ihnen zurück und *mal* schießen sie über das Ziel hinaus. (Schroeder 2014, 40) = at times/sometimes

Adverbs often qualify adjectives they precede as content mitigators (Fraser 2010a, 201)[66]: *fast ausschließlich* (=almost exclusively), *verhältnismäßig selten* (=relatively rarely), *eher spärliche* (=rather sparse), *relativ stark* (=relatively strong), *fast identisch* (=almost identical), *relativ stabil* (=relatively stable), *etwa gleich* (=about the same), *etwas höher* (=somewhat higher), *relativ stark und signifikant* (=relatively strong and significant), as evidenced in example (171) by *normativ häufig:*

(171) Sie können zu einem *leicht* aggressiven, wettbewerbsbetonten Sprechstil beitragen, der in westlichen Kulturen *normativ häufig* mit Maskulinität assoziiert wird. (Schleef 2012, 24–25) = slightly; normatively (common)

There are also adverbs functioning as rounders: *etwas/etwa* (=some), *knapp* (=almost), *rund* (=around), as illustrated in example (172), and approximative expressions consisting of prepositional and nominal phrases such as: *in irgendeiner Form* (=in any form), *im weitesten Sinne* (=in broadest sense), *im Prinzip* (=in principle), *in unterschiedlichem Ausmaß* (=to varying degrees), *im Allgemeinen* (=in general), *zu etwa gleichen Anteilen* (=in roughly equal proportions), *in den meisten Fällen* (=in most cases), *in ähnlicher Weise* (=in a similar way),

[65] Engel and Mrazović also classify *sehr, teilweise* and *wenig* under modal-gradative adverbs (1986, 726).
[66] Engel and Mrazović classify *fast* and *kaum* as modal particles (1986, 910) and *etwa* as a grading particle (1986, 917), and Weinrich classifies *etwa, nahezu, fast, kaum, circa, rund, knapp* as estimation adverbs (2005, 591).

in der Regel (=usually), *im Durchschnitt* (=on average), *im Großen und Ganzen* (=overall), *in etwa gleicher Menge* (=in about the same amount).

(172) Nur *rund* ein Viertel der possessiven Relationen entfällt auf die Haupttypen (im Roman sind es in pränominaler Position hingegen über 90 %). (Peter 2015, 222) = around/about

Adjectives

Furthermore, adjectives are also found in this sub-corpus indicating approximation and comparison of concepts: *höchst allgemeine* (=most general), *generelle* (=general), *ähnlich* (=similar), *beschränkt* (=limited, to a limited extent), but three most frequent adjectives were by all means: *bestimmte* (=certain), *einige* (=some), *meisten* (=most), *manche* (=some).

(173) *Ähnliches* trifft auf den Gebrauch des türkischen Reflexivpronomens kendi- zu. (Schroeder 2014, 39) =something similar

(174) Kontext beeinflusst das Erscheinen möglicher sozialer Rollen und auch die Verwendung *bestimmter* sprachlicher Elemente. (Schleef 2012, 2) = certain

The adjectives in examples (173) and (174) are supposed to signal vagueness, and desire not to express something explicitly.

7.3.6 Evaluative Reference

In this sub-corpus, the strategy of evaluative reference is the second least prominent strategy, with a total of 145 markers found (14,5 markers per article on average) – less than English, but more than Serbian. This strategy refers to expressions used to evaluate the strength of the current work against previous work done in the field, as well as to express the stance of the authors towards research that they use as reference for their own work.

Gaps in existing research

To start with, as in the English and Serbian data, the first dimension of this strategy refers to an indication of a gap in the existing research related to a particular field or topic. Such gaps are expressed by a range of predicating expressions such as (15 markers): *gibt es bisher wenig Forschung* (=there is little research so far), *die einzige umfangreiche Untersuchung* (=the only extensive investigation), *es wird nun seltener gefragt* (=it is now asked less frequently), *wurde in der Soziolinguistik lange Zeit ignoriert* (=has long been ignored in sociolinguistics), weist trotz eingehender Forschung *Lücken in vielen Bereichen* (=despite extensive research, there are gaps in many areas), *nur unzureichend geklärt* (=insufficiently clarified), *entweder gar nicht oder nur ansatzweise beschrieben sind* (=are either not described at all or only partially described), *dazu fehlen rezente Studien* (=there are no recent studies on this), *bislang liegen entweder nur sehr allgemeine oder rein fallbezogene Beschreibungen [...] vor* (=so far only very general or purely case-related descriptions are available), *[...] ist die Anzahl der Belege allerdings zu gering* (=the number of documents is too small), *bisher noch nicht systematisch erfasst wurde* (=has not yet been systematically recorded), *nur wenige Studien berücksichtigen* (=only a few studies consider), *es kaum Untersuchungen gibt* (=there is little research), *die bislang wenig beachtet wurden* (=which have so far received little attention).

(175) Leider *fehlen neuere Analysen* zur vertikalen und auch horizontalen Gliederung sowie zur sozialen und situativen Verteilung verschiedener Sprechlagen. (Schaufuß and Siebenhaar 2012, 88) = recent analyses are lacking

(176) *Unberücksichtigt bleiben* zudem in den Untersuchungen zumeist weitere Erklärungsfaktoren, die für den Zusammenhang zwischen Sprachinput und Sprachkompetenzen in beiden Sprachen eine Rolle spielen können. (Duarte et al. 2014, 70) = remain unconsidered

Examples (175) and (176) illustrate the use of linguistic means meant to indicate insufficient research – negative forms of certain adjectives (*unberücksichtigt*) and verbs with negative connotation (*fehlen*), as well as determiners such as *wenig* (=little) and *gering* (=small, low).

Extensive research

On the other hand, in an opposing dimension of this strategy, authors in this sub-corpus, unlike in English and Serbian data, use evaluative referencing to indicate that the area was already well researched and serving as a theoretical basis for their own research through a range of predicating expressions (11 markers): *da Disziplinunterschiede in der Sprachverwendung gut dokumentiert sind* (=since disciplinary differences in language use are well documented), *liefern ebenfalls Hinweise darauf* (=provide evidence for), *dies jedenfalls ist ein wiederkehrender Befund auch jener Untersuchungen* (=at least this is a recurring finding of those investigations), *diese mehrfach in Studien getroffene Aussage* (=this statement made several times in studies), *sind in der Literatur weitreichend diskutiert worden* (=have been widely discussed in the literature), *würde das die von vielen bereits aufgestellte Hypothese* (=that would be the hypothesis already put forward by many), *wird gerade [...] in der Literatur mehrfach da rauf hingewiesen* (=this is pointed out several times in [...] the literature), *in der Forschungsliteratur oft festgestellt wurde* (=often noted in the research literature).

Comparison with other work

A third dimension of evaluative reference includes indicating how the current work of the authors is similar or different to the work of previous authors in the field, implying at times positive or negative evaluations (41 markers): *wie auch in [Autor]* (=as also in [author]), *in ähnlicher Weise sieht* (=views in a similar way), *mit einer sehr ähnlichen Studie* (=with a very similar study), *wie in der Studie [...] gezeigt wurde* (=as it was shown in the study), *diese Funktion ähnelt der von* (=this function is similar to that of), *ein vergleichbares Bild* (=a comparable picture), *diese Ergebnisse korrespondieren mit* (=these results correspond with), *dieser Befund deckt sich mit den Ergebnissen in* (=this finding is consistent with the results in), *dieses Ergebnis steht im Einklang mit den Beobachtungen* (=this result is consistent with the observations), *stützen die Possessivitätshypothese* (=support the hypothesis of possessivity), *diese Daten stimmen mit* (=this data agrees with), *die Interpretation von (30c) erinnert an* (=the interpretation of (30c) is reminiscent of), *im Vergleich zu* (=in comparison with), *diese Position wird durch Ergebnisse von Schulleistungsvergleichsstudien gestützt* (=this position is supported by the results of school performance comparison studies), *attestiert also den* (=attests to), *was den aus Schulleistungsvergleichsstudien bekannten Zusammenhang wiedergibt* (=which reflects the relationship known from school performance comparison studies), *unser Befund stützt ...* (=our finding supports), *dieser Befund bestätigt Ergebnisse [Autors]* (=this finding confirms results [of the author]), *die bereits von [Autor] als Argument gegen [...] verwendet wurde* (=which has already been used by [author] as an argument against [...]), *die in der vorliegenden Studie relevant sind* (=which are relevant in the present study), *wie es auch weitestgehend in der Fachliteratur empfohlen wird* (=as is also widely recommended in the specialist literature), *durch [Autor] entwickelte Theorie* (=theory developed by [author]), *die in der Studie von [Autor] erhoben wurde* (=that was collected in the study by [author]), *nach [Autor]* (=according to [author]), *in Anlehnung an die Studie von [Autor]* (=based on the study by [author]), *ausgehend von [Autor]* (=starting from [author]); *wir teilen diesen Standpunkt nicht* (=we do not share this point of view), *obwohl [Autoren] darauf hinweisen* (=although [authors] point this out), *im Gegensatz zu vielen anderen Studien* (=unlike many other studies), *im Gegensatz zu* (=in contrast to), *ist aber weitaus komplizierter als [Autor] annahm* (=but is far more complicated than [author] assumed), *wenngleich der aktuelle Forschungskonsens darin besteht, dass* (=although the current research consensus is that), *unterscheidet sich damit von* (=differs from), *widerspricht der Hypothese* (=contradicts the hypothesis), *nicht wie [Autor] feststellt* (=not as [author] states), *entgegen der Annahme von [Autor]* (=contrary to the assumption of [author]), *zeigen ein anderes Bild* (=show a different picture). Examples (177) and (178) illustrate the use of evaluative refence to indicate similarities and differences with previous work, respectively.

(177) *Die große Ähnlichkeit der Befunde der vorliegenden Studie mit denen der oben erwähnten amerikanischen Studie (Schleef 2008) scheint diese Ergebnisse zu unterstützen*. (Schleef 2012, 30) = the great similarity of the findings of the present study with those of [...] seems to support these results

(178) *Die vorliegende Studie unterscheidet sich von den oben genannten insofern*, als hier geschlechtsspezifisches Sprachverhalten in Bezug auf Stil untersucht wird – in gewisser Weise fast ein rein theoretischer Unterschied. (Schleef 2012, 7) = the present study differs from the ones mentioned above in this respect

Evaluation of previous work

A fourth dimension of this strategy includes markers of intensification to evaluate previous work. As these markers are not evaluative of authors' own work, but rather of other authors' work – as to be seen in examples (179) and (180) – they are not categorised as markers of intensification, but included here as marker of evaluative reference (38 markers): *die bekannte semantische Theorie* (=the famous semantic theory), *ihre Ergebnisse offenbaren einen beträchtlichen Sprachwandel in diesem Bereich* (=their results reveal a significant shift in language in this area), *ist insbesondere relevant* (=is especially relevant), *diese Argumentation spielt auch heute noch [...] eine wichtige Rolle* (=this reasoning still plays [...] an important role today), *blieben kontrovers* (=remained controversial), *es ist eine wichtige Einsicht* (=it is an important insight), *sehr angemessen ist* (=is very appropriate), *eine große Schwäche soziolinguistischer Untersuchungen* (=a major weakness of sociolinguistic studies), *ist umstritten* (=is controversial), *ist nicht haltbar* (=is not sustainable), sind sehr widersprüchlich (=are very contradictory), *auffällig ist* (=is striking), *Einigkeit herrscht* (=there is agreement), *Uneinigkeit herrscht darüber* (=there is disagreement about this).

(179) Der erste Bereich ist für den vorliegenden Aufsatz *von Bedeutung*. (Acke 2019, 306) = the first area is of importance for this paper

(180) Alle vier *sind in der bisherigen Forschung zur geschlechtsspezifischen Sprachverwendung diskutiert worden*. Obwohl deren Beziehung zum Sprechergeschlecht *oft sehr kritisch bewertet wurde und umstritten ist*, *kann eine Untersuchung dennoch nützlich sein*. (Schleef 2012, 4) = have been discussed in previous research [...]; has often been assessed very critically and is controversial; an investigation can still be useful

Contribution of current work and future work

The fifth and final dimension of this strategy includes markers indicating how the existing research bridges the gap and contributes (or perhaps is limited in its contribution) to the research, expressed by pertinent predicating expressions (28 markers): *kann aus der vorliegenden Untersuchung bislang nicht abgeleitet werden, da vorliegende Daten noch nicht vollständig ausgewertet sind* (=cannot yet be derived from the present study, as the available data have not yet been fully evaluated). Other markers indicate that the results of the research were not satisfactory and additional research has to be done: *in Zukunft sollte aber auch dieser Frage nachgegangen werden* (=in the future, however, this question should also be investigated), *wäre vor diesem theoretischen Hintergrund zu untersuchen* (=should be examined against this theoretical background), *wir eine Analyse [...] planen* (=we plan an analysis of [...]), *sollte im weiteren Perzeptionstest [...] überprüft werden* (=should be checked in a further perception test), *müssten mit der entwickelten Methode weiter validiert werden* (=would have to be further validated with the developed method), *noch erweitert werden kann/muss* (=can/must be expanded), *muss die Analyse für eine allgemeine Aussage vertieft werden* (=the analysis must be deepened for a general statement), *hierfür sind weitergehende korpuslinguistische Analysen notwendig* (=this requires further corpus linguistic analysis), *wäre daher in der Zukunft zu prüfen* (=would therefore have to be checked in the future), *zu klären wäre in Nachfolgeuntersuchungen deshalb zunächst* (=should therefore first be clarified in follow-up studies), *ist noch genauer zu untersuchen* (=needs to be examined in more detail), *die in einer weiteren Studie näher zu untersuchen sind* (=which are to be examined more closely in a further study), *noch einer näheren Untersuchung bedarf* (=still requires a closer investigation), *die sich in unseren eigenen weiteren Auswertungen und in anderen Studien noch bewähren müssen* (=which still have to prove themselves in our own further evaluations and in other studies), *bedarf es* (=is required).

(181) Eine vergleichende Untersuchung auf Grundlage einer größeren Datenbasis, die fingierte Lernersprachen im Detail analysiert, *steht bislang noch aus*. (Fobbe 2014, 206) = is still pending

(182) Eine genauere Analyse zu den Bedingungen der epistemischen Interpretation von können + der-Verb *bleibt jedoch weiteren Untersuchungen vorbehalten*. (Sonnenhauser 2012, 86) = remains subject to further investigations

(183) *Es wäre wünschenswert, wenn* die sprachliche Entwicklung und ihre Bedingungen in ihrem Wechselspiel über einen längeren Zeitraum beobachtet werden könnten. (Duarte et al. 2014, 82) = it would be desirable if...

(184) Da wir eine Analyse aller Adjektive dieser semantischen Klasse planen, *haben wir noch einen langen Weg vor uns und stehen augenblicklich erst am Anfang unseres Projekts*. (Dalmas et al. 2015, 23) = we still have a long way to go and are currently only at the beginning of our project

It can be seen that the use of passive voice and impersonal constructions is quite frequent in examples (181) – (183) of this dimension, which might indicate that the authors are simply giving an idea as to what could be researched next, not necessarily by themselves. On the other hand, example (184) clearly indicates what else is supposed to be done in the research and what the authors plan on doing in future research.

7.4 Summary

To sum up, in the field of linguistics, markers of stance are most frequent in the German sub-corpus (37.7 markers per 1000 words), followed by English (33.5), and finally Serbian (28.4). While all six strategies outlined in Chapter 4 can be found in the linguistics sub-corpus, their distribution differs in different language sub-corpora. The strategy of depersonalisation is most frequently used in all three language sub-corpora in the field of linguistics, and especially in the German sub-corpus, while evaluative reference is least frequently used in all three language sub-corpora. Indetermination, subjectivisation, and evaluative reference are used most frequently in the English sub-corpus, while approximation is used most frequently in the Serbian sub-corpus.

Throughout the strategy of depersonalisation in all three languages, passive voice is the most prominent form, used to deemphasize the role of the agent(s). For all three languages, this study has confirmed that the passive voice can be considered a typical construction in academic contexts (Biber et al. 1999, 476). Additionally, all three languages employ metonymic use of inanimate nouns such as *research/study/article* – acting as inanimate agents of the research, or through nominalised expressions denoting actions conducted during research, meant to omit the agent of the clause (Biber and Gray 2010, 11). Furthermore, participle constructions are also found in all three linguistic sub-corpora, functioning as non-finite relative clauses and adjectival phrases referring to the research, as is rather common in written discourse (Meyer et al. 2002, 156). Finally, there is an abundance of impersonal constructions.

Modal verbs indicating possibility (*can/moći/können*) are most frequent markers of the strategy of indetermination. Other expressions to the same effect include other modal verbs (*may, might, could, would; dürfen, sollen, mögen*), epistemic verbs (*appear, seem, suggest, imply, assume; čini se*, *implicira, pretpostavlja, sugeriše; scheinen, erscheinen, nahelegen, hinweisen, hindeuten*), modal adverbs (*possibly, potentially, likely*, *seemingly; možda, verovatno, potencijalno, eventualno; wahrscheinlich, vermutlich, möglicherweise, potenziell/ potentiell, scheinbar*), modal adjectives (*possible, potential, comparable; mogući*, *potencijalni; mögliche*), and epistemic nouns (*assumption, implication, tendency, potential; indicije, pretpostavka, nastojanje, mogućnost, tendencija, verovatnoća, mišljenje; Indiz, Tendenz*). These modal and epistemic expressions are used to attenuate the authors' claims and express their assumptions.

The authors in the linguistics sub-corpus are less inclined to refer to themselves overtly through markers of subjectivisation but prefer covert means of expression (through depersonalisation). Authors refer to themselves overtly either through first-person pronouns, or possessive determiners and inanimate nouns (with metonymic use). This is done most frequently in the English sub-corpus, and least frequently in the German sub-corpus. First-person plural markers are more frequent than first-person singular markers in all three linguistic sub-corpora, which might be an indication of modesty, as well as the joint activity in the text (Wales 1996, 66).

The strategy of intensification is expressed through both certainty markers and attitude markers, two categories which overlap to a certain extent. Certainty markers include emphasizing and intensifying adverbs (*certainly, particularly, clearly, significantly, really; posebno, svakako, izrazito; besonders, unbedingt, erheblich*), used to emphasize statements and indicate the certainty of the authors. Attitude markers convey authors' point of view and qualification of a statement through the use of adjectives (*intriguing, overwhelming, unsurprising; uspešno, neočekivano; auffällig, bemerkenswert, verwirrend*) and adverbs in all three languages (*interestingly, unfortunately, unexpectedly; neočekivano, neminovno; idealerweise*). Additionally, modal verbs indicating necessity (*must/morati/trebati/müssen*) are also used in all three languages. The strategy of approximation, on the other hand, is expressed by subjuncts indicating approximation, compromising, diminishing, and minimizing (*almost, rather, generally, partly, about; relativno, obično, skoro, oko; näherungsweise, kaum, fast, etwas*), as well as quantifiers (*a number of*) and adjectives in all three languages (*general, similar (to), certain; slično, određen, izvestan; ähnlich, bestimmte*).

Finally, the strategy of evaluative reference employs predicative constructions, nominal and adjectival phrases, as well as finite and non-finite clauses to express several dimensions in all three languages: gaps in existing research, evaluation of previous research and comparison with previous research, contribution of current research, as well as failure to contribute and recommendations for future research. Only the German sub-corpus (see 7.3.6) includes an additional dimension indicating extensive research done in the field. However, due to the small size of my corpora, any less frequent dimension that is not accounted for in my own analysis may occur in other articles outside of my data as well.

Chapter Eight

Qualitative Analysis: Economics

In the second scientific discipline of interest for this dissertation, the field of economics, a total of 39 academic articles (11 in English, 16 in Serbian, and 12 in German) were analysed in MAXQDA for markers of authorial stance.

For purposes of a broad quantitative analysis revealing major tendencies in the use of stance markers in economics, Figure 11 will firstly graphically present the absolute frequencies of the six strategies outlined in Chapter 4 in the entire economics corpus, so as to give a broader overview of the predominant strategies in each language. Furthermore, each of the three language sub-corpora will be analysed in greater detail, both qualitatively and quantitatively.

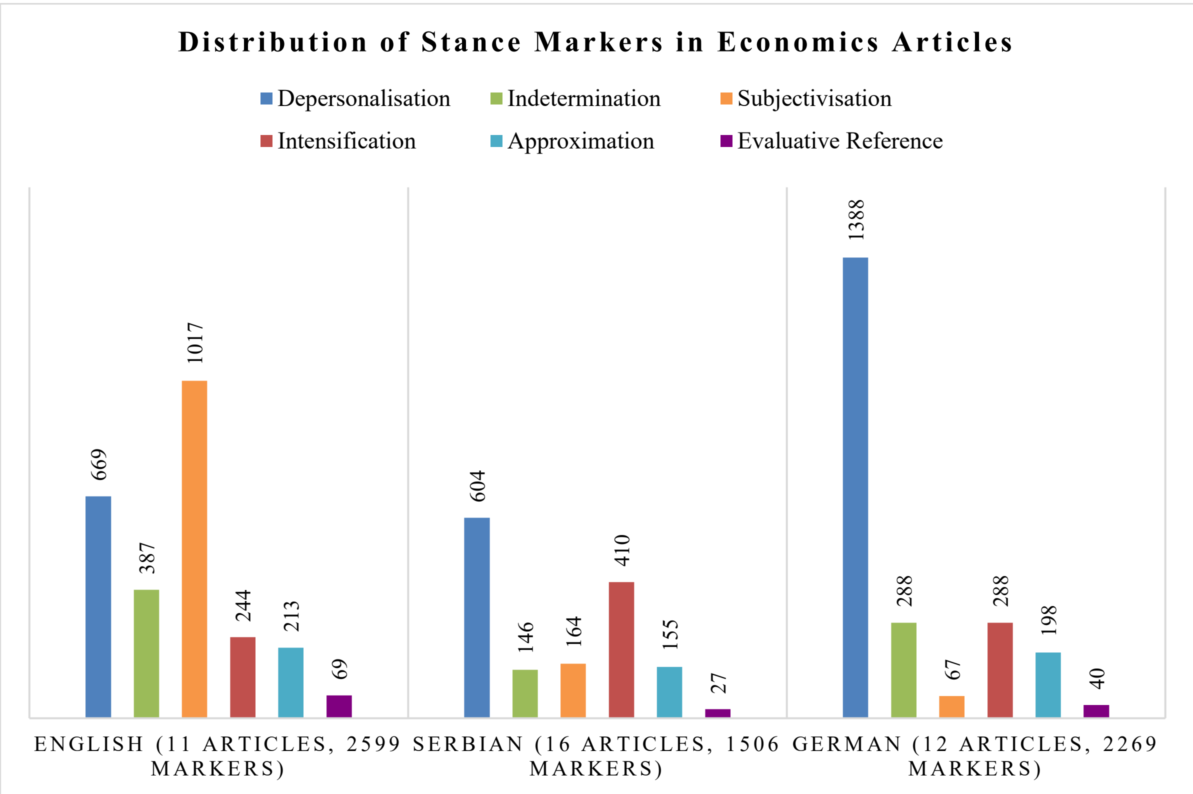

Figure 11: Distribution of stance markers in economics articles (absolute frequencies)

As can be seen from Figure 11, in the sub-corpus of economics, most markers of stance, in terms of absolute frequencies, are again used in the articles written in English, while the fewest number of markers of stance is used in the articles written in Serbian. However, the comparison of normalised frequencies once again suggests that these markers are most frequent in German

(32.5 per 1,000 words), and the least in Serbian (26.4 per 1,000 words), with 30.7 markers per 1,000 words used in English. While the most predominant strategy in English is the strategy of subjectivisation, in Serbian and German, the most predominant strategy is depersonalisation (including the use of the passive voice), particularly in German.

Now the focus will be turned to a more in-depth analysis of the three language sub-corpora in the economics sub-corpus. Following a slightly more detailed quantitative analysis for each language, each strategy will be investigated in more detail, in order to qualitatively elaborate on the most frequent forms within all strategies, their potential functions in each concrete context and possible motivations of the authors behind the use of these strategies. As in Chapter 7, the sub-corpus of English will be examined first, followed by the sub-corpus in Serbian, and finally, the sub-corpus in German.

8.1 Corpus analysis of articles in the field of economics written in English

The 11 articles comprising the sub-corpus of economics written in English deal with financial market, macroeconomics, monetary policy, econometrics, and statistics. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of 2599 markers is identified in these 11 articles, with the normalised frequency of 30.7 markers per 1,000 words in the sub-corpus. The distribution of these markers according to the six strategies discussed in Chapter 4, in terms of their absolute frequencies and percentage is given in Figure 12:

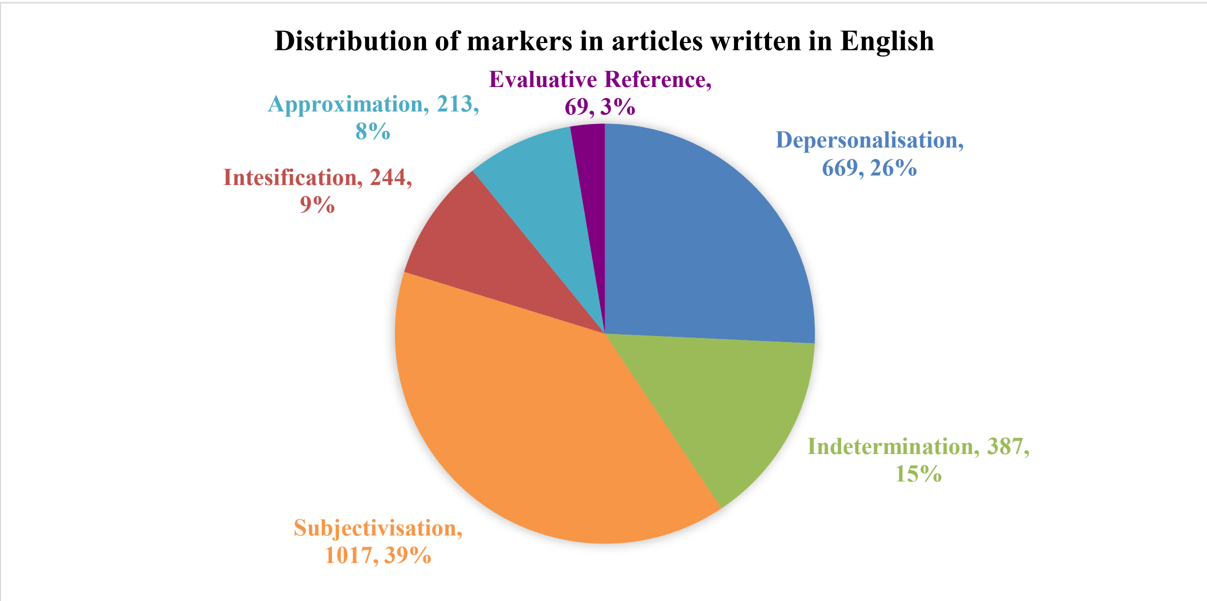

Figure 12: Distribution of stance markers in economics articles written in English (absolute frequencies)

The most frequent strategy in this sub-corpus, as can be seen in Figure 12, is that of subjectivisation, followed by depersonalisation, while evaluative reference is once again the least frequent one. In keeping with the pattern from the previous chapter and to aid readability, the qualitative analysis of strategies will ensue in the same order: depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference.

8.1.1 Depersonalisation

This sub-corpus, which yielded only 669 markers (as opposed to 1017 of subjectivisation, as will be discussed in 8.1.3) is the only sub-corpus in which the strategy of depersonalisation is less frequent than the strategy of subjectivisation. There is an average of 60.8 markers per article in this sub-corpus.

Participles

To start with, past participles are used as text-deictic means to refer to a segment of the article for organisational metadiscoursal purposes (119 markers), in expressions consisting of participle clauses (adverbial clauses of comparison or manner), denoted as parenthetical passive constructions in Fandrych and Graefen (2002, 24), such as *as reported in, as stated in, referred to as, as earlier recognized, as shown in* or in attributive constructions, such as *aforementioned, mentioned above, described earlier, discussed previously, discussed next, described below, already outlined.* Additionally, past participles are also used as attributive constructions reduced to a single word (Fandrych and Graefen 2002, 24), referring to the actions undertaken by authors, as either pre- or post-modifiers of the noun phrase: *hypothesized, considered in this article, proposed, suggested, used, detected, undertaken, presented, applied, studied, selected, as expected, taken, as noted, employed, adopted in this study, excluded, included, estimated, selected, deemed to be, reported, adjusted, assessed, obtained, coded, designed, constructed, observed, scrutinized.* Both text-deictic (*discussed later*) and clausal uses (*employed in this paper*) of participles (as attributive constructions functioning as post-modifiers of the noun phrase) are illustrated in example (185):

(185) The single measure of school performance *employed in this paper* is the per-centage of students gaining five or more GCSE passes at grades A* - C in any one year. Full performance results (*discussed later*) are published each year by the DCSF (now referred to as the Department for Education). *It is reasonable to suggest*, by implication, that good school performance will enhance future job possibilities. However, this particular relationship is outside the scope of this study. *This paper is concerned with* the impact of state-funded secondary school per-formance on house prices in the owner-occupied sector in seven major

cities/urban conurbations in England – Greater London, Birmingham, Bristol, Leeds, Greater Manchester, Liverpool and Newcastle. (Glen and Nellis 2010, 406)

Metonymic use of inanimate nouns

Example (185) also illustrates the use of the second most frequent type of depersonalisation marker in this sub-corpus, which involves the metonymic use of inanimate nouns as an extension of authorial agency for the research being conducted, with 178 identified markers, the most prominent nouns being: results – *results* […] corroborate this, this *result* suggests, the *results* imply, this *result* is consistent with evidence on, the *results* […] confirm, this *result* supports, these *results* provide further support for our conclusion that, the overall *results* show, *results* indicate that, *results* highlight, *results* appear consistent and point to; study – this *study* investigates, our *study* provides evidence on, our *study* suggests, the simulation *study* also confirms; finding – our main *finding* that, this *finding* has implications for, this particular *finding* underlines, our *findings* suggest; article **(**illustrated in example (187) below) – this *article* examines, this research *article* indicates; paper – our *paper* answers this question, this *paper* confirms, this *paper* takes a dynamic approach in examining; and analysis – the *analysis* thus far makes clear that, the *analysis* thus far has focused on.

Other nouns used metonymically in this sub-corpus include: *our work suggests, the data on "school quality" measure, this observation suggests, the evidence suggests, a comparison of models (2) and (3) to model (1) suggests, hypothesis 3 suggest, a possible alternative explanation for, this simple application demonstrates, this assumption, which is the purpose of this study, the intuition for this approach, this proposition indicates that, the ultimate conclusions drawn, examination of the first two exponents shows, these considerations motivate the process, our procedure produces, the rationale for this approach is.* These markers include inanimate nouns functioning as subjects with the role of an instrument, "the entity […] which an agent uses to perform and action or instigate the process" (Quirk et al. 1985, 743), as in example (186), where the authors want to covertly express what they meant to convey with the article, as well as nominalizations aimed at omitting the agent of the clause (Biber and Gray 2010, 11), as indicated in example (187), in which the noun is derived with the suffix *-ation* as a deverbalized abstract noun (R. Đorđević 2007, 27) indicating the action performed:

(186) *The basic message of this article* can be summarized as follows. (Stein 2012, 90)

(187) *A comparison of* models (2) and (3) to model (1) suggests that disclosure standards are positively related to susceptible investor participation, which in turn is positively related to RMS , biasing the coefficient on DISC upward in model (1). (Bushee and Friedman 2016, 803)

Impersonal constructions

Impersonal constructions in this sub-corpus include 71 tokens, using impersonal pronouns *one*, the dummy subject *it* (Biber et al. 1999, 125) and existential *there* (Biber et al. 1999, 154). Impersonal constructions with *it* include extraposition constructions, including: *it is important to note, it is worth mentioning that, it is worth emphasizing, it is worth noting, it is apparent from, it is straightforward to introduce, it is worth fleshing out, it is easily shown that, it is possible to, it is reasonable to assume, it should be noted, it is desirable to use, it is easy to show that, it will be convenient to, it is clear from, it is necessary to, it is plain that, it is evident, it would be natural to see, it is necessary to, it is difficult to conclude, it is noticeable, it was apparent, it is of some interest to consider, it is conceivable.* A extraposition construction with an anticipatory *it* can also be seen in example (185) above.

Impersonal constructions with *one* aimed at deemphasizing the agent include: *one needs to approximate, one can express, one can conclude, one can interpret, one may arrive at, allows one to calculate, one may also note, one is able to reject the null hypotheses, one can accept the notion, as one would expect*.

Constructions with the existential *there* include: *there is a certain minimalist appeal to, there was no need to fill in, there is no obvious reason a priori to expect, there is no point considering, there would be no point.* Example (188) illustrates the use of *there* as the subject of the clause, meant to omit the agent of the clause:

(188) However, <u>*there is no point considering*</u> both S and S0, or both LR and LR0, because in each case one test statistic is simply a monotonic transformation of the other. (Davidson and MacKinnon 2015, 844)

Finally, 16 markers include the use of non-finite clauses. While *to*-infinitive clauses indicate purpose: *to be clear on the notational convention, to be more concrete, -ing* clauses are used as subjects (illustrated in examples (189) and (190)), or non-finite conditional clauses functioning as a viewpoint subjunct (Quirk et al. 1985, 1069), illustrated in example (191).

(189) <u>*Estimating A*</u> is the objective of our empirical work. (Davis, Fisher and Whited 2014, 741)
(190) <u>*Using the LIML-ER and F(1)-ER bootstraps with the Sargan statistic*</u> yields entirely different results. (Davidson and MacKinnon 2015, 845)
(191) <u>*Comparing this to the bank's expected profits in equation (5),*</u> we can see that the first two terms coincide (Stein 2012, 71)

Passive voice

The passive voice accounts for 270 markers in this sub-corpus. The agentless passive is, similarly to the linguistics sub-corpus (see 7.1.1), used to describe the procedures conducted by the authors of the research and to deemphasize their agentivity. Therefore, this can be seen as yet another example of piggybacking meaning, as both the form and the content carry the meaning (Levinson 2000, 6). Markers include an abundance and great variety of different verbs combined with marked forms of other analytical grammatical categories of the verb such as past, present and future tense: *were collected, was examined, was made, were obtained, were computed, was conducted, were discussed, was included, was incorporated, was rejected, was developed, were compared; are designed, is explained, are included, are assumed to be, are estimated, are described, is coded, is referred to as, is introduced, is selected, are then factored into, are defined as, is adopted, are constructed, are assigned, are investigated, is tested, is maintained, are taken, is generalized, are modelled, is carried out, are used, is considered, are standardized, are further underlined, are not observed, is computed by, are being evaluated, is varied, are performed, is expected to be, are replaced, cannot be applied here, is selected, are recorded, are reported, are analysed, is chosen, are excluded, are employed, is organized, is captured here, is modeled, is identified, cannot be measured with our data, is performed, are first detected, is created and linked in, is resolved, is approximated by, are listed, are required, is set to, is specified, is applied, are provided, is determined, is calculated, are used, is set, are incorporated, is interpreted, are classified, are presented, are associated, are standardized; will be discussed shortly.* Examples (192) – (194) illustrate the tendency of passive voice markers to cluster, and display their variety in form and tense when describing procedures:

(192) As before, all the simulation results <u>*are presented*</u> graphically. These results <u>*are based on*</u> 200,000 replications with 399 bootstrap repetitions. The same random variables <u>*are used*</u> for every set of parameter values. These experiments would have been extremely computationally demanding without the theoretical results of Section 6 and the first part of this section, which allow us to calculate everything very cheaply after we have generated and stored 200, 000×10 plus 200, 000×399×8 random variables. The first set of random variables <u>*is used to calculate*</u> the actual test statistics and the estimates of a and ρ, and the second set <u>*is used to calculate*</u> the bootstrap statistics. (Davidson and MacKinnon 2015, 853)

(193) The bootstrap test <u>*is then applied*</u> in exactly the same way as above. When there is a missing value, due to an inexperienced forecast, the corresponding simulated forecaster <u>*is also given*</u> a missing value. The inexperienced forecasts play no role in terms of calculating the normalization factors for period t, and nor can they be randomly reassigned to other forecasters. Hence the simulated forecasters match the actual forecasters, where the actual no longer contain inexperienced forecasts (on our definition). Table 1 <u>*can again be used*</u> to illustrate. The first survey we consider is 1985:Q4—the previous four Q4-surveys <u>*are used*</u> to determine whether the 1985:Q4 survey forecasts are from experienced forecasters. The forecasts made by both Forecasters 3 and 9 <u>*will be included*</u>, as these forecasters <u>*are deemed*</u> experienced. (The score <u>*will be normalized*</u> using the scores of the other experienced forecasts

to the 1985:Q4 survey. There are no inexperienced forecasts amongst the 10 forecasters illustrated in the Table). In 1986:Q4, the forecast made by Forecaster 8 *is excluded* because Forecaster 8 is a newcomer. By the time we get to 1991:Q4, 7 of the 10 individuals register a forecast. Three of the seven are made by newcomers (Forecasters 1, 4 and 5), and so on. (Clements 2020, 9–10)

(194) Because the full likelihood approximates the true likelihood in continuous time, the partial likelihood that is based on detected jumps *can be applied to* determine jump predictors in continuous-time models. The limiting distribution of parameter estimates *is derived from* the likelihood function and *can, by the usual significance tests, be used to determine* the importance or unimportance of any information predictor. (Lee 2012, 443)

Combinations

As example (194) above illustrates, depersonalisation and indetermination (see 8.1.2) can be combined through the use of modal passive voice to express possibility and attenuation of the authors: *can reasonably be expected, can be said to be, can be interpreted as, could be attributable to, can be thought of.*

8.1.2 Indetermination

As indicated in Figure 12, indetermination is only the third most frequent strategy in the English sub-corpus. A total of 387 markers is found throughout this sub-corpus, with an average of 35.2 markers per article. It can once again be said that modal expressions are the most prominent ones in this sub-corpus, used to indicate possibility, thereby acting as hedges.

Modal verbs

The most frequent form used in this strategy are modal verbs, accounting for 192 markers in this sub-corpus – *can, could, may, might, should, would, need (not)*: *may view, should experience, may influence, could be associated with, may be related to, would help, would provide, might be, could cause, can help to, may not necessarily be, can be found as, might be warranted, should yield, may give rise to, may engage in, may leave, would amount to, can be used, may seem, can be said to be, it could be the case, may be true, may appear to be, may (or may not) occur, need not be.* As illustrated in examples (195) and (196), they indicate possibility and assumptions made by the author, and at times show a tendency to cluster:

(195) Finally, *it may be the case that* the private sector *may be* willing to fund im-provements in state-funded secondary schooling, as low performing schools will mean that they *may find* it difficult to attract workers with children of secondary school age to areas where secondary school performance is poor. In such circumstances workers *may require* wages which allow them to educate their children at private schools or in extremis they *may not move* to a particular city. In addition, appropriate public transport policy *may enable* students to access

good performing schools from a greater geographical distance and *perhaps* alleviate any upward pressures on local house prices. (Glen and Nellis 2010, 418)

(196) Hence, the macroeconomic news releases not only are *likely to* trigger jumps in the overall market but also occasionally induce stock price jumps in the absence of systematic jumps. This *could be* because some macroeconomic news *may not be* broadly influential enough to trigger jumps at the market level, whereas one individual stock *could be* more sensitive to the news to experience dramatic changes in prices. (Lee 2012, 469)

Modal adverbs and adjectives

The second most frequent form in this sub-corpus are modal adverbs (46 markers): *plausibly, likely, potentially, not necessarily, perhaps, probably, arguably, possibly, presumably*, indicating authorial assumptions. On the other hand, modal adjectives, although not displaying a great variety, account for 28 markers in the sub-corpus: *possible, likely, tentative.* In examples (197) and (198), they are used to indicate assumptions made by the authors (and in the case of *tentative*, a tone of politeness and tentativeness):

(197) Also, insiders *would tend not to* find disclosures informative because they *plausibly* already possess the information. (Bushee and Friedman 2016, 807)

(198) This is *presumably* due to anticipated income growth being efficiently impounded into prices. The general lack of significance of GDP * TOM *suggested that* 'turn-of-the-month' effects were not simply an analogue of periods of high GDP growth. In one sense this *offers tentative evidence* against a *possible* income effect (Ogden, 2001). (McGuinness and Harris 2011, 926)

Lexical verbs

Other verb forms in this sub-corpus are the semi-auxiliaries *seem* and *appear* (36 markers), epistemic verbs such as *suggest*, *assume* and *imply* (50 markers), as well as surprisingly many realisations of the verb *tend to*[67] – with 28 markers of only this verb in the corpus.

(199) This *would appear to justify* our geographical segmentation approach to modelling the relationship between school per-formance and house prices. The monetary values attached to a one standard deviation improvement *would not appear to be* out of line with those reported by Black (1999) and Gibbons and Machin (2006). (Glen and Nellis 2010, 415)

(200) Earnings announcement information is the only information that *tends to* induce jump arrivals before their release time. This exception *may occur* because of *possible* information leakage or because firms sometimes do not release information at pre-scheduled times. All the other pre-scheduled variables, such as FOMC, NONFARM, and JOBLESS, *tend to* induce jump arrivals within the first 30 minutes after the news releases. (Lee 2012, 464)

As illustarted in example (199), these verbs indicate the authors' assumptions, and as example (200) shows, all markers of indetermination tend to cluster in the sub-corpus, as this small passage shows the co-occurrence of both modal and lexical verbs, as well as modal adverbs.

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[67] *tend to* = "to be likely to do sth or to happen in a particular way because this is what often or usually happens" (Oxford Advanced Learner's Dictionary 2010, 1539).

8.1.3 Subjectivisation

Subjectivisation in this sub-corpus might be the most unexpectedly frequent one, as 1017 markers can be identified (92.5 markers per article on average), accounting for almost 39% of all the markers in this sub-corpus, making this the only sub-corpus in which subjectivisation is more frequent than depersonalisation. The meanings of the markers are quite homogenous, and they serve for the authors' overt projection of their scientific persona into the text.

First-person plural

The majority of the markers containing first-person plural pronouns refer to the processes the authors conduct as a part of their study, and the authors are leading their readers through their process of research in very many details. These expressions exhibit tremendous frequency, as well as variety in this sub-corpus, combined with marked forms of other analytical grammatical categories of the verb such as perfective and continuous aspect forms, and past, present, and future tense: *we posit that, we provide evidence on, we examine, we interpret, we investigate, we estimate, we find that, we create, we isolate, we find consistent evidence, we address this, we focus on, we treat, we adopt, we exploit, we incorporate, we expect, we use, we provide additional insight, we construct, we define, we collect, we measure, we include, we limit, we omit, we compute, we interpret, we do not have sufficient power to find, we also test our hypotheses, we calculate, we show, we present, we study, we begin by, we outline, we consider, we normalize, we discuss, we emphasize, we do not impose, we identify, we do not have data on, we address this, we verify, we follow, we derive, we adjust, we substitute, we describe, we test, we never reject, we conduct, we define, we adjust, we conclude, we report, we confirm, we investigate, we take advantage of, we assess, we employ, we explicitly incorporate, we do not use, we apply, we repeat, we compare, we explain, we evaluate, we bundle, we present, we explore, we utilize, we note that, we proceed, we construct, we derive, we seek, we demonstrate, we determine, we are interested in, we plot, we truncate, we anticipate, we analyze, we look at, we define, we make the additional assumption, we denote, we call, we vary, we seek to express, we invoke, we limit attention to, we conjecture, we define, we include, we augment, we supplement, we revisit, we look at, we decipher, we are unable to comment, we report, we pose two questions, we rule out, we introduce, we capture, we find no evidence, we undertake; we are working with; we collected, we eliminated, we defined, we experimented with, we observed; we have indexed, we have adopted, we have derived, we have generated and stored; we will refer to.* Authors use this strategy to explain the research process in examples (201) and (202):

(201) *We have not been able to control for this effect in this study*. (Glen and Nellis 2010, 411)
(202) *We also check* whether *our results* change if *we use* the second-quarterly estimates (*in our example*, the vintage available in 2011:Q2). (Clements 2020, 6)

First-person plural pronouns can also be found in the accusative case: *allows us to avoid, provided us with, allows us to analyse, do not interest us, it tells us little,* in which the authors are expressed as fulfilling the semantic role of patients of the clause and are therefore deemphasized to a certain extent, but it is still their viewpoint and their attitude that is expressed (R. Đorđević 2007, 97).

Some examples include the use of the first-person pronoun with an epistemic verb denoting the author's opinions and assumptions: *we infer, we assume, we hypothesize that, we expect that, we feel, we believe, we are suggesting that*, combining subjectivisation with indetermination. This is also done through the use of modal verbs to indicate possibility and assumption: *we might expect, we would suggest that, we would argue, we could take, we may replace, we might expect*.

First-person singular

Markers of first-person singular can also be found in this sub-corpus to denote research processes, marked for past, present, and future tense, albeit much less frequently than first-person plural: *I analyze, I present, I identify, I refer to this, I propose, I prove, I discuss, I demonstrate, I further investigate, I find that, I use, I employ, I set, I consider, I show that, I apply, I explain, I solve, I develop, I examine, I report, I follow, I select, I exclude, I observe, I conclude, I use, I consider, I focus on, I create, I collected, I test, I found, I specify and estimate, I consider, I also investigated, I define, I classify, I develop a model, I begin with, I show that, I consider, I do so by, I label, I treat, I formulate, I argue that, I have so far been working, I rely on, I have thus far taken, I now pose,* and with epistemic verbs expressing the author's assumptions: *I hypothesize, I suggest, I assume.* The use of these markers is illustrated in example (203), as the first-person pronoun is combined with verbs denoting procedures:

(203) For return series generation, *I use* the Euler-Maruyama stochastic differential equation (SDE) scheme (see Kloeden and Platen 1992), which is one of the most widely used methods for simulating data from continuous-time models. *I avoid* the starting value effects by discarding five hundred observations during the burn-in period each time *I generate* a time series. *I generate* fifteen-minute returns over a one-year horizon from the general model, represented as [...]. (Lee 2012, 451)

NP [Possessive determiner + $N_{(inanimate)}$]

Another way to express subjectivisation is through possessive determiners and inanimate nouns, expressing authors' viewpoints and indicating their contributions and responsibility: *our findings, our results, our study, in our model, in our sample, our inference from our main regression, our conclusion, our paper, our estimate, our strategy, our paper, our framework, our structural model, our empirical analysis, our empirical work, our objective, our estimation, our standard errors, our data, in our case, in our instrument set, our procedure produces, our parameters of interest, our assumptions, our computations, our condition, our implementation, our work, our analysis, our methodology, in our study, our focus, for our purposes, our hypothesis, our observations, our reading of, our preference, in our dataset, in our preferred equation, our approach, our application of, our main interest, our sample period, our concern, in our example, our definition, our central aim, our main contribution, our theory, our objective, our simulation, our main hypothesis.* As examples (204) and (205) show, possessive determiners and first-person personal pronouns do tend to cluster in this sub-corpus, indicating that the authors are responsible for the research process, as well as the findings:

(204) Finally, *in our additional analyses*, *we include* a number of variables to measure investor composition and participation in each country. *We proxy* for investor participation using the fraction of the market that is closely held (CH), as reported by Dahlquist et al. (2003). (Bushee and Friedman, 2016, 798)

(205) *Our estimation* combines evidence from aggregate time series and a panel of 22 U.S. cities for the years 1978-2009. *We estimate* the local effects of agglomeration using both data sets. The panel data contain information on land rents and the necessary inputs to a conventional measure of city-specific TFP, in which *we control* for heterogeneity in the work force following Ciccone and Peri (2006). *We use* aggregate time-series data to estimate other model parameters. Some of these parameters enter into *our measurement of* TFP and some *we use*, along with *our estimate* of the size of agglomeration effects, to measure the impact of agglomeration on growth. *Our estimation* accounts for the sampling uncertainty in both the micro- and macrodata. (Davis, Fisher and Whited 2014, 732)

The first-person singular may also occur in the possessive, but far less frequently: *my two-categories formulation, my model, my frame-work, my final solution, my sample, my results.*

8.1.4 Intensification

Intensification is not a particularly prominent strategy in this sub-corpus, as only 244 markers can be identified (22.2 markers per article on average). As in other sub-corpora (see 7.1.4), these markers are used either to emphasise a particular statement and express the authors' certainty (certainty markers), or to evaluate a statement it in a certain way and to indicate the authors' attitude (attitude markers).

Certainty markers

Certainty markers include mostly adverbs – emphasizers and intensifiers – used to emphasize an entire clause or a part of it (R. Đorđević 2007, 651): *indeed, of course, clearly, in particular, especially, visibly, more fundamentally, even less likely, even more likely, significantly, inevitably, by no means, certainly, considerably, particularly, noticeably, specifically, in fact, exclusively, evidently, very well indeed, severely, actually, extremely, apparently, in no case, exceptionally.* While example (206) illustrates the use of *actually* as a certainty marker, it also shows how a certainty marker can be combined with an attitude marker (discussed below) in *essentially perfectly*, qualifying the work of a bootstrap method by also using emphasis.

(206) Its performance improves rapidly as a increases, however, and it *actually* overrejects slightly when ρ and a are both large. All of the bootstrap methods improve matters, and the extent of the improvement increases with a. For a = 8, all the bootstrap methods work *essentially perfectly*. For small values of a, the IV-R bootstrap *actually* seems to be the best in many cases, although it does lead to modest overrejection when ρ is large. (Davidson and MacKinnon 2015, 846)

Attitude markers

Attitude marking is achieved through several different markers conveying the authors' evaluations of statements and qualifications of propositions. Firstly, clauses containing adjectival predicates found in the corpus are both finite and non-finite, including relative clauses, predicative constructions, and extraposition *it-* and *wh-*constructions encoding the qualifications of the authors and their attitude towards the proposition expressed in the subordinate clause: *which is ideal; to be more specific; plays no essential role, is clearly evident, this is all the more interesting, this is especially true; it is somewhat surprising, it is clear, it is well known, it is worth noting, it is plain that, it is important to keep in mind, it is important, it is unreasonable, it should also be borne in mind, it is vital that, it is crucial that, it is optimal; what is crucial is, what is particularly interesting*.

Adjectival phrases with an attributive function in the sub-corpus include: *(highly) significant, most intriguing, notable, negligible, obvious, very substantial, crucial, exceptional, unspectacular, interesting, the key difference, particularly noteowrthy, essential, striking, necessary,* and prepositional phrases include: *of particular interest, of primary importance.*

Adverbial phrases found in the sub-corpus include adverbs of modality and manner (R. Đorđević 2007, 654) and value judgements of content (R. Đorđević 2007, 655): *most importantly, (very) significantly, (not) surprisingly/unsurprisingly, interestingly, insignificantly* *different, surprisingly well, essentially, perfectly, remarkably, strongly, substantially, dramatically, strictly, actually.*

(207) Since the distribution of S0 for arbitrary a and ρ is stochastically bounded by that of (28), S0 is boundedly pivotal. However, basing inference on the distribution of (28) *is certain to be extremely* conservative. (Davidson and MacKinnon 2015, 844)

(208) Of course, *it is quite unnecessary to* generate simulated samples of n observations, as it is enough to generate the six quadratic forms (15) as functions of eight mutually independent random variables, using the relations (17) and (20). (Davidson and MacKinnon 2015, 838)

As examples (207) and (208) illustrate, certainty and attitude markers can often combine and cluster, as they can indicate both the authors' qualifications and their emphasis. Some markers which were previously seen as markers of approximation (cf. 7.1.4 and 8.1.5) have intensifying properties in this sub-corpus: *not quite so/as, at least as important as*. This is illustrated in example (208) with the attitude marker *unnecessary*, and *quite* acting as an intensifier (R. Đorđević 2007, 651). Therefore, the extraposed construction indicates the authors' evaluation of the proposition indicated in the subordinate clause, but this evaluation is also emphasized.

Other notable attitude markers are modal verbs used in their deontic sense indicating necessity, most notably *must*: *must be replaced, must necessarily impose, must be based, must be the case, must be closer, must therefore yield, it must be that, it must continue to, must be determined, must be estimated,* as well as *need (not), have to* (both indicating necessity – R. Đorđević 2007, 534), *will* and *should*: *need not always apply, needs to be addressed, have to be, it will always be the case* (emphasized by the adverb of universal frequency *always* – R. Đorđević 2007, 646), *there should be no presumption, should not be reluctant to, should disregard* (indicating a suggestion rather than a necessity – R. Đorđević 2007, 511).

8.1.5 Approximation

Approximation is the second least prominent strategy in this sub-corpus, with only 213 markers identified (19,4 markers per article on average). Approximation markers serve to attenuate only certain aspects of the utterance, unlike markers of indetermination (see 8.1.2), corresponding to Prince, Frader and Bosk's (1982) differentiation between *Approximators* (strategy of approximation) and *Shields* (strategy of indetermination).

Adverbs

The majority of these markers include adverbs, downtoners – approximators, compromisers, diminishers, and minimizers (R. Đorđević 2007, 652; Quirk et al. 1985, 597): *generally,* *relatively, aproximately, marginally, nearly, usually, fairly, slightly, similarly, occasionally, almost, roughly, typically, partially, broadly, quite, closely, usually, reasonably, rather, largely, at least, somewhat*, *about, more or less, in general, in principle*. These adverbs tend to act as approximators on their own, as illustrated in example (209), or as premodifiers of other adverbs, as illustrated in example (210):

(209) Next, note that overall standard deviation values are greatest in the n = 512 case, *slightly* lower for n = 256, and considerably lower for n = 1024. This is due to the historical volatility of the S&P 500 being *relatively* high during the mid 2015 to early 2016 time period and lower in prior years over the five year window being considered. (Taylor and Fang 2018, 6)

(210) For a = 2, the LR test and its linearized version LR0 perform *somewhat differently* in small samples but *almost identically* once n ≥ 200, with LR rejecting more often than LR0. (Davidson and MacKinnon 2015, 840)

Other approximating expressions

An open-class quantifier (Quirk et al. 1985, 264) can be found in this sub-corpus, consisting of a noun phrase with the structure [Det - Head Noun + Postmodifier] – *a number of* – indicating inexactness, as illustrated in example (211):

(211) Producing histogram forecasts is *typically* more time-consuming and costly than producing point predictions, for *a number of* reasons. (Clements 2020, 2)

The closed-class quantifier functioning as a determiner (Quirk et al. 1985, 262) *some* can also be found in the sub-corpus in expressions indicating fuzziness leaning on Lakoff's hedge *sort of* (1973): *some amount of, to some extent* (see 7.1.5).

Adjectives in this strategy do not include many tokens: *tantamount (to), slight, similar (to),* as well as prepositional phrases *in a very approximate way, at similar levels, in a similar manner*. Example (212) illustrates the use of an adjective indicating similarity, as well as a cluster of approximation markers:

(212) Except when the asymptotic test already works perfectly, using that bootstrap method *almost always* improves the performance of the test. The bottom two panels of Figure 8 look very *similar to* the corresponding panels of Figure 7, except that the bootstrapped Fuller test tends to underreject *just a bit*. It is evident that, as a increases, the LR test and its Fuller variant become *almost* indistinguishable. (Davidson and MacKinnon 2015, 847)

8.1.6 Evaluative Reference

Evaluative reference is the overall least prominent strategy in this sub-corpus, and the least prominent one in the English sub-corpus, with only 69 markers identified (6,3 markers per article).

Gaps in existing research

The first dimension of this strategy involves indicating a gap in the existing literature, with 13 markers identified in the sub-corpus. These include mostly finite clauses: *there have been relatively few studies, has not been thoroughly investigated in the literature, there is no theoretical basis in the literature for us to simply use, this hypothesis is often not fully articulated in the literature, seems to have been largely ignored in this literature, to the best of my knowledge there are no studies attempting to determine, has been less studied, fewer studies have considered, comparatively little has been done.* These markers often include determiners such as *few, little, not many, no,* as well as expressions carrying negative connotations, such as *ignored, not articulated, not investigated,* as illustrated in example (213). Example (214) shows that authors often indicate that this is the extent of their knowledge (also seen in example *to the best of my knowledge there are no studies attempting to determine*), combining reference with subjectivisation, and directly linking this lack of knowledge with their subjective point of view:

(213) Nevertheless, the role of real-time information for predicting jumps in stock markets <u>*has not been thoroughly investigated in the literature*</u>. (Lee 2012, 439)

(214) <u>*We are unaware of any previous estimates of this parameter*</u>. (Davis, Fisher and Whited 2014, 755)

Contribution of current research

On the other hand, and with an almost equal amount of markers identified (14), evaluative reference can also be used to indicate the contributions of the current article to the existing research landscape. This is done either through explicit projection of authorial persona into the text using markers of subjectivisation: *we contribute to the literature by, our main contribution is to extend these results, we add to this literature by,* or by the metonymic use of inanimate nouns *this study is one of the first to, this analysis naturally allows a novel decomposition of, this work is distinguished from others in that, the study reported in this paper seeks to make a contribution, the results in this paper are the first to bear on this question, the methodological novelty of the paper lies.* This is illustrated in example (216) below, along with other dimensions of this strategy.

Comparison with other work

The third dimension of evaluative reference includes comparison to previous work and how current work ties in with it, or differentiates from it (21 markers), using mainly finite clauses with either markers of subjectivisation, explicitly inserting authorial persona into the text: *here instead we turn, we follow, our work differs from those papers in a number of respects, our results are consistent with results*, or markers of depersonalisation through metonymic use of inanimate nouns: *this result is surprising in the light of, these results contrast with other, the results resonate with earlier findings, this follows the insight of, this helps confirm [author's] findings, in contrast to the usual model.*

(215) <u>*While our paper is novel for*</u> using city-level data to quantify the impact of city-level agglomeration on aggregate growth within a fully specified model, <u>*it follows a substantial theoretical literature*</u> that rationalizes aggregate growth models with evidence on cities. (Davis, Fisher and Whited 2014, 732)

Example (215) illustrates the combination of evaluative reference with both subjectivisation and depersonalisation, showing the contribution of the research discussed (as per the previous dimension), as well as how it ties in with previous research.

Future work

The final dimension of this strategy is used to indicate areas for further research, and how this can be addressed in future work (19 markers). This usage also ties in with potential limitations of the research, as an important aspect of the dimension ***contribution of current research*** (or lack thereof), of which two markers are identified, given in bold in examples (216) and (217). The future work that needs to be done in the field is expressed through finite clauses: *is relevant to future work, can be useful for other empirical studies, these points are worthy of further investigation, it would be of interest to consider, but leave this for a future study, it would be interesting to explore, it would be of interest to determine, would offer one interesting avenue for research in this area, obtaining such proof will be the subject of future research,* as well as nominal phrases: *interesting future application of, for additional future work, a future area of research, one interesting area of investigation.* Examples (216) and (217) illustrate the use of the dimension of contribution of current research and its possible limitations, as well as areas for future research.

(216) <u>*This study is one of the first to focus on*</u> how disclosure standards relate to stock return noise, particularly short-term mood-based noise in daily market-level returns. While we find consistent evidence of a negative effect of disclosure standard quality on mood-based noise in our sample, these results are limited to only one of many types of noise and <u>***cannot necessarily be extended to***</u> broader statements about market efficiency. Despite these limitations, the <u>*evidence suggests an interesting mitigating effect of disclosure standards on return noise that is relevant to future work on*</u> the consequences of disclosure regulation and market efficiency. (Bushee and Friedman 2016, 815–816)

(217) *Our work suggests many areas for future research* and we conclude by summarizing a few. *One area that needs attention is* a proof of equilibrium existence and uniqueness for the general version of our model. ***Other limitations of our analysis include*** its assumptions of convenience, which may affect our conclusions. While we have addressed some of these issues in our empirical work, others remain. For example, the impact of assuming perfect mobility of noninfrastructure capital *remains to be determined*. Despite these shortcomings, *it would be interesting to apply our methodology to* quantify the role of other mechanisms in growth. *Another interesting avenue for further study is* additional predictions of the model for the cross section of cities. (Davis, Fisher and Whited 2014, 761)

8.2 Corpus analysis of articles in the field of economics written in Serbian

The 16 articles in the sub-corpus of articles in the field of economics written in Serbian deal with banking, macroeconomics, economic development, international commerce, taxing and fiscality, financial analysis, entrepreneurship, and monetary policy. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of 1506 markers can be identified within this sub-corpus, and the distribution of these markers according to the six strategies discussed in Chapter 4, in terms of their absolute frequencies and percentage is given in Figure 13:

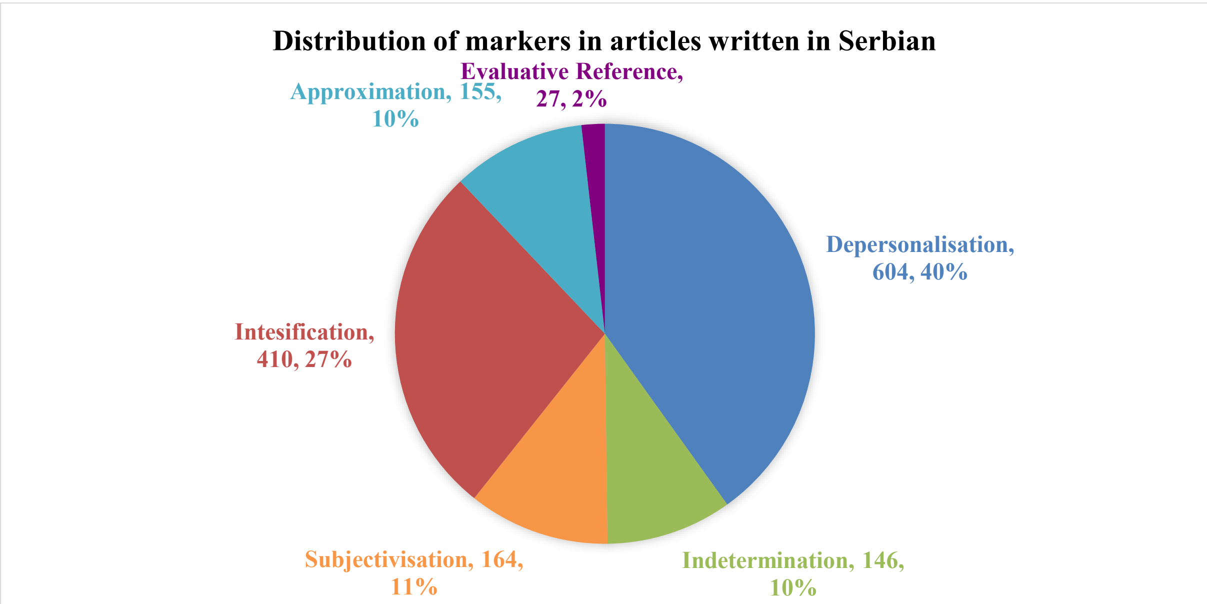

Figure 13: Distribution of stance markers in economics articles written in Serbian (absolute frequencies)

In the Serbian sub-corpus, depersonalisation is once again the most frequently used strategy, while evaluative reference is the least frequently used one. A frequent use of the strategy of intensification can also be noted in Figure 13.

8.2.1 Depersonalisation

In comparison to the English sub-corpus (see 8.1.1), depersonalisation (including the use of the passive voice) is used far more frequently than subjectivisation, with 604 markers (an average of 37,75 markers per article).

Participles (trpni glalgolski pridev)

The most frequent form in this sub-corpus are participles – *trpni glagolski pridev* – an adjectival form derived from a verb, indicating that an action is being performed on something or someone (Stanojčić and Popović 2004, 403), with 196 identified markers with an attributive function: *izabrani* (=chosen), *korišćena* (=used), *prikupljeni* (=collected), *posmatrani* (=observed), *dobijene* (=obtained), *razmatrana* (=considered), *definisan* (=defined), *naveden* (=mentioned), *gore naveden* (=abovementioned), *pomenut(i)* (=mentioned), *sprovedeno* (=conducted), *novopredloženi* (=newly suggested), *očekivan* (=expected), *mereno* (=measured), *primenjena* (=applied), *utvrđene* (=established), *analizirani* (=analysed), *kreiran* (=created), *izračunati* (=calculated), *predložen* (=suggested), *prezentovan* (=presented), *anketirani* (=surveyed), *uočen* (=noticed). This form is also used by the authors for text-deixis, to refer to different sections of the paper with an organisational purpose, such as *gore spomenuti* (=abovementioned) and *prethodno spomenuti* (=previously mentioned).

Metonymic use of inanimate nouns

Unlike the linguistics sub-corpus (see 7.2.1), metonymic use of inanimate nouns as an inanimate agent of the research being conducted is not so prominent in this sub-corpus. However, similarly to the linguistics sub-corpus, these nouns vary in their degrees of abstractness ranging from fairly concrete ones such as in *analiza/istraživanje/rad/rezultati/ podaci/nalazi (analysis/research/paper/results/data/findings*) to more abstract nouns such as *cilj/predmet/ideja/pojam (goal/subject/idea/concept),* with 91 markers identified: *rezultati pokazuju* (=results show), *rezultati ukazuju* (=results indicate), *rezultati otkrivaju* (=results reveal), *rezultati dijagnostičkog testa impliciraju* (=diagnostic test results imply,) *rezultati potvrđuju zaključke* (=results confirm the conclusions); *nalazi u ovom radu na indirektan način impliciraju* (=findings in this work indirectly imply); *istraživanje je imalo za cilj da se utvrdi* (=the research aimed to determine), *pokazuje istraživanje* (=research shows), *istraživanje je pokazalo* (=research showed), *istraživanje treba da ponudi odgovor* (=research should offer an answer); *rad prikazuje* (=this work shows); *statistička analiza upućuje na* (=statistical analysis points to), *analiza jasno ukazuje na* (=analysis clearly points to); *navedeni podaci govore* (=the given data tells us), *podaci jasno pokazuju* (=the data clearly show), *podaci ukazuju na* (=data points to); *test sume rangova pokazuje* (=the rank sum test shows), *cilj ovog rada jeste* (=the aim of this paper is), *glavna svrha ove analize jeste* (=the main purpose of this analysis is), *za primenu* (=for the application), *primenom ove metode* (=by applying this method), *predmet istraživanja su* (=the object of research are), *predmet rada je* (=the object of this paper is), *uz konstataciju* (=with the ascertainment), *u cilju dokazivanja* (=in order to prove), *uz prethodnu pretpostavku* (=with the previous assumption), *početna hipoteza je* (=the starting hypothesis is), *tumačenje ovog rezultata je* (=the interpretation of this result is), *predmet analize u ovom radu* (=subject of analysis in this paper), *procena je* (=an estimation is).

(218) *Istraživanje je imalo za cilj da se utvrdi* uticaj razvojnih fondova na razvoj MSPP sektora. (Viduka, Varađanin and Todorović 2016, 66) = the purpose of this research was...

(219) Samim time, *osnovna hipoteza od koje se pošlo u istraživanju sadržanom u ovom radu*, da se inverzam odnos nezaposlenosti i inflacije predstavlja tradicionalnom Filipsovom krivom, se za ova dva vremenska perioda može prihvatiti kao tačna. (Srzentić 2018, 45) = the basic hypothesis on which the research contained in this paper was based…

Examples (218) and (219) illustrate the use of inanimate nouns used in a metonymic sense to transfer agentivity from the authors to an inanimate object and to denote authorial absence (Vučićević and Rakić 2020b, 85).

Impersonal constructions (obezličene rečenice)

Impersonal constructions with a deagnetised subject are also quite prominent in this sub-corpus (*obezličene rečenice*). In these constructions, the verb is in an impersonal reflexive form, in past and present tense, as well as the conditional form – *potencijal* (79 markers): *se mislilo* (=was thought), *dolazi se do zaključka* (=one reaches the conclusion), *polazi se od stanovišta* (=one starts from the point of view), *se došlo do saznanja* (=it was discovered), *iz priloženog se vidi* (=it can be seen from the attachment), *zaključuje se* (=is concluded), *podrazumevaju se* (=are assumed), *kao što se može videti* (=as can be seen), *može se zaključiti* (=it can be concluded), *može se govoriti o* (=one can talk about), *može se konstatovati* (=it can be stated), može se reći (=it can be said), *može se smatrati* (=can be considered), *bi se moglo protumačiti* (=could be interpreted). As these examples show, impersonal constructions can also be combined with indetermination via the modal verb *moći*, which will be discussed in 8.2.2. Example (220) illustrates the use of the impersonal construction aimed at deagentising the clause:

(220) _Sprovedenim istraživanjem se došlo do saznanja da_ 59% ispitanika koristi usluge mobilnog bankarstva, dok 41% ne koristi ove usluge (Grafikon br. 3). (Soleša and Brkić 2019, 10) = the conducted research revealed that...

The combination of the copular verb *to be* and an adjective functions as a nominal predicate or a predicative construction in this sub-corpus: *je realno pretpostaviti* (=is realistic to assume), *je potrebno fokusirati se* (=is necessary to focus), *evidentno je* (=is evident), *važno je pomenuti* (=is important to mention), *je vidljivo* (=is visible), *primetno je* (=is noticeable), *značajno je istaći* (=is important to point out), *veoma je teško procjeniti* (=is very difficult to estimate), *su primetne* (=are noticeable), *vidljive su* (=are visible)[68]. Some of these markers are also seen as attitude markers (see 8.2.4).

Authors

Similarly to the English linguistics sub-corpus (see 7.1.1), in 16 instances in this sub-corpus, the authors use the impersonalised self-reference form and refer to themselves as _authors_ in the following examples: *autori smatraju da* (=authors think that), *predložen od strane autora* (=suggested by the authors), *u ovom radu autori razmatraju* (=in this paper the authors consider), *autori su krenuli od* (=authors started from), *autori su za cilj imali* (=the authors had as a goal), *u svojoj analizi autori su se fokusirali na* (=in their analysis the authors focused on), *prema mišljenju autora* (=according to the authors' opinion).

Passive voice

Last but not least, passive voice is also used in this sub-corpus. As in lingustics sub-corpus (see 7.2.1), there are two ways to express the passive in Serbian: participial and reflexive (222 markers identified). The participial passive exhibits a variety and abundance of examples, describing procedures and actions taken by the authors of the papers when conducting the research, usually in combination with present/past and future tense. The former (as mentioned in 7.2.1, passive does not differentiate between past and present tense in Serbian) is used for procedure description: *u radu je izvršeno ispitivanje* (=an examination was carried out in the paper), *korišćen je* (=was used), *korišćeni su* (=were used), *izračunata je* (=was calculated), *su*

[68] It has to be noted here that, unlike English, Serbian differentiates adjectives, as well as nouns, according to their case, number and gender. Additionally, there is noun-adjective agreement, so the adjective qualifying the noun concords with it in case, number, and gender. Since the noun in the last two forms is a feminine plural noun in the nominative case, the adjective is also in the feminine, plural and nominative form.
In these examples, the relatively free, i.e., "pragmatical" word order (Kortmann 1998, 149) of Serbian can be noticed, as these predicative constructions would have to be extraposition constructions or cleft sentences in English, but the word order in Serbian allows for more flexibility in their position.

prikupljeni (=were collected), *su izabrane* (=were chosen), *je ponovljen* (=was repeated), *nije otkrivena* (=was not discovered), *je izvršen* (=was done), *su prikazani* (=were shown), *urađen je* (=was done), *sprovedeno je* (=was conducted), *anketirani su* (=were surveyed), *primenjen je* (=was applied), *su prikazani i analizirani* (=were shown and analysed), *uzeti su* (=were taken), *preračunate su* (=were calculated), *uočen je* (=was seen), *je obavljeno* (=was done), *dati su jasni odgovori* (=clear answers were given), *su predstavljeni* (=were presented), *identifikovan je* (=was identified), *ustanovljena je* (=was established), *je definisana* (=was defined), *određen je* (=was determined), *bazirana je* (=was based), *nije nađena* (=was not found), *označen je* (=was denoted), *je očekivana* (=was expected). Examples (221) and (222) illustrate this use:

(221) Nezaposlenost i inflacija, kao osnovni faktori koji određuju Filipsovu krivu, *su u ovom radu definisani* prema metodologiji korišćenoj od strane ECB i Eurostata, u svom procentualnom obliku. Stopa nezaposlenosti *je predstavljena* kao procenat nezaposlenih osoba u civilnoj radnoj snazi (ECB.a, 2018). Stopa inflacije *je određena* korišćenjem harmonizovanog indeksa potrošačkih cena (ECB.b, 2018). (Srzentić 2018, 38) = are defined in this paper; is presented; is determined

(222) Metodom anketiranja *su prikupljeni* podaci o predmetu istraživanja. *Sprovedeno je* empirijsko istraživanje na uzorku od 100 ispitanika na teritoriji grada Novog Sada. *Anketirani su* ponoletni građani a *primenjen je* metod on-line anketiranja. Anketni upitnik u elektronskoj formi *je poslat* ispitanicima elektronskom poštom. (Soleša and Brkić 2019, 2–3) = are collected; is conducted; are surveyed; is applied; is sent

Future tense indicates what is going to be done as part of the research: *biće izvršena* (=will be done), *biće obavljeno* (=will be done), *će biti utvrđene* (=will be determined), *će biti ograničeno* (=will be limited), *će biti prezentovana* (=will be presented), *će biti detaljno objašnjena* (=will be explained in detail), *će biti prikazane* (=will be shown), *će biti analizirani* (=will be analysed), *će biti objašnjene* (=will be explained), *biće primenjen* (=will be applied), *će biti korišćen* (=will be used). Example (223) illustrates this use:

(223) Poređenjem rezultata dobijenih primenom navedena dva načina obrade podataka *biće obavljeno* rangiranje zemalja iz uzorka pri čemu *će biti utvrđene* razlike u rangiranju, *definisani* razlozi navedenih razlika i *dati* predlozi za unapređenja u oblasti kvantifikacije efekata ekološkog oporezivanja u budućnosti. (Munitlak Ivanović 2014, 7) = will be conducted; will be established […] defined […] given;

On the other hand, the reflexive passive also denotes the actions performed as part of the research, but the subject is viewed as the patient of the clause, meaning that the clause is entirely deagentised. Examples of this passive include: *će se obraditi* (=will be processed), *ispituje se* (=is examined), *vidi se* (=is seen), *se tumače* (=are interpreted), *se upoređuju* (=are compared), *se koriste* (=are used), *uočava se* (=is seen), *ispituje se* (=is investigated), *testira se* (=is tested), *se definiše* (=is defined), *primećuje se* (=is noticed), *se analizira* (=is analysed), *koristiće se* (=will be used). This type of the passive is illustrated in example (224):

(224) Rast cena snižava realnu nadnicu, što <u>*se vidi*</u> iz pomeranja krive PS na dole, u položaj PS'. (Marjanović and Mihajlović 2012, 480) = the rise in prices lowers the real wage, which <u>*can be seen*</u> from the downward shift of the PS curve to the position

Passive reflexive constructions are also used in causal clauses – *uzročne rečenice* (Stanojčić and Popović 2004, 319): *kako bi se otkrilo* (=in order to discover), *kako bi se ispitala* (=in order to examine), *kako bi se identifikovale* (=in order to determine). Finally, they can also be combined with indetermination in the examples: *može se navesti* (=can be specified) and *može se uvesti* (=can be imported).

8.2.2 Indetermination

Indetermination is not too prominent in this sub-corpus, as only 146 markers can be identified (9,1 markers per article on average).

Modal verb <u>moći</u>

As many as 77 (52,7%) out of 146 markers of indetermination contain the modal verb *moći* (=can) indicating possibility: *se mogu svrstati* (=can be classified), *može da posluži* (=can serve), *može vršiti* (=can perform), *mogu pomoći* (=can help), *može se smatrati* (=can be considered), *može da se koristi* (=can be used), *se može desiti* (=can happen), *mogu inicirati* (=can initiate), *bi se mogla objasniti* (=could be explained), *mogu biti* (=can be), *bi se mogao naći* (=could be found), *može pospešiti* (=can improve), *bi mogli imati* (=could have), *može dovesti do* (=can lead to), *mogli bi uticati* (=could influence). Example (225) illustrates the use of the verb *moći* to indicate possibility, combined with a deagentised impersonal construction in the reflexive impersonal form (Stanojčić and Popović 2004, 252), referring to the authors implicitly:

(225) Najviše je zastupljeno fakultetski obrazovanih zaposlenih, njih 38%, a 13% zaposlenih ima zvanje magistra/master, dok ih je sa višim obrazovanjem 19% što pokazuje da je najveći broj ispitanika visoko obrazovan pa <u>*se može smatrati*</u> da se zaključci koji su izneseni u anketi <u>*mogu smatrati*</u> reprezentativnim. (Dragičević 2016, 44) = can be considered; can be considered

Combinations

Many of these markers combine indetermination and depersonalisation in impersonal and passive constructions with the modal verb *moći*, indicating possibility (see 8.2.2): *može se/moglo bi se protumačiti* (=can/could be interpreted), *može se reći* (=can be said), *mogu se potvrditi* (=can be confirmed), *se može smatrati* (=can be considered), *može se sagledati* (=can be seen), *može se govoriti o* (=we can talk about), *se može posmatrati* (=can be observed), *se može očekivati* (=can be expected), *se može zapisati* (=can be written), *može se protumačiti* (=can be interpreted), *može se videti* (=can be seen), *može se konstatovati* (=can be established), *može se zaključiti* (=can be concluded), *može se uočiti* (=can be seen), *mogu se potvrditi* (=can be confirmed), *se ne može pravdati* (=cannot be justified), *može se reći* (=can be said), *se može smatrati* (=can be considered), as well as *je moguće pratiti* (=it is possible to follow), *moguće je formulisati* (=it is possible to formulate).

(226) *Prethodno rečeno može se predstaviti sledećom jednačinom*: (Papović, Dević and Radivojević 2020, 45) = the aforementioned can be presented with the following equation

(227) *Ako bi se pošlo od pretpostavke* da proizvođači prate i imaju poverenja u odluke ECB, *dalja analiza bi se mogla predstaviti* na sledeći način. (Srzentić 2018, 42) = if one were to start from the assumption [...] further analysis could be presented...

Examples (226) and (227) illustrate this use, and example (227) also indicates a possibility by an impersonal conditional clause with conditional (*potencijal*) in both dependent and independent clause, as a realistic future condition (Stanojčić and Popović 2004, 322).

Additionally, indetermination and subjectivisation (see 8.2.3) can also be combined to mark the authors' tentative assumptions: *možemo zaključiti/da zaključimo* (=we can conclude), *možemo smatrati* (=we can consider), *možemo reći* (=we can say), *možemo sagledati* (=we can see), *mogli bismo očekivati* (=we could expect).

Conditional (potencijal)

The second most prominent type of indetermination markers includes the use of the conditional – *potencijal* – indicating a possibility (37 markers): *bi se kompenzovali* (=would be compensated), *zanimljivo bi bilo* (=it would be interesting), *bi bio/bilo* (=would be), *bi iznosilo* (=would amount to), *doprinelo bi* (=would contribute). In addition, the modal verb *trebati* in its conditional form *trebalo bi* can also indicate possibility (9 markers): *bi trebalo ispraviti* (=should be corrected), *trebalo bi očekivati* (=should be expected), *bi trebalo uporediti* (=should be compared), *trebalo bi da utvrdimo* (=should be established). Examples (228) and (229) indicate authors' assumptions through the use of the conditional form:

(228) Ovo je vrlo negativan trend i *možda bi se mogao zaustaviti* prodajom dela stalnih sredstava nepokretnosti koje nisu u funkciji (npr. bivše hale), čijim *bi se konvertovanjem u obrtna sredstva poboljšao* iznos neto obrtnih sredstava. (Vučković 2014, 32) = could perhaps be stopped; would be improved by converting it into current assets

(229) Da je naš PIO fond formulisan po nekom drugim principu a ne po principu protočnog bojlera i međugeneracijske solidarnosti princip progresivnog smanjenja penzija *ne bi bio opravdan*, ali u slučaju fonda Srbije autori smatraju da je opravdan i da *bi se mogao primeniti*. (Plojović et al. 2014, 26) = would not be justified; could be applied

Lexical verbs, modal adverbs, adjectives and nouns

Lexical epistemic verbs can be found in only 11 markers in this sub-corpus, combined with subjectivisation: *nam sugeriše* (=suggests to us), *pretpostavićemo* (=we will assume), as well as depersonalisation: *izgleda kontradiktoran* (=seems contradictory), *deluje da* (=seems to), *sugeriše se* (=it is suggested). Modal nouns can be found in 8 markers: *mogućnost* (=possibility), *pretpostavka* (=assumption), *mišljenje* (=opinion), *potencijal* (=potential). Modal adverbs can be found in only 7 markers: *možda* (=maybe) and *verovatno* (=probably), and modal adjectives in 5 markers: *potencijalni* (=potential), *mogući* (=possible).

8.2.3 Subjectivisation

Unlike the previous English sub-corpus (see 8.1.1), subjectivisation is not as prominent, as only 164 markers can be identified (an average of 10,25 per article). Three articles have no markers identified at all, and no markers of first-person singular can be found.

First-person plural

Subjectivisation is expressed through verb forms marked by inflection for first-person plural. Personal pronoun *mi* can be omitted in Serbian, as the verb inflection in finite forms is used to mark person and number (Piper et al. 2005, 487). These verb forms are combined with marked forms of other analytical grammatical categories of the verb such as present, past, and future tense, mostly to describe the procedures conducted as part of the research, regardless of tense. Some of these markers include: *poredimo* (=we compare), *dolazimo do zaključka* (=we come to the conclusion), *sagledavamo* (=we look at), *konstatujemo* (=we establish), *primećujemo* (=we notice), *želimo da predstavimo* (=we want to present), *želimo dokazati* (=we want to prove), *zaključujemo* (=we conclude), *vidimo* (=we see), *smatramo* (=we think), *srećemo* (=we encounter), *tražimo* (=we seek); *smo razmatrali* (=we considered), *prikazali smo* (=we showed), *smo dobili* (=we obtained), *postavili smo* (=we set), *videli smo* (=we saw), *pribavili smo* (=we acquired), *napravili smo* (=we made), *izračunali smo* (=we calculated), *analizirali smo* (=we analysed). *nismo našli* (=we did not find), *procjenili smo* (=we estimated), *izmjerili smo* (=we measured), *primjetili smo* (=we noticed), *koristili smo* (=we used), *smo zaključili* (=we concluded), *smo utvrdili* (=we established), *smo modifikovali* (=we modified), *smo smatrali* (=we considered), *smo pokazali* (=we showed), *nismo utvrdili* (=we did not establish); *ćemo postići* (=we will accomplish) ćemo predstaviti (=we will present), *ispitaćemo* (=we will investigate), *ćemo izvršiti poređenje* (=we will compare), *koristićemo* (=we will use), *ćemo posvetiti pažnju* (=we will pay attention). This use is illustrated in example (230):

(230) U radu *smo statističkom analizom pokazali* zavisnost BDP-a i zaposlenosti. (Cvijanović, Pantić and Ignjatijević 2019, 18) = we showed through statistical analysis...

There are only a few examples in which this strategy is used to indicate the opinion of the authors, and they all have the same form: *mišljenja smo* (=we are of the opinion). The noun *mišljenje* is in the genitive case, and thereby not a grammatical, but a logical subject, and an action is ascribed to it (Piper et al. 2005, 488), but the agent is still visible in the first-person plural verb form *smo*.

Subjectivisation is also at times used in conditional clauses – *uslovne rečenice*: *ukoliko/ako posmatramo* (=if we observe), *ukoliko uvrstimo* (=if we include), *ukoliko se oslonimo* (=if we rely on), *ako uporedimo* (=if we compare), *ukoliko primenimo* (=if we apply), but these are not seen as markers of indetermination, as they do not indicate possibility, but rather a real and achievable condition (Stanojčić and Popović 2004, 320). The same can be said for certain markers containing the modal verb *moći,* as these do not denote possibility, but rather ability (Kalogjera 1982, 31): *možemo odbiti* (=we can reject), *ne možemo utvrditi* (=we cannot establish), *ne možemo odbaciti* (=we cannot reject), *ne možemo smatrati* (=we cannot consider).

(231) *Da bi mogli efikasno dalje pratiti* angažovanje sredstava u ovom preduzeću *pozabavićemo se* njihovim pokazateljima aktivnosti, koji treba da *nam pojasne* da li preduzeće ostvaruje i da li će ostvarivati pozitivne efekte od investicije. (Vučković 2014, 35) = in order (for us) to be able to effectively monitor […]; we will deal with […]; which should explain to us […]

Example (231) illustrates a subjectivisation marker in a conditional clause not denoting possibility, but ability (and therefore not being a marker of indetermination), as well as a rare overt use of the personal noun *nam*, used in the dative: *ovo nam govori* (=this tells us), *ovaj odnos nam pokazuje* (=this relationship tells us), in which the authors are seen as indirect objects in Serbian as the action is directed towards them (Piper et al. 2005, 182), but their viewpoint is still the most important one.

Combinations

However, as indicated in the sub-chapter on indetermination (see 8.2.2), subjectivisation can be combined with indetermination, when markers contain the modal verb *moći* and indicate possibility: *možemo zaključiti* (=we can conclude), *možemo smatrati* (=we can consider), *možemo reći* (=we can say), *možemo doći do nekoliko zaključaka* (=we can reach several conclusion), *mogli bismo očekivati* (=we could expect), *možemo očekivati* (=we can expect). These two strategies are also combined in lexical verbs – combined with the nominative *pretpostavićemo* (=we will assume) and the accusative *nam* *sugeriše* (=suggests to us).

Subjectivisation can also be combined with intensification in the use of the modal verb *trebati* to indicate obligation (Kalogjera 1982, 27) in examples: *trebamo dati* (=we should give) and *trebamo istaći* (=we should point out) – albeit grammatically incorrectly used, as the correct grammatical form would be the impersonal form *treba* when followed by the infinitive (Piper et al. 2005, 640).

NP [Possessive determiner + $N_{(inanimate)}$]

Finally, there are very few examples with the possessive determiner, denoting the limitation of the results presented to this singular research, expressed by the prepositional phrases with the structure [Prep + Det + N]: *u našem istraživanju* (=in our research), *u našem slučaju* (=in our case), *u našem primeru* (=in our case), *na našem uzorku* (=in our sample). This is illustrated in example (232):

(232) *Primijenili smo* isti oblik MCI *u našem istraživanju*. (Jović 2020, 10) = in our research

Other markers are used to indicate opinions and hypotheses of the authors as noun phrases: *naša glavna hipoteza* (=our main hypothesis), *naša pretpostavka* (=our assumption), *naša hipotetička pretpostavka* (=our hypothetical assumption).

8.2.4 Intensification

Intensification is the second most prominent strategy in this sub-corpus, with a total of 410 markers found (25,6 per article). As mentioned before, this strategy is used to emphasize the certainty of the author in the statement they are making (certainty markers), or to express their evaluation of it (attitude markers), and these two categories often overlap.

Certainty markers

The most prominent certainty marker in this strategy is the adverb *značajno* (=significantly) and the corresponding adjectives *značajni/značajne/značajna* (=significant) in noun phrases *značajni faktor* (=a significant factor), *značajno sredstvo* (=a significant medium), *značajna veza* (=a significant relationship), *značajan izvor* (=a significant source), *značajan indikator* (=a significant indicator), *značajan iznos* (=a significant amount), *značajan priliv* (= a significant influx), *veoma značajna razlika* (=very significant difference), in adjectival phrases *mnogo značajnije* (=much more significant), *značajnije veći* (=significantly larger), *značajno manje* (=significantly less), *značajno ispod* (=significantly below), *značajno drugačiji* (=significantly different), *posebno značajan* (=especially significant), *izuzetno značajna* (=extremely significant), and adverbial expression *u značajnoj meri* (=significantly). The certainty marker *značajno* is illustrated in example (233), along with *naročito* (=especially):

(233) Osim poremećaja u stranoj tržnji za proizvodima, drugi kanal prenošenja krize na Zapadni Balkan je bio pad priliva SDI. U 2008. godini, a *naročito* 2009. godini, prilivi SDI u zemlje u razvoju i tranzicione zemlje su *značajno* opali, *naročito* u regionu Zapadnog Balkana. (Jaćimović, Bjelić and Ivan 2013, 5) = especially; significantly; especially

Other certainty adverbs include: *naročito* (=especially), *upravo* (=precisely), *znatno* (=considerably), *uspešno* (=successfully), *krajnje* (=utterly), *suštinski* (=essentially), *posebno* (=especially), *snažno* (=strongly), *izuzetno* (=exceptionally), *dramatično* (=dramatically), *pre svega* (=above all), *svakako* (=certainly), *sigurno* (=certainly), *nedvosmisleno* (=unambiguously), *izrazito* (=distinctly), *očigledno* (=obviously), *zapravo* (=actually), *u najboljem slučaju* (=at best), *u stvari* (=actually), *logično* (=logically/obviously), *jasno* (=clearly), *pogotovo* (=especially), *isključivo* (=exclusively), *neminovno* (=inevitably), *dosta* (=quite), *daleko* (=far), *nesporno* (=indisputably), *vidno* (=visibly), *prvenstveno* (=first and foremost), *uspešno* (=successfully), *veoma* (=very), *tim pre* (=all the more), *realno* (=realistically), *upravo* (=precisely), *naravno* (=of course). These adverbs can also modify other attitude markers, as seen in *suštinski bitne* in example (234):

(234) *Ključna prednost* IS-PC-MR modela je to što na eksplicitan način obuhvata *suštinski bitne* varijabile u režimu targetiranja inflacije. (Marjanović and Mihajlović 2012, 482) = the key advantage; essentially important

Attitude markers

Authors can qualify their statements and express their attitudes through the use of adjectives: *važno* (=important), *ključno* (=key), *interesantna* (=interesting), *neophodna/potrebna* (=necessary), *krucijalna* (=crucial), *jako izdašni* (=very generous), *beznačajan* (=insignificant), *ozbiljni* (=grave), *izuzetno važna* (=exceptionally important), *bitna* (=important), *neznatan* (=negligible), *nemoguća* (=impossible), *odlučujuća* (=decisive), *nezadovoljavajuće* (=unsatisfactory), *najopasnija* (=most dangerous), *drastične* (=drastic), *zanemarljiv* (=negligible), *iznenađujuće* (=surprising), *najzanimljiviji* (=the most interesting), *nije uopšte mala* (=not small at all), *oštar pad* (=a steep decline), *nedvosmislena* (=unambiguous), *nezavidna* (=unenviable), *nažalost* (=unfortunately), *nezaobilazan*

(=indispensable), *najdrastičniji* (=the most drastic), *izuzetni* (=exceptional), *osetni* (=noticeable), *veoma interesantne* (=very interesting), *pomalo iznenađujući* (=somewhat surprising), *neizbežna* (=inevitable), *poželjna* (=desirable), as well as adverbs *veoma teško* (=very difficult), *neprihvatljivo* (=unacceptable), *izvesno* (=certain), *izraženo* (=pronounced).

Adjectives are also paired with the copular verb *biti* (to be), indicating the evaluation of the author as a part of a nominal predicate: *jasno je* (=is clear), *potrebno je* (=is necessary), *nužno je* (=is necessary), *vredno je* (=is worthwhile), *važno je* (=is important), *zanimljivo je* (=is interesting), *vrlo je bitno* (=is very important), *posebno je interesantno* (=is especially interesting), *to je korisno* (=is useful), *pohvalno je* (=is commendable), *za očekivati je* (=is to be expected), *realno je očekivati* (=is to be expected realistically), *mnogo je manja verovatnoća* (=is far less likely). Example (235) illustrates the combination of the use of certainty- and attitude markers, as well as the combination of intensification and indetermination in: *zanimljivo bi bilo* (=it would be interesting):

(235) *Interesantno je* analizirati trgovinske podatke za isti period. U periodu pre krize, sve zemlje Balkana su imale *značajan* rast trgovinskih tokova, koji su se duplirali 2008. godine, upoređujući ih sa ciframa početkom 2000. Uticaj krize *je bio evidentan* 2009, kada je došlo do *značajnog* smanjenja trgovine. *Važno je* istaći, da pored *značajne* pozitivne trgovinske dinamike u regionu pre krize, struktura trgovine ostala je *problematična*. Obim uvoza se udvostručio kod većine zemalja, ukazujući da su zemlje regiona *veoma* uvozno orjentisane. (Jaćimović, Bjelić and Ivan 2013, 8) = it is interesting; significant; was evident; significant; it is important; significant; problematic; very

In this sub-corpus, authors also express their attitude by commenting on certain outcomes, using relative clauses – *odnosne rečenice* (Stanojčić and Popović 2004, 309): *što je veoma loš ishod* (=which is a very bad outcome), *što je najzanimljivije* (=which is most interesting), *što je dobro* (=which is good), *što je normalno* (=which is normal), *što je i logično* (=which makes sense), *što je i razumljivo* (=which is understandable), *što je [...] iznenađujuće* (=which is suprising [...]).

Finally, authors' attitude can be expressed through the modal verbs *morati* and *trebati* in their deontic meaning (=*must/have to* and *should*), indicating necessity: *mora da vodi računa* (=must be mindful), *mora da predvidi* (=must predict), *mora premašiti* (=must surpass), *mora biti* (=has to be), *moraju insistirati* (=must insist), *mora postojati* (=must exist), *mora pratiti* (=must follow); *treba da budu* (=should be), *treba napomenuti* (=it should be mentioned), *trebalo bi pronaći način* (=a way should be found), *treba uzeti ozbiljno u razmatranje* (=should be taken seriously into consideration), *treba imati u vidu/ treba imati na umu* (=should be kept in mind), *treba razmotriti* (=should be considered), *treba da ima* (=should have), *treba* *pospešivati* (=should be promoted), *treba da budu/biti* (=should be), *treba istaći* (=should be pointed out), *treba uzeti* (=should be taken). These verbs are illustrated in example (236), as the authors express the logical necessity of their claim, as well as their personal conviction:

(236) Izazovi prilikom uvođenja mobilnog bankarstva jesu *prvenstveno* integracija i sigurnost. Pružanje najvišeg nivoa bezbednosti je *od suštinskog značaja* za uspeh mobilnog bankarstva. *Neophodno je* obezbediti što više funkcionalnosti a da se pritom zadrži jednostavnost upotrebe. Brendiranje je još jedan važan aspekt. Aplikacija za mobilno bankarstvo *mora biti* privlačna i efikasna. Korisnicima *treba pružati* mogućnost da brzo pristupe željenim informacijama. (Soleša and Brkić 2019, 5) = first and foremost; essential; it is necessary; must be; should be given

8.2.5 Approximation

Approximation is used significantly less in this sub-corpus, in contrast to the abovementioned strategy of intensification (8.2.4). Only 155 markers can be identified in the corpus (9,7 markers per article).

Adverbs

The structures most systematically used in this sub-corpus to express approximation are adverbs: *oko* (=around), *približno* (=approximately), *nešto niži* (=somewhat lower), *skoro* (=almost), *relativno* (=relatively), *slično* (=similarly), *blizu* (=almost), *po pravilu* (=regularly), *obično* (=usually), *gotovo* (=almost), *delimično* (=partially), *umereno* (=moderately), *uglavnom* (=mainly, mostly), *slično* (=similarly), *unekoliko* (=somewhat), *bar* (=at least), *u proseku* (=on average), *generalno* (=generally), *prilično* (=pretty), *generalno* (=generally), *mahom* (=mainly), *jedan broj* (=a number of). While not necessarily showing a tendency to cluster in this sub-corpus, example (237) illustrates the use of approximating adverbs and adjectives:

(237) Kretanje nivoa SDI kreće se od 0,401% do 37,3%, što odražava značajnu fluktuaciju i ukazuje na veliku varijabilnost u prilivu stranih direktnih investicija u ovim zemljama tokom posmatranog perioda, o čemu svedoči i stopa standardne devijacije koja se kreće *oko* 6,8%. Prosečna vrednost SDI *približno* iznosi 7,1%, što ukazuje na veoma nizak prosečan priliv stranih direktnih investicija u ovom regionu tokom poslednjih 18 godina. BDP pokazuje i negativne i pozitivne vrednosti. Najveća negativna vrednost ovog indikatora iznosila je *oko* 6%, što je ukazivalo na veliku stagnaciju, dok je najveća pozitivna vrednost ovog indikatora u posmatranom periodu iznosila *oko* 9%. Prosečna stopa BDP beleži pozitivnu vrednost, što ukazuje da je ovaj region ostvario *blagi* privredni rast u posmatranom periodu jer prosečna stopa BDP iznosi *oko* 3,2%. Stopa nezaposlenosti u ovom regionu kreće se *prosečno oko* 25%. Najveća stopa nezaposlenosti iznosila je *oko* 37%, dok je njena najniža zabeležena vrednost 12%, što ukazuje na veliki problem nezaposlenosti u ovim zemljama. Stopa inflacije kretala se od rekordnih 95%, do negativne vrednosti od *oko* 1%. Prosečna vrednost ove varijable iznosi *oko* 6%. Visoka stopa standardne devijacije makroekonomskih varijabli, može se, između ostalog, protumačiti kao posledica velikih oscilacija u ekonomskim i privrednim

aktivnostima u ovim zemljama tokom prethodnih <u>*petnaestak*</u> godina. Što se tiče vrednosti indeksa političkog rizika zemlje, on se kretao od minimalne vrednosti 0,09 do maksimalne vrednosti 0,8, što ukazuje na značajnu fluktuaciju u kvalitetu socio-političkog okruženja. (Papović, Dević and Radivojević 2020, 47) = around; approximately; around; around; slight; around; on average around; around; around; around; fifteen or so

Adjectives

As illustrated in example (237), besides adverbs, adjectives can also be used as approximation markers: *slična* (=similar), *određeni* (=certain), *blage* (=slight), *približne* (=approximate), *bliski* (=similar), *relativni* (=relative), *izvesne* (=certain). These adjectives are illustrated in example (238):

(238) Na osnovu Tabele 2 vidimo da su zemlje članice Evropske unije vodeće prema pokazateljima preduzetničkog okruženja, naročito Slovenija čiji su pokazatelji <u>*bliski*</u> evropskom prosjeku. Hrvatska, <u>*slično kao*</u> Mađarska, prednjači u odnosu na prosjek regiona, ali zaostaje za evropskim prosjekom. (Mićić and Šarčević 2015, 15) = close to; similarly to

8.2.6 Evaluative Reference

Evaluative reference is again the least prominent strategy in this sub-corpus, with only 27 markers found in total (1,7 per article). Out of these 16 articles, there are 3 articles in which no markers of this strategy can be identified, and several have only a single marker of this strategy.

Gaps in existing research

The first dimension of this strategy includes indications of gaps in the existing knowledge (7 markers), expressed by finite clauses: *u literaturi nema jasnog stava niti radova koji su proučavali* (=in the literature there is no clear position nor the works that investigated), *ali su takvi primeri u ovim zemljama retki* (=but such examples are rare in these countries), non-finite clauses and noun phrases: *nepostojanje adekvatnog odgovora na pitanje* (=non-existence of an adequate answer to the question). Example (239) illustrates the use of finite clauses for this purpose, along with negated forms of verbs, as well as nouns with negative connotations *nedostatak* (=lack), *nepostojanje* (=non-existence), and adjectives indicating small quantities, such as *retki* (=rare), *samo jedna* (=only one), *niti jedno* (=not one). Example (240) illustrates the use of a non-finite causal clause – <u>*uzročna rečenica*</u> (Stanojčić and Popović 2004, 319), expressed by a noun phrase in the English gloss:

(239) <u>*U domaćoj literaturi postoji samo jedna referenca o*</u> negativnim naknadama na višak rezervi (Jović, 2017) u kojoj se ukazuje na njen uticaj na prinose na primarnom tržištu javnog duga bh entiteta. <u>*Nismo našli niti jedno istraživanje o*</u> diferenciranoj stopi obavezne rezerve, ili

obavezne rezerve u BiH. (Jović 2020, 10) = there is only one reference in literature…; we did not find any research about…

(240) <u>*Usled nedostatka odgovarajućih analiza*</u> odnosa ovih osnovih makroekonomskih veličina nije uvek moguće naći prave smerne za dalje primene makroekonomskih politika. (Srzentić 2018, 36) = due to the lack of appropriate analyses...

Comparison with previous research

The second dimension of this strategy includes comparison of the current work with previous work in the field, with 10 markers found in the sub-corpus. Finite clauses express either accordance with previous research and confirmation of their findings: *to je potvrda studija čiji su rezultati jasno pokazivali* (=it is a confirmation of studies whose results clearly showed), *podaci iz tabele potvrđuju činjenice iz [autori]* (=the data from the table confirm the facts from [authors]), *što potvrđuje nalaze [autorovog] istraživanja* (=which confirms the findings of [author's] research), *korespondira podacima već ranijih istraživanja* (=corresponds to the data of earlier researches), *mogu se potvrditi rezultati analize koju smo dobili* (=the results of the analysis we obtained can be confirmed), or discordance with previous research: *rezultati empirijskih istraživanja često nisu u skladu sa ovim predrasudama i očekivanjima šire javnosti* (=the results of empirical research are often not in accordance with these prejudices and expectations of the general public), which is also illustrated in examples (241) and (242).

(241) Dobijeni rezultati su pomalo iznenađujući, odnosno <u>*nisu u skladu sa preovladavajućim uverenjem*</u> šire, ali ne i akademske javnosti, koja je upoznata sa rezultatima različitih studija vezanih za ovu problematiku za zemlje u razvoju (videti istraživanja Alesina (1996), Alvarez (1996) i sl.). (Papović, Dević and Radivojević 2020, 52) = are not in agreement with the prevailing belief of [...]

(242) <u>*Ovi rezultati su suprotni*</u> svim teoretskim modelima. (Grubišić and Marčetić 2013, 25) = these results contrast all theoretical models

Contribution of current research

The third dimension of evaluative reference is used to indicate the contribution of the current research (5 markers), including finite clauses (also illustrated in example (243) below): *značajnost ovih rezultata […] ogleda se u* (=the significance of these results […] is reflected in), *glavni naučni doprinos istraživanja je* (=the main scientific contribution of the research is), *očekivanja od ove ankete i odgovora koje su ispitanici dali treba da pomogne* (=expectations from this survey and the answers given by respondents should help).

(243) <u>*Sprovedeno istraživanje pruža značajne informacije*</u> koje potencijalnim korisnicima mogu pomoći pri donošenju odluke o korišćenju ovih usluga, ali i bankama kako bi poboljšali ponudu usluga mobilnog bankarstva, <u>*u čemu se ogleda praktičan cilj ovog istraživanja*</u>. (Soleša and Brkić 2019, 15) = the research conducted provides significant information…; which reflects the practical goal of this research…

Future research

The final dimension of evaluative reference is used to indicate what could be done in future research through finite clauses (5 markers): *za dublju analizu po ovom pitanju potrebno je poznavati* (=for a deeper analysis on this issue it is necessary to know), *dalja istraživanja bi trebalo usmeriti na* (=further research should be directed at), and illustrated in example (244):

(244) Izgradnja modela (VAR, VECM, SVAR), kako bi se pratili efekti bh monetarne politike na realne i finansijske varijable *su neki od pravaca za buduća istraživanja ove vrste*. (Jović 2020, 20) = are some of the directions for future research of this kind

8.3 Corpus analysis of articles in the field of economics written in German

The 12 articles in the sub-corpus of articles in the field of economics written in German deal with big data, taxation, quality control, banking and savings, credit and economic development. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of 2232 markers can be identified within the sub-corpus consisting of these 12 articles, and the distribution of these markers according to the six strategies discussed in Chapter 4 in terms of their absolute frequencies and percentage is given in Figure 14:

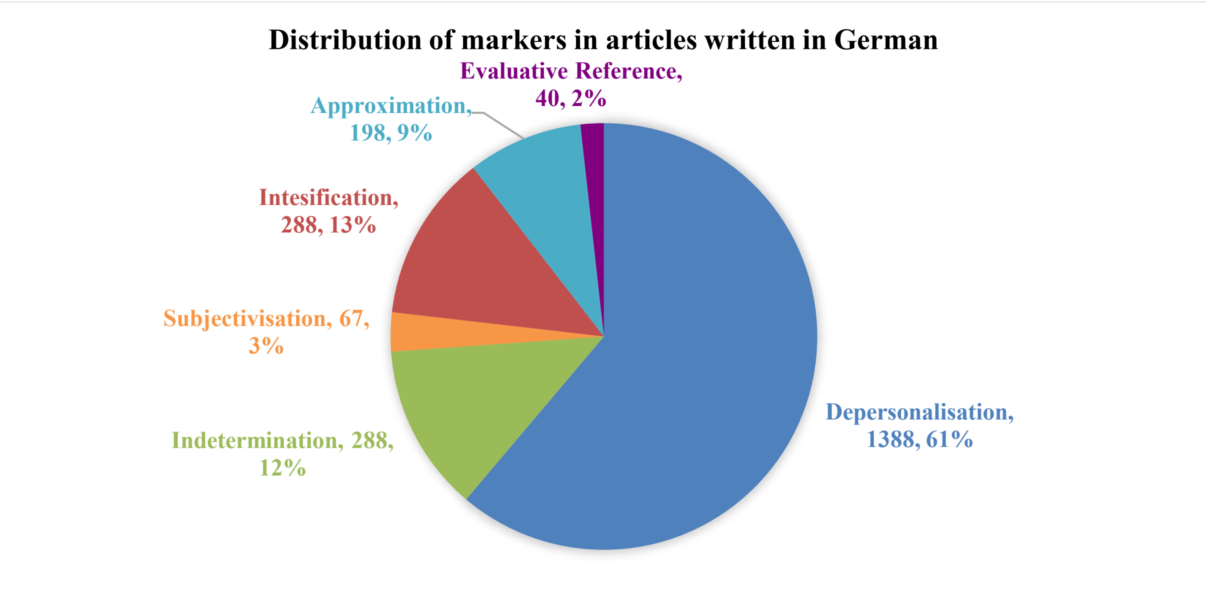

Figure 14: Distribution of stance markers in economics articles written in German (absolute frequencies)

As can be seen from Figure 14, similarly to the Serbian sub-corpus, the most frequent strategy in the German sub-corpus is depersonalisation, and evaluative reference is the least frequent one.

8.3.1 Depersonalisation

Depersonalisation is the most prominent strategy in this sub-corpus, with a total of 1388 markers identified (including 607 uses of the passive voice) – 115,7 per article on average.

Participle constructions

Unlike the linguistics sub-corpus (see 7.3.1) but similarly to the English and Serbian sub-corpora (see 8.1.1 and 8.2.1 respectively), the most prominent usage of depersonalisation markers in this sub-corpus are participles, either in reference to something previously done or mentioned, or something to be done as part of the research, acting as attributive constructions (Fandrych and Graefen 2002, 24) and closely explaining the actions conducted as part of the research (210 markers): *schon angesprochenen* (=already mentioned), *hier thematisierten* (=discussed here), *bisher betrachteten* (=considered so far), *nachfolgend definierten* (=defined below), *oben genannte* (=mentioned above), *die vorgenannte* (=the aforementioned), *hier verwendeten* (=used here) *oben diskutierten* (=discussed above), *zu maximierende* (=to be maximized); *befragten* (=surveyed), *hier identifizierten* (=identified here), *ausgewählter* (=selected), *angenommene* (=assumed), *bezeichneten* (=designated), *berücksichtigten* (=considered), *gesuchte* (=sought), *berechneten* (=calculated), *ermittelte* (=determined), *zusammengefassten* (=summarized), *beschrieben* (=described), *erwarteten* (=expected), *vorgeschlagene* (=proposed), *angepasst* (=adjusted), *vermutete* (=supposed), *geschätzt* (=estimated), *identifizierten* (=identified), *kategorisiert* (=categorised), *gefundene* (=found). Adverbial clauses of comparison and manner, denoted as parenthetical passive constructions by Fandrych and Graefen (2002, 24), are also used for this purpose: *wie erwartet* (=as expected), *wie beschrieben* (=as described), as well as adverbs of manner *annahmegemäß* (=assuming), *erwartungsgemäß* (=as expected). These markers allow the authors to hide in the text and not overtly express their expectations and actions, but their presence is still implied.

Metonymic use of inanimate nouns

Metonymic use of inanimate nouns, preceded by a demonstrative determiner or a definite article, functioning as inanimate agents of the research being conducted is not too frequent in this sub-corpus (137 markers), in contrast to the linguistics sub-corpus (see 7.3.1). These inanimate nouns include: *der Beitrag* (=the contribution), *die Studie* (=the study), *die Ergebnisse* (=the results), *das Kapitel* (=the chapter), *die Untersuchung* (=the investigation), *die Untersuchungsergebnisse* (=the examination results), *die Analyse* (=the analysis), *der*

Aufsatz (=the essay), *das Papier* (=the paper). These markers are supposed to act as extensions of the authors and therefore hide their presence in the text, as illustrated in example (245):

(245) *Die dargestellten Forschungsergebnisse geben dabei Hinweise*, wie Prognosemodelle gestaltet werden sollten. (Grunert 2010, 1321) = the research results presented provide information in this regard…

This dimension of depersonalisation also includes verbal nouns, formed by the process of nominalisation – *Nominalisierung* (Duden 2022, 403) and the suffix *-ung* as a synthesis of verbal and nominal characteristics (Fleischer and Barz 2012, 225). They are used to refer to the actions undertaken by the authors of the studies but the agency is covert (cf. 7.3.1): *die Herleitung der Formel* (=the derivation of the formula), *Überprüfung der Untersuchungshypothesen* (=review of the research hypotheses), *diese Überlegungen führen zu* (=these considerations lead to), *die nachfolgenden Betrachtungen* (=the following considerations), *die Vermutung dass* (=the assumption that), *Vergleich der* (=comparison of), *Verwendung des* (=use of). The use of nominalised nouns as a strategy of author's covert presence is illustrated in examples (246) and (247). As can be seen in example (246), the noun derived by the suffix *-ation* expresses the same word formation meaning as the *-ung* derivation (Fleischer and Barz 2012, 227).

(246) *Die Interpretation* der weiteren Altersgruppen erfolgt analog. (Aigeltinger et al. 2017, 360) = the interpretation of…

(247) *Die hier durchgeführte Analyse bezieht sich auf* Individuen zwischen dem 30. und 60. Lebensjahr. *Grund dieser Einschränkung ist*, dass für hohe Qualifizierung ein langer Bildungsweg vonnöten ist und damit viele unter 30-jährige, die ein akademisches Niveau anstreben zumeist noch im Ausbildungsprozess sind. Die obere Grenze ist notwendig, da viele Erwerbstätige nicht bis zum Renteneintrittsalter tätig sind. *Berücksichtigt man die genannten Einschränkungen*, reduziert sich der Datensatz auf 4.693 Individuen. (Reilich 2012, 85) = the analysis carried out here refers to; the reason for this limitation is; if one takes into account the limitations mentioned

Impersonal constructions

Example (247) also illustrates one of the impersonal constructions used as a marker of depersonalisation – the impersonal pronoun *man* (=one), in impersonal utterances with an impersonal subject aimed at generalizing or not expressing details (Duden 2022, 760) (49 markers): *geht man [...] aus* (=if one assumes), *unterstellt man folglich* (=is therefore assumed), *interpretiert man* (=one interprets), *kann man [...] belegen, dass* (=one can prove that […]). It is meant to indicate vagueness concerning personal reference and hide the author, as illustrated in example (248):

(248) <u>*Bedenkt man*</u> die Zusammenstellung der Umfrageteilnehmer, ist dieses Ergebnis nicht überraschend. (Ewelt-Knauer et al. 2018, 401) = if one considers…

Three other types of impersonal clauses can be found in the corpus: firstly, *um… zu* final clauses – *Finalsätze* (Duden 2022, 172), denoting a certain goal of the actions conducted in the research – of which only several examples will be given here, as they all serve the same purpose (64 markers): *um zu beantworten* (=in order to answer), *um diesen Aspekt weiter zu verfolgen* (=to pursue this aspect further), *um zu zeigen, dass* (=to show that), *um zu beurteilen* (=to judge), *um dies zu überprüfen* (=to check this), *um zu prüfen* (=to test), *um sicherzustellen, dass* (=to ensure that), here illustrated in example (249):

(249) <u>*Um die Robustheit der Analysen zu prüfen*</u>, *werden verschiedene Untersuchungen durchgeführt*. Zunächst erfolgt eine Diskussion der Methodik und der *gewählten* Variablen, die sich sowohl auf die den Hypothesen *zugrundeliegenden* Variablen als auch die Kontrollvariablen beziehen. (Grunert 2010, 1318) = in order to check the robustness of the analyses…

The second type of clauses are those with the verb *lassen (sich)*[69] functioning as a passive substitute form (78 markers). Only several examples will be given here, as they all serve the same purpose, as was the case with the final clauses above: *lässt sich erkennen* (=can be seen), *lässt sich beobachten* (=can be observed), *lässt sich festhalten, dass* (=can be stated that), *lässt sich feststellen* (=can be determined), *lässt sich empirisch belegen, dass* (=can be shown empirically that), *lässt sich so interpretieren, dass* (=can be interpreted as such), *lässt sich konstatieren, dass* (=it can be stated that), *lässt sich darauf zurückführen, dass* (=can be attributed to the fact that), *lässt sich zusammenfassen, dass* (=can be summarized that), and illustrated in example (250):

(250) Dass es sich im vorliegenden Fall um einen signifikanten Unterschied handelt, <u>*lässt sich schließlich mittels eines χ2-Differenztests (vgl. Jöreskog 1971) zeigen*</u>. (Vieth and Eisenbeiß 2011, 1303) = can finally be shown using a χ2 difference test (cf. Jöreskog 1971)

The final impersonal construction noted in this sub-corpus is the use of copular verbs *sein* (=to be) and *bleiben* (=to remain) with the *zu* infinitive in expressions such as: *zu klassifizieren sind* (=are to be classified), *es bleibt dennoch festzuhalten, dass* (=it remains to be noted, however, that), *ist anzunehmen, dass* (=is to be assumed that), *ist zu beachten, dass* (=is to be noted that), *zu unterscheiden sind* (=are to be distinguished), *wie zu zeigen ist* (=as is to be shown), *ist [...] zu vermuten, dass* (=is to assume that), *ist zu antworten, dass* (=is to answer that), *bleibt festzuhalten, dass* (=remains to be noted that), *zu erwarten sind* (=are to be expected), *gilt es ebenso zu klären* (=also needs to be clarified), *bleibt abschließend noch zu klären* (=finally

[69] *Lassen sich* is not a traditional reflexive construction, but rather a middle voice construction leaning towards modal passives (König and Gast 2018, 162).

remains to be clarified), *zurückzuführen sind* (=are due), *ist zu berücksichtigen, dass* (=is to be considered that), *zu betonen ist, dass* (=it is to be emphasized that), *zu beachten ist* (=is to be observed). There are 121 markers of this usage in the sub-corpus, meant to hide the agent of the clause and their opinions, as illustrated in example (251):

(251) *Es ist nicht ausreichend, die erwartete Wertentwicklung zu kennen*. (Hoffmann and Nippel 2012, 1314) = it is not enough to know the expected performance

Nominal predicates

The copular verb *sein* is also combined with participles, adjectives or adverbs (101 markers) in which the (nominal) predicate construction denotes the authors' viewpoint and evaluation of the situation: *wird/ist ersichtlich* (=is evident), *ist nicht überraschend* (=is not surprising), *wird/ist deutlich* (=is clear), *wird auch erkennbar* (=also becomes apparent), *ist erforderlich* (=is required), *ist noch nicht bekannt* (=is not yet known), *nicht lösbar ist* (=is not solvable), *wird benötigt* (=is necessary), *fraglich ist* (=is questionable), *es ist unklar* (=it is unclear), *ist es nachvollziehbar* (=is understandable), *problematisch ist* (=is problematic).

Additionally, impersonal constructions with the third-person singular neutrum form *es*, used as a semantically empty subject of the sentence (Duden 2022, 485) can be found in the sub-corpus: *hier bedarf es* (=here it is necessary), *es ist nicht verwunderlich* (=it is not surprising).

(252) Zur Beantwortung der Frage, welche Rolle Big Data in Zukunft spielen wird, *ist im ersten Schritt eine Erhebung über den potenziellen Nutzen von Big Data notwendig*. (Ewelt-Knauer et al. 2018, 396) = as a first step, a survey of the potential benefits of big data is necessary

As they express evaluation, these markers can often be combined with intensification, especially in its qualifying dimension (see 8.3.4), as is also illustrated in example (252).

Passive voice I (Vorgangspassiv with werden)

Finally, 607 markers of the passive voice (*Vorgangspassiv*) are used to describe the processes conducted as part of the research, showing a lexical abundance of verbs in combination with present and past tense: *werden beschrieben* (=are described), *werden vorgestellt* (=are introduced), *diskutiert werden* (=are discussed), *wird identifiziert* (=are identified), *gezeigt wird hier, dass* (=it is shown here that), *werden verdeutlicht* (=are clarified), *werden verglichen und interpretiert* (=are compared and interpreted), *variiert werden* (=are varied), *werde betrachtet* (=are considered), *werden bestimmt* (=are determined), *noch genauer erläutert wird* (=are explained in more detail), *gesetzt werden* (=are set), *wird berechnet* (=are computed), *werden* *normiert* (=are normalized), *unterstellt wird* (=is assumed), *wird differenziert* (=is differentiated), *wird untersucht* (=is investigated), *wird beleuchtet* (=is clarified), *werden formuliert* (=are formulated), *wird dokumentiert* (=is documented), *wird genutzt* (=is used), *wird überprüft* (=is checked), *nicht erfasst wird* (=is not recorded), *wird definiert* (=is defined), *vorgeschlagen wird* (=is suggested), *verwendet wird* (=is used), *benutzt wird* (=is used), *wird erwartet* (=is expected), *werden ermittelt* (=are determined), *wird determiniert* (=is determined), *diskutiert wird* (=is discussed), *nicht bestätigt werden* (=is not confirmed); *wurden befragt* (=were interviewed), *wurden kontaktiert* (=were contacted), *durchgeführt wurde* (=was carried out), *wurden gebeten* (=were asked), *festgestellt wurden* (=were found), *wurde bestimmt* (=was decided), *wurde berücksichtigt* (=was taken into account), *wurde gewählt* (=was chosen), *wurde integriert* (=was integrated), *wurde geschätzt* (=was valued), *wurde geteilt* (=was divided), *wurden analysiert* (=were analysed). As examples (253) and (254) illustrate, passive voice markers tend to cluster in the description of the research procedure:

(253) Hierfür *werden private Kapitalerträge i. H. v. 40.000 € pro Jahr unterstellt* (2016), also Kapitalerträge bei denen ceteris paribus die Günstigerprüfung zur Anwendung kommt. Zudem *wird die Belastung bei Abgeltungsteuer ohne Günstigerprüfung skizziert*. Weiterhin *wird der zugehörige Graph der Re-gelbesteuerung (§ 32a EStG) in Form einer linearen Durchschnittssteuerbelastung über dem Grundfreibetrag abgetragen*. (Kollruss 2018, 185) = are [...] assumed; is [...] outlined; is [...] shown

(254) *Diese Studie analysierte* den Einfluss der bisherigen Kundenbeziehung mit Blick auf das Produktportfolio. Ergänzend *wurden weitere kundenspezifische Merkmale wie Alter, Geschlecht und Vermögen betrachtet*. Dabei *wurde die Kundenbindung im Sinne der Girokontoverbindung mit dem Girokonto als Basis der Kundenbeziehung verstanden*. Für die Analysen *konnte auf die Datenbasis einer repräsentativen mittelgroßen Sparkasse zurückgegriffen werden*. Die zur Verfügung stehenden Kundendaten *wurden umfassend bereinigt und aufbereitet*. Um Erkenntnisse über mögliche Einflussparameter zu finden, *wurden die Ergebnisse eines State of the Art Machine Learning-Vorhersagemodells mit Ergebnissen deskriptiver und induktiver Analysen kombiniert und verglichen*. (Zettler and Schiereck 2020, 255) = were [...] considered; was [...] understood; could [...] be used; was comprehensively cleaned and prepared; were […] combined and compared

Passive voice II (Zustandspassiv with sein)

In contrast to the German linguistics sub-corpus (see 7.3.1), *Zustandspassiv* is much less frequent in this sub-corpus: *ist noch nicht vorgegeben gewesen* (=has not yet been specified), ist damit eindeutig bestätigt (=is therefore clearly confirmed), *definiert und [...] normiert ist* (=is defined and standardized), *ist [...] gegeben* (=is given), *ist angezeigt* (=is displayed), *ist auch dadurch begründet, dass* (=is also justified by the fact that). As already mentioned in 7.3.1, in this kind of passive, the agent is only relevant if it is characteristic of this resultant state in some way. Therefore, this type of construction can be seen as predicative structure consisting of a copular verb and a participial adjective, rather than a passive construction

(Duden 2022, 387). This explains the overlap between the combination of the copular verb *sein* and past participle as an impersonal construction (indicated above) and *Zustandspassiv*.

Modal passive voice

In some instances, despite the presence of a modal verb, modal passive voice markers are not seen as markers of indetermination or intensification, as they are missing the interpretation of possibility or necessity. The examples given here denote ability (*können*) or intention (*sollen*): *soll gebracht werden* (=are to be brought), *können untersucht werden* (=can be investigated), *bestimmt werden soll* (=are to be determined), *soll aufgezeigt werden, dass* (=are to be shown that), *kann nicht durchgeführt werden* (=cannot be carried out), *berechnet werden kann* (=can be calculated), *kann nicht pauschal beantwortet werden* (=cannot be answered in general), *sollen erreicht werden* (=are to be achieved), *soll ermittelt und analytisch aufgespalten werden* (=is to be determined and broken down analytically), *erfasst werden sollen* (=are to be recorded), *herangezogen werden kann* (=can be used), *soll betrachtet werden* (=is to be considered), *nachgewiesen werden konnte* (=could be proven), *kann nicht ausgeschlossen werden* (=cannot be excluded), *kann bestätigt werden* (=can be confirmed).

Combinations

On the other hand, in other cases, modal passive voice markers combine depersonalisation and indetermination (see 8.3.2), that is, intensification (see 8.3.4), as double markers containing a component of possibility and necessity in them: *könnte interpretiert werden* (=could be interpreted), *kann festgehalten werden, dass* (=can be stated that), *kann verwendet werden* (=can be used), *kann davon ausgegangen werden, dass* (=can be assumed that), *es wird angenommen, dass* (=it is assumed that), *vermutet werden kann* (=can be presumed), *kann gewertet werden* (=can be rated), *könnte angenommen werden, dass* (=could be assumed that); *soll geschlossen werden* (=should be closed), *gestaltet werden sollten* (=should be designed); *muss explizit modelliert werden* (=must be modelled explicitly), *muss berücksichtigt werden, dass* (=must be taken into account that), *muss multipliziert werden* (=must be multiplied). It is particularly through the use of the modal verbs *können* and *sollen* in the Konjunktiv II that an epistemic reading is added (König and Gast 2018, 112).

(255) Als Fazit *kann festgehalten werden, dass* Big Data bei kleinen und mittleren Banken und Finanzdienstleistern eine bislang relativ niedrige Priorität genießt. (Ewelt-Knauer et al. 2018, 401) = can be stated that...

Example (255) illustrates the double marker of depersonalisation and indetemination, as it covertly expresses the authors' presence and indicates the possibility behind their statement.

8.3.2 Indetermination

Indetermination is not overly prominent in this sub-corpus, as there are only 288 markers identified (24 markers on average per article).

Modal verbs

As many as 157 markers include modal verbs, among which *können,* expressing possibility (Duden 2022, 229) is the most frequent one. As indicated in the sub-chapter on depersonalisation (see 8.3.1), markers of indetermination can at times be combined with depersonalisation through modal passive voice, thereby functioning as double markers and indicating possibility: *führen kann* (=can lead), *können [...] potenziell erweitern* (=can [...] potentially expand), *sein können* (=can be), *ausfallen können* (=can fail), *kann erfolgen* (=may happen), *annehmen können* (=can accept), *könnte zum einen daran liegen, dass* (=could be due to the fact that), *können eine Rolle spielen* (=can play a role), *könnte [...] beeinflussen* (=could influence), *dies kann darin begründet sein, dass* (=this may be because); *könnte damit dahingehend interpretiert werden, dass* (=could therefore be interpreted to mean that), *erhöht werden kann* (=can be increased), *kann festgehalten werden, dass* (=can be stated that), *es könnte versucht werden* (=it could be tried), *verbessert werden kann* (=can be improved), *kann davon ausgegangen werden, dass* (=can be assumed that). Similarly to the linguistics sub-corpus (see 7.3.2), a range of other modal verbs with epistemic meanings can be found in this sub-corpus: *sollen* is at times used to express the state of speaker's knowledge and therefore resembles epistemic meaning (Duden 2022, 230), as the author indicates their level of knowledge is not enough to make a claim (König and Gast 2018, 109): *soll [...] gelten* (=should apply), *sollen [...] dienen* (=should serve), *auskommen sollte* (=should get along); *dürfen* is used to express an assumption (Helbig and Buscha 1981, 109): *darf entfallen* (=may be omitted), *dürfte [...] sein* (=should be), *bestehen darf* (=may exist); *mögen* is also used to express an assumption (Helbig and Buscha 1981, 110): *mag […] geschuldet sein, dass* (=may be due to […]).

(256) Die Gründe für diese eher stockende Implementierung von Big-Data-Anwendungen *könnten in den schon angesprochenen begrenzten Ressourcen von kleinen und mittleren Unternehmen liegen*. (Ewelt-Knauer et al. 2018, 393) = could be in [...]

(257) Vermögensberatung bei kleinen und mittleren Banken und Finanzdienstleistern große Umwälzungen *bevorstehen könnten*, *sollte der Trend zum digitalisierten Bankengeschäft anhalten*. (Ewelt-Knauer et al. 2018, 395) = could be imminent should the trend […] continue

Examples (256) and (257) illustrate the use of modal verbs as markers of indetermination indicating possibility and assumption.

Lexical verbs

Lexical epistemic verbs are also used as a part of this strategy, often combined with strategies of subjectivisation or depersonalisation as double markers (53 markers): *wir unterstellen, dass* (=we assume that), *wir nehmen an, dass* (=we assume that), *wir gehen von der [...] aus* (=we assume that), *es wird von [...] ausgegangen* (=it is assumed), *wird angenommen, dass* (=it is assumed that), *es ist zu vermuten, dass* (=it can be assumed that), *erscheint damit gerechtfertigt* (=seems justified), *erscheint durchaus plausibel* (=seems quite plausible), *scheint [...] tendenziell schwierig zu sein* (=tends to be difficult), *scheint sinnvoll* (=seems reasonable), *bedenklich erscheint* (=seems questionable). While example (258) illustrates the use of the epistemic verb *scheinen* to indicate possibility, example (259) illustrates the combination of indetermination and depersonalisation in the use of impersonal constructions containing epistemic verbs *vermuten* and *ausgehen* (=assume), indicating the author's assumptions:

(258) Allerdings *scheint der auf den Stromverbrauch zurückzuführende Anteil eher nachrangig zu sein*. (Aigeltinger et al. 2017, 350) = seems to be...

(259) *Vermutet werden kann, dass* sich die Qualifikation des Vaters positiv auf die eigene Ausbildungsdauer auswirkt. Auch *ist davon auszugehen, dass* die Anzahl der Bücher ein höheres Bildungslevel fördert und symbolisiert. (Reilich 2012, 94) = it can be assumed that; it can be assumed that

Konjunktiv II

The last verb form in this strategy is *Konjunktiv II*, used to attenuate claims, indicating a hidden potential or unreal condition (Duden 2022, 237), and it is often used as a part of conditional clauses to indicate greater tentativeness and less certainty (König and Gast 2018, 113), with 29 markers identified in the sub-corpus: *wäre es denkbar* (=it would be conceivable), *würde [...] ausfallen* (=would fail), *würde gelten* (=would apply), *theoretisch anwendbar wäre* (=would be theoretically applicable), *einschränken würde* (=would restrict), *geführt hätte* (=would have led), *wäre [...] interessant* (=would be interesting).

(260) *Es wäre denkbar*, dass die Kundenbindung eines Produkts von der gegenüber dem Kunden positionierten „Nähe“ des Produktanbieters zur vertreibenden Bank abhängt. (Zettler and Schiereck 2020, 239) = it would be conceivable...

(261) Wenn den Kapitalgebern steueroptimierendes Verhalten unterstellt werden soll, d. h. Strategie (c) *zugrunde zu legen wäre*, *kann eine Vereinfachung der Berechnung in Form der Unterstellung der Strategie (c') nur für „kleine" Volatilitäten vertreten werden*. (Hoffmann and Nippel 2012, 1331) = would be used as a basis...

(262) *Wenn der Abzug des Grundfreibetrags bereits im linearen Abgeltungsteuertarif enthalten wäre*, *dürfte die Besteuerungsdifferenz zur Regelbesteuerung nicht auf den Grundfreibetragsabzug zurückgehen*. (Kollruss 2018, 183) = were included; should not be...

While example (260) illustrates the use of Konjunktiv II as a part of a nominal predicate in an impersonal construction containing third-person singular neutrum form *es* (therefore combining indetermination with depersonalisation), and further enhanced with the adjective with the suffix *-bar* (see 7.3.2), examples (261) and (262) illustrate the use of Konjunktiv II in conditional clauses. In the two latter examples – (261) and (262) – the main clause also contains markers of indetermination, the modal verbs *können* and *dürfen* (also in Konjunktiv II), respectively. These clauses, as the name suggests, indicate a hypothetical condition (Duden 2022, 237).

Other modal expressions

Modal adverbs cannot be said to be a prominent category in this strategy, as only 28 markers can be identified: *potenziell* (=potentially), *möglicherweise* (=possibly), *vielleicht* (=perhaps), *womöglich* (=possibly), *tendenziell* (=tendencially), *vermutlich* (=presumably), *wohl* (=probably), *nicht zwingend* (=not necessarily). Modal adjectives are even more rare, with only 16 markers identified: *potenzielle* (=potential), *verallgemeinerungsfähig* (=generalisable), *erreichbaren* (=attainable), *lösbar* (=solvable), mögliche (=possible), *wahrscheinlich* (=probable), *plausible* (=plausible). Finally, only 5 markers of modal nouns can be identitfied, indicating (and meaning) possibility – *die Möglichkeit,* as well as *die Indiz* (=indication). Example (263) combines modal noun *Möglichkeit* and modal verb *können*.

(263) *Eine andere Möglichkeit könnte in der umfangreicheren Auswertung von personenbezogenen Daten potenzieller Kunden mithilfe von Big-Data-Analysetechniken bestehen*, um eine stärker individuell ausgerichtete Kundenansprache zu ermöglichen. (Ewelt-Knauer et al. 2018, 396) = another possibility could […] be

8.3.3 Subjectivisation

As can be seen from Figure 14, subjectivisation is the second least prominent strategy in this sub-corpus, with only 67 markers identified (an average of 5,6 markers per article). These markers can be found in only 7 out of 12 articles comprising this corpus.

First-person plural

Unlike the linguistics sub-corpus (see 7.3.3), only first-person plural markers can be found in this corpus, combined with marked forms of other analytical grammatical categories of the verb such as present, past and future tense, used to describe processes conducted by authors for the purpose of conducting their research: *wir betrachten* (=we consider), *berücksichtigen wir* (=we take into account), *bestimmen wir* (=we decide), *hier benötigen wir* (=here we need), *verwenden wir* (=we use), *berechnen wir* (=we calculate), *erhalten wir* (=we obtain), *bezeichnen wir als* (=we denote as), *definieren wir* (=we define), *stellen wir* (=we set), *müssen wir [...] anwenden* (=we have to apply [...]), *zeigen wir* (=we show), *beobachten wir* (=we observe); *wir [...] vorausgesetzt haben* (=we [...] have assumed), *wie wir [...] gezeigt haben* (=as we showed), *haben wir [...] durchgeführt* (=we carried out [...]); *wir werden zeigen* (=we will show). Example (264) illustrates the description of the procedures in the present tense:

(264) *Wir lösen nun wieder nach P(b)0,0 auf und erhalten*: (Hoffmann and Nippel 2012, 1319) = we now solve again [...] and obtain

The very overt indication of the author's presence in the text is done through the personal pronoun in the dative: *liefert uns* (=provides us), *von uns vorgeschlagene rangfolgeinvariante System* (=rank-invariant system proposed by us).

NP [Possessive determiner + $N_{(inanimate)}$]

Alternatively, this strategy is expressed through possessive determiners *unser(e/es/en/em)*, followed by an inanimate noun. These pronouns are meant to claim responsibility for the inanimate noun – *unsere Studie* (=our study), *unseres modelltheoretischen Rahmens* (=our model theoretical framework), *unser Beitrag* (=our contribution), or to limit the claims solely to one case *in unserer Umfrage* (=in our poll), *in unserem numerischen Beispiel/in unserem Zahlenbeispiel* (=in our numerical example), *in unserem Sample* (=in our sample). Epistemic nouns *u. E/unseres Erachtens* (=in our opinion), *nach unserer Einschätzung* (=according to our estimation), *unseres Wissens* (=according to our knowledge) indicate the authors' personal point of view. These uses are illustrated in examples (265) and (266):

(265) *Unsere Hypothese* lautet folglich: (Vieth and Eisenbeiß 2011, 1293) = our hypothesis

(266) Auf angebotsseitiger Ebene legt *unsere Studie* den Fokus auf die innereuropäischen Migrationsströme. Der Brexit und eine damit verbundene restriktivere britische Immigrationspolitik könnte migrationswillige EU-Bürger dazu bringen, verstärkt nach Deutschland zu ziehen. *Unser Beitrag* schätzte diesen Umlenkungseffekt für den Zeitraum bis 2025 auf der Basis einer Analyse der früheren Migrationsströme voraus (Diaspora-Ansatz). Eine Brexit-bedingte Erhöhung der EU-Nettomigration nach Deutschland um jährlich 10 000 bis 20 000

Personen ist <u>*nach unserer Einschätzung*</u> für die nächsten fünf bis zehn Jahre durchaus realistisch. (Bossler et al. 2019, 692) = our study; our contribution; according to our estimation

Combinations

Subjectivisation can also be combined with indetermination (see 8.3.2) to indicate the authors' assumptions through lexical verbs: *wir nehmen an, dass* (=we assume that), *wir gehen davon aus, dass* (=we assume that), *wir unterstellen, dass* (=we assume that), and in example (267):

(267) <u>*Wir nehmen an, dass*</u> der (noch unbekannte) Unternehmenswert in jeder einzelnen Pe-riode nur um einen (endogen bestimmten) Prozentsatz steigen oder sinken kann. (Hoffmann and Nippel 2012, 1316) = we assume that...

8.3.4 Intensification

Intensification is not a particularly prominent strategy in this sub-corpus either, as only 288 markers can be identified (24 markers per article on average), either used to emphasise a particular statement (certainty markers), or to express the authors' evaluation of a statement (attitude markers). These two meanings can often overlap or be combined in a single marker.

Certainty markers

Statements can be emphasized in this sub-corpus most notably through adverbs, which are often premodifiers of evaluative adjectives (see attitude markers below): <u>*besonders*</u> *viele/große/wichtige* (=<u>particularly</u> many/large/important), <u>*auffällig*</u> *hoch* (=conspicuously high), *speziell* (=particularly), <u>*deutlich*</u> *höher* (=<u>clearly</u> higher), *insbesondere* (=especially), *natürlich* (=naturally), <u>*völlig*</u> *unsinnige* (=<u>completely</u> nonsensical), *genau* (=precisely), *grundsätzlich* (=basically), <u>*praktisch*</u> *ausscheidet* (=<u>practically</u> eliminated), <u>*absolut*</u> *nicht mehr* (=<u>absolutely</u> no more), *signifikant* (=significantly), <u>*sichtlich*</u> *stärker* (=<u>visibly</u> stronger), *eindeutig* (=clearly), *sehr wahrscheinlich* (=most likely), *unweigerlich* (=inevitably), *sicherlich* (=surely), *zwar* (=indeed), *tatsächlich* (=actually), *v.a./ vor allem* (=above all), *in der Tat* (=indeed), *unbedingt* (=definitely), *nur so* (=only this way), *freilich* (=certainly), *zumal* (=especially), *substanziell* (=substantially), <u>*hoch*</u> *signifikant* (=<u>highly</u> significant). Their emphasizing function is illustrated in examples (268) and (269):

(268) Während durch Schwankungen der Arbeitslosigkeit verursachte Veränderungen der Erwerbseinkommen überwiegend den unteren und mittleren Bereich der Verteilung betreffen, wirken sich Variationen der Kapitaleinkommen <u>*insbesondere*</u> auf die Spitze der Verteilung aus. Letzteres zeigt sich <u>*besonders deutlich*</u> in Krisenzeiten. (Drechsel-Grau, Peichl and Schmid 2015, 684) = especially; especially clear

(269) Mit Blick auf den Stromverbrauch (Spalte 1 und 2) zeigen sich *signifikant positive* Effekte zusätzlicher Personen im Haushalt auf den Verbrauch, wobei *deutliche* Alterseffekte auftreten. (Aigeltinger et al. 2017, 357) = significantly positive; clear

Attitude markers

Furthermore, statements are qualified in this sub-corpus through adjectives, adverbs, and adjectival phrases: *maßgeblich* (=essential), *bedeutend* (=significant), *erheblich* (=significant), *unstreitig* (=indisputable), *klar* (=clear), *wesentlich* (=significant), *signifikant* (=significant), *verheerenden* (=devastating), *ausschlaggebend* (=decisive), *umso kritischer* (=all the more critical), *zwingend* (=compelling), *überraschend* (=surprising), *erfolgskritisch* (=critical to success), *sicher* (=sure), *am auffälligsten* (=the most noticeable), *grundlegend* (=fundamental); *interessanterweise* (=interestingly). Adjectival phrases functioning as nominal predicates (as seen in example (252) above) include: *ist daher erforderlich* (=is therefore required), *es ist daher unrealistisch, dass* (=it is therefore unrealistic that), *ist [...] sinnvoll* (=makes sense), *auffällig sind* (=are conspicuous), *maßgeblich sind* (=are relevant), *ist entscheidend* (=is decisive), *am deutlichsten ausfällt* (=is most evident), *ist (nicht) überraschend* (=is (not) surprising), *besonders auffällig ist* (=is particularly noticeable), *auffallend ist* (=is striking), *kritisch ist anzumerken, dass* (=it is critical to note that), *wichtig ist anzumerken, dass* (=it is important to note that), *es ist keineswegs ausgemacht, dass* (=it is by no means certain that), *ist notwendig* (=is necessary). Prepositional phrases used to both qualify and quantify a statement in this sub-corpus include: *von großem Interesse* (=of great interest), *in idealer Weise* (=in an ideal way), *von besonderem Interesse* (=of particular interest), *in erheblichen Umfang* (=to a significant extent), *von zentraler Bedeutung* (=of central importance), *in nennenswertem Maße* (=to an appreciable extent). Finally, nominal phrases which express the authors' evalautions include: *eine entscheidende Rolle* (=a decisive role), *eine besonders wichtige Rolle* (=a particularly important role), *eine wesentliche Rolle* (=an essential role).

Modal verbs also have a qualifying function in this sub-corpus, indicating necessity (Duden 2022, 229) and are at times combined with the passive voice (see 8.3.1): *müssen im Kontext von [...] betrachtet werden* (=must be considered in the context of [...]), *muss [...] treffen* (=must meet [...]), *muss explizit modelliert werden* (=must be modelled explicitly), *müssen investiert bleiben* (=must remain invested), *muss einfließen* (=must flow in), *müssen [...] geplant und strukturiert werden* (=must be planned and structured), *muss zudem sichergestellt sein* (=must also be ensured), *muss berücksichtigt werden, dass* (=must be taken into account that), *gewährleistet werden muss* (=must be guaranteed), *muss erfolgen* (=must be done).

(270) Da die Kursverteilungen in den zukünftigen Zeitpunkten für die Liquidationsentscheidung der Kapitalgeber bekannt sein müssen, ist hier wieder eine rekursive Berechnung notwendig. (Hoffmann and Nippel 2012, 1320) = must be known; is [...] necessary

(271) Daher *müssen zunächst die Unternehmenswerte Pt,i in den Zeitpunkten t = 1 bis t = T − 1 rekursiv bestimmt werden*, zu denen ein Verkauf möglich ist. (Hoffmann and Nippel 2012, 1315) = must […] be recursively determined

Examples (270) and (271) both illustrate the use of the modal verb phrase with *müssen* to indicate the logical necessity. Additionally, in example (270), the nominal predicate *ist notwending* is a paraphrase of the verb *müssen,* further emphasizing necessity and compulsion. The use of the modal verb *müssen* in both examples does not necessarily illustrate the certainty of the author in a claim, but rather expresses a logical necessity of a claim based on previous statements, thereby qualifying the statement that follows.

8.3.5 Approximation

Approximation is not too frequent in this sub-corpus, with only 198 markers identified (16.5 markers per article). The majority of the markers are adverbs approximating degree and frequency: *eher* (=rather)*, fast* (=almost), *relativ* (=relatively), *in der Regel* (=usually), *knapp* (=almost), *prinzipiell* (=in principle), *ähnlich* (=similarly), *recht* (=quite), *kaum* (=hardly), *analog zu* (=analogously), *allgemein* (=overall), *generell* (=generally), *nahezu* (=nearly), *approximativ* (=approximately), *üblicherweise* (=usually), *vergleichsweise* (=comparatively), *geringfügig* (=slightly), *rund* (=around), *etwa/etwas* (=about), *typischerweise* (=typically), *näherungsweise* (=approximately), *normalerweise* (=normally), *annähernd* (=nearly), *leicht* (=slightly), *ca.* (=around), *überschlagsartige* (=roughly), as well as prepositional phrases *im Grundsatz* (=in principle), *im Prinzip* (=in principle), and noun phrase *einer Art* (=a kind of).

Adjectives can also be seen in this strategy, and they are also not too varied: *leichte* (=slight), *üblich* (=usual), *ähnlich: in einem ähnlichen Kontext* (=in a similar context), *auf ähnlichen Niveaus* (=on similar levels), *ähnliche Ergebnisse* (=similar results).

(272) Kinder im Alter zwischen 14 und 17 Jahren verursachen mit 45,0 Prozent einen ähnlichen Mehrverbrauch wie Erwachsene mit 43,5 Prozent. Dieser Wert liegt etwas unter dem Äquivalenzfaktor für Erwachsene, der in der neuen OECD-Skala mit 50 Prozent veranschlagt ist. Senioren (65 Jahre und älter) weisen mit 31,8 Prozent einen geringeren Mehrverbrauch auf als Erwachsene im erwerbsfähigen Alter. (Aigeltinger et al. 2017, 357) = similar; about

(273) Es sei darauf hingewiesen, dass sich bei der Regression *teilweise relativ* geringe R2-Werte ergeben. Dies ist der geringen Anzahl an unabhängigen Variablen und dem *relativ* kleinen Stichprobenumfang geschuldet. Es trifft in gleicher Weise auf die adjustierten R2 der folgenden logistischen Regressionsanalysen zu. *Ähnliche* Werte ergeben sich auch unter *vergleichbaren* Bedingungen in anderen empirischen Studien. (Grunert 2010, 1316) = partially, relatively; relatively; similar; comparable

Examples (272) and (273) illustrate the use of approximating adverbs and one adjective – *ähnlich* – in this sub-corpus. Additionally, approximation adverbs in example (273) show a tendency towards clustering.

8.3.6 Evaluative Reference

Evaluative reference is once again the least frequently used strategy in this sub-corpus, with only 40 markers identified (3,33 markers per article). These markers are identified in 11 out of 12 of articles in this sub-corpus.

Gaps in existing research

The first dimension yields the most markers in this strategy, indicating a gap in previous research (15 markers). This dimension is expressed through finite clauses: *dieser Beitrag versucht damit eine Lücke in [...] zu schließen* (=this article tries to close a gap in [...]), *bislang noch nicht explizit herausgearbeitet und analysiert* (=not yet explicitly worked out and analyzed), *ist [...] bisher gering* (=is [...] so far low), *bleibt [...] jedoch insofern eingeschränkt* (=remains limited in this respect), *fehlt komplett* (=completely missing), *nur unzureichend erfasst worden* (=only insufficiently recorded), *bisher fehlt* (=so far missing), *nur wenige Studien existieren* (=few studies exist), *die bisher nicht Eingang in die Literatur finden* (=which have not yet found their way into the literature), *sind bisher nicht analysiert* (=have not been analyzed so far). This dimension is characterized by linguistic means meant to indicate insufficient research – negative forms of certain adverbs (*unzureichend*), verbs with negative connotation (*fehlen*), nouns with negative connotation (*Lücke*) as well as the use of determiners such as *gering* (=small, low). Example (274) illustrates the lack of research done through the negative form of the verb *nicht analysiert*.

(274) Die beiden weiteren Variablen, Dauer zwischen Ausfall des Kreditnehmers und Verwertungsbeginn sowie die Intensität der Geschäftsbeziehung, <u>*sind bisher nicht analysiert*</u>. (Grunert 2010, 1309) = have not yet been analyzed

Contribution of current work

The second dimension of this strategy includes the contribution of the current research to the existing research landscape (6 markers): *an diesem Defizit setzt der vorliegende Beitrag an* (=this contribution addresses this deficit), *somit ist der Mehrwert der vorliegenden Studie* (=thus is the added value of the present study), *stellt – soweit den Autoren bekannt – eine neue*

Betrachtungsweise dar (=represents–as far as the authors know–a new perspective), and can at times combine with the previous dimension in finite clauses, illustrated in example (275):

(275) *Diese Lücke soll mit der vorliegenden Studie geschlossen werden*. (Vieth and Eisenbeiß 2011, 1309) = this gap is intended to be closed with the present study

Comparison to previous research

The third dimension of evaluative reference involving comparison to previous research yields only 7 markers in this sub-corpus, using prepositional phrases: *im Gegensatz zu* (=in contrast to), *im Vergleich zu* (=compared to), *analog zu [Autor]* (=analogously to [author]), and adjectival phrase *anders als bei anderen Untersuchungen* (=unlike other studies).

Future research

The fourth and final dimension of evaluative reference is used to indicate the directions of future research, with 11 markers identified, using finite depersonalised or passive clauses: *es besteht dennoch weiterer Untersuchungsbedarf* (=there is still a need for further investigation), *hier könnten zukünftige Studien anknüpfen und analysieren* (=future studies could link up and analyze here), *für weitere Studien verwendet werden kann bzw. sollte* (=can or should be used for further studies), *für zukünftige Studien [...] ist es somit essenziell* (=it is therefore essential for future [...] studies), *diese und weitere Fragen sind insofern für zukünftige Forschungsarbeiten relevant* (=these and other questions are relevant for future research work), *untermauert weiteren Analysebedarf* (=supports the need for further analysis).

(276) *Eine detaillierte Analyse des Zusammenhangs ist aber nicht Gegenstand dieser Arbeit und muss an anderer Stelle vorgenommen werden*. (Aigeltinger et al. 2017, 365) = however, a detailed analysis of the connection is not the subject of this work and must be carried out elsewhere

(277) Ergänzend *könnte eine differenziertere Analyse der möglichen Einflussparameter nach unterschiedlich profitablen Kundengruppen weitere Erkenntnisse mit sich bringen*. (Zettler and Schiereck 2020, 255) = a more differentiated analysis of the possible influencing parameters according to different profitable customer groups could provide further insights

In this dimension, as illustrated in examples (276) and (277), evaluative reference is combined with depersonalisation through impersonal constructions, containing metonymic use of inanimate nouns, the copular verb *sein* or pronoun *es*, or through modal passive constructions, which at times can also express the strategy of indetermination. These markers are supposed to denote that while further research is needed, it might not be the authors who will conduct it (unless specifically stated), as they just point out future paths for their field and their research.

8.4 Summary

To sum up, in the field of economics, just as in the field of linguistics (see Chapter 7), markers of stance are overall most frequent in the German sub-corpus (32.5 markers per 1000 words), followed by English (30.7) and finally Serbian (26.4). As in the linguistics sub-corpus (see 7.4), all six strategies outlined in Chapter 4 can be found in the economics sub-corpus, but their distribution differs in the three language sub-corpora. The strategy of depersonalisation is used most frequently in the German and Serbian sub-corpora, but in the English sub-corpus, authors tend to use the strategy of subjectivisation more frequently to explicitly insert their persona into the text (unlike the linguistics sub-corpus, where depersonalisation was the most frequent strategy in all three). Evaluative reference is once again the least frequently used strategy in all three language sub-corpora. Indetermination and evaluative reference are used most frequently in the English sub-corpus (just like in linguistics), intensification in the Serbian sub-corpus, and approximation in the German sub-corpus. By comparison, intensification was used most frequently in German in the linguistics sub-corpus, and approximation in Serbian in the linguistics sub-corpus.

Passive voice is once again the most prominent form denoting the strategy of depersonalisation in all three languages, used to deemphasize the role of the agent(s), confirming that it is a typical construction in academic contexts (Biber et al. 1999, 476). As in the linguistics sub-corpus (see 7.4), all three languages employ the same forms denoting depersonalisation: inanimate nouns such as *research/study/article* as a metonymic reference to the author(s); nominalised expressions denoting actions conducted as part of the research, used for the purpose of omitting the agent of the clause (Biber and Gray 2010, 11); impersonal constructions, as well as participle constructions in all three language sub-corpora, functioning as non-finite relative clauses and adjectival phrases characterizing the research, as is rather common in written discourse (Meyer et al. 2002, 156).

Modal verbs indicating possibility (*can/could/moći/können*) are again the most frequent markers of the strategy of indetermination. Other markers include other modal verbs (*may, might, would, should, need (not); dürfen, sollen, mögen*), epistemic verbs (*appear, seem, suggest, imply, assume; čini se*, *implicira, pretpostavlja, izgleda, deluje; scheinen, erscheinen, unterstellen, annehmen, vermuten*), modal adverbs (*possibly, potentially, likely*, *seemingly; možda, verovatno; vermutlich, möglicherweise, potenziell, vielleicht, scheinbar, wohl*), modal adjectives (*possible, potential; mogući*, *potencijalni; mögliche, potenzielle*), and epistemic nouns (*assumption, implication, potential; pretpostavka, mogućnost, mišljenje, potencijal;*

Indiz, Möglichkeit). These modal and epistemic expressions are used to attenuate the authors' claims and express their assumptions, just like in linguistics (see Chapter 7).

The authors in the German and Serbian sub-corpora are less inclined to refer to themselves overtly through markers of subjectivisation, but instead prefer covert means of expression (through depersonalisation), just as it was the case in the linguistics sub-corpus. On the other hand, subjectivisation markers, either through first-person pronouns or possessive determiners and inanimate nouns (with metonymic use) are used more frequently in the English economics sub-corpus than in any other sub-corpus in this research. First-person singular markers are once again less prominent than first-person plural markers, but noticeably used in the English sub-corpus, while in German and Serbian sub-corpora, only first-person plural markers are used.

The strategy of intensification is expressed through both certainty markers and attitude markers, the same way as in the linguistics sub-corpus (see Chapter 7). Certainty markers include emphasizing and intensifying adverbs in all three languages (*certainly, particularly, clearly, significantly, exceptionally; značajno*, *naročito; besonders, absolut, hoch*) as well as adjectives in Serbian (*značajni*), used to emphasize statements and indicate the certainty of the authors. Attitude markers convey the authors' point of view and qualify a statement through adjectives in all three languages (*optimal, notable, negligible, striking; odlučujuća, nezavidna; zwingend, überraschend, interessanterweise*) and adverbs in all three languages (*remarkably, perfectly, interestingly; neprihvatljivo*; *interessanterweise*). Modal verbs indicating necessity (*must/should/ morati/trebati/müssen*) are also used in all three languages. The strategy of approximation, on the other hand, is expressed by subjuncts indicating approximation, compromising, diminishing, and minimizing (*generally, approximately, nearly, about; oko, približno, nešto, relativno; fast, etwas, leicht, rund, nahezu*), as well as by determiners in English (*some*) and adjectives in all three languages (*similar (to), certain; slično, približne, određeni, bliski, izvesne, relativni; ähnlich*).

Finally, the strategy of evaluative reference employs predicative constructions, nominal and adjectival phrases, as well as finite and non-finite clauses to express several dimensions in all three languages: gaps in existing research, comparison with previous research, contribution of current research, as well as recommendations for future work to be done in the field. These dimensions correspond to the dimensions of evaluative reference in the linguistics sub-corpus.

Chapter Nine

Qualitative Analysis: Technology/Engineering

In the final scientific discipline of interest for this dissertation, the field of technology and engineering, a total of 51 academic articles (15 in English, 17 in Serbian, and 19 in German) were analysed in MAXQDA for markers of authorial stance.

For purposes of a broad quantitative analysis revealing major tendencies in the use of stance markers in this discipline, Figure 15 will firstly graphically present the distribution of various strategies as outlined in Chapter 4 in the entire sub-corpus, so as to give a broader overview of the predominant strategy in each language. Furthermore, each of the three language sub-corpora will be analysed in greater detail, both qualitatively and quantitatively.

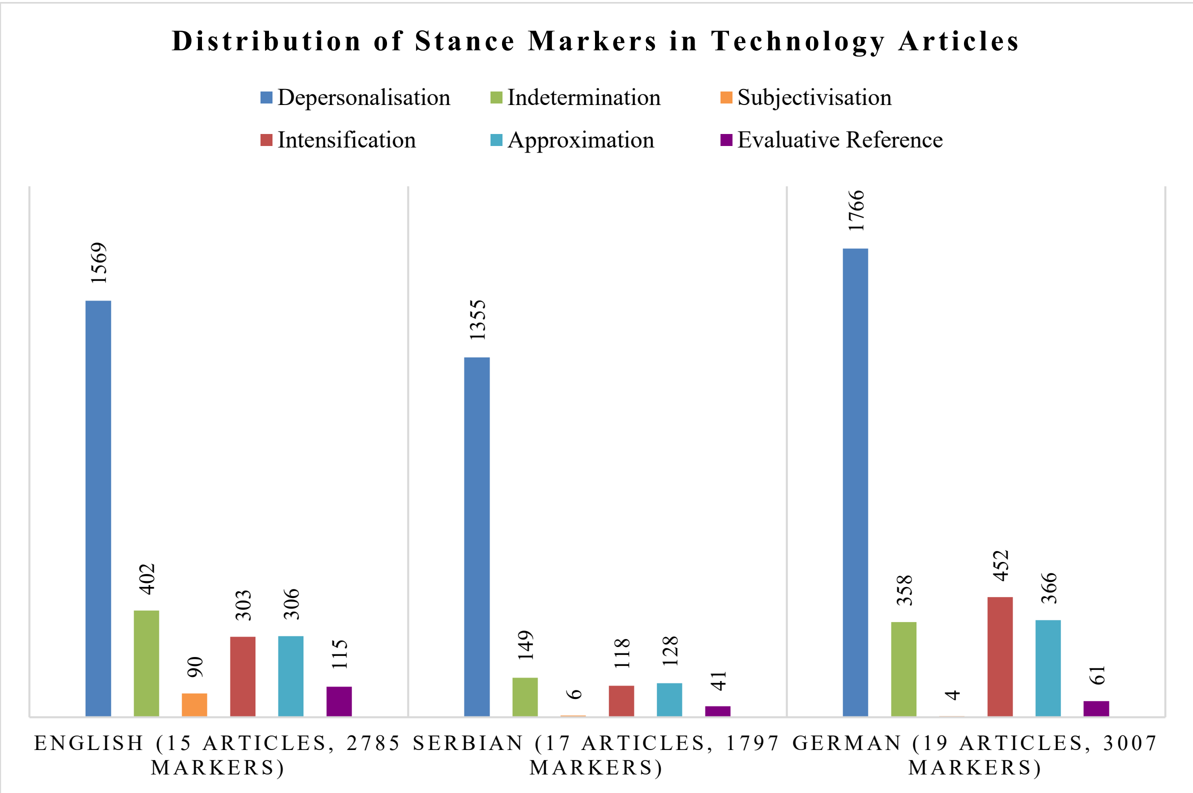

Figure 15: Distribution of stance markers in technology/engineering articles (absolute frequencies)

As can be seen from Figure 15, in the sub-corpus of technology and engineering, most markers of stance are used in the articles written in German, while the fewest number of markers of stance is used in the articles written in Serbian. This corresponds to normalised frequencies, as these markers are most frequent in German (46.5 per 1,000 words), and least in Serbian (37.7

per 1,000 words), with 40.6 markers per 1,000 words used in English. In all three languages, the absolutely most dominant strategy is that of depersonalisation (along with the use of the passive voice), accounting for 56,3% of all markers identified in the English sub-corpus (1569 markers out of 2785 markers in total), 75,4% of all markers in the Serbian sub-corpus (1355 markers out of 1797 markers in total), and 58,7% of all markers in the German sub-corpus (1766 markers out of 3007 markers in total), in terms of their absolute frequencies. In all three languages, the strategy of subjectivisation is the least frequently used one, with an almost non-existent use of these markers in the Serbian and German sub-corpora.

These remarkable differences will be the focus of a more in-depth analysis of the three language sub-corpora within this scientific discipline. Following a slightly more detailed quantitative analysis for each language, each strategy will be looked into in more detail, in order to qualitatively elaborate on the most frequent forms within all strategies and possible motivations of the authors behind the use of these strategies. The sub-corpus of English will be examined first, followed by the sub-corpus in Serbian, and finally, the sub-corpus in German. The qualitative analysis of strategies will ensue in the same order as in the previous chapters: depersonalisation, indetermination, subjectivisation, intensification, approximation, and evaluative reference.

9.1 Corpus analysis of articles in the field of technology written in English

The 15 articles comprising the sub-corpus of articles in the field of technology written in English deal with nanotechnology, ecology, agricultural technology, chemical technology, military technology, biotechnology, electrochemistry, bioengineering, agricultural engineering, physical chemistry, and they are often interdisciplinary. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of 2785 markers is identified within these 15 articles, with the overall frequency of 40.6 markers per 1,000 words. The distribution of these markers according to the six strategies of stance-taking in terms of absolute frequencies and percentage is given in Figure 16:

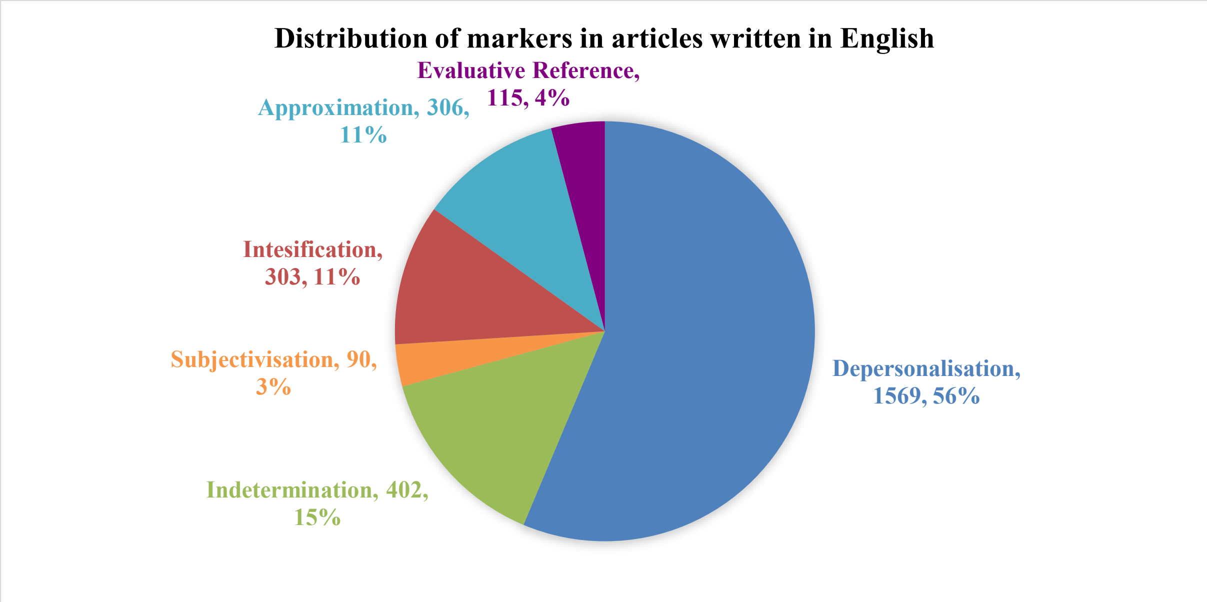

Figure 16: Distribution of stance markers in technology/engineering articles written in English (absolute frequencies)

As evident from Figure 16, and mentioned above, depersonalisation (including the use of the passive voice) is the most frequent strategy in this sub-corpus, accounting for 56% of all markers in this sub-corpus (1569 markers out of 2785 markers in total). It will be discussed below in 9.1.1. Unlike in the previous English language sub-corpora (see 7.1.1 and 8.1.1), the least frequently used strategy in this sub-corpus is subjectivisation.

9.1.1 Depersonalisation

Depersonalisation holds the absolute majority of markers in this sub-corpus, suggesting that authors tend to use this strategy to express their stance in a more covert way. With a total of 1569 markers found throughout this sub-corpus, this corresponds to an average of 104,6 markers per article. This number of markers also includes the use of the passive voice. Out of these 1569 markers, there are 976 uses of the passive voice, which is a much larger portion than in the previous two disciplines (see 7.1.1 and 8.1.1). Passive voice in this sub-corpus exhibits tremendous frequency as well as structural flexibility and semantic variety.

Participles

To start with, participles are once again a frequent formal category of expressions in this strategy, with 329 identified markers. They are used by authors as text-deictic means to refer to specific text-portions of their own articles, realised as past participles with an attributive function (Fandrych and Graefen 2002, 24), often reduced to a single word acting as pre- or post-modifiers: *henceforth referred to, detailed below, discussed below, abovementioned, cited above, discussed in the following section, discussed herein, previously described, outlined above, listed above, calculated, studied here, considered here, obtained here, presented here, deemed, performed, assigned, examined, predicted, identified, determined, used in all the examples, shown here, developed and discussed here, employed, measured, described, compared to, investigated in this paper, implemented, reported here, expected, desired, recorded, tested, found, utilised here, selected, chosen.* These participles can be used to denote actions performed by the authors as part of their research, where the authors' role is implicitly given. Past participles also occur in participle clauses (adverbial clauses of comparison), denoted as parenthetical passive constructions in Fandrych and Graefen (2002, 24): *as already noted, as discussed above, as is seen, as previously mentioned, as mentioned above, as mentioned earlier, as shown in, as discussed in, as already stated*. Examples of these markers are given in examples (278) and (282) below.

Impersonal constructions

The use of impersonal constructions to denote the procedures done as part of the research and to express the authors' opinions and assumptions (often in combination with other strategies, such as indetermination through modal and epistemic verbs – see 9.1.2, and intensification through modal verbs and intensifiers – see 9.1.4) is also quite prominent. These markers often include the impersonal pronoun *it* in extraposition constructions used to highlight the evaluation of the authors and their commitment to the truth value of the proposition expressed in the subordinate clause (107 markers): *it is believed, it is hypothesized, it is challenging to determine, it is also interesting to note, it is therefore expected, it is appropriate to assume, it is worth stating, it was determined that, it can be seen, it can be determined, it is reasonable to discuss, it is important to note, it was (not) possible to, it has to be noted here, it should be noted, it is proposed, it must be noted, it has been demonstrated, it must be pointed out, it is assumed, it is expected, it was determined, it is safe to assume, it can be seen, it is suggested, it is thought, it was stated, it is felt that, it was concluded, it is difficult to see, it is established, it is important to note, it can be difficult to, it would be useful to know, it can be concluded*.

(278) <u>*It was observed that*</u> the variation between repeat measurements was larger than the systematic error in the concentration measurement. Hence, <u>*reported*</u> *results here* are averages of the separate measurements, with error bars indicating one standard deviation about the mean. (McClure et al. 2014, 45)

(279) *It is hypothesized* that at higher pressures (i.e. greater than 10 MPa), active cooling is dominant over passive cooling for the sub-micrometer formulation. (Kalman and Essel 2017, 1265)
(280) *It is challenging to determine* the origin of the layering. (Kalman and Essel 2017, 1266)

While example (278) illustrates the use of impersonal construction to refer to observations made (by the authors), but do so in a covert and depersonalised manner, examples (279) and (280) combine depersonalisation with indetermination and intensification, respectively, to express the author's assumption (i.e. hypothesis), thereby hedging the statement in (279), or to evaluate the statement as challenging through attitude markers in (280) (see 9.1.4 below).

Expressions with the dummy subject *it* (Biber et al. 1999, 125) – *it is evident, it is apparent,* and nominal predicates – *is visible/evident* – express what the authors perceive in their findings, as illustrated in examples (281) and (282).

(281) Furthermore, *it is evident* that the performance improvement is greater than that of the pure epoxy sample control, especially at lower device temperatures. (Lewis et al. 2020, 9)
(282) Binder dewetting *is evident* by the dark regions surrounding each particle. (Kalman and Essel 2017, 1263)

Metonymic use of inanimate nouns

As in all the previous sub-corpora, the use of inanimate nouns (at times preceded by a demonstrative determiner or definite article) acting as a metonymic extension of the authors of the article, i.e. the researchers doing the research at question, can also be found in this sub-corpus (109 markers). The most prominent nouns include *result(s), analysis, data, finding, work, study*: *the result shows, the results from this work suggest, results […] prompted a detailed look, the results of the RMD analysis provide, the results revealed, the results are nevertheless suggestive, the obtained results clearly show, these results indicate that, this analysis agrees with the observation, analysis of the scattering data revealed, analysis […] provides, the data suggesting, these data further highlight, the data clearly demonstrates, the obtained data suggest, this finding suggests, the work […] outlines, this work illustrates, the current study provides, the current study found, the research study aims to develop, this study used.* These uses are also illustrated in examples (283) – (285), which all contain subjects with the role of an instrument used by the agents "to perform an action or instigate the process" (Quirk et al. 1985, 743):

(283) *These results, in addition to the very modest changes in thermal diffusivity of the pure epoxy matrix over the full range of treatment cycles, suggest* that the graphene fillers play an integral role in this *observed behavior.* (Lewis et al. 2020, 8)
(284) *Our investigations of the electrocatalytic properties of hydrated iron oxyhydroxide layers have focussed on* the technologically important oxygen evolution reaction (OER). (Lyons and Doyle 2011, 5717)

(285) *Analysis of the burning rate and the combustion residue suggested* that the residue influences the combustion of the propellant through active and passive cooling. The residue *analysis also provided indirect evidence of* a melt layer of CL-20 and/or HTPB was present during combustion. (Kalman and Essel 2017, 1267)

Other nouns used for this purpose include: *the objective of this research is, one goal of the present work is, the aim of this work was to, the purpose of this was to, the focus of this work is to ascertain, this simple model underscores, the model suggests, tests confirmed/indicated,* as well as the use of nominalizations with the purpose of omitting the agent of the clause (Biber and Gray 2010, 11): *these equations indicate, this investigation provided, examination of the trajectory animation shows/reveals, quantification of the functional groups in the compound proved, comparisons show/demonstrate, observations indicated, the use of a nonreactive force field is justifiable, under consideration*, *the rationale for selecting, this observation must arise naturally, the systematic testing [...] confirms, that reasoning agrees with, this experiment provided, the procedure used in this study consisted of.* Example (286) illustrates the use of the noun *procedure* to explain what was done in the research, metonymically replacing the animate authors of the study:

(286) *The graphene and epoxy composite sample preparation procedure was in most ways identical to a previous study by this research group*, save for the absence of any h-BN materials, the application of as little pressure as possible during curing, and the use of few-layer graphene (XG Sciences, Lansing, MI, USA) with a vendor-defined average lateral dimension of 25 μm [19]. (Lewis et al. 2020, 3)

Clauses

Another category of markers in this strategy includes the use of non-finite subordinate clauses (34 markers). The first prominent type includes subordinate adverbial clauses introduced by the subordinator *in order to*, indicating the purpose behind authors' actions (Quirk et al. 1985, 1107): *in order to proceed further, in order to keep, in order to resolve, in order to estimate, in order to minimize, in order to obtain insight, in order to ascertain* and illustrated in examples (287) and (288) below. Purpose is also expressed through infinitival clauses (Quirk et al. 1985, 1107) again used here to indicate the authors' purpose: *to evaluate the uncertainty of the measured mechanical properties and ensure differences, to validate this assumption, to calculate this quantity, to ensure that, to assure that, to compare, to accurately model, to assess the sensitivity of our calculations, to ascertain if it was possible.* Other types of subordinate clauses are used to denote procedures performed by authors. Non-finite clauses functioning as adverbs of time are used to establish a timeline of procedures, as either preceding – *prior to testing, prior to deposition, before commencing, prior to placement, prior to introduction, prior* *to obtaining the sample, prior to the preparation of the aforementioned batches,* as illustrated in example (288), or following another action – *after making these determinations, after manually scraping off, following the procedure, after evaluating, upon introduction and application of, upon the inclusion, before adding, after the addition, following a modified protocol, upon conducting tensile tests.* Non-finite clauses functioning as adverbs of manner are used to explain how the procedure is conducted – *by setting to zero and fixing, using the method, by evacuating, by experience and through some testing, using data, comparing the amount of,* as illustrated in example (289).

(287) In order to elucidate the surface composition of the powder A particles other AFM based analytical methods were used. (Prime et al. 2011, 1105)

(288) *After making these determinations*, unified fits were performed by fixing the power law to −3 *in order to minimize* the number of free parameters. (Watkins et al. 2017, 23135)

(289) A rigid, stationary piston was created at the left-hand end of the system *by setting to zero and fixing at zero* the forces and velocities of all atoms in the first five unit cells along the shock direction. (Eason and Sewell 2012, 2228)

Authors

Similarly to the English linguistics sub-corpus (see 7.1.1) and the Serbian economics sub-corpus (see 8.2.1), in 9 markers in this sub-corpus, authors choose to use a depersonalised self-reference to themselves through the use of the common noun *authors,* either in active or passive voice with an agent *by-(authors)* phrase*: the authors address, the present authors have demonstrated, the most recently developed method in the authors' laboratory, the authors have refined, the authors believe this assumption is valid, one concern the authors had, observed by the authors, developed by the authors.* In these instances, the authors do not explicitly attribute responsibility to themselves as 'full-fledged' persons, as they would with personal pronouns, but rather only in their capacity of authoring this paper. Moreover, 5 uses of the impersonal pronoun *one* can be found in the corpus: *one has to average, one might/can expect, one should note here, one can approximate.* Both these forms are meant to deemphasize the authors as agents of the clauses.

Passive voice

As mentioned above, over 60% (976 out of 1569) of markers in this strategy include the use of the passive without an agent *by*-phrase. Its most frequent use involves describing the procedures conducted as part of the research. As might be expected, they are usually found in the methodology section of the papers, but this is not further investigated in the current research. The sheer number of markers is too large to be presented in its entirety here, as it exhibits tremendous frequency, especially in this discipline, as well as great structural flexibility, in that it shows finite and non-finite uses and often combines with marked forms of other analytical grammatical categories of the verb such as the perfective and continuous aspect forms (*is being investigated, are currently being implemented*), as well as present, past, present perfect (*has not been established, has been used here, have been incorporated, have been tested, have been validated, has been developed, has been seen, has been slightly altered, have been calculated, have been measured, have been achieved, has been estimated, has been also investigated*) and future tense (*will be outlined here, will need to be improved or minimized, will be examined*). These forms are meant to denote the procedures done as part of the research or announce what is going to be done (future tense). Example (290) illustrates the use of the modal idiom *be to* with a future reference, denoting the plan of the researcher regarding what will be done in the paper (Quirk et al. 1985, 143), with a focus on the action, and not the agent:

(290) This problem *is the main one to be addressed* in the present work. (Berryman 2015, 121)

While modal idioms are not particularly frequent in the sub-corpus, markers of passive voice combined with marked forms of the grammatical category of past tense and used to describe research procedures are the most frequent form of passive in this sub-corpus: *were performed, were generated, was simulated, was applied, were used, was introduced, was accomplished, were selected, was created, was added, was determined, were calculated, were classified, were obtained, were defined, was treated, were expressed, was removed, were examined, were identified, were found, were made, were measured, was installed, were placed, was collected, were prepared, was initiated, were not considered, was adjusted, were observed, were implemented, was evaluated, was limited, was attributed, was analyzed, were compared, were extracted, were integrated, were constructed, was approximated, were designed, was modeled, was set, was varied, was included, was weighed, were cut, was carried out, were tested, were recorded, were plotted, were conducted, were inspected, were purchased, was estimated, were attached, was achieved, was chosen, was repeated, was taken, was employed, were capped and stored, were drilled, was lined, were run, was refilled, was modified, were synthesized, were collected and rinsed, was distributed, was nitrosated, were classified, was utilised, was monitored, was collected and passed through, was stirred, were mixed, were cured, were studied, was sampled, was undertaken, were optimized, was calibrated, were mounted and strained, were then sealed and stored.* These examples are only a small portion of those in the sub-corpus, aimed at deemphasizing the role of the author, and as examples (291) and (292) illustrate, passive voice markers show a tendency of clustering for the purpose of avoiding attribution in the text, which might explain the number of tokens in this sub-corpus[70].

(291) The four cameras *were gated* to collect data coincident with individual synchrotron X-ray pulses. After the measurement, the timing *was calculated* to a higher precision using the signal from a piezoelectric piezo timing pin in contact with the top surface of the HE sample/charge. Relative to the signal from the timing pin, the time that the detonation front reached the beam position *was determined* using the steady detonation velocity of 7.47 km/s37 and the distance from the top surface of the sample to the beam position (3 mm). This *was correlated* with the timing of the X-ray pulses which were coincident with camera gating and data acquisition. (Watkins et al. 2017, 23131)

(292) For this study, the FCCVD growth time *was varied* to achieve different heights of CNT arrays. The HOPG substrates *were first coated* with a thin film of SiO2 (<200 nm) as a buffer layer. The SiO2 oxide buffer layer *was deposited* using microwave plasma CVD, where the silica source was hexamethyldisiloxane, and the procedure was established earlier [36]. The resulting samples *were analyzed* by scanning electron microscopy (SEM), transmission electron microscopy (TEM), and laser flash analysis (LFA). (Quinton et al. 2018, 3)

In addition, passive voice combined with marked forms of the grammatical category of present tense is used in this sub-corpus to discuss the procedures conducted during the research: *are referred to, are generally thought, are observed, is then used, is anticipated, are readily distinguished, are labeled, is associated with, are limited, is found, are assumed, is performed, are obtained, is not resolved, are focused, are introduced, are outlined, are presented and analyzed, is accomplished by, is discussed, are calculated, are considered, are averaged and reported, is made, is constructed, is indicated, are plotted, is estimated, is organized, is seen, is subjected to, is achieved, are displayed, are adjusted, is added, are increased, is obtained, is determined, is compared, are not presented, is demonstrated.* As example (293) illustrates, the present tense is also used to denote certain generalisations, showing that the authors are familiar with the terminology and the general tendencies in the research of their field:

(293) Under dynamic load, such heterogene-ities can result in localized volumes of material with large thermal energies or high stress concentrations; these *are referred to as* *hot spots* [sic] and *are generally thought to* facilitate initiation and detonation of energetic materials. (Eason and Sewell 2011, 2226)

Combinations

Finally, passive voice markers often combine depersonalisation and indetermination through modal or epistemic verbs. In the majority of cases, this is seen as a double marker for both depersonalisation and indetermination, as it indicates assumptions expressed covertly by the authors: *can be described as, can be obtained, can be used, can be partially explained, can be*

[70] More examples of the passive voice as markers of depersonalisation in the sub-corpus of technology/engineering for all three languages are given in Appendix 3, further illustrating the tendency of these forms to cluster.

obtained, can be estimated, can generally be classified, can be seen, can be attributed to, can be reasonably assumed, can be calculated, can then be applied to, may need to be added, could be created, could be attributed, may be assumed, may be discerned, may be best explained, may be linked, might be tested, should also be pointed out, should be observed, are believed to be, was assumed to be. On the other hand, a combination of depersonalisation and intensification is expressed through modal passive voice with the modal verb *must* indicating necessity (see 9.1.4): *must be entered, must be written.*

However, in some cases, modal verbs do not have the presumptive or attenuating quality, but rather express external negation, indicating something that is not possible (König and Gast 2018, 116): *could not be eliminated, could not be reliably modeled, cannot be attributed, cannot be readily classified, could not be turned down, could be easily attained*, or, alternatively, they indicate ability: *can be summarized.* In such cases, these markers are therefore not seen as double markers, but rather only as depersonalisation markers.

9.1.2 Indetermination

As can be seen from Figure 16, indetermination is the second most frequently used strategy in this particular sub-corpus, but still significantly less frequent than depersonalisation, with only 402 markers (15% of the overall number of markers and 26.8 markers per article) found in the sub-corpus.

Modal verbs

The majority of all indetermination markers (216, i.e., more than 50% of the 402 markers) in this sub-corpus, as in the previous sub-corpora (see 7.1.2 and 8.1.2) are modal verbs, indicating possibility and attenuating the claim the author is making. These include, by order of frequency – <u>*can*</u>*: can result, can be treated, can be used, can be attributed to, can be interpreted, can be described as, can be obtained, can take, can be considered, can lead to, can alter, can be, can have, can yield, can be explained, can vary, can expect, can occur, can possess, can then be applied to, can be assumed, can be determined, can be said, can be seen, can be considered*; <u>*may*</u>*: may not be, may apply, may be considered, may contribute, may alter, may influence, may be, may explain, may indicate, may not have been, may be able to, may be written, may be possibly, may be explained, may be ascribed, may affect*; <u>*could*</u>*: could play a role, could be, could be attributed to, could be based on, could lead to, could be explained, could follow, could* *have, could well be due to, could have an influence, could be used*; should: *should be noted, should have, should be, should contain, should produce*; might: *might be expected, one might expect, this might be, as might be expected, might be tested*; and would: *would increase, would suggest, would likely be, would need to be, would result, would be suitable, would be useful, would be*. Examples (294) and (295) illustrate the use of the modal verbs indicating possibility:

(294) While the data set presented is clearly limited, the results are nevertheless *suggestive of* a general rule that *may apply* such that higher pressure environments *might be expected to* result in effective constants that frequently differ from those of the traditional VRH estimates. (Berryman 2015, 123)

(295) When the rotor is not turning, the CDDM operates in a manner similar to a homogenizer, and this *can lead to* occasional spikes of very high pressure. (Harvey et al. 2019, 1569)

Lexical verbs

Besides modal verbs, certain epistemic lexical verbs are also used in this sub-corpus to denote assumptions made by the authors (75 identified markers), in both finite and non-finite forms, and main and subordinate clauses (thereby displaying great structural flexibility): *suggesting that, which implies that, appear to be, seemed to, would suggest, was assumed to be, assuming, suggest that, it is assumed, it is suggested, it can be reasonably assumed, it appears that, it may be assumed, seems to be, seem to, implied*, as well as lexical verbs such as: *tend to, deemed to, is believed to be, it is hypothesized, it is believed, it is thought, we assume, was estimated at*. The verb *believe* is also used in combination with depersonalisation (see 9.1.1) to indicate that this is only the authors' belief, not necessarily a fact: *the authors believe this assumption is valid.* Finally, 12 usages of semi-auxiliaries *seem* and *appear* can be identified in the sub-corpus, denoting the authors' assumptions, as illustrated in examples (296) and (297):

(296) Finally, the Silverson mixer also has a low flow rate and as such *appears to be* less suited to processing fibers. (Harvey et al. 2019, 1571)

(297) Less direct estimations of the carbon cluster formation times, based on electrical conductivity measurements,[31] interferometry, and finite HE stick radius effects,[4] as well as gas gun experiments,[32] *seemed to* agree better with theoretical predictions than the TR-SAXS results cited above. (Watkins et al. 2017, 23130)

Other modal expressions

Besides modal and epistemic lexical verbs, modal adverbs and adjectives can also be found in this sub-corpus as markers of indetermination. Modal adverbs (34 markers) include: *presumably, perhaps, likely, realistically, possibly, intuitively, unlikely, potentially, seemingly, theoretically, in theory, reasonably, probably*. Modal adjectives (46 markers) include: *likely*, *potential* (advantages), *possible* (explanation), *suggestive* (result) and *tentative* (explanation).

In addition, the adjectives derived with the suffix *-able* are also included in this strategy as modal markers (König and Gast 2018, 99), as they denote something that can be achieved or done: *obtainable, manageable, comparable, applicable*. These markers indicate the possibility of something happening, as illustrated in example (298):

(298) Accordingly, carbon clusters <u>*are likely to*</u> start forming near the end of the fast reaction zone which can take a few tens of nanoseconds. (Watkins et al. 2017, 23138)

Finally, 10 markers including nouns are a part of this strategy. These include the modal nouns *possibility* (*there is a possibility of*) as well as the nominalised nouns *implication* and *estimation*, and impersonal expressions with existential *there* (Biber et al. 1999, 154; Quirk et al. 1985, 1405), combining indetermination and depersonalisation (see 9.1.1): *there is <u>evidence</u>, there is a <u>chance</u>,* and expressions with explicit agentivity, limiting the claims to author's beliefs, combining indetermination and subjectivisation (see 9.1.3): *<u>to the best of our knowledge</u>, we have a <u>higher degree of confidence</u>.*

Conditional clauses

Finally, 8 markers containing conditional clauses can be found in this sub-corpus, indicating a condition that may or may not be fulfilled (8 markers): *if pristine samples of CNT with 100% growth coverage were fabricated; if pristine CNT with maximum packing density can be achieved; if it were to reach zero that would indicate; if that scenario is true, then the increase in surface area would lead to; if this analysis proved to be significant*, and in examples (299) – (301) below:

(299) <u>*If this theory is true*</u>, then this data may be indirect evidence of a foam or froth layer similar to RDX and HMX [3]. (Kalman and Essel 2017, 1266)

(300) <u>*If the number of CNTs per area and the diameter of the CNT are known*</u>, then the thermal conductivity value of a CNT, κCNT, can be calculated using Equation (4). (Quinton et al. 2018, 8)

(301) <u>*If we were to assume the residue is relatively inert*</u>, then passive cooling would prevail. (Kalman and Essel 2017, 1266)

Conditional clauses are either solely markers of indetermination, indicating a condition, as in example (299), or they may combine indetermination and depersonalisation through passive voice (see 9.1.1) to indicate a general condition that is not tied to the research at hand, as in example (300), alternatively, they may combine indetermination and subjectivisation (see 9.1.3) to explicitly indicate the authors' assumptions, as in example (301).

9.1.3 Subjectivisation

As can be seen from Figure 15, subjectivisation is absolutely neglected in the entire sub-corpus of technology/engineering, albeit slightly less so in the English sub-corpus (in comparison to the Serbian or the German – see 9.2.3 and 9.3.3 respectively). With a total of 90 markers found in this sub-corpus (see Figure 16), there is an average of 6 markers per article, accounting for only 3,2% of the total number or markers found in this sub-corpus. In as many as 9 articles in this corpus, no markers of this strategy can be found at all, and only markers of first-person plural are used in this sub-corpus.

First-person plural

The majority of examples of this strategy in this sub-corpus includes the first-person plural pronoun *we* combined with marked forms of other analytical grammatical categories of the verb such as present, perfect or present perfect tense. The present tense is mostly used to denote actions performed as part of the research, as the research and the article progress: *we focus on, we refer to, we present, we (only) consider, we introduce, we argue, we describe, we examine, we adopt, we emphasise, we conclude, we define, we note that, we discuss,* as illustrated in example (302):

(302) In this article, *we report* MD simulations of shock waves in crystalline PETN using a mechanically accurate but nonreactive force field. (Eason and Sewell 2012, 2228)

In addition, it can also be said that the present tense is used as an organisational metadiscoursal marker to denote what will be discussed as part of the article: *we now proceed with, we now summarise.* It is also used to express the authors' assumptions, combining subjectivisation with indetermination (see 9.1.2): *we have a higher degree of confidence, we assume, we believe.*

The past and present perfect tense are also used to denote actions performed as part of the research: *we used, we found, we have defined, we invoked, we adopted, we tested, we performed the same analysis, we have assumed, we limited our analysis, we observed, we further plotted, we modelled, we converted, we have previously noted,* as illustrated in example (303):

(303) Up to 200 ns after the arrival of the detonation front, *we observed* a −4 power law consistent with the initial pore structure. (Watkins et al. 2017, 23135)

NP [Possessive determiner + $N_{(inanimate)}$]

The second use of subjectivisation involves possessive determiners followed by inanimate nouns: *in our calculations, for our purposes, our examples, our results, our consideration, in* *our measurements, our experimental data, our investigations*. These denote the belonging of these notions to the authors and thereby imply their direct responsibility for them. In addition, they also show that the results obtained are characteristic solely of their work, their data and their measurements.

Combinations

Subjectivisation can be found in combination with other strategies in this sub-corpus. Therefore, the following noun phrases function as double markers: *our previous published work* in example (304), expressing subjectivisation and reference to the authors' previous work (see 9.1.6). Another combination of strategies occurs in cleft sentences (Quirk et al. 1985, 89) used to highlight the opinion and belief made by the authors in the subordinate clause – *it is our opinion that, it is our belief that* in example (305), which may express both indetermination and subjectivisation for the purpose of attenuation and hedging (see 9.1.2).

(304) For the purpose of this study, *we converted* the filler mass fraction ratio (ϕ) to the volume fraction (f) *following the procedure described in detail to our previous published work* [17]. (Lewis et al. 2020, 4)

(305) In view of this, *it is our belief that* all workers in this area should consider the amphoteric nature of their oxide surfaces, regardless of how the oxide phase was prepared. (Lyons and Doyle 2011, 5729)

In the prepositional phrase *to the best of our knowledge,* the authors are expressing indetermination and subjectivisation for the purpose of attenuation and hedging (see 9.1.2).

9.1.4 Intensification

Intensification is not too prominent in this sub-corpus, with only 303 markers identified (20,2 markers per article). They are once again used as either certainty or attitude markers.

Certainty markers

Certainty markers are used to emphasise a statement, thereby conveying the authors' certainty. This is done most systematically through adverbs – emphasizers and intensifiers (R. Đorđević 2007, 651): *essentially, clearly, noticeably, considerably, significantly, actually, specifically, in particular, highly, particularly, especially, effectively, substantially, inevitably, indeed, greatly, extremely, unprecedentedly, tremendously, of course, noticeably, strongly, overly, always,* as well as focusing subjuncts (R. Đorđević 2007, 653) *merely, only, solely.* The use of boosters indicating a high degree (R. Đorđević 2007, 651) is illustrated in examples (306) and (307):

(306) These alterations *significantly* reduced the overall time required and allowed more samples to be characterized. (Harvey et al. 2019, 1568)
(307) They provide *extremely* low contact resistances at physical junctions and boast a typical metallic level of thermal conductivity (Lewis et al. 2020, 2)

Attitude markers

On the other hand, attitude markers are meant to qualify a statement and thereby convey the authors' evaluation. This is done most systemically through adjectives: *significant (displacements, influence, enhancement), necessary, reasonable, much larger/lower/better, pronounced (deviations), too crude, profound (effects), excellent (stability and controllability), more realistic but also more challenging, serious (limitation), extremely delicate and easily damaged, considerable (complications, interest), substantial, most important, interesting and little studied, noticeable, even more important, clear (enhancement, increase), overwhelming (contribution), obvious (utility), most critical, essential/significant (role), desirable, important, ideal, unexpected, remarkable, inherent (disadvantage),* as well as prepositional phrases *of particular interest, of significant interest, of critical importance, with a particular emphasis.* However, the emphatic effect of certainty can at times overlap with attitude expression, which is evident in some qualifying adjectives, as well as qualifying adverbs, where the line between certainty and attitude cannot be clearly drawn, as the value judgement is also seen as a conviction judgement: *vastly, unrealistically, ideally, very weakly, unexpectedly, impressively, interestingly, importantly, undoubtedly, preferably, surprisingly, apparently, evidently, obviously, specifically, negligibly.* While the qualifying quality of the adjectives is quite clear in (308), the adverbial phrase in (309) can be seen as having both emphatic and qualifying qualities:

(308) The SEM images also show a *remarkable* difference in the ash under different conditions. (Kalman and Essel 2017, 1266)
(309) Having the excess carbon not in the atomic form, but as small clusters (e.g., C6 or C24) at the onset of clustering was previously shown to affect results *only very weakly*. (Watkins et al. 2017, 23136)

However, the qualifying effect is much easier to spot in negative forms of adjectives: *insignificant when compared to, no noteworthy change, not possible, unlikely to be, impossible, not significant, no significant (relationship), little (effect), modest, negligible.* This same line of logic could be applied to negated forms of verbs: *did not change significantly, did not have a significant effect, did not significantly affect, did not seem to have a noticeable effect on, do not greatly improve*.

(310) Doping the in-situ titania with copper nearly restored the propellant strength, but *significantly* reduced its ductility. Doping the in-situ titania with iron slightly increased the propellant strength and *did not significantly affect* its ductility. (Thomas et al. 2016, 831)

Example (310) illustrates the use of the positive form of the adverb *significantly* as a certainty marker emphasizing the statement, while its negative form has the quality of an attitude marker.

Adjectives are also often used in impersonal constructions to qualify statements, and as extraposition constructions with anticipatory *it* to qualify the information in the subordinate clause: *it is interesting to, it is not appropriate to, it is reasonable to, this is reasonable, it is true that, it is important to, it is clear that, it is useful to, it is not very hard to, it is worth, it has to be noted here that, it should be noted that, it is well known that, it is necessary to, it must be noted/stated/pointed out that, it is safe to assume that, it is imperative that, it is unsurprising that, it is worthwhile to, it is challenging to.* This use is illustrated in example (311):

(311) Therefore, for the shock strength considered, the (100)-oriented crystal is *clearly* in the two-wave elastic-plastic region of the shock Hugoniot locus. Because the two waves propagate at different speeds, *it is not appropriate* to regard as stationary a spatiotemporal reference frame centered on the shock front. (Eason and Sewell 2012, 2230)

Finally, the modal verb *must* is an integral part of this strategy as an attitude marker, in its deontic meaning, denoting the authors' evaluation of necessity: *must be assumed, must be written.* Other modal verbs can also be found in this sub-corpus with the meaning of necessity: *need to be accounted for, need to be employed*. When modal verbs which can be seen as a part of the strategy of indetermination are used in their negated form, or complemented by a marker of intensification, this is seen as a marker of intensification instead: *can easily be applied, can substantially reduce, cannot be assumed, should not necessarily be associated, should not be used,* as these express the authors' evaluation of necessity and impossibility.

(312) The methods developed and discussed here *can easily be applied to* other granular systems composed of anisotropic grains having trigonal elastic symmetry, and — with some known technical modifications — also to those having other types of elastic symmetry as well. (Berryman 2015, 123)

In example (312) the use of the marker of intensification *easily* negates the possibility meaning of the modal *can*, giving it rather a meaning of ability, as *easily* indicates the manner of application, thereby having an intensifying function in certain contexts.

9.1.5 Approximation

Approximation is used to attenuate certain aspects of the propositional content of the utterance. It is about as pervasive as intensification in this sub-corpus, as 306 markers can be identified (an average of 20,4 markers per article).

Adverbs

The structures most systematically used in this sub-corpus to express approximation are adverbs of indefinite frequency (R. Đorđević 2007, 646), downtoners functioning as approximators, diminishers, compromisers, and minimizers (R. Đorđević 2007, 652): *usually, generally, relatively, approximately, predominately, largely, principally, about, nearly, overall, closely, comparatively, fairly, similarly, rather, typically, mostly, partly, partially, almost, relatively, slightly, quite, ca., somewhat, roughly, mainly, slightly, generally, marginally, at least, just a few to several,* and prepositional phrases *of the order, in general, in principle, in part.* Example (313) illustrates the use of adverbs as approximators of measurements:

(313) For such applications 200 km depth corresponds to <u>*about*</u> 5 GPa of overburden (by comparison, Earth's radius is <u>*about*</u> 6400 km). (Berryman 2015, 122)

Adjectives

Adjectives are also fairly prominent in this sub-corpus, including: *(very, quite) similar, approximate, average, slight, comparative, relative, certain, estimated, general (trend), limited (scope).* Example (314) illustrates the use of adjectives as markers of approximation:

(314) Temperatures of 23 ◦C, 45 ◦C, and 60 ◦C reported <u>*statistically similar*</u> dry matter losses with <u>*a general trend in*</u> increasing dry matter loss as the storage duration and initial moisture content increased. (Towey, Webster and Darr 2019, 336)

Quantifiers

Finally, other prominent markers are closed-class quantifiers functioning as determiners (Quirk et al. 1985, 262): *most (of)* and *some (of),* along with expressions indicating *fuzziness,* such as *in most cases, in most ways, some time ago, to some degree, to some extent, some degree of*. In addition, noun phrases indicating quantity with the structure [Det – (Premodifier) - Head Noun + Postmodifier] as open-class quantifiers (Quirk et al. 1985, 264) can be found in the sub-corpus: *a number of, a range of, an average of,* as well as prepositional phrases with the structure [Prep + NP]: *to a good approximation.*

9.1.6 Evaluative Reference

The final strategy, evaluative reference, is the second least prominent strategy in this sub-corpus, as only 115 markers can be identified, accounting for only 4,1% of all the markers and an average of 7,7 markers per article. In one article in this corpus, no markers of this strategy can be found at all. Once again, simple quotations and paraphrases of the work of other authors are not included in the analysis. Expressions such as *[authors'] showed [...]* are not included in the analysis either, as this is seen as only a citation or paraphrase of the results of another study, without an expression of stance or comparison to the author's own results. Markers of evaluative reference rather include evaluations of previous work in the field or comparisons of previous and current work.

Gaps in existing research

To start with, the first dimension of this strategy includes reports on the gaps in existing research (18 markers), mostly through finite clauses, predicative constructions and nominal phrases: *this knowledge is not as complete, has received far less consideration, we are not aware of any study concerned with, there is little consistency in the literature, there is a relative lack of data in the open literature regarding, the only meaningful studies, there exists little data in the literature, few studies on, there is little information available, there is no clear consensus, has not been as well studied as, no experimental evidence has been reported that definitively shows, inconsistency in the reported data.* These structures often include determiners such as *few, little, not many, no,* as well as nouns with negative connotations, such as *lack* and *inconsistency*. This dimension is illustrated in examples (315) and (316), showing that certain phenomena have not been researched enough in previous literature:

(315) However, the long-term, intrinsic performance of TIMs irrespective of the junctions in which they are applied *has received far less consideration* [44–52]. (Lewis et al. 2020, 3)
(316) Furthermore, *there is little information available on* the quantification of enteric CH4 emissions for grazing dairy heifers. (Morrison et al. 2017, 754)

Extensive research

On the other hand, in an opposing dimension of this strategy, authors in this sub-corpus, similarly to the German linguistics data (see 7.3.6), use evaluative reference to indicate that the area has already been well researched and can serve as a theoretical basis for their own research. This dimension is expressed in this sub-corpus through impersonal constructions such as *it has seen extensive study,* and is illustrated in example (317):

(317) *At present there exists a significant body of work on* the oxygen evolution electrocatalytic properties of oxidised Ni electrodes [8, 11-19], while several independent workers have investigated the details of the reaction at oxidised Co anodes [9, 20-23]. (Lyons and Doyle 2011, 5711)

Evaluations of previous research

The third dimension of this strategy involves qualitative evaluations of other author's work, expressed through predicative constructions and full clauses (10 markers): *have not been as successful, confirms expectations, have yielded interesting results, are very interesting, is imperative for, there are disadvantages with this method, is useful in the analysis of, these equations […] add useful information to the scientific literature*. This dimension is illustrated in example (318)*:*

(318) Simulations focusing on how filler particles change the distribution of the end-to-end vectors of polymer chains in the elastomeric network by excluding the chains from the volume they occupy *have yielded interesting results*. (Thomas et al. 2016, 824)

Comparison with other work

A fourth dimension of this strategy includes comparisons with previously obtained knowledge, (52 identified markers) through finite clauses: *there is good agreement in, these results should not be considered contradictory to present findings, reproduce and therefore confirm a result that was first published by, similar behavior has been reported/observed, similar observations were noted by [authors], there are deviations between,* adjectival phrases followed by a preposition: *consistent with, very comparable to, consistent with, similar to, analogous to, in most ways identical to,* prepositional phrases: *in disagreement with, in stark contrast to, in comparison to, in agreement with, in line with, by analogy with,* predicative constructions: *agree with, compares with,* non-finite clauses: *producing good agreement with, correlating with, as in the present work.* Sometimes authors explicitly state their stance using verbs of agreement, such as in: *we agree with the analysis proposed by [authors].* This dimension is illustrated in examples (319) and (320), with predicative constructions showing correlations between previous and current research:

(319) The values which were obtained for both virgin polymers, PEO and PCL, *are consistent with that reported in literature*; (Healy et al. 2018, 9)

(320) Such a result *is in agreement with the conclusions of* Heijnen and Van't Riet [13]. (McClure et al. 2014, 48)

Markers of this strategy also include those of reliance on previous knowledge as basis for the work being done in the current research through finite and non-finite clauses (21 markers):

make use of the methods of, data used include laboratory measurements of, the process was as described by [authors], this was performed as described by [authors], we adopt a similar approach to; by a modification of the […] model, following a standard method as described in the literature (illustrated in example (321) below)*, with similar parameters being utilized by [author], built on the work previously undertaken by.* This dimension also includes a marker referencing the work done by the same author(s): *in our previous work, we have however, more recently proposed.* Example (321) illustrates how an existing method was followed:

(321) The sulfite concentration was measured using an iodometric titration, *following a standard method as described in the literature* [27]. (McClure et al. 2014, 45)

Future research

Finally, the fifth dimension of this strategy indicates future research to be done in the area (11 markers), through active constructions: *could be an effective method to increase the consistency among similar future studies, it is worthwhile obtaining, these data further highlight […] and suggest a need for further investigation,* as well as passive constructions: *were identified for additional study, further research is required, additional research will be needed, further data is needed, further studies will be conducted on, subsequent studies will examine, longer duration replications of the tests are recommended.*

(322) How general these results might be *is surely a subject for further study*. [Berryman 2015, 123]
(323) Subregions of material containing these defects *were identified for additional study*. [Eason and Sewell 2012, 2237]
(324) Longer duration replications of the tests *are recommended* to fully conclude the influence of temperature. [Towey, Webster and Darr 2019, 341]

While active voice constructions do not necessarily indicate who will conduct future research, as in example (322), passive voice constructions might be more ambiguous, as they might suggest the same authors will conduct additional studies, as in example (323), or are only making a recommendation for it, as in example (324).

9.2 Corpus analysis of articles in the field of technology written in Serbian

The 17 articles constituting the sub-corpus of articles in the field of technology written in Serbian deal with chemical technology, agricultural technology, nanotechnology, biotechnology, mining technology, mechanical engineering, electrochemistry, mechanical technology, instrumental chemistry, ecology, and they are often interdisciplinary. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of

1797 markers can be identified within these 17 articles, with the normalised frequency of 37.7 markers per 1,000 words. The distribution of these markers according to the six strategies in terms of absolute frequencies and percentage is given in Figure 17:

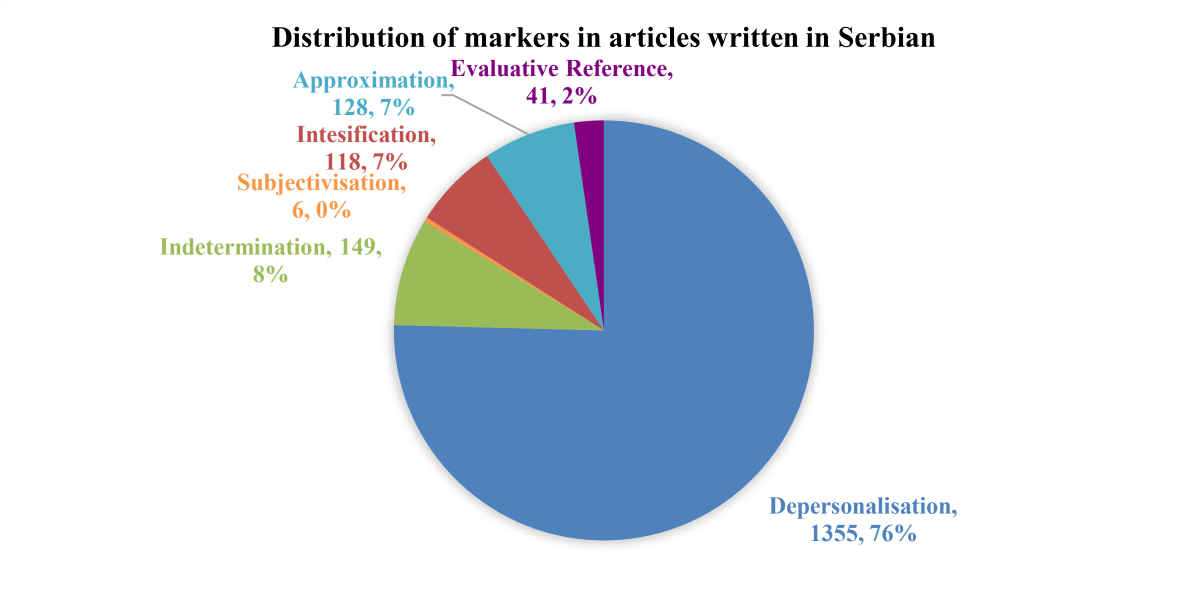

Figure 17: Distribution of stance markers in technology/engineering articles written in Serbian (absolute frequencies)

As can be seen from Figure 17, depersonalisation is by far the most frequent strategy in this sub-corpus, while the strategy of subjectivisation is by far the least frequent, as only 6 markers of this strategy can be identified in the sub-corpus, which is why it is hardly visible in the figure (numerically denoted with 0%, due to lack of decimal numbering).

9.2.1 Depersonalisation

Depersonalisation is by far the most frequent strategy in this sub-corpus, with 1355 identified markers (79,7 markers on average per article) and including the use of the passive voice. This accounts for over 75% of all the markers found in this sub-corpus (1797 markers).

Participles (trpni glalgolski pridev)

Similarly to previous sub-corpora (see 7.2.1 and 8.2.1), the use of participles – *trpni glagolski pridev* – is extremely prominent in this sub-corpus with 264 identified markers, and used with an attributive function to denote the actions done as part of the research: *snimljen* (=recorded), *detektovani* (=detected), *analizirani* (=analysed), *osušen na 110°C i označen* (=dried at 110°C and labelled), *modifikovanu* (=modified), *naveden* (=listed), *primenjeni agensi* (=applied agents), *korišćen u ovom radu* (=used in this paper), *dobijeni* (=obtained), *posmatrane* (=observed), *izmeren* (=measured), *ispitani/ispitivani* (=investigated), *tretiranih* (=treated), *izračunate vrednosti* (=calculated values), *zabeležena* (=recorded), *podeljene* (=divided), *raspoređenih* (=distributed), *uzorkovanih* (=sampled), *predloženi* (=suggested), *prethodno zagrejano* (=previously heated), *određen na osnovu* (=determined based on).

(325) *<u>Dobijeni rezultati</u>* se slažu sa qe vrednostima za agense datim u Tabeli 1. (Rajić, Dalmacija and Dalmacija 2012, 229) = obtained results

(326) *<u>Detektovane vrednosti</u>* su u skladu sa nominalnim vrednostima. (Marinović et al. 2019, 775) = detected values

(327) Za *uzorke* <u>dobijene</u> u rastvoru i u supenziji <u>dobijene</u> *vrednosti* su veće od T5% odgovarajućih čistih uzoraka. Kompozitni *uzorak* <u>dobijen</u> u masi ima najnižu vrednost T5% od svih <u>ispitivanih</u> *uzoraka* jer sadrži najveću količinu niskomolekulskih komponenata. (Džunuzović et al. 2010, 488) = samples <u>obtained</u>; <u>obtained</u> values; sample <u>obtained</u>; <u>examined</u> samples

As illustrated in examples (325) – (327), this type of markers is not characterized by great lexical variety, but they can be both pre- and post- modifiers, used to denote an action done by the authors (Stanojčić and Popović 2004, 403).

Verbal noun (glagolska imenica)

Another prominent type of markers in this sub-corpus is the use of verbal nouns – *glagolska imenica* – describing the actions performed as part of the research (161 markers identified). These nouns are marked by the suffix *-je,* derived from transitive verbs (*trpni glagolski pridev*) and denoting an action or an occurrence of what was done as part of the research (Stanojčić and Popović 2004, 144): *ispiranje, poliranje i izolovanje* (=rinsing, polishing and isolation), *merenja su pokazala* (=measurements show), *dalje povećanje* (=further increase), *ispitivanje* (=investigation). Many of these markers have syntactic functions of adverbial non-finite clauses. They function as part of adverbial clauses of time – *priloška odredba za vreme*, indicating an action happening before – *pre početka merenja* (=before starting the measurement), *pre ubacivanja* (=before inserting), during – *pri ispitivanju* (=during investigation), or after another one – *nakon mešanja* (=after mixing), *nakon izluživanja* (=after leaching), *nakon vađenja* (=after extracting), *nakon skidanja* (=after removing), *nakon sušenja* (=after drying), *nakon tretiranja* (=after treating), *nakon ispiranja i sušenja* (=after rinsing and drying), *nakon eksperimentalnog ispitivanja* (=after experimental testing), *posle dekantovanja* (=after decanting) (Stanojčić and Popović 2004, 241). Additionally, they function as parts of adverbial clauses of cause (encompassing purpose as well in Serbian) (*priloška odredba za uzrok*): *radi eliminisanja* (=in order to eliminate), *radi uklanjanja* (=in order to remove), *u cilju upoređivanja* (=in order to compare), *radi izračunavanja* (=in order to calculate), *radi* *određivanja* (=in order to determine) (Stanojčić and Popović 2000, 241). Finally, they may also function as adverbial clauses of manner – *priloška odredba za način* (Stanojčić and Popović 2004, 241): *korišćenjem sistema* (=by using the system), *poređenjem je utvrđeno* (=it was determined by comparison), *dodavanjem glutationa* (=by adding glutathione).

(328) *Posle energičnog mućkanja* u levku *je izdvojen* donji hloroformski sloj tamno crvene boje koji sadrži čestice TiO2-PAA. (Džunuzović et al. 2010, 474) = after vigorous shaking…

(329) U eksperimentima u kojima *se ispitivao* uticaj poli(pirogalola), *akumulaciji je prethodilo formiranje* poli(pirogalola) iz 0,1 M H2SO4 rastvora koji je sadržao pirogalol. (Marinović et al. 2019, 772) = accumulation was preceded by formation…

Examples (328) and (329) illustrate the use of adverbial clauses of time, of posteriority and anteriority, respectively, to denote the sequence of actions performed. In addition, example (329) illustrates the use of other nouns, not derived with the same suffix, used for the same purpose of denoting actions and occurrences, functioning as subjects and having a metonymic function of an agent. This is also visible in the following examples: *primena metode* (=the application of the method), *detekcija [...] omogućila je* (=the detection of manganese made it possible), *tretmani ogleda obuhvatali su* (=trial treatments included), *priprema za eksperiment je obuhvatala* (=preparation for the experiment included).

Additional adverbial clauses of time include: *akumulaciji je prethodilo formiranje* (=accumulation was preceded by formation), *pri izboru* (=when choosing), *nakon ekstrakcije* (=after the extraction), *nakon tretmana* (=after the treatment), *sledila je akumulacija i detekcija* (=followed by accumulation and detection), as well as adverbial clauses of cause, such as *u cilju izrade* (=in order to make) and manner, such as *upotrebom metode* (=by using the method). The use of these nominalised nouns confirms that there is a tendency to use nominalisations in written discourse (Meyer et al. 2002, 156), also in Serbian academic discourse.

Metonymic use of inanimate nouns

As in previous sub-corpora, inanimate nouns, preceded at times by a demonstrative determiner – *ovaj, ova, ovo* (=this), are used with the metonymic function of acting as clausal agents, in this sub-corpus as well (74 markers). The most prominent markers include: *elektrohemijska ispitivanja [...] ukazuju na* (=electrochemical research shows), *pokazala su ispitivanja* (=research showed); *rad predstavlja rezultat primene* (=this paper is the result of application); *rezultati su pokazali* (=results showed), *ovaj rezultat potvrđuje pretpostavku* (=this result confirms the assumption), *rezultati ukazuju* (=results show); *ova studija [..] pokazala je* (=this study showed); *analiza je pokazala* (=analysis showed), *analiza je omogućila* (=the analysis enabled). This use of inanimate nouns in illustrated in examples (330) and (331):

(330) *Ova analiza ukazuje na činjenicu* da se tribološke karakteristike jednog složenog tribomehaničkog sistema ne mogu posmatrati na jednosta-van način i da nije moguće lako uspostaviti pouzdane metode i odrediti dijagnostičke parametre za ocenu stanja posmatranog sistema. (Perić 2011, 136) = this analysis points to the fact…

(331) *Rezultati sprovedenih analiza pokazali su* visok sadžaj ukupnih ugljovodonika mineralnog porekla (C10-C40) u tlu na delu pristaništa oko bušotina PR-6, PR-10, PR-11 i PR-12 (slika 4). (Pajić et al. 2017, 827) = the results of the conducted analyzes showed…

Impersonal constructions

Depersonalisation is also expressed through several types of impersonal constructions in this sub-corpus (115 markers identified).

To start with, the use of nominal predicates – *imenski predikat* – is meant to qualify the subject of the clause (Stanojčić and Popović 2004, 225) and express the agents' point of view, but simultaneously hide the agent: *poznato je* (=is known), *vidljiv je* (=is visible), *je uočljivo* (=is visible). These adjectival phrases do not denote an action, but rather a state or quality of the object (Tanasić 2014, 16) and are therefore seen as nominal predicates. In examples (332) and (333), the authors express their evaluations implicitly, thereby combining depersonalisation with the attitudinal dimension of intensification (see 9.2.4):

(332) *Vidljiv je* konstantan rast širine habanja diska, u funkciji od pređenog puta, što je posledica uticaja povećanja produkata habanja u ulju i promene podmazujućih karakteristika ulja (usled postepene degradacije ulja) u toku ispitivanja. (Perić 2011, 151) = is visible

(333) Međutim, reakcija sorti na N *je lakše uočljiva* ako se prinos zrna izrazi u procentima, pri čemu je prinos pri N0 označen sa 100% (Graf. 2). (Denčić et al. 2014, 53) = is more easily noticeable

Another quite prominent form is the present participle – *glagolski prilog sadašnji* – denoting a simultaneous action with the one in the finite clause (Stanojčić and Popović 2004, 399). It may function as an adverbial clause of time, cause, manner etc. (Piper et al. 2005, 463): *analizirajući efekte* (=by analysing the effects), *imajući u vidu/na umu* (=bearing in mind), *upoređujući vrednosti* (=by comparing the values), and is illustrated in example (334) below.

Furthermore, impersonal constructions – *obezličene rečenice* – with the neutral verbal form in third-person singular or in its reflexive form (containing the particle *se*) (Stanojčić and Popović 2004, 251) are also used in order to deemphasize the author, as the author exists, but is put in the background: *može se konstatovati* (=can be established), *može se zaključiti* (=can be concluded), *može se pretpostaviti* (=can be assumed), *kao što se može videti* (=as can be seen), *može se primetiti* (=can be noticed), *može se reći* (=can be said), *može se uvideti* (=can be seen), *može se videti* (=can be seen), *došlo se do određenih zaključaka* (=certain conclusions were reached), *očekuje se* (=is expected), *ne može se govoriti o* (=one cannot speak of), *se može tumačiti* (=can be interpreted), *se može uočiti* (=can be spotted), as illustrated in example (334):

(334) <u>*Upoređujući vrednosti iz tabela 6 i 7 može se uočiti*</u> da su vrednosti za Ekor u rastvoru bez inhibitora korozije, pozitivnije od vrednosti za Ekor za rastvor sa inhibitorom BTA, za sve ispitivane elektrode. (Avramović and Antonijević 2020, 146) = by comparing the values from tables 6 and 7 it can be observed...

However, as will be shown in the next section, impersonal constructions of this kind can overlap to a certain extent with reflexive passive constructions (already mentioned in 7.2.1 and 8.2.1). Impersonal constructions (*obezličene rečenice*) are used with the purpose of deagentising the clause, or to refer to a more general agent (e.g, people, everyone) and are constructed with intransitive verbs (Stanojčić and Popović 2004, 252). As they add to a more general and objective style of writing, they are often used in scientific articles (Stanojčić and Popović 2004, 253). On the other hand, reflexive passive constructions also refer to more general agents and can be paraphrased with participial passive clauses, as they employ transitive verbs (Stanojčić and Popović 2004, 254–255). However, Stanojčić and Popović (2004, 252), as well as Tanasić (2014, 212) note that impersonal constructions can also employ transitive verbs, especially "optionally transitive verbs" (*fakultativno prelazni glagoli*), which may or may not include a direct object. This object can be eliminated in the clause but is implied by context. This makes the differentiation between impersonal and reflexive passive constructions somewhat fuzzy in this sub-corpus, as such optionally transitive verbs may cause some examples not to be as easily delianeated as either impersonal or passive. One such fuzzy example is illustrated in example (335) – *vidi se* – as the verb *videti* (=to see) is transitive, but in this context it cannot be paraphrased with a participial passive clause.

(335) Vrednosti Tg ovih uzoraka su 118 i 114 °C, <u>*na osnovu čega se vidi*</u> da TiO2-PAA čestice nemaju toliko značajan uticaj na Tg posle odstranjivanja niskomolekulskih komponenti iz uzoraka i da su one slične vrednostima Tg za uzorke PMMA/TiO2–PAA-R kod kojih su niskomo-lekulske komponente odstranjene iz uzoraka u toku ta-loženja. (Džunuzović et al. 2010, 484) = based on which it is seen…

Passive voice

As noted by Piper et al (2005, 623), Serbian belongs to languages of active organization, meaning that active voice is generally preferred to passive voice. And indeed, as Tanasić (2014, 11) notes, the use of passive voice in Serbian was long avoided and seen as generally undesirable. However, Tanasić (2014, 231) also notes that the use of active and passive voice is dictated by the communicative goals, and in passive constructions, the patient is put in the forefront, and the agent in the background. This deagentisation, as mentioned by Stanojčić and Popović (2004, 252) is quite prominent in scientific writing, as the spotlight is moved from the agent of the clause to either the patient or the action itself (Erić Bukarica 2019, 154).

In the Serbian sub-corpus, 741 markers of passive voice are identified, which accounts for approximately 41% of all the markers (1797 in total) in this sub-corpus. As indicated for the previous Serbian sub-corpora (see 7.2.1 and 8.2.1), there are two types of passive constructions in Serbian: the participial passive (verb *to be* + participle – *trpni glagolski pridev*) and reflexive passive (particle *se* and third-person active form of the main verb) (Erić Bukarica 2019, 155). Both can be found in this sub-corpus. However, both types of passive voice have a dual nature. The participle in the participial passive has both an adjectival and verbal component, and this component dictates the interpretation of the clause (and it can therefore be interpreted as a nominal predicate if it is adjectival, or passive construction if it is verbal). As discussed above, the reflexive particle *se* in the reflexive passive can be an indicator of either the passive or impersonal construction (*obezličena rečenica*) (Tanasić 2014, 222–225).

Examples of the participial passive in this sub-corpus are characterized by abundancy and structural variety. As was mentioned in previous sub-chapters analysing Serbian corpora, the same passive form in Serbian expresses past and present passive, as the meaning is context-dependent. However, this affects the English glosses and requires an explanation in the choice of tense. The examples of participial passive in Serbian will be translated with the past tense form in English, as the participial passive does not refer to current referential present, for which only the reflexive passive can be used (Tanasić 2014, 234). Therefore, examples of the participial passive in this sub-corpus include: *su korišćeni* (=were used), *je merena* (=was measured), *je korišćen* (=was used), *je određen* (=was determined), *je praćena* (=was followed), *je sprovođena* (=was conducted), *je vršena* (=was done), *je ispitivana* (=was examined), *je klasifikovana* (=was classified), *je procenjena* (=was estimated), *je podeljena* (=was divided), *je označen* (=was denoted), *dodato je* (=was added), *je izračunata* (=was calculated), *je napravljen* (=was made), *je primenjeno* (=was applied), *je isečena* (=was cut), *nisu uzeti u obzir* (=were not taken into consideration), *je analizirano* (=was analysed), *je izložen* (=was exposed), *su sušeni* (=were dried), *pripremljeni su* (=were prepared), *su tretirane* (=were treated), *uzet je* (=was taken), *odabrani su* (=were chosen), *je premazan* (=was coated), *uranjan je* (=was submerged), *su dodavane* (=were added), *podešeni su* (=were adjusted), *su dobijeni* (=were obtained), *je pripisan* (=was ascribed to), *snimani su* (=were recorded), *identifikovana je* (=was identified), *nije detektovan* (=was not detected), *nije registrovan* (=was not registered), *su upoređeni* (=were compared), *je zadržan* (=was maintained), *variran je* (=was varied), *testirana je* (=was tested), *zabeležena su* (=were recorded), *nisu uočene* (=were not seen), *sintetisana su* (=were synthesized), *je modifikovana* (=was modified), *dokazana je* (=was proven), *utvrđen je* (=was established), *optimizirani su* (=were optimized), *su prikazani i analizirani* (=were presented and analysed), *su obrušeni i ispolirani* (=were ground and polished), *posmatrani su* (=were observed), *je zagrevana* (=was heated), *simulirani su* (=were simulated), *planirano je* (=was planned), *su ekstrahovani* (=were extracted), *rastvoreno je* (=was dissolved), *izučavana je* (=was studied), *je inkorporiran* (=was incorporated), *razmatrane su* (=were considered), *je očekivano* (=was expected). Passive voice denotes the actions conducted for the research, and examples below (336) – (338) illustrate their tendency to cluster, denoting the sequence of actions and deemphasizing the agent (the researchers):

(336) Za realizaciju eksperimenta namenski *je napravljen* držač za cevni luk koji *je izrađen od* konstrukcionog čelika S235 (EN 10025) i sastoji se od dva oslonca i četiri stopice. Dimenzije oslonca su 267x2x290 mm, sa četiri otvora prečnika 5,5 mm. Dimenzije stopice su 100x2x50 mm. Stopice *su procesom zavarivanja elektrolučnim postupkom spojene* sa osloncem, pri čemu *su dve stopice zavarene* za jedan oslonac. Držač je uz pomoć četiri vijka, dimenzije M5x60 mm, pričvršćen za cevni luk. Tri vijka, koja se nalaze u istoj ravni, prolaze kroz cevni luk, dok *je četvrti vijak postavljen* 15 mm iznad cevnog luka. (Pavkov et al. 2020, 52–53) = was made; was made of; are […] connected; are […] welded; was […] attached; is […] set

(337) Uzorak *je zatopljen* u hladno-polimerizujući akrilat. Kao uporedni uzorak *korišćena je* elektroda bakra. Uzorci za elektrohemijska merenja imala su konstantnu površinu od P=0.38cm2. Pre svakog polarizacionog merenja uzorci *su polirani* na šmirgl-papiru finoće #1000 i glinici, *isprani* destilovanom vodom i etil-alkoholom. (Avramović and Antonijević 2020, 141) = was submerged; was used; were polished […] rinsed

(338) Uzorci peska I, II i III kod kojih *je određen* najviši sadržaj kalijum oksida *su spojeni* u jedan uzorak i na tom uzorku *su rađeni* dodatni eksperimenti. Uzorci peska *su tretirani* vodom i *ispitivan je* uticaj kvašenja i pranja peska na sadržaj kalijum oksida. *Odmerene su* frakcije od po 30 g peska i *dodavano je* po 300 ml vode koja *je zagrevana* na različitim temperaturama 50°C, 70°C i ključala voda. Pored uticaja temperature vode, *praćen je* i uticaj dužine pranja peska vodom. Pesak koji *je samo propran*, zatim *je držan* u vodi 5 min, 10 min i 30 min. Posle dekantovanja vode, pesak *je ostavljen* da se osuši na vazduhu. Iz svake frakcije *je uzet* uzorak peska koji *je razoren i preveden* u rastvor u kome *je određen* sadržaj K2O. (Marinković et al. 2016, 220) = was determined; were connected; were done; were treated; was examined; were measured; was added; was heated; was followed; was rinsed; was kept; was left; was taken; was destroyed and transferred; was taken

On the other hand, reflexive passive constructions (containing the reflexive particle *se*) are used to express present referential actions (Tanasić 2014, 109), and while they can also express past actions, this is very rare (Tanasić 2014, 112). Therefore, the glosses for reflexive passive are given in the present tense: *se ispituje* (=is researched), *određuje se* (=is determined), *zapaža se* (=is noted), *se koriste* (=are used), *uočava se* (=is spotted).

These may also be a part of causal clauses (*uzročna rečenica*), denoting the purpose of conducting a particular action (Stanojčić and Popović 2004, 319), which are seen as reflexive passive constructions as they contain a subject denoted as patient: *kako bi se ispitala* (=in order to research), *kako bi se kontrolisalo* (=in order to control), *kako bi se utvrdio* (=in order to determine), *kako bi se dobio/da bi se dobio* (=in order to obtain), *kako bi se onemogućilo* (=in order to disable), *kako bi se preciznije odredilo* (=in order to determine more precisely). This form is illustrated in example (339):

(339) <u>*Kako bi se ispitala*</u> sorpciona aktivnost agenasa *sprovedeni su* je [sic] sledeći testovi: 1,0 g svakog sorbenta *je postavljeno* u Erlenmajer od 250 mL, *dodato je* 100 ml 500 mg/l Pb rastvora i mešanje *je vršeno* 10 min na horizontalnoj mućkalici. (Rajić, Dalmacija and Dalmacija 2012, 227) = in order to examine…

In addition, reflexive passive constructions may also be a part of conditional clauses in this sub-corpus – *uslovna rečenica* (Stanojčić and Popović 2004, 319): *ako se uzme u obzir* (=if one takes into consideration), *ako se ona ocenjuje na osnovu eksperimentalnih podataka* (=if it is evaluated on the basis of experimental data). This form is illustrated in examples (340) and (341) as the introductory conjunction for conditional clauses can be both *ako* (=if) and *kad* (=when), but these examples are also considered fuzzy, as they tread the line between impersonal constructions and reflexive passive constructions. It is also important to note here that these conditional clauses are not seen as markers of indetermination, as they do not indicate possibility and attenuation, but rather only another possible course of action, which has indeed been fulfilled, and this is clear from the use of the conjunction *kad* in example (341).

(340) <u>*Ako se dobijeni spektar uporedi*</u> *sa apsorpcionim spektrom TiO2–PAA, vidi se* da je to oblast u kojoj apsorbuju nanočestice TiO2–PAA što ukazuje da su one prisutne u PMMA matrici. (Uticaj načina sinteze poli(metil metakrilata) u prisustvu površ, p. 5). (Marinović et al. 2019, 773) = if one compares…

(341) <u>*Kada se porede*</u> vrednosti molarnih masa čistog PMMA i PMMA *ekstrahovanog* iz kompozitnih uzoraka *dobijenih* polimerizacijom u rastvoru, masi i suspenziji (tabele 1–3), *vidi se* da se one razlikuju i da zavise od načina polimerizacije. (Džunuzović et al. 2010, 484) = when one compares…

Combinations

In certain examples, impersonal and passive constructions include the modal verb *moći*, but this is not considered a combination of depersonalisation and indetermination when it denotes ability or lack of ability/impossibility. Such examples include impersonal and passive constructions such as: *može se uvideti da* (=it can be seen that), *može se primetiti* (=it can be noticed), *se ne može sa sigurnošću reći* (=it cannot be said with certainty), *se ne može napraviti* (=cannot be made), *ne može se uzeti u razmatranje* (=cannot be taken into consideration), *mogu se uočiti* (=can be seen), *se mogu uspešno smanjiti* (=can successfully be decreased), *se ne* *može utvrditi* (=cannot be determined), *se može videti* (=can be seen), *su se mogli zapaziti* (=could be spotted), *su se mogli videti* (=could be seen).

On the other hand, impersonal and passive constructions also include examples of combinations of depersonalisation and indetermination (see 9.2.2), which is evident in the modal verb *moći* with the purpose of attenuating a claim and expressing possibility while deemphasizing the agent: *bi se mogli koristiti* (=could be used), *može se utvrditi* (=can be determined), *se može tvrditi* (=can be claimed), *može se zaključiti* (=can be concluded), *može se potvrditi* (=can be confirmed), *se može tumačiti* (=can be interpreted), *mogu se objasniti* (=can be explained), *se verovatno može pripisati* (=can probably be ascribed to), *se može svrstati* (=can be classified), *može se pretpostaviti* (=can be assumed), *može se očekivati* (=can be expected), *može se reći* (=can be said), as well as through *moguće je izvršiti* (=can be done), *može biti korišćena* (=can be used), and through lexical verbs in impersonal form *pretpostavljeno je/pretpostavlja se* (=it is assumed), and modal nouns *pretpostavka je* (=the assumption is).

Though an extremely rare occasion, the extremely interesting pair of examples (342) and (343) below illustrates the side-by-side use of reflexive passive, in example (342) and participial passive, in example (343), in combination with indetermination, denoting attenuation. The identical glosses correspond to one passive form in English:

(342) *Zapaženi* efekat uticaja vode u gorivu na globalnu kinetiku sagorevanja tečnog goriva u FS *može da se objasni* poboljšanjem kontakta između goriva i oksidatora usled ekspanzije vodene pare, u većem broju numeričkih čvorova simulirane zone sagorevanja. (Nemoda et al. 2014, 29) = can be explained (reflexive passive construction with the reflexive particle *se*)

(343) *Zapaženi* efekat uticaja vode u gorivu na globalnu kinetiku sagorevanja tečnog goriva u FS *može biti objašnjen* intenziviranjem kontakta između goriva i oksidatora usled ekspanzije vodene pare. (Nemoda et al 2014, 30) = can be explained (participial passive construction)

Depersonalisation is also combined with intensification in the following expressions denoting the authors' evaluation on the necessity and importance of an action: *neophodno je sprovesti ispitivanje* (=it is necessary to conduct a research), *veoma je važno istaći* (=it is important to point out).

(344) *Poređenjem kontrolne (N0) i varijanti sa rastućim dozama azota (N30, N60, N90 i N120) na prinos, uočava se* skoro potpuni izostanak dejstva ovog *ispitivanog* faktora na povećanje prinosa (Tab. 2). Naime, osim što nije doprineo *očekivanom* porastu prinosa sa porastom doza *primenjenog* N do optimalnih, efekat N je bio upravo suprotan, tako da je prinos zrna ječma (u proseku za sve sorte i sve gustine setve) imao konstantan pad od kontrolne (N0) do najveće *primenje[ne]* doze (N120). Međutim, reakcija sorti na N *je lakše uočljiva* ako *se prinos zrna izrazi u procentima*, pri čemu *je prinos pri N0 označen* sa 100% (Graf. 2). *Očigledno je* da je reakcija sorti na N različita, odnosno povećanje/smanjenje prinosa sa rastućim količinama N nije istog intenziteta. *Analizom relativne reakcije na N za svaku sortu ponaosob, mogu se*

<u>*uočiti*</u> određene razlike koje su nastale kao posledica sortnih specifičnosti genotipova ozimog ječma. (Aćin et al. 2014, 53) = by comparing […] one can see; examined; expected; applied; is more easily seen; is expressed; is expressed; it is obvious; by analysing […] it can be seen

Finally, example (344) illustrates the clustering of these markers – impersonal constructions (also in combination with indetermination as in *uočava se* = one can see*; mogu se uočiti* = it can be seen), verbal nouns as adverbial clauses of manner (*poređenjem = by comparing; analizom* = by analysing), and nominal predicates expressing the authors' evaluations of the subject (*je lakše uočljiva* = is more easily seen*; očigledno je* = it is obvious – all meant to emphasize the role of the author in the research process.

9.2.2 Indetermination

Indetermination is the second most prominent strategy in this corpus, and yet, it only accounts for around 8% of the stance markers found in this sub-corpus, as only 149 markers are identified (10.6 markers per article).

Modal verbs

The most frequent group of markers includes the modal verb *moći* (=*can*) denoting possibility (105 markers), in impersonal and passive forms, thereby combining indetermination and depersonalisation (see 9.2.1): *može sprečiti* (=can prevent), *se može formirati* (=can be formed), *može se utvrditi* (=can be established), *se može klasifikovati* (=can be classified), *može rezultovati* (=can result in), *mogu prouzrokovati* (=can cause), *može biti* (=can be), *može se potvrditi* (=can be confirmed), *može da ostane* (=can remain), *mogu se javiti* (=can appear), *mogu imati* (=can have), *se može pripisati* (=can be ascribed to), *se može koristiti* (=can be used), *može se naći* (=can be found), *može dovesti do* (=can lead to), *se može svrstati* (=can be classified), *može se identifikovati* (=can be identified), *mogu poslužiti* (=can serve), *može biti korišćena* (=can be used), *može uticati* (=can influence), *može da se određuje* (=can be determined), *može blago migrirati* (=can migrate slightly), *mogu reagovati* (=can react), *mogu inicirati* (=can initiate), *može se definisati* (=can be defined), *se mogu razmatrati* (=can be considered), *bi mogao da utiče* (=could influence), *može se zaključiti* (=can be deducted), *se može tumačiti* (=can be interpreted), *mogu se objasniti* (=can be explained), *može se pretpostaviti* (=can be assumed), *može se konstatovati* (=can be established), *može se uočiti* (=can be noticed), *može se videti* (=can be seen), *mogao bi se objasniti* (=could be explained), *može biti objašnjen* (=can be explained).

(345) Na osnovu dobijenih rezultata *mogu se izvesti sledeći zaključci*: (Todorović et al. 2012, 199) = the following conclusions can be drawn…

(346) *To može biti osnova pretpostavke* da se unošenjem hrane bogate proteinima može smanjiti resorpcija olova i kadmijuma [20]. (Nikolić et al. 211, 406) = this may be the basis of the assumption…

Example (345) combines indetermination and depersonalisation through the modal verb *moći* and the reflexive passive construction (see 9.2.1), while example (346) combines the modal verb *moći* and the modal noun *pretpostavka* (=assumption), two indetermination markers.

Modal adjectives, adverbs and nouns

Modal adjectives, adverbs and nouns are also found in this sub-corpus, even though they are not particularly frequent. The only adjective in the sub-corpus is *moguć* (=possible) in the examples: *je termodinamički moguća* (=is thermodynamically possible), *uticaj mogućih interferencija* (=the influence of possible interferences). The corresponding modal noun is *mogućnost* (=possibility): *ukazuje na mogućnost* (=indicates the possibility), *mogućnost odabira* (=the possibility of selection), *zbog mogućnosti* (=due to the possibility). Modal adjectives show a bit more variety and abundance, with 15 identified markers: *najverovatnije* (=most likely), *verovatno* (=probably), *potencijalno* (=potentially), *eventualno* (=probably). In addition, the impersonal construction *moguće je* + infinitive (=it is possible to) combines indetermination and depersonalisation (see 9.2.1) in 5 markers: *moguće je izvršiti* (=it is possible to execute), *moguće je identifikovati* (=it is possible to identify), *je moguće odrediti* (=it is possible to determine).

Potencijal (conditional)

Finally, instances of the conditional form (*potencijal*) are also found in the corpus, indicating a possibility or a hypothetical situation and the author's attitude towards that proposition (Stanojčić and Popović 2004, 395) (14 markers): *bi bilo od značaja* (=would be significant), *bi odgovaralo* (=would fit), *bi se obezbedila* (=would be provided), *bi bile uklanjane* (=would be removed), *obuhvatila bi se* (=would be included), *omogućilo bi se* (=would be possible), as well as the modal verb *trebati* and its conditional form *trebalo bi* which can also indicate possibility: *trebali bi da imaju* (=should have).

9.2.3 Subjectivisation

Quite astonishingly, only 6 markers of this strategy can be found in this entire sub-corpus, as opposed to 1355 depersonalisation markers, which corresponds to 0.4% of all markers in this sub-corpus and 0.3 markers per article on average. This suggests that writers of technology articles in Serbian prefer using impersonal constructions to overt markers of stance (personal pronouns and possessive determiners). These markers can be found in only 3 out of 17 articles and will only be mentioned briefly below.

Two of these examples are a combination of subjectivisation and evaluative reference, as the authors are relying on the experiments done in their previous articles: *u našem prethodnom radu [24] okarakterisali smo* (=in our previous paper [24] we characterised), *u našim ranijim eksperimentima* (=in our previous experiments), while another example is a double marker of subjectivisation and indetermination: *možemo zaključiti* (=we can conclude). Two markers include the use of a possessive determiner, in two identical examples: *u našem ogledu* (=in our experiment). Finally, analogously to a reflexive passive construction (see 9.2.1), one example includes the conditional clause *ako ove podatke uporedimo sa podacima* (=if we compare this data with the data), but this marker is not seen as an indetermination marker, as it does not denote a hypothetical situation, but rather a real condition (Stanojčić and Popović 2004, 320).

9.2.4 Intensification

Intensification is also not too prominent in this sub-corpus, as only 117 markers can be found (6.9 markers per article). As expected, adjectives and adverbs are the most systematically used expressions of intensification in this sub-corpus, be it to denote certainty or evaluation.

Certainty markers

Certainty markers are used to emphasize a statement that is being made, adverbs being the most prominent type, often as premodifiers of adjectives and other adverbs: *znatno* (=significantly), *naročito* (=particularly), *jasno* (=clearly), *neophodno* (=necessary), *očigledno* (=obviously), *potpuno drugačiji* (=completely different), *sigurno* (=surely), *signifikantno* (=significantly), *pogotovo* (=especially), *visoko značajne* (=highly significant), *vrlo intenzivni* (=very intense), *drastično* (=drastically), *ekstremno* (=extremely), *svakako* (=certainly), *prvenstveno* (=first and foremost), *veoma bitno* (=very important), *jako bitan* (=very important), *umnogome* (=a lot), as well as the prepositional phrases *u velikoj meri* (=to a large degree) and *u znatnoj meri* (=to a considerable extent). This use of intensification is illustrated in examples (347) and (348):

(347) Sadržaj proteina jetre je *značajno* umanjen kod eksperimentalnih životinja koje su tretirane olovo(II)-acetatom i kadmijum(II)-hloridom. Dodatkom „protivotrova" (LA i GSH) nepoželjni efekat prisutnog olova i kadmijuma se *značajno* smanjuje (slika 5). (Nikolić et al. 2011, 407) = significantly; significantly

(348) Takođe, zbog prebujnih useva na pojedinim tretmanima, *naročito* pri visokim dozama azota i gustinama setve, uočeno je i rano poleganja useva (*pogotovo* kod sorte NS Ibar), što se *u velikoj meri* odrazilo na neočekivane efekte ispitivanih faktora na visinu prinosa zrna. (Aćin et al. 2014, 51–52) =especially; especially; to a large degree

As indicated in the economics sub-chapter (see 8.2.4), the adverb *značajno* (=significantly) and the adjectives *značajni/značajne/značajna* (=significant) in noun phrases such as *značajan faktor* (=a significant factor) are also used as certainty markers, as well as the noun phrase *veliki značaj* (=the great importance), the adjectival phrase *izuzetno značajno* (=exceptionally significant) and the prepositional phrase *od izuzetnog značaja* (=of exceptional importance).

Attitude markers

Attitude markers are used to qualify statements, and express authors' attitudes and evaluations. In this sub-corpus, attitude markers include adjectives: *iznenadne promene* (=sudden changes), *u zadovoljavajućim granicama* (=within satisfactory limits), *nemoguće* (=impossible), *interesantna činjenica* (=an interesting fact), *zanemarljiva* (=negligible), *drastični* (=drastic), *izvanredna* (=extraordinary), *najizraženije razlike* (=most pronounced differences), *neophodne* (=necessary), as well as the superlative form *jedan od najinteresantnijih* (=one of the most interesting), and the negative form of the adjective *nije zanemarljivo* (=not negligible), as they all serve to qualify statements.

Intensification may also be combined with depersonalisation in impersonal constructions conveying emphasis. These markers can be seen as combining emphasizing and qualifying quality: *jasno se vidi* (=is clearly visible/can clearly be seen), *jasno se uočava* (=is clearly visible); *važno je razumeti* (=it is important to understand), *veoma je važno istaći* (=it is very important to emphasize). This use is illustrated in example (349):

(349) *Neophodno je napomenuti* da metoda hidrodinamičke analize predstavlja inicijalnu ali i *neophodnu podlogu*, kao i da može imati i određena ograničenja u smislu primene u konkretnom slučaju, te da je u zavisnosti od rezultata efikasnosti remedijacije po potebi treba evaluirati nekom od drugih poznatih metoda. (Pajić et al. 2017, 832) = it is necessary to mention…; the necessary foundation

Finally, the modal verbs *morati* (=must), *trebati* (=should), and *smeti* (=should) in their deontic meaning are used to denote necessity or obligation, as the authors' evaluation: *mora se obratiti posebna pažnja na* (=special attention must be paid to), *mora da bude* (=must be), *mora se voditi računa* (=care must be taken); *ne bi smeli imati* (=should not have); *treba da bude* (=should be), *treba tražiti* (=should be looked for); *treba imati u vidu* (=should be borne in mind), *treba napomenuti* (=should be noted), *treba naglasiti* (=should be emphasized). This use is also illustrated in example (350), combining depersonalisation and intensification, as the authors express the logical necessity of their claim as well as their personal conviction, but are doing so implicitly:

(350) <u>*Treba napomenuti*</u> da će u daljem procesu tretiranja iscrpljene podzemne vode prolaziti kroz posebne separatore za odvajanje preostalih faza zagađenja i zatim upuštati u vodonosnu sredinu putem upojnih (injekcionih) bunara i/ili infiltracionih bazena [21]. (Pajić et al. 2017, 829) = it should be mentioned…

9.2.5 Approximation

Approximation can be said to be somewhat prominent in this sub-corpus, as it is the third most frequently used strategy, but only 128 markers can be found (7.5 markers per articel), which is still a comparatively low number of markers.

Adverbs

As is the case in many of the previous sub-corpora, the most systematically used structures expressing approximation and estimation in this sub-corpus are adverbs: *slično* (=similarly), *obično* (=usually), *relativno* (=relatively), *oko* (=around, circa), *pretežno* (=predominantly), *gotovo* (=almost), *skoro* (=almost), *približno* (=approximately), *blago* (=slightly), *uglavnom* (=usually), *prilično* (=pretty), *neznatno* (=slightly), *malo* (=slightly), *negde oko* (=somewhere around), *otprilike* (=approximately), *delom* (=partly), *nešto* (=somewhat), as illustrated in examples (351) – (353):

(351) Dnevne količine unetog olova, oralno i inhalacijom, mogu biti i <u>*oko*</u> 0,3 mg. Iste se <u>*delom*</u> eliminišu iz organizma ekskrecijom ali i akumuliraju, tako da se u krvi normalno može naći <u>*oko*</u> 250 µg/dm3. (Nikolić et al. 211, 403) = around; partly; around

(352) Nije ugrožena od crvotočine i u <u>*prilično*</u> je dobrom stanju. (Stojanović, Gajić-Kvaščev and Damjanović 2015, 388) = pretty

(353) <u>*Nešto izraženiji*</u> pozitivan efekat inhibicije korozije bakra pokazala su ispitivanja sa BTA što se može tumačiti razlikom u stabilnosti adsorpcionih slojeva ova dva inhibitora. (Todorović et al. 2012, 199) = somewhat more pronounced

Adjectives

Other markers in this strategy include adjectives, although they are not too varied or abundant, as either pre-modifiers of nouns in examples: *slični rezultati* (=similar results), *približne vrednosti* (=approximate values), as pre-modifiers in prepositional phrases: *u sličnim uslovima* (=in similar conditions), or as parts of a nominal predicate, as illustrated in example (354):

(354) Vrednosti korozionih potencijala za sve ispitivane mesinge u rastvoru sa hidrazin-sulfatom (tabela 11), pozitivnije su od vrednosti korozionih potencijala u rastvorima u kojima su prisutni inhibitori korozije BTA, TU ili DS-3, dok su *sličnih vrednosti* sa rastvorom u kome je kao inhibitor korozije prisutan EDTA. Vrednosti korozionih potencijala *slične su* za rastvore u kome je prisutan HS i u rastvoru u kome nema inhibitora korozije, tabela 6. (Avramović and Antonijević 2020, 147) = similar values; are similar

Another adjective with an approximating effect is *određen* (certain), also found as a pre-modifier of nouns: *određeni broj* (=a certain number), *određeno vreme* (=a certain amount of time), or as a pre-modifier in prepositional phrases: *u određenoj meri* (=to a certain extent).

Indeterminate pronouns

Finally, the indeterminate pronoun in Serbian (*neodređena zamenica*) has an approximating effect, either as a pre-modifier of nouns: *neko vreme* (=for some time), *neka vrsta* (=some kind), or as a pre-modifier in prepositional phrases: *u nekim slučajevima* (=in some cases).

9.2.6 Evaluative Reference

The sixth and final strategy in this sub-corpus is the second least prominent one, as only 41 markers can be found. This accounts for only 2.3% of all the markers found in this sub-corpus and only 2.4 markers per article. Out of the 17 articles constituting this corpus, two have no markers of this strategy.

Gaps in existing research

The first dimension of evaluative reference includes markers indicating a gap in the existing research related to a particular field or topic (8 markers), expressed through main finite clauses: *nije istražen u velikoj meri* (=has not been extensively researched), *oni su često nepotpuni ili komplikovani* (=they are often incomplete or complicated), or subordinate (relative) clauses: *o čemu nema literaturnih podataka* (=about which there is no data in literature). The use of negative forms of adjectives (*nepotpuni, malobrojni*) or verbs (*nije istražen, ne postoje*) indicates the lack of attention given to a specific area of research. This use is also illustrated in examples (355) and (356):

(355) Iako je LA široko zastupljena u hrani životinjskog i biljnog porekla, *kvantitativni podaci o sadržaju LA ili lipolizina su ograničeni i ne postoje odgovarajuće baze podataka*. (Nikolić et al. 2011, 404) = quantitative data on LA or lipolysin content are limited and the corresponding databases do not exist

(356) Publikacije u kojima su prezentovane fizičko–hemijske analize istočnohrišćanskih religioznih slika *su malobrojne*. Pored toga što je značaj ovih umetničkih dela svetski priznat većina studija je orijentisana ka njihovim istorijskim i estetskim kvalitetima. (Stojanović, Gajić-Kvaščev and Damjanović 2015, 387) = are few

Comparison with other work

The second dimension of evaluative reference in this sub-corpus is used to indicate how the work of the authors (1) builds upon, or (2) is similar or different to the work of previous authors in the field. Type (1) is expressed through both finite clauses: *je već zabeležena u literaturi* (=was already noted in literature), *su preuzete iz* (=are taken from); subordinate (relative) clauses: *što je potvrđeno u literaturi* (=which is confirmed in literature); adverbial clauses of comparison – *poredbene rečenice* (Stanojčić and Popović 2004, 326): *kao što je opisano ranije* (=as was described before); prepositional phrases: *iz iskustava ranijih eksperimentalnih ispitivanja* (=from the experiences of earlier experimental tests), *u prilog navedenom idu i istraživanja* (=the abovementioned is supported by research). A total of 15 markers of this usage can be identified. Example (357) illustrates the use of a finite clause in a predicative function, denoting that the procedure builds upon a previously published method:

(357) Procedura pripreme i karakterizacije uzoraka *je publikovana ranije* [6]. (Marinović et al. 2019, 772) = was published earlier

Type (2) is expressed through finite clauses (with the adverb *slični*): *slične rezultate [...] dobili su* (=similar data was obtained by), *ovi rezultati su slični onima koje su dobili* (=these results are similar to those obtained by); adjectival phrases: *slično kao i u eksperimentima* (=similar to the experiments); relative clauses: *koji je potvrđen i od drugih autora* (=which is confirmed by other authors too); and prepositional phrases: *u skladu sa rezultatima dobijenim u radovima nekih autora* (=this is in accordance with the results obtained by some authors), which is also illustrated in example (358) below. A total of 11 markers of this usage can be identified.

(358) Dobijeni rezultati *su u potpunoj saglasnosti sa rezultatima do kojih su došli Kashiwagi i saradnici*, koji su pokazali da se prva dva DTG pika mogu smanjiti ili u potpunosti nestati kada se polimerizacija MMA vrši u prisustvu transfer agensa [54]. (Džunuzović et al. 2010, 478) = are in complete agreement with the results Kashiwagi et al. reached

In contrast to the sub-corpora discussed so far, in this sub-corpus, there are several examples in which the authors are referring to their own previous work, which are combinations of reference and either depersonalisation (see 9.2.1): *autori primenili u ranijem radu* (=applied by the authors in an earlier work), or subjectivisation (see 9.2.3) *u našem prethodnom radu [24] okarakterisali smo* (=in our previous paper [24] we characterised), *je već uočen u našim ranijim eksperimentima* (=was already noticed in our previous experiments).

Contribution of current research and future research

The third and final dimension of this strategy includes the indication of contributions of current research to the existing research landscape, as well as the directions of future research. This dimension can be expressed through finite clauses: *je [...] predmet je daljih istraživanja* (=is the subject of further research), *rezultati navedenih istraživanja trebali bi da imaju uticaja* (=the results of the mentioned research should have an impact), *ovo može biti od izuzetnog značaja za* (=this can be extremely important for), *upravo iz ovog razloga vršena su ispitivanja* (=it was precisely for this reason that the tests were carried out), *to upućuje na potrebu proučavanja* (=it points to the need for study), *to ukazuje na potrebu za* (=it points to the need for), *iz tih razloga treba nastaviti ispitivanja* (=this is why research should be continued).

(359) Dalja istraživanja *će biti usmerena u* dva pravca. (Pavkov et al. 2020, 60) = further research will have two directions

(360) Ovakav pristup izučavanju triboloških procesa *pruža znatne prednosti* u odnosu na ispitivanja u realnim uslovima. (Perić 2011, 152) = this approach to the study of tribological processes offers considerable advantages

While example (359) announces the directions of further research, example (360) evaluates the approach in future research and emphasizes its advantages.

9.3 Corpus analysis of articles in the field of technology written in German

The final sub-corpus to be analysed in this research consists of 19 articles in the field of technology written in German. These 19 articles deal with materials technology, chemical technology, polymer technology, physical chemistry, mechanical technology, food technology, nanotechnology, biotechnology, thermal technology, inorganic technology, and they are often interdisciplinary. The bibliographical data for the articles included in the analysis is given in Appendix 2. A total of 3007 markers can be identified within these 19 articles, with the overall frequency of 46.5 markers per 1,000 words, and the distribution of these markers according to the six strategies in terms of absolute frequencies and percentage is given in Figure 18:

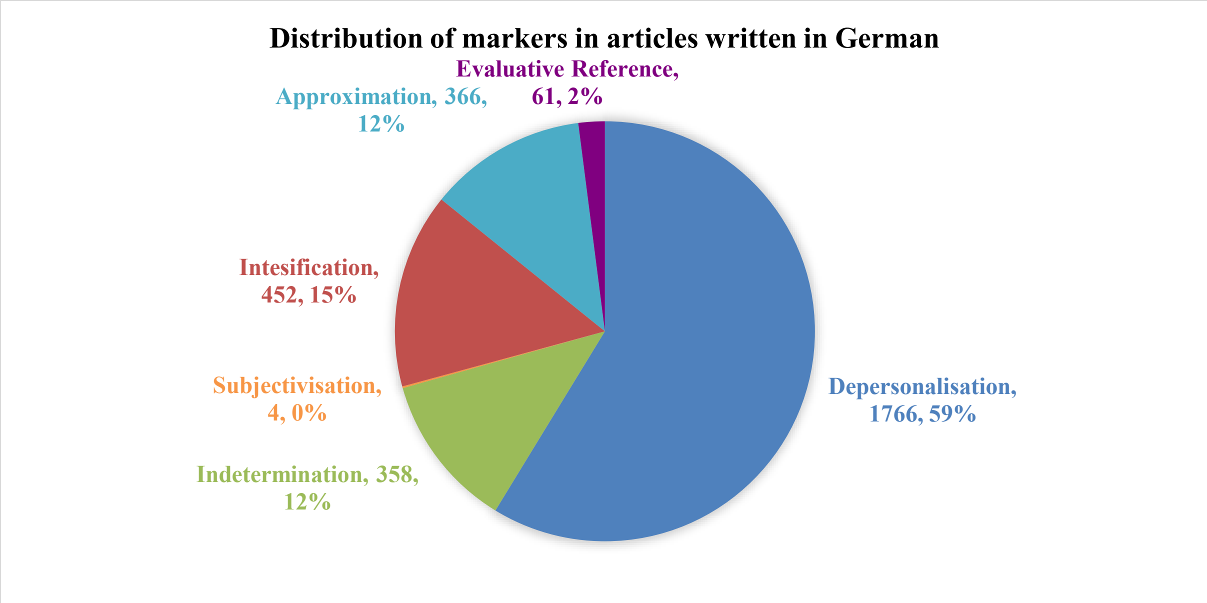

Figure 18: Distribution of stance markers in technology/engineering articles written in German (absolute frequencies)

Similarly to the Serbian sub-corpus, it can be seen in Figure 18 that depersonalisation is the most frequent strategy, while the strategy of subjectivisation is by far the least frequent, as only 4 markers of this strategy can be identified, which is why it is hardly visible in the figure (0%).

9.3.1 Depersonalisation

Depersonalisation is once again the absolutely most frequent strategy in this sub-corpus, with 1766 identified markers (59% of the 3007 markers in this sub-corpus, and an average of 92.9 markers per article), out of which there are 916 passive voice markers.

Participle constructions

It can be said that the most notable forms in this sub-corpus are verbal structures. To start with, as in many other sub-corpora, the use of past participles (*Partizip II*) denoting actions conducted by the authors is the most frequent construction, with as many as 415 markers identified. In attributive function, they often act as pre- or post-modifiers of noun phrases, which is often reduced to a single word (Fandrych and Graefen 2002, 24): *verwendete* (=used), *angepasste* (=customized), *eingesetzte* (=used), *gewählte* (=chosen), *erhaltene* (=obtained), *betrachtete* (=considered), *festgelegt* (=determined), *aufgelistet* (=listed), *gekennzeichnete* (=marked), *ausgesuchten* (=selected), *ermittelte* (=determined), *angezeigte* (=displayed), *entwickelt* (=developed), *realisiert* (=realised), *ausgewählt* (=chosen), *vorgesehene*

(=intended), *eingefüllte* (=filled), *genannte* (=mentioned), *gewählte* (=chosen), *angeführt* (=listed), *erzielter* (=achieved), *angegebenen* (=specified), *untersuchten* (=researched), *gemessenen* (=measured), *versehenen* (=provided), *vorgestellten* (=featured), *gewünschte* (=desired), *registrierte* (=registered), *geplanten* (=planned), *ausgelagerte* (=outsourced), *erreichte* (=achieved), *behandelten* (=treated), *markierten* (=marked), *aufgezeichneten* (=recorded), *getesteten* (=tested), *erwähnten* (=mentioned), *gefundenen* (=found), *genutzten* (=used), *berechneten* (=calculated), *angestrebten* (=desired), *gefertigten* (=manufactured), *analysierten* (=analysed), *beobachteten* (=observed), *aufgenommenen* (=recorded), *hergestellten* (=manufactured), *detektierten* (=detected), *modifizierten* (=modified), *erworbenen* (=acquired), *durchgeführten* (=performed), as illustrated in example (361):

(361) Das neu konzipierte Dosiersystem wird insoweit kalibriert, als dass dem Prozess ein stabiler Massestrom von 51,5 g h–1 zugeführt wird. Damit ergeben sich bei den drei *festgelegten* Luftvolumendurchsätzen die in Tab. 2 *aufgelisteten* Feststoffbeladungen. Größere Masseströme zum Erreichen höherer Beladungen bei 52 und 73 m3 h–1 Luftvolumenstrom können infolge der Verstopfungsgefahr der Absauglanze am Ejektor nicht gefahren werden. Mögliche geringere Masseströme (< mmax = 51,5 g h–1) sind für den Einsatz der *verwendeten* Strahlmühle als Desagglomerator von geringerer Bedeutung (vgl. Abschn. 2.2.2). Infolge der *bekannten* Erfahrungen mit derartigen Systemen und in Anbetracht dessen, dass eine möglichst hohe Beladung erreicht werden soll, wird auf die Untersuchung geringerer Masseströme vorerst verzichtet. (Füchsel, Husemann and Peuker 2011, 1267) = specified; listed; used; known

This group of markers also includes participles used with metadiscoursal organisational purposes in attributive constructions, referring to earlier parts of the text using (para-)deictic expressions like *oben* (Fandrych and Graefen 2002, 24): *oben beschriebenen* (=described above), *hier dargestellten* (=shown here), *bereits gezeigte* (=already shown), *hier präsentierten* (=presented here), *bereits erwähnten* (=already mentioned), as well as adverbial clauses of comparison and manner with the conjunction *wie* (referred to as *complement* clauses of manner by Umbach, Hinterwimmer and Gust 2022 and denoted as parenthetical passive constructions in Fandrych and Graefen 2002, 24)*: wie [...] gezeigt* (=as shown, denoting comparison), *wie bereits beschrieben* (=as already described), *wie erwartet* (=as expected, denoting manner) and the adverb of manner *erwartungsgemäß* (=as expected).

On the other hand, the present participle (*Partizip I*) can also be found in this sub-corpus, in combination with *zu*. Such constructions have passive meaning and indicate necessity or possibility (Helbig and Buscha 1981, 97), indicating something that ensues in the research: *anzunehmende* (=to be assumed), *zu realisierenden* (=to be realised), *zu erwartende* (=to be expected), *zu untersuchenden* (=to be investigated), *zu testenden* (=to be tested).

Impersonal constructions

As in previous German sub-corpora (see 7.3.1 and 8.3.1), three types of impersonal clauses can be found in this sub-corpus as well. The first one among these is the impersonal structure with the auxiliary copular verb *sein* (to be) and the *zu* infinitive. They can express the possibility or necessity of a passive process (Duden 2022, 386), and in this sub-corpus, they denote what the authors can do or what they intend to do in their research in a covert way (132 markers)[71]: *ist [...] zu begründen* (=is to be justified), *ist [...] zu bewerten* (=is to be evaluated), *sind [...] zu beobachten* (=are to be observed), *ist [...] zu untersuchen* (=is to be examined), *ist [...] festzustellen* (=is to be determined), *sind [...] durchzuführen* (=are to be carried out), *ist festzuhalten* (=is to be held), *ist zu erwarten* (=it is to be expected), *ist nicht zu unterschätzen* (=is not to be underestimated), *ist [...] zu erklären* (=is to be explained), *zurückzuführen ist* (=is to be attributed to), *ist [...] zu treffen* (=is to be met), *zu rechnen ist* (=is to be expected), *ist [...] entgegenzuwirken* (=is to be counteracted), *schwer zu erfassen ist* (=is difficult to grasp), *sind […] auszumachen* (=can be identified), *zu sehen sind* (=can be seen), *zu detektieren ist* (=can be detected), and illustrated in examples (362) and (363) below. These constructions can also combine with indetermination, indicating the authors' assumptions covertly in the examples: *ist [...] auszugehen* (=it is to be assumed), *anzunehmen ist* (=is to be assumed), *ist zu vermuten* (=is to be assumed).

(362) Die flockige Agglomeratstruktur, infolge sehr hoher Agglomeratporositäten bzw. sehr geringer Agglomeratdichten [7], <u>*ist in Abb. 1 bei allen verwendeten Aerosil-Produkten deutlich zu erkennen*</u>. (Füchsel, Husemann and Peuker 2011, 1263) = is [...] clearly visible

(363) Weiterhin <u>*ist für die erfolgreiche Zerkleinerung in einer Fließbettgegenstrahlmühle zu beachten, dass*</u> die Partikel eine möglichst geringe Korngröße aufweisen (Vorzerkleinerung). (Füchsel, Husemann and Peuker 2011, 1264) = is [...] to be observed

The second type are *um… zu* final clauses (*Finalsätze*) (Duden 2022, 172), used to denote the goal or purpose of the actions conducted in the research (74 markers): *um [...] zu ermitteln* (=in order to determine), *um [...] auszuschließen* (=in order to exclude), *um [...] zu charakterisieren* (=in order to characterise), *um [...] zu gewährleisten* (=in order to ensure), *um [...] zu erfassen* (=in order to capture), *um [...] zu erhöhen* (=in order to increase), *um [...] vergleichen zu können* (=in order to be able to compare). Example (364) below illustrates both the final clause and the abovementioned impersonal clause with copular verb *sein* and *zu* infinitive. As the adverb

[71] König and Gast (2018, 99) mention that infinitive constructions may express modality, but in the context of this research, the meaning of possibility or necessity (thereby combining depersonalisation with strategies of indetermination or intensification, respectively) was not seen in the examples of such infinitive constructions, unless otherwise indicated.

notwendig (= necessary) is used in the impersonal construction, necessity is expressed, but these markers will be mentioned in more detail in the sub-chapter on intensification (see 9.3.4).

(364) *Um eine dichte Verbindung zwischen den zwei WR-Teilen zu erreichen*, *ist es notwendig einen thermischen Fügeprozess einzusetzen*, der zwei Grundbedingungen gleichzeitig erfüllt: (Börner, Lippmann and Hurtado 2014, 1770) = in order to [...] achieve, it is necessary to [...] use

The last verbal construction includes the verb *lassen (sich)*[72], functioning as a passive substitute form (Duden 2022, 385) (54 markers): *lassen sich [...] erkennen* (=can be recognised), *lässt sich [...] nicht machen* (=cannot be done), *lässt sich [...] erläutern* (=can be explained), *lässt sich [...] vorhersagen* (=can be predicted), *lässt sich ableiten* (=can be deduced), *lässt sich [...] ermitteln* (=can be determined), *lässt sich [...] beschreiben* (=can be described), *lassen sich [...] untersuchen* (=can be investigated), *lassen sich [...] gut miteinander vergleichen* (=can be compared well with each other), *lassen sich softwaregestützt binarisieren und [...] mathematisch analysieren* (=can be binarized with software and analyzed mathematically), *lässt sich [...] verifizieren* (=can be verified), *lässt sich feststellen* (=can be determined), *sich approximieren lassen* (=can be approximated), *lässt sich [...] aufstellen* (=can be set up), *lässt sich abschätzen* (=can be estimated). This use is illustrated in examples (365) and (366):

(365) Außerdem *lassen sich durch die Versuchsreihen mit Setup 50 L min–1 bei 30 U min–1 und 100 L min–1 bei 60 U min–1 direkte Vergleiche des Einflusses der Ausströmgeschwindigkeit untersuchen*. (Freiberger and Janoske 2017, 1195) = can be [...] examined
(366) Jedoch *lässt sich an den Kurven sehr gut der resultierende Trend erkennen*. (Müller et al. 2016b, 942) = can be […] seen

Furthermore, impersonal constructions with the impersonal pronoun *man* for the purpose of generalisation and vagueness (Duden 2022, 760) are also found in this sub-corpus (20 markers): *ging man davon aus* (=one can assume), *erhält man* (=one gets), *betrachtet man* (=if one looks at), *wenn man von einem einfachen Größenausschluss ausgeht* (=if one assumes a simple size exclusion), *vergleicht man* (=if one compares), *so findet man* (=so one finds), *dann stellt man fest* (=then one finds), *muss man sich zur Erklärung [...] vor Augen führen* (=one must consider the explanation).

Finally, impersonal constructions can include nominal predicates with adjectival phrases as predicative addition (Duden 2022, 769), with a qualifying function, as they denote a characteristic of the described phenomenon (Duden 2022, 768), with 44 markers identified: *ist unbekannt* (=is unknown), *bekannt ist* (=is known), *empfehlenswert sind* (=are recommended),

[72] *Lassen sich* is not a traditional reflexive construction, but rather a middle voice construction leaning towards modal passives (König and Gast 2018, 162).

ist nicht verständlich (=is not understandable), also along with the third-person singular neutrum form *es* used as a semantically empty subject of the sentence (Duden 2022, 485): *es ist ersichtlich* (=it is evident), *es bleibt [...] ungeklärt* (=it remains unexplained). They might combine depersonalisation with intensification (see 9.3.4): *wurde deutlich* (=became clear), *ist erwähnenswert* (=it is worth noting), *ist es sinnvoll* (=it makes sense). On the other hand, depersonalisation can combine with indetermination in nominal predicates containing adjectives with the suffix *-bar*, as they correspond to the modal passive (*Vorgangspassiv*) with the modal verb *können* (Duden 2022, 386): *sind [...] durchführbar* (=are feasible), *sind realisierbar* (=are realisable), *nachweisbar ist* (=is detectable), *war erkennbar* (=was evident), *ist justierbar* (=is adjustable), *machbar ist* (=is doable), as well as with the modal adverb *ist [...] möglich* (=is possible).

Metonymic use of inanimate nouns

The metonymic use of inanimate nouns acting as extensions of authors is not as prominent in this sub-corpus as in some previous sub-corpora (see 7.3.1 and 8.3.1), with 102 markers identified. They again include concrete nouns (*Untersuchung/Ergebnisse/Analyse*) as metonymic substitutes for the authors of the research, as well as abstract nouns (*Ziel/Fokus/Schwerpunkt)*: <u>*Untersuchungen*</u> *zeigen, dass* (=<u>research</u> shows that), <u>*Untersuchungen*</u> *kommen zu dem Schluss, dass* (=<u>research</u> concludes that), *ergaben die REM-*<u>*Untersuchungen*</u> (=REM <u>examinations</u> revealed), *die* <u>*Foulinguntersuchungen*</u> *zeigen, dass* (=fouling <u>studies</u> show that), *die* <u>*Untersuchungen*</u> *umfassen* (=the <u>investigations</u> include); *zeigen die* <u>*Ergebnisse*</u> (=<u>results</u> show), *haben sich die folgende* <u>*Ergebnisse*</u> *ergeben* (=the following <u>results</u> have emerged), *diese* <u>*Ergebnisse*</u> *ließen vermuten, dass* (=these <u>results</u> suggested that), *die* <u>*Messergebnisse*</u> *zeigen, dass* (=the <u>measurement results</u> show that), *das* <u>*Ergebnis*</u> *lässt den Schluss zu, dass* (=the <u>result</u> suggests that); *REM-*<u>*Analysen*</u> *bestätigen diesen Befund* (=REM <u>analyses</u> confirm this finding), <u>*Analysen*</u> *mittels Rasterelektronenmikroskop (REM) zeigten* (=<u>analyses</u> using SEM showed); *die* <u>*Versuche*</u> *zeigen, dass* (=<u>experiments</u> show that), *durchgeführten* <u>*Versuche*</u> *haben gezeigt, dass* (=<u>tests</u> carried out have shown that), *die durchgeführten mechanischen* <u>*Tests*</u> *ergaben* (=the carried out mechanical <u>tests</u> revealed); *konnten* <u>*Experimente*</u> *zeigen, dass* (=<u>experiments</u> could show that); *diese* <u>*Studie*</u> *befasst sich mit* (=this <u>study</u> deals with); <u>*ziel*</u> *dieser Arbeit ist es* (=the <u>aim</u> of this work is); *im Fokus stand dabei* (=in focus is), *der* <u>*Fokus*</u> *der Untersuchungen liegt auf* (=the <u>focus</u> of the investigations is on); *der* <u>*Schwerpunkt*</u> *der Untersuchungen lag* (=the <u>focus</u> of the investigations was).

This group of markers also includes nouns derived through the process of nominalisation – *Nominalisierung* (Duden 2022, 403) with the suffix *-ung* (Fleischer and Barz 2012, 225) referring to the actions undertaken by the authors of the studies but the agency is covert: *dieser Berechnung liegt [...] zu Grunde* (=this calculation is based on), *Messungen [...] ergaben* (=measurements revealed), *unter Verwendung* (=by using), *bestätigte sich die Beobachtung, dass* (=the observation was confirmed that), *die Bestimmung der Fehlstellen fand [...] statt* (=the determination of defects took place), as well as nouns derived from other verbs: *die Wahl [...] liegt darin begründet* (=the choice is based on), *kommt [...] zum Einsatz* (=is used), bei Einsatz von Al2O3 (=when using Al2O3). This use is illustrated in example (367):

(367) *EDX-Untersuchungen der Oberfläche in den ausgesuchten Bereichen (Abb. 9) zeigten* eine qualitativ ähnliche Zusammensetzung der Ablagerungen untereinander. (Börner, Lippmann and Hurtado 2014, 1776) = EDX studies of the surface in the selected areas (Fig. 9) showed…

These nominalised nouns often collocate with the verb *erfolgen* (=take place, occur) in this sub-corpus, which is a unique finding for this sub-corpus, when denoting actions carried out as a part of the research: *die Prüfung erfolgte kraftgesteuert* (=the test was force-controlled), *der Nachweis [...] erfolgt* (=detection took place), *die Auswahl der Lote für den geplante Laserfügeprozess erfolgte* (=the solders for the planned laser joining process were selected), *die Ermittlung [...] erfolgte durch* (=the determination was carried out by), *die Charakterisierung der Kratzfestigkeit erfolgte* (=the scratch resistance was characterized), *für die Pyrolyseuntersuchungen erfolgte [...] eine Aufbereitung* (=preparation was carried out for the pyrolysis investigations), *die Untersuchungen erfolgten* (=the investigations were carried out); *dessen experimentelle Bestimmung erfolgte* (=which was determined experimentally), *zudem erfolgte eine Elementaranalyse* (=an elemental analysis was also carried out), as also illustrated in examples (368) and (369):

(368) *Der Nachweis erfolgte* mit einem Massenspektrometer Phoenix XL 300 (Oerlikon-Leybold Vakuum Dresden GmbH). (Börner, Lippman and Hurtado 2014, 772) = detection took place…

(369) *Zudem erfolgte eine Elementaranalyse* (CHN-Nachweis) an einem Flash EA 1112 von Thermo Quest *zur näheren Bestimmung der* angebundenen organischen Gruppen. (Kockmann et al. 2016, 960) = in addition, an elemental analysis (CHN detection) was carried out…

Passive voice I (Vorgangspassiv with werden)

Passive voice is by far the most frequent form used in this sub-corpus, with as many as 916 markers found. Passive voice markers can be found in both present and past tense, and unlike some previous sub-corpora, their usage and meaning are highly interchangeable, even in the space of one article. They are used to describe the research procedure. These markers are once again characterized by split clauses, often separated by more than 10 words, as will also be seen in examples (370) – (372) below.

Markers found in the present tense include: *wird gezeigt* (=is shown), *werden [...] untersucht* (=are investigated), *umgesetzt wird* (=is implemented), *wird [...] eingesetzt* (=is used), *wird [...] verwendet* (=is used), *wird [...] verdünnt* (=is diluted), *kaskadiert werden* (=are cascaded), *ausgeschlossen wird* (=is excluded), *werden [...] festgelegt* (=are specified), *wird kalibriert* (=is calibrated), *wird [...] verzichtet* (=is waived), *werden [...] einbezogen* (=are included), *erreicht werden* (=are reached), *wird [...] quantifiziert* (=is quantified), *wird [...] benötigt* (=is required), *wird berechnet* (=is computed), *wird [...] angesaugt und detektiert* (=is sucked in and detected), *wird [...] variiert* (=is varied), *wird gehalten* (=is held), *bezeichnet wird* (=is referred to as), *wird [...] gemessen* (=is measured), *wird [...] zerkleinert* (=is crushed), *wird [...] bestimmt* (=is determined), *wird gemittelt* (=is averaged), *dargestellt werden* (=are presented), *werden [...] erhitzt* (=are heated), *wird betrachtet* (=is considered), *wird gefunden* (=is found), *vermindert werden* (=are diminished), *wird empfohlen* (=is recommended), *wird beschrieben* (=is described), *aktiviert wird* (=is activated), *wird genutzt* (=is used), *nicht berücksichtigt werden* (=are not taken into account), *wird ermöglicht* (=is made possible), *wird vernachlässigt* (=is neglected), *wird damit begründet* (=is justified with), *werden ins Auge gefasst* (=are taken into account), *wird diskutiert* (=is discussed), as illustrated in examples (370) and (371):

(370) Weiterführend *werden in der vorliegenden Studie eingehend das Kraft-Weg-Verhalten und die Festigkeit der g-Al2O3-Granulate zweier unterschiedlicher Partikelgrößen mit zunehmender Anzahl durchlaufener Befeuchtungs- und Entfeuchtungszyklen und unterschiedlicher Feuchtebeladung mittels quasistatischer Druckbeanspruchung untersucht*. (Müller et al. 2016b, 938) = are [...] examined

(371) Die g-Al2O3-Granulate *werden mittels Aufbauagglomeration aus g-Al2O3-Kristallpulver (Primärpartikel) hergestellt*. Dies *kann in Granuliertellern, -trommeln, Mischern oder in der Wirbelschicht durchgeführt werden*. Das Pulver *wird dabei mit einer geeigneten Flüssigkeitsmenge gemischt*. (Müller et al. 2016b, 938) = are [...] produced; can be […] carried out; is […] mixed

Markers of *Vorgangspassiv* found in the past tense include: *wurden [...] eingestellt* (=were employed), *wurde aufgelöst* (=was dissolved), *wiederholt wurden* (=were repeated), *gebaut wurde* (=was built), *wurde [...] ausgewählt* (=was chosen), *wurde [...] untersucht* (=was investigated), *wurden [...] durchgeführt* (=were performed), *wurde [...] betrachtet* (=was considered), *wurde [...] basiert* (=was based), *wurden [...] erwärmt* (=was warmed up), *wurde ermittelt* (=was determined), *eingesetzt wurden* (=was used), *wurde verwendet* (=was used), *wurde angewendet* (=was applied), *wurde registriert* (=was registered), *wurden [...] erzielt*

(=were achieved), *wurden gewählt* (=were chosen), *wurden benötigt* (=were needed), *wurden ausgelagert* (=were outsourced), *wurde beobachtet* (=was observed), *wurden geprüft* (=were checked), *wurden analysiert* (=were analysed), *wurden [...] zyklisch befeuchtet und entfeuchtet* (=were [...] cyclically humidified and dehumidified), *wurden erstellt* (=were created), *wurden gemessen* (=were measured), *wurde integriert* (=was integrated), *wurden bewertet* (=were evaluated), *wurden gefunden* (=were found), *wurde temperiert und gerührt* (=was tempered and stirred), *wurde entwickelt* (=was developed), *wurden demontiert* (=were dismantled), *wurden gewogen* (=were weighed), *wurde sechsfach wiederholt* (=was repeated six times), *wurde erfasst* (=was captured), *wurde getestet* (=was tested), *wurden modifiziert* (=were modified), *wurden stabilisiert* (=were stabilised), *wurden integriert* (=were integrated), *wurde geändert* (=was changed), *wurde poliert* (=was polished), as illustrated in example (372):

(372) Es *wurde eine auf nanoskalige Substanzen und das Dispergierverfahren angepasste Versuchsanlage (vgl. Abb. 3) auf Basis einer konventionellen Strahlmahlanlage vom Typ AFG100 der Firma Hosokawa Alpine konzipiert und konstruktiv umgesetzt*. (Füchsel, Husemann and Peuker 2011, 1265) = was […] designed and implemented

Passive voice II (Zustandspassiv with sein)

On the other hand, examples of the *Zustandspassiv* are not as numerous in this sub-corpus. They include examples in the present tense (also illustrated in example (373) below): *ist [...] aufgetragen* (=is applied), *sind [...] dargestellt* (=are shown), *geplant ist* (=is planned), *ist nachfolgend aufgelistet* (=is listed below), *sind so gewählt* (=are so chosen), as well as the perfect tense: *sind [...] bestimmt worden* (=have been determined), *sind [...] ermittelt worden* (=have been identified), *sind [...] nachgewiesen worden* (=have been proven), *ist [...] genutzt worden* (=has been used). Only two markers of the *Zustandspassiv* in the past tense can be identified: *begrenzt waren* (=were limited), *ausgearbeitet war* (=was worked out).

(373) Untersuchungen hierzu *sind zurzeit noch nicht abgeschlossen*. (Fickinger et al. 2013, 52) = are currently not yet completed

As indicated in 7.3.1, these constructions can be seen as predicative structure consisting of a copular verb and a participial adjective, rather than a passive construction (Duden 2022, 387), as they denote a resultant state.

Combinations

Finally, while depersonalisation and indetermination (see 9.3.2) are often combined in this sub-corpus through modal passive voice with the modal verbs *können* and *sollen,* as will be discussed in more detail in the following sub-chapter on indetermination (9.3.2), this is not always seen as a double marker. When the modal verb does not carry the meaning of possibility but rather ability (*können*) (Helbig and Buscha 1981, 110) or determination (*sollen*) (Helbig and Buscha 1981, 112), as something that is to be done (Fandrych and Graefen 2002, 31), these are not seen as markers of indetermination, but rather only as depersonalisation markers, as they show covert authorial presence but not possibility and attenuation: *können nicht gefahren werden* (=cannot be driven), *kann nicht erreicht werden* (=cannot be reached), *konnten ausgesucht werden* (=could be selected), *konnten nicht festgestellt werden* (=could not be determined), *kann vernachlässigt werden* (=can be neglected), *konnte gezeigt werden, dass* (=could be shown that), *kann realisiert werden* (=can be realised), *kann besonders verwiesen werden* (=can be specifically referenced), *kann ausgeschlossen werden* (=can be ruled out); *erreicht werden soll* (=is to be achieved), *sollen eingesetzt werden* (=are to be used), *erläutert werden sollen* (=are to be explained). This use is illustrated in example (374):

(374) Während der Versuche hat sich gezeigt, dass die hier dargestellten Ergebnisse für alle Partikelfraktionen Gültigkeit besitzen, weshalb die Ergebnisse anhand dieser Fraktion <u>*erläutert werden sollen*</u>. (Freiberger and Janoske 2017, 1196) = will be explained

In example (374), the modal verb *sollen* does not indicate possibility, but the determination of the speaker. Of course, such fine differences are context-dependent.

9.3.2 Indetermination

Indetermination is the third most prominent strategy in this sub-corpus, with only 358 markers identified (18.8 per article), only slightly more than approximation (see 9.3.5).

Modal verbs

As in other sub-corpora, the most frequent way of expressing indetermination is through the modal verbs *können* and *sollen*. The modal verb *können* is particularly prolific in this sub-corpus with as many as 167 markers identified, denoting possibility and attenuation: *eintreten könnte* (=could occur), *zum Bruch führen können* (=can lead to breakage), *können Mikrorisse entstehen und wachsen* (=microcracks can form and grow), *entwickeln können* (=can develop), *auftreten kann* (=can occur), *kann bewirken* (=can affect), *kann schädigen* (=can damage), *hindern kann* (=can prevent), *verursachen können* (=can cause), *kann erfolgen* (=may happen), *kann beeinflussen* (=can influence), *stattfinden kann* (=can take place), *können dazu beitragen* (=can contribute), as also illustrated in examples (375) and (376):

(375) Ursache dafür *können sowohl kleinere Partikelgrößen als auch kleiner werdende Abstände zwischen den Partikeln infolge besserer Verteilung durch die Dispergierung sein*. (Bauer, Eloo and Peuker 2012, 90) = can be [...]

(376) Temperaturen über 740 °C *können zur Bildung von Alkalisilikaten, primär aus freiem SiO2, sekundär aus Mullit, führen*, wobei Dichteveränderungen Rissbildung *verursachen können*. (Gilbert and Krause 2019, 45) = can lead to [...]; can cause

The modal verb *sollen* in its epistemic sense is also used as a marker of indetermination, as it indicates the authors' state of knowledge (Duden 2022, 230), with 43 markers identified: *sollten [...] aufweisen* (=should have), *sollte [...] ergeben* (=should result), *sollen ermöglichen* (=should enable), *sollen [...] dienen* (=should serve), *sollte erfolgen* (=should take place), *sollen [...] vorliegen* (=should be available), *soll dabei so universell wie möglich sein* (=should be as universal as possible), *sollen helfen* (=should help), as also illustrated in example (377):

(377) Da bei ACC507-10 die reine Wasserbeladung bei kleineren relativen Feuchten höher liegt als bei den höheren Aktivierungsgraden, *sollte auch hier der Einfluss des Wassers am größten sein*. (Fickinger et al. 2014, 56) = the influence of water should also be greatest here

Combinations

Additionally, some markers combine indetermination and depersonalisation through the use of the modal passive voice which serves as a double marker for the two strategies. Through these markers, the authors wish to both attenuate their claims and hide their agency, as in the following examples: *können [...] verwendet werden* (=can be used), *angenommen werden kann* (=can be accepted), *kann bestätigt werden* (=can be confirmed), *konnte vergleichbar reproduziert werden* (=could be reproduced comparably), *interpretiert werden kann* (=can be interpreted), *kann festgestellt werden* (=can be ascertained), *kann zugerechnet werden* (=can be attributed to), *zurückgeführt werden kann* (=can be traced back to), *kann abgeleitet werden* (=can be derived), *konnte nachgewiesen werden* (=could be demonstrated), *konnte festgestellt werden* (=could be determined), *können verwendet werden* (=can be used), *konnten beobachtet werden* (=could be observed), *konnten identifiziert werden* (=could be identified), *kann erklärt werden* (=can be explained); *sollte zurückgegriffen werden* (=should be resorted to), *sollen in Folge dessen vorgenommen werden* (=should be made as a result), *soll geleistet werden* (=should be done), *sollte differenziert betrachtet werden* (=should be considered differently). This combination is also illustrated in examples (378) and (379):

(378) Mit dieser Arbeit *konnten grundlegende Erkenntnisse für zukünftige Membrantechnologien zur Abreicherung von Flüssiggas aus Erdgas oder Erdölbegleitgas gewonnen werden.* (Neubauer et al. 2013, 720) = could [...] be gained

(379) Anhand des thermischen Verhaltens der gebrannten Proben *soll eine Aussage über eventuelle Unterschiede des Restquarzgehaltes getroffen werden*. (Ulbrich and Klein 2017, 153) = can [...] be made

This combination is also present in some lexical epistemic verbs: *wird davon ausgegangen* (=is assumed), *wurde vorausgesetzt, dass* (=was assumed that), *ist [...] anzunehmen* (=is to be assumed), *ist [...] auszugehen* (=it is to be assumed), *ist zu vermuten* (=is to be assumed), *wird vermutet* (=is suspected), *wird angenommen* (=is assumed), *kann ausgegangen werden* (=can be assumed). Example (380) illustrates the authors making an assumption (as evidenced by the use of the lexical epistemic verb) but doing so covertly through passive voice:

(380) So *wird grundsätzlich davon ausgegangen*, dass feine, filzartige Mullitnadeln miteinander verzahnen und dadurch die Festigkeit *gesteigert werden kann*. (Ulbrich and Klein 2017, 147) = is generally assumed

Alternatively, the modal passive voice can be seen as just a marker of indetermination, when it indicates possibility, but not covert agency of the author. These markers, illustrated in examples (381) – (383), are rare and highly contextually dependent:

(381) Diese Differenz *könnte durch Energieverluste aufgrund diffuser Reflexion an der hochpolierten Oberfläche des Cu-Spiegels hervorgerufen werden*. (Börner, Lippmann and Hurtado 2014, 1769) = could be caused by [...]

(382) Der akustische Sensor ermöglicht die Aufnahme von Mehrfachstößen eines einzelnen Partikels, weshalb mit einem Versuchsdurchgang mehrere Messpunkte in einem weit verteilten Geschwindigkeitsbereich *erzielt werden können*. (Müller et al. 2016a, 907) = can be achieved

(383) Die Ergebnisse der Berechnungen *sollten kritisch betrachtet werden* und haben hier lediglich einen vergleichenden Charakter. (Ulbrich and Klein 2017, 152) = should be viewed critically

In examples (381) and (382), the passive voice does not indicate the authors' agency, but only possibility, which is why they are seen as indetermination markers. In example (383), the authors offer a tentative claim, so that the passive voice does not refer to them as agents, but rather to a general claim.

Konjunktiv II

Konjunktiv II can also be found in this sub-corpus (14 markers) and functions as an attenuating device by indicating a potential condition (Duden 2022, 237): *würde ausschlaggebend sein* (=would be crucial), *wäre behaftet* (=would be fraught), *würde man erwarten* (=one would expect), *wäre von enormem Vorteil* (=would be of enormous benefit). It can also be found in conditional clauses (which are not very frequent in this sub-corpus), as well as in the main clauses to indicate a hypothetical situation, as illustrated by example (384):

(384) *Würde ein solches Bild binarisiert, würde die gesamte Fläche eines Partikelkollektivs einem einzelnen Teilchen zugeordnet werden.* (Bauer, Eloo and Peuker 2012, 289) = if such an image were binarized, the entire area of a particle collective would be assigned to a single particle

Adjectives and adverbs

Both adverbs and adjectives are used to express assumptions and possibilities in this sub-corpus. Adverbs (*epistemische Satzadverbien*), indicating authors' assessments (Duden 2022, 799) in this sub-corpus include 29 markers: *scheinbar* (=seemingly), *technisch* (=technically), *tendenziell* (=tendentially), *möglicherweise* (=possibly), *eventuell* (=possibly), *wahrscheinlicher* (=more likely), *nicht zwangsläufig* (=not necessarily), *potenziell/potentiell* (=potentially), *vermutlich* (=presumably), *wohl* (=probably), *vielleicht* (=perhaps), *theoretisch* (=theoretically), as illustrated in example (385):

(385) In der pc-AFM-Aufnahme *scheint* der Anteil an sehr kleinen Partikeln höher. Die Ursache dafür liegt *möglicherweise* in der Präparation der Proben durch Planarisierung, bei der *möglicherweise* nur ein kleiner Teil der jeweiligen Partikeloberfläche freigelegt wird. Durch die Planarisierung der Proben wird *ein möglicher Einfluss* der Topografie auf das Messsignal reduziert und dadurch die Qualität der Messung signifikant verbessert. (Bauer, Eloo and Peuker 2012, 289) = possibly; possibly

As can also be seen in example (385), the adjective *möglich* (=possible) is quite frequent in the sub-corpus, with 25 identified examples, either as a nominal modifier, or as a part of nominal predicates, and therefore impersonal constructions (as discussed in 9.3.1).

However, adjectives in the sub-corpus are those with the suffix *-bar*, indicating something that is possible and can be done, therefore having a passive-modal meaning when derived from transitive verbs (Fleischer and Barz 2012, 333): *beobachtbar* (=observable), *nachweisbar* (=is detectable), *reproduzierbar* (=reproducible), *realisierbar* (=realizable), *quantifizierbar* (=quantifiable), *vergleichbar* (=comparable), *machbar* (=is feasible), *sichtbar* (=visible), *erreichbar* (=reachable), *erkennbar* (=recognizable), with 29 markers identified.

(386) Zudem *sind Trennungen bei erhöhten Temperaturen, bei denen der Einsatz von Polymermembranen ausscheidet, mit Zeolithmembranen durchführbar* [14]. (Neubauer et al. 2013, 714) = are […] feasible

(387) An den Messergebnissen der Reinstoffadsorption von n-Pentan und Toluol *ist erkennbar*, dass die am niedrigsten aktivierte Kohle, ACC507-10, den nächst höher aktivierten im unteren Konzentrationsbereich überlegen ist. (Fickinger et al. 2014, 54) = is recognizable

As can be seen in examples (386) and (387), these adjectives are parts of nominal predicates, covertly expressing authors' evaluations, and they are combinations of indetermination and depersonalisation (as discussed in 9.3.1).

Lexical expressions

Other lexical expressions denoting indetermination are epistemic verbs: *erscheint* (=appear), *scheint* (seem): *scheint [...] zu sein* (=seems to be), *scheint [...] zu haben* (=seems to have), as well as other verbal expressions: *legen die Hypothese nahe* (=suggest the hypothesis), *dies lasst darauf schließen, dass* (=this suggests that), *deutet auf den ersten Blick [...] an* (=suggests at first glance), *könnten darauf hindeuten* (=could indicate). The epistemic verb *scheinen*, as Pafel (1989, 143) notes, can express the authors' attitude, or the strength of indication and reasons for a claim, therefore relating its meaning to the modal verbs *dürfen, sollen, können and mögen*, as well as the adverbs *wahrscheinlich, notwendigerweise, scheinbar and anscheinend*[73].

Finally, indetermination is expressed in this sub-corpus through the modal nouns *die Möglichkeit* (=a possibility), *die Indikation* (=an indication), *die Tendenz* (=a tendency), *das Potential* (=potential) as well as through the prepositional phrase *unter Umständen* (=in certain circumstances), and conditional clauses, such as *vorausgesetzt, dass* (=provided that), *unter der Annahme, dass* (=assuming that).

9.3.3 Subjectivisation

In contrast to linguistics and economics (see 7.3.3 and 8.3.3), subjectivisation markers are rarely used in the technology sub-corpus. While there are only 6 markers of subjectivisation in the Serbian sub-corpus (see 9.2.3), in German, there are only 4 in the entire sub-corpus (19 articles). They can be found in only 2 articles, and all 4 examples will be given below.

Two out of these 4 examples include the use of possessive determiners: *in unserem Fall* (=in our case), *in unseren Experimenten* (=in our experiments), used to denote both the belonging and responsibility for what is expressed by the inanimate noun and to indicate that what is valid for this particular case and experiment might not be valid in another case or another experiment.

The other two examples explicitly denote agency in the actions done in the research via the *von*-phrase with the personal pronoun in dative (Duden 2022, 380): *von uns vermessenen* (=measured by us), *von uns synthetisierten Membranen* (=membranes synthesised by us).

9.3.4 Intensification

Intensification is the second most prominent strategy in this sub-corpus, as 452 markers can be identified (23.8 per article), suggesting that authors in this sub-corpus tend to use intensifiers

[73] These adverbs are denoted as modal particles in Engel and Mrazović (1986, 910).

more than markers of indetermination. As in previous sub-corpora, adjectives and adverbs expressing intensification are the most systematically used structures in this sub-corpus. They are used as either certainty markers, emphasizing statements, or attitude markers, thereby qualifying statements in a certain way (Biber et al. 1999, 854–856).

Certainty markers

Adverbs, as the most systematically used structures to emphasize statements in this sub-corpus, include: *deutlich* (=clearly), *besonders* (=particularly), *speziell* (=specifically), *natürlich* (=naturally), *offensichtlich* (=obviously), *erheblich* (=considerably), *stark erschwert* (=greatly aggravated), *vor allem* (=above all, particularly), *insbesondere* (=especially), *besonders* (=especially), *grundsätzlich* (=basically), *eindeutig* (=clearly), *nur* (=only), *zwangsläufig* (=inevitably), *unwahrscheinlich* (=unlikely), *äußerst* (=extremely), *zweifelsfrei* (=indubitably), *offenbar* (=apparently), *klar* (=clearly), *sicherlich* (=surely), *eigentlich* (=actually), *völlig* (=completely), *weitestgehend* (=largely), praktisch (=practically), *effektiv* (=effectively), *unverhältnismäßig* (=disproportionately). They are also used as premodifiers of adjectives used to qualify statements (attitude markers), as will be illustrated in example (388) below.

Adjectives denoting emphasis include: *immens* (=immense), klare (=clear), *steil* (=steep), *maßgeblich* (=essential), *ersichtlich* (=apparent, obvious), *essentiell* (=essential), *enorme* (=enormous).

Attitude markers

Adjectives, as the most systematically used structures used to qualify statements include nominal phrases and adjectival phrases: *einen signifikanten Einfluss* (=a significant impact), *sehr starken Anstieg* (=very strong increase), *eine große Rolle* (=a major role), *akzeptable Ergebnisse* (=acceptable results), *ein wesentlicher Vorteil* (=a significant advantage), *einen starken Einfluss* (=a strong impact), *eine entscheidende Rolle* (=a decisive role), *ein wichtiges Kriterium* (=an important criterion), *die optimale Lösung* (=the optimal solution), *ein deutlicher Unterschied* (=a clear difference), *ein erheblicher Sprung* (=a significant leap), *eine vielversprechende Variante* (=a promising option), *eine wichtige Methode* (=an important method), *eindeutigen Einfluss* (=clear influence), *einen signifikanten Stellenwert* (=a significant value), *eine wesentliche Rolle* (=an essential role), *eine Schlüsselrolle* (=a key role), *ein Kernpunkt* (=a key point), *extremen Anstieg* (=extreme increase), *sehr gute Anpassung* (=very good adjustment), *geringfügigen Einfluss* (=minor influence); *sehr wichtig* (=very important, with the premodifying adverb), *vernachlässigbar* (=negligible), *die signifikanteste* (=the most important), *erfolgreich* (=successful), *deutlicher ausgeprägt* (=more pronounced), *aussagekräftige* (=meaningful), sehr komplex (=very complex), *sehr eindrucksvoll* (=very impressive), *bestechend* (=captivating), *signifikant deutliches* (=significantly clear), *besonders geeignet* (=particularly suitable), *unbedeutend* (=insignificant), *explizit ausgeprägtem* (=explicitly pronounced), *extrem schnell* (=extremely fast), *kontrovers* (=controversial), *erforderlich* (=necessary), *sehr stark* (=very strong), *bevorzugt* (=preferrable), *herausfordernd schwierig* (=challengingly difficult), *grundlegend* (=fundamental), *vorteilhaft* (=advantageous), *nur unwesentlich* (=only insignificant), *ideal* (=ideal), *deutlich besser* (=clearly better), *signifikant kleiner* (=significantly smaller), *sehr viel stärkere* (=a lot stronger), *weit höher* (=far higher), *noch deutlicher* (=even clearer), *wesentlich* (=significant). Example (388) illustrates the use of emphasizing adverbs (*deutlich*) and qualifying adjectives (*wesentlicher*). Qualifying adjectives *größten* and *geringerer* are premodified by emphasizing adverbs *signifikant* and *deutlich,* while still evaluating the statement, while the adjective *starke* has an emphasizing function, but it also qualifies the statement:

(388) Mit Zunahme der Feuchtebeladung resultiert eine *starke* Abnahme der Festigkeit der Granulate, wobei die schonende Befeuchtung im Klimaschrank hier den *signifikant größten* Einfluss aufweist. Aus der Befeuchtung im Wasserbad resultiert dann ein *deutlich geringerer* Einfluss auf die Festigkeit. Leichtes Aufquellen der Struktur aufgrund von Feuchtigkeitsaufnahme des Bindemittels (Tonmineral Attapulgit) ist demnach ein weiterer *wesentlicher* Einflussfaktor bei Spannungsentstehung und Rissbildung zusätzlich zu thermischen Spannungen (s. Abb. 5). (Müller, Alexander and Tomas 2015, 556) = strong; significantly larger; significantly lower; more essential

Additionally, prepositional phrases in this sub-corpus may also have a qualifying purpose: *in guter Übereinstimmung* (=in good agreement), *von geringerer Bedeutung* (=of less importance), *von besonderer Bedeutung* (=of special importance), *von hoher Bedeutung* (=very important), *von Bedeutung* (=of importance, important), *von entscheidender Bedeutung* (=of decisive importance), as well as adverbs *möglichst* (=preferably) and *interessanterweise* (=interestingly), expressing authors' judgements, similarly to content disjuncts (Quirk et al. 1985, 620).

Adjectives functioning as attitude markers can also be used with the copular verb *sein* (=to be) to qualify a statement through impersonal clauses, thereby combining intensification and depersonalisation (see 9.3.1): *war es jedoch notwendig* (=however, it was necessary), *wurde deutlich, dass* (=became clear that), *ist erwähnenswert, dass* (=is worth noting that), *ist schwer vorstellbar* (=is hard to imagine), *notwendig ist* (=is necessary), *ist es sinnvoll* (=it makes sense), *es ist eindeutig* (=it is clear).

Lexical and modal verbs

The modal verb *müssen* is also used in this sub-corpus in its deontic sense (often in combination with the passive voice) to indicate the authors' certainty and necessity (Duden 2022, 229; Helbig and Buscha 1981, 112): *entsprechen muss* (=must correspond), *müssen zum Einsatz kommen* (=must be used), *andere Ursachen haben muss* (=must have other causes), *muss aufweisen* (=must contain), *muss die Nutzung […] erfolgen* (=must be used), *müssen reproduzierbar sein* (=must be reproducible), *muss […] richtig beschreiben* (=must correctly describe), *musste verantwortlich sein* (=had to be responsible).

When combined with the passive voice (see 9.3.1), the modal passive voice with the verb *müssen* combines intensification and depersonalisation to denote an obligation: *muss [...] gerechnet werden* (=must be calculated), *muss festgehalten werden* (=must be captured), *müssen [...] beachtet werden* (=have to be considered), *müssen definiert werden* (=must be defined), *angesehen werden muss* (=must be viewed), illustrated in examples (389) and (390):

(389) So *muss die Rohgaszusammensetzung aufgrund ihrer korrosiven Bestandteile wie Wasserdampf, Alkalien, Chlor- und Schwefelverbindungen bei der Entwicklung von Werkstoffen und Komponenten berücksichtigt werden* [1]. (Börner, Lippmann and Hurtado 2014, 1769) = must [...] be considered

(390) Die flockige Agglomeratstruktur, infolge sehr hoher Agglomeratporositäten bzw. sehr geringer Agglomeratdichten [7], ist in Abb. 1 bei allen verwendeten Aerosil-Produkten *deutlich* zu erkennen. Vor diesem Hintergrund *muss bei einer Anwendung derartiger Substanzen mit einer starken Abweichung im Prozessverhalten gegenüber massiven Partikel gerechnet werden*. Hydrophiles Aerosil ist ein in der Praxis gängiges Beschichtungsmaterial. Eine *sehr wichtige* Eigenschaft, mit der die Anwendung als Fließregulierungsmittel begründet wird, ist die Feuchtigkeitsadsorption. *Besonders* bei hygroskopischen Materialien, die stark zum Verklumpen neigen, kommt dieser Effekt zum Tragen. (Füchsel, Husemann and Peuker 2011, 1263) =clearly; must […] be expected; very important; especially

However, similarly to indetermination (see 9.3.2), in some cases, despite the use of the passive voice, the modal passive voice is not seen as a double marker of intensification and depersonalisation, as it does not present authors' covert agency, but general obligation: *müssen für längere Transportwege stabilisiert werden* (=must be stabilized for longer transport routes), *muss die prinzipbedingte Maximalbeladung beachtet werden* (=the principle-related maximum load must be observed), *müssen derartige Umwandlungen vermieden warden* (=such transformations must be avoided), *müssen [...] in Betracht gezogen werden* (=must be taken into account), *muss [...] gesorgt werden* (=must be taken care of), *angepasst werden muss* (=must be adapted), *muss [...] abgegrenzt werden* (=must be limited), *müssen [...] dargestellt oder summiert werden* (=must be displayed or summed up).

The modal verbs *können* and *sollen* yield two markers each, seen as intensification markers when their negated or intensified meaning has a qualifying purpose (attitude marker): *kann eine Zuordnung nicht eindeutig sein* (=an assignment cannot be unambiguous), *kann nur unter Verwendung von Referenzverbindungen erfolgen* (=can only be done using reference compounds), *sollte ohnehin nicht pauschal betrachtet werden* (=should not be considered in general anyway), *sollten in jedem Fall bevorzugt werden* (=should be preferred in any case). In this case, negated *können* is seen as indicating external impossibility (König and Gast 2018, 116) or restricted possibility with the focus particle *nur*, and *sollen* is seen as closely related to *müssen,* indicating obligation or necessity (Öhlschläger 1989, 172). Only one example with the modal verb *dürfen* is found, indicating prohibition (Duden 2022, 231; Öhlschläger 1989, 162): *darf das eingefüllte Arbeitsmedium während des Fügens nicht in die Dampfphase übergehen* (=the working medium that is filled in must not go into the vapor phase during the joining process), as well as one construction with the subjunctive (*Konjunktiv I*), indicating authors' assumption of necessity: *es sei an dieser Stelle darauf hingewiesen, dass* (=it should be pointed out at this point that). As Glinz points out (1994, 132), the subjunctive can be used at times to express assumptions in scientific writing (*Fachtexten*).

Intensification can also be found in the structure *ist ... zu + infinitive*, combining at times intensification and depersonalisation (see 9.3.1) and marking an obligation (Duden 2022, 233): *zu beachten ist* (=it should be noted), *ist [...] zu untersuchen* (=should [...] be examined), *ist nicht zu unterschätzen* (=is not to be underestimated). This use is contextually dependent and illustrated in example (391):

(391) Weiterhin <u>*ist für die erfolgreiche Zerkleinerung in einer Fließbettgegenstrahlmühle zu beachten*</u>, dass die Partikel eine möglichst geringe Korngröße aufweisen (Vorzerkleinerung). (Füchsel, Husemann and Peuker 2011, 1264) = it must be ensured [...]

9.3.5 Approximation

Approximation is not as prominent in this sub-corpus as the previously mentioned strategies, as only 366 markers (19.3 on average per article) can be identified.

Adverbs

It can once again be said that the most systematically used structure in this strategy are adverbs: *zumeist* (=mostly), *annähernd* (=approximately, nearly), *knapp* (=almost), *fast* (=almost), *relativ* (=relatively), *nahezu* (=almost), *meist* (=usually), *geringfügig* (=slightly), *ungefähr*

(=approximately), *vergleichsweise* (=comparatively), *kaum* (=hardly), *gewöhnlich* (=usually), *generell* (=generally), *relativ* (=relatively), *weitestgehend* (=largely), *verhältnismäßig* (=relatively), *allgemein* (=generally), *insgesamt* (=overall), *vorwiegend* (=mainly), *teilweise* (=partially), *weitgehend* (=largely), *näherungsweise* (=approximately), *partiell* (=partially), *leicht* (=slightly), *gelegentlich* (=occassionally), *ähnlich* (=similarly), *teils* (=partly), *quasi* (=so to say), *beinahe* (=nearly), *üblicherweise* (=usually), *prinzipiell* (=in principle), *eher* (=rather), *hauptsächlich* (=mainly), *typischerweise* (=typically), *recht* (=quite), *etwas* (=somewhat), *durchschnittlich* (=on average), *mehr oder weniger* (=more or less). Some of these belong to quantity adverbs – *Quantitätsadverb* – indicating measure and intensity, e.g. *teilweise* (Duden 2022, 797). In addition, rounders can be found in this sub-corpus: *ca.* (=circa), *etwa* (=about), *rund* (=about), *um* (=around). The approximative meaning is illustrated in example (392), while example (393) illustrates the use of quantity adverbs denoting intensity:

(392) Die Fließkraft bleibt zwar *annähernd* konstant, aufgrund der abflachenden mittleren Kraft-Weg-Kurven verringern sich jedoch die Kontaktsteifigkeit sowie der Elastizitätsmodul. Der Fließweg nimmt *geringfügig* zu (konstante Fließkraft) und der Fließdruck folglich *leicht* ab. (Müller et al. 2016b, 943) = nearly; slightly; slightly

(393) Diese zeichnen sich *vorwiegend* durch heller erscheinende Phasengrenzen und *teilweise* freigelegte Poren aus. *Ähnlich zu* Versuch Q74NeSy26 sind Mikrorisse in Bereichen der Quarzkörner und im SiO2-reichen Phasengebiet (kieselsäurereiche amorphe Phase, deren Ursache im Lösen des Quarzes liegt) auszumachen, die *teilweise* in der Größenordnung der Quarzkristalle liegen und sich verstärkt in der Glasmatrix ausbreiten oder dazu führen, dass sich die Körner von der Matrix ablösen. (Ulbrich and Klein 2017, 152) = mainly; partially; similar to; partially

Adjectives

The very few adjectives identified in this sub-corpus include: *geringe* (=small, slight), *marginale* (=marginal), *bestimmten* (=certain), *einige* (=some), *annähernde* (=approximate), *leichten* (=slight), *ähnliches* (=similar), *bedingt* (=limited), *analog zu* (=analogous). The adjective *ähnlich* is the most frequent one, illustrated in examples (393) above and (394) below:

(394) EDX-Untersuchungen der Oberfläche in den ausgesuchten Bereichen (Abb. 9) zeigten eine qualitativ *ähnliche* Zusammensetzung der Ablagerungen untereinander. (Börner, Lippmann and Hurtado 2014, 1776) = similar

Prepositional phrases

Finally, prepositional phrases are also used as approximative expressions: *zum Teil* (=partially), *in einigen Fällen* (=in some cases), *im Allgemeinen* (=generally), *in der Regel* (=usually), *im Mittel um* (=on average around), *in ähnlicher Weise* (=similarly), *mit sehr guter Näherung* (=with a very good approximation), *in Analogie zur* (=analogously).

9.3.6 Evaluative Reference

Evaluative reference is the second least prominent strategy in this sub-corpus, similarly to the Serbian sub-corpus of technology (see 9.2.6), but unlike the previous two German sub-corpora (see 7.3.6. and 8.3.6). Only 61 markers (3.2 per article) can be found, and in one paper, none can be found at all. It can be said that these markers can roughly be assigned to four dimensions.

Gaps in existing research

The first dimension of evaluative reference is used to denote a gap in the existing knowledge (20 markers), expressed by a range of predicating expressions: *wird in der Literatur nicht angegeben* (=is not given in the literature), *bis in die heutige Zeit keine allgemeingültige Modellvorstellung [...] existiert* (=up until today, no generally valid model exists), *eine wissenschaftlich fundierte Analyse [...] steht bisher noch aus* (=a scientifically sound analysis [...] is still pending), *systematische Untersuchungen [...] sind bislang kaum erfolgt* (=systematic investigations have so far hardly been carried out), *sind kaum veröffentlicht* (=are rarely published), *finden sich in der Literatur nur bedingt* (=can only be found to a limited extent in the literature), *waren bisher kaum verfügbar* (=have so far been scarcely available), *nicht verfügbar war* (=was not available), *nicht vollständig geklärt ist* (=is not fully clarified), *werden bisher nur die Standard-Methoden [...] genutzt* (=up to now only the standard methods have been used), *fehlt häufig die systematische Untersuchung* (=systematic investigation is often lacking), *ist in der Literatur nicht oder nur lückenhaft [...] zu finden* (=cannot be found in the literature or only incompletely), and adjectival phrases such as *noch unerschlossene* (=still undeveloped). This dimension is illustrated in example (395):

(395) Bei den Ergebnissen in der Literatur ist eine derartige Nachweismethode für vergleichbare Untersuchungen *nicht erwähnt*. (Füchsel, Husemann and Peuker 2011, 1271) = not mentioned

As examples of this dimension given above show, this dimension is characterized by the use of linguistic means meant to indicate insufficient research – negative forms of certain verbs and adjectives such as *unerschlossene, lückenhaft*, verbs with negative connotation such as *fehlen*, and adverbs such as *kaum* (=rarely).

Comparison with other work

The second dimension of evaluative reference compares current research to previously done research, either in the way it builds upon it, or how similar or different the results are (16 markers), expressed through a range of predicative expressions: *bestätigen die in [13]* *veröffentlichten [...] Ergebnisse* (=confirm the results published in [13]), *es zeigt sich hierbei eine gute Übereinstimmung mit kinetischen Daten aus der Literatur* (=there is good agreement with kinetic data from the literature), *das vorherige theoretische Betrachtungen stützt* (=which supports previous theoretical considerations), *ist in der Literatur hinreichend bekannt und wird durch die hier erhaltenen Ergebnisse mit belegt* (=is well known in the literature and is supported by the results obtained here), *stehen dabei im Einklang mit* (=are in line with), *vorhandene Methoden führten bei Anwendung in verschiedene Laboratorien zu signifikant unterschiedlichen Konzentrationswerten* (=existing methods led to significantly different concentration values when used in different laboratories), *in der Literatur durchaus bekannt ist* (=well known in the literature), and through adverbial clauses of manner with the conjunction *wie*: *wie bereits gezeigt [19]* (=as already shown), *wie er auch in der Literatur [...] beschrieben wird* (=as it is also described in the literature). This dimension is illustrated through a finite predicative construction indicating similarity in example (396):

(396) Bei Untersuchungen in konventionellen Wärmeübertragern [14] <u>wurden die gleichen Beobachtungen gemacht.</u> (Bucko et al. 2012, 498) = the same observations were made

Contribution of current work

The third dimension includes markers indicating how the current research contributes to the existing research landscape (7 markers), expressed through predicative constructions: *experimente [...] können dazu beitragen* (=experiments can contribute to this), *in derzeit laufenden Untersuchungen werden [...] näher untersucht* (=are being examined in more detail in the current investigations), *übergeordnetes Ziel des Forschungsvorhabens sind* (=the overarching goal of the research project is), illustrated in examples (397) and (398):

(397) <u>*Die folgenden Untersuchungen dienen diesbezüglich auch einer erweiterten Betrachtungsweise zu*</u> den Vorgängen in der verwendeten Maschinensparte. (Füchsel, Husemann and Peuker 2011, 1264) = the following investigations also serve to provide an expanded perspective on…

(398) <u>*Um die großen Datenlücken zu schließen und das Verständnis für industrielle Erdgas-Entschwefelungsprozesse zu vertiefen*</u>, wurden am Lehrstuhl für Thermische Verfahrenstechnik der Universität Duisburg-Essen experimentelle Daten in Form von Adsorptionsisothermen und Durchbruchskurven für die Adsorption verschiedener Schwefelverbindungen aus binären Gasgemischen im Spurenbereich gemessen. (Steuten et al. 2013, 334) = in order to close the large data gaps and deepen the understanding of industrial natural gas desulfurization processes…

While example (397) illustrates the use of a predicative construction, example (398) employs a final *um… zu* clause, indicating a goal (of closing the gap and contributing to knowledge).

Future work

The fourth and final dimension includes markers indicating paths for future research and the contributions of current research (17 markers), expressed through both finite and non-finite constructions: *diese weiterführenden Untersuchungen werden Aufschluss darüber geben* (=these further investigations will shed light on this), *könnte durch die zukünftige Modellbildung des Aktivierungsvorganges bestätigt werden* (=could be confirmed by future modeling of the activation process), *ein tiefergehendes Verständnis [...] könnte die Akzeptanz und damit das Einsatzpotenzial deutlich steigern* (a more in-depth understanding [...] could significantly increase acceptance and thus the potential for use), *erfordert weitere umfangreiche Untersuchungen* (=requires further extensive investigations), *es gilt in weiteren Untersuchungen zu überprüfen* (=it is necessary to check in further investigations), *was eine Modellierung des hier vorliegenden Systems stark erschwert und dadurch Teil zukünftiger Arbeiten sein wird* (=which makes it very difficult to model the system presented here and will therefore be part of future work), *weitere Analysen sind bereits in Planung* (=further analyses are already being planned), *weitergehende Untersuchungen müssen [...]* (=further investigations have to), *noch erheblichen Forschungsbedarf aufweist* (=still has a significant need for research), *ist als logischer nächster Schritt [...] anzusetzen* (=should be taken as the logical next step), *ist Teil folgender Forschungsarbeiten* (=is part of the following research work); *um eine Verbesserung des Ergebnisses zu erreichen, müsste [...]* (=in order to achieve an improvement in the result, what has to be done), *bei weiterführenden Studien ist zu klären* (=to be clarified in further studies). This use is also illustrated in examples (399) and (400):

(399) *Die bereits laufenden Auslagerungsversuche für weitere 500 h bei 850 °C unter der Rohgasbelastung sollen ergänzende Erkenntnisse dazu ermöglichen*. (Börner, Lippmann and Hurtado 2014, 1776) = the aging tests that are already underway […] should provide additional insights into this

(400) *Für weiterführende Untersuchungen* sind erstens der Drehzahlbereich um den Ausreißer bei 7500 U min–1 und zweitens ausgewählte Punkte im weiteren Verlauf näher aufzulösen. (Füchsel, Husemann and Peuker 2011, 1270–1271) = for further investigations...

As can be seen, these markers indicate both cases in which the current research failed to contribute to the research landscape as well as what future research could contribute. They employ both attenuating devices to politely suggest possible future research, illustrated in example (399) and intensifying devices to indicate a necessity, illustrated in example (400).

9.4 Summary

To sum up, in the field of technology, just like in the two previous fields (see Chapters 7 and 8), markers of stance are once again most frequent in the German sub-corpus (46.5 markers per 1000 words), followed by English (40.6) and finally Serbian (37.7). While all six strategies outlined in Chapter 4 can be found in the technology sub-corpus as well, their distribution differs in different language sub-corpora. Unlike the two previous fields, the strategy of depersonalisation is most frequently used in the Serbian sub-corpus (28.4 markers per 1,000 words), followed by German (27.3) and finally the English (22.9) sub-corpus. On the other hand, the strategy of subjectivisation is the least frequently used one in the technology sub-corpus, and the overall least frequently used in the German and Serbian sub-corpora and the entire corpus, with only 4 and 6 markers identified in these two sub-corpora, respectively. Indetermination and evaluative reference are again most frequent in the English sub-corpus, while intensification and approximation are used most frequently in the German sub-corpus.

The strategy of depersonalisation is the most frequent one by far in this sub-corpus, accounting for 56,3% of the total number of markers identified in the English sub-corpus, 75,4% in the Serbian sub-corpus, and 58,7% in the German sub-corpus. Within this strategy, the passive voice is the most frequent form in all three languages, meant to deemphasize the role of the agent(s). As in the two previous disciplinary sub-corpora (see 7.4 and 8.4), all three languages employ metonymic use of inanimate nouns, be it through nouns such as *research/study/article* – used with the metonymic function of clausal agents, or through nominalised expressions denoting actions conducted as part of the research, used for the purpose of omitting the agent of the clause (Biber and Gray 2010, 11). Participle constructions are also found in all three language sub-corpora, functioning as non-finite relative clauses and adjectival phrases characterizing the research, as well as a variety of impersonal constructions.

Indetermination markers are very similar to the two previous fields, the most frequently used ones being the modal verbs expressing possibility (*can/could/moći/können*), as well as other modal verbs (*may, might, would, should; sollen*), epistemic and lexical verbs (*appear, seem, suggest, imply, tend to, believe, hypothesize, think, assume; čini se*, *izgleda, deluje, implicira; scheinen, erscheinen, hindeuten, voraussetzen, annehmen, ausgehen, vermuten*), modal adverbs (*possibly, presumably, perhaps, potentially, likely*, *seemingly, probably; možda, verovatno; vermutlich, möglicherweise, potenziell, vielleicht, scheinbar, eventuell, wohl, nachweisbar, vergleichbar, erkennbar*), modal adjectives (*possible, potential, suggestive, comparable; mogući; möglich*), and epistemic nouns (*assumption, implication, potential;*

mogućnost; Indikation, Tendenz, Potential, Möglichkeit). These modal and epistemic expressions are once again used to attenuate the authors' claims and express their assumptions.

Subjectivisation markers are more or less completely abandoned in this sub-corpus in favour of depersonalisation markers (especially in the Serbian and German sub-corpora). In all three sub-corpora, there are no markers of first-person singular, but rather of first-person plural, as well as possessive determiners combined with inanimate nouns (with metonymic use).

The strategy of intensification is expressed through both certainty markers and attitude markers, just like in the two previous fields. Certainty markers include emphasizing and intensifying adverbs in all three languages (*considerably, certainly, particularly, clearly, significantly; znatno, naročito, očigledno; besonders, deutlich, erheblich*) and adjectives in Serbian and German (*značajan; immens, klar*), used to emphasize statements and indicate the certainty of the authors. Attitude markers convey authors' point of view and qualification of a statement through adjectives in all three languages (*noticeable, overwhelming, desirable, insignificant; iznenadne, nemoguće, nije zanemarljivo; wichtig, entscheidend*), adverbs in English and German (*interestingly, undoubtedly, unexpectedly; interessanterweise*), as well as extraposition constructions in English (*it is interesting to*). Additionally, modal verbs indicating necessity (*must/morati/trebati/smeti/müssen/sollen*) are also used in all three languages. The strategy of approximation, on the other hand, is once again expressed by subjuncts indicating approximation, diminishing, and minimizing in all three languages (*usually, generally, about; slično, obično, oko; näherungsweise, zumeist, knapp, fast*), as well as quantifiers (*a number of, a range of*), determiners in English (*most* and *some*) and adjectives in all three languages (*general, similar, certain; slični, određen; ähnlich, bestimmte, leichte*), as well as indeterminate pronouns in Serbian (*neko*).

Finally, the strategy of evaluative reference employs predicative constructions, nominal and adjectival phrases, finite and non-finite clauses to express several dimensions in all three languages: gaps in existing research, evaluation of previous research, comparison with previous research, as well as contributions of current work and recommendations for future research. An additional dimension, previously found in the German linguistics sub-corpus (see 7.3.6) in the English and German sub-corpora includes evaluations on the extensive research done in the field, found in only one instance in each language sub-corpus: *it has seen extensive study, war bisher Grundlage zahlreicher und umfassender Studien*. However, due to the small size of my corpora, any less frequent dimension that is not accounted for in my own analysis may occur in other articles outside of my data as well.

Chapter Ten

Summary and Discussion of Findings

This dissertation deals with the frequency of use of stance markers, as well as their context of use, in nine sub-corpora – three in English, Serbian, and German, and three in linguistics, economics, and technology/engineering. In the tenth chapter of this dissertation, a summary and discussion of findings, as laid out in Chapters 6–9, will be expanded and elaborated.

Based on the formal and functional categories of stance-taking outlined in the model, I will firstly discuss the results of the quantitative analysis (outlined in Chapter 6), followed by the qualitative results (outlined in Chapters 7–9). The summary will focus on the most frequent and representative means of expression of authorial stance (see Chapters 10.1–10.6) in the nine sub-corpora. This is because the starting point for the analysis of the quantitative and qualitative distribution of stance markers in this corpus was the function-to-form, onomasiologically organized unified operationalizing model of stance (as per Research Question 1 and discussed in Chapter 4), which includes a semasiological level of formal expressions (see Chapter 3.2).

The corpus for this research consists of triads – a unity of three linguistic sub-corpora (English, Serbian, and German) and three disciplinary sub-corpora (linguistics, economics, and technology/engineering), thereby yielding nine sub-corpora constituting the corpus for this research. This triadic relation among the nine sub-corpora is presented in Table 8 (as seen in Chapter 6), denoting normalised frequencies of stance markers per 1,000 words.

	English	**Serbian**	**German**
Linguistics	33.5	28.4	37.7
Economics	30.7	26.4	32.5
Technology	40.6	37.7	46.5

Table 8: Normalised frequencies for ANOVA comparison

If we take another look at Table 8, as given in Chapter 6 (and given here again to enhance readability), presenting normalised frequencies in all nine sub-corpora, grouped according to language and discipline, we can see that the distribution of stance markers is quite consistently most frequent in the German sub-corpora (in all three disciplines), followed by English (in all three disciplines), and finally in Serbian (again in all three disciplines). Likewise, stance markers are most frequent in the technology sub-corpora (in all three languages), followed by linguistics (in all three languages), and finally in economics (again in all three languages). As the *p*-values in Table 9 in Chapter 6 suggest, based on the analysis of variance (ANOVA test) of aggregated values for each sub-corpus, there is statistically significant difference in the disciplinary triad ($0.032785 \leq 0.05$) but not for the language triad ($0.33919 > 0.05$). This suggests that there is enough statistically significant difference between the means of the three disciplinary groups (Phakiti 2015, 38). However, while only one triad is seen as statistically significantly different enough, the strength of any differences, disciplinary as much as language-related, lies in the normalised frequencies, as much as in the qualitative and descriptive nature of this research, which will be summarised according to the six strategies of authorial stance-taking in the following.

In the following sub-chapters 10.1–10.6, I will summarize the results of the qualitative analysis of formal markers of stance in each strategy as outlined in Chapters 7–9, denoting the most pertinent structures and their functions in the corpus.

10.1 Depersonalisation

Depersonalisation is by far the most prominent strategy in both language and disciplinary sub-corpora. It is the most frequently used strategy in all but one sub-corpus – the English economics sub-corpus, in which authors favour explicit insertion into the text, as opposed to more implicitly expressed stance through depersonalisation, with the frequency being 12.0 : 7.9 per 1,000 words in favour of subjectivisation markers (as shown in Table 10 in Chapter 6). This prominence reaches its peak in the technology sub-corpora, with the frequencies calculated at 22.9 : 28.4 : 27.3 in English, Serbian and German, respectively. It is in the technology sub-corpus that the highest frequency of stance markers is found, and specifically in the depersonalisation strategy, with abovementioned frequencies. This is perhaps not surprising if we take into account that the use of impersonal constructions is considered as contributing to persuasion in scientific writing, especially in the hard sciences, and therefore the preferred and recommended form of writing in science. Depersonalised constructions, as indicated in Chapter 4, contribute to objectivity of the research process, as human agency is not a contributing factor (Hyland 2001a, 208).

As already indicated in Chapters 7–9 (see summary Chapters 7.4, 8.4 and 9.4), all three language sub-corpora employ largely similar structures in order to implicitly convey stance and deemphasise the authorial agency through impersonal constructions. The most pertinent structures will be discussed in the following.

The most frequent form used for the strategy of depersonalisation is, without a doubt, the passive voice without an agent *by*-phrase in all nine sub-corpora. Passive voice is generally considered a typical construction in academic and scientific texts (Biber et al. 1999, 476; Meyer et al. 2002, 156; Weinrich 2005, 170) and "a hallmark of scientific writing" (Banks 2018, 6). Passive voice is used to deemphasize the role of the agent(s) and to put the information to the forefront (Weinrich 2005, 179). In such passive constructions, the agent can be deemed redundant (Quirk et al. 1985, 165) and the source of knowledge is distanced from the author as the agent, thereby contributing to objectivity (Baratta 2009, 1406). Passive constructions are usually used to denote procedures and ensure the readers that the procedures are standard, and that the beliefs are widely accepted and not subject to any degree of subjectivity (Tarone et al. 1981, 135). Therefore, it can be said that the use of the passive in this register exhibits tremendous frequency and great structural flexibility, as it combines with other grammatical categories of the verbs such as aspect and tense, as well as mood in all sub-corpora. As indicated in 7.2.1, Serbian has two distinct passive voice forms, the participial passive and the reflexive passive. German also differentiates between *Vorgangspassiv* (with *werden*) and *Zustandspassiv* (with *sein*), the former indicating procedures conducted during research, and the latter denoting a resultant state (Duden 2022, 387).

All nine sub-corpora are characterized by the metonymic use of inanimate nouns, either through nouns such as *research/study/article/analysis/analiza/istraživanje/rezultati/Untersuchung/Studie/Beitrag* – functioning metonymically as clausal agents, or through nominalised expressions denoting actions conducted as part of the research, used for the purpose of omitting the agent of the clause (Biber and Gray 2010, 11). These types of impersonal active constructions in which the personal subject is replaced by some non-human entity imply that the evidence for the claim is the research source itself, thereby distancing the source of knowledge from the researchers. Such non-human subjects show very frequent use in hard sciences (Charles 2006, 499). They allow the writer to hide themselves as the source of a claim "by attributing it to a feature of their work", which can be explained by "disciplinary characteristics", as scientific claims are based on data gathered from experiments, rather than the writer's subjective judgement (Charles 2006, 500). In English, these include nouns derived with the suffix -*ation* as deverbalized abstract nouns (R. Đorđević 2007, 27) or nouns derived from verbs (R. Đorđević 2007, 29) denoting the action contained in the base verb (*comparison, interpretation, choice*). In Serbian, this is achieved through *verbal nouns* (*glagolske imenice*), derived through the suffix -*nje*, indicating an action or an occurrence denoted in the verb (Stanojčić and Popović 2004, 81). In German, this is achieved through nouns derived from verbs through the process of nominalisation referring to the actions undertaken by the authors indicated by the base verb (Duden 2022, 403). These nouns have the semantic role of the instrument of an action in an active sentence, which "[the] agent uses to perform an action or instigate a process" (Quirk et al. 1985, 743). Such nominalised expressions are seen as characteristic of written discourse (Meyer et al. 2002, 156). They do not directly attribute agency to the authors, whose stance is therefore inferred and more objective (Charles 2007, 207), and they can be found in all three languages in this research (cf. Hawkins 1986, 60).

Participle constructions can also be found in all nine sub-corpora in various structural and functional patterns: firstly, as a part of participle clauses in adverbial clauses of comparison, denoted as parenthetical passive constructions in Fandrych and Graefen (2002, 24) such as in *as mentioned before, wie oben argumentiert*, secondly, as adverbial clauses of manner with the conjuction *wie* in German (denoted as complement clauses by Umbach, Hinterwimmer and Gust 2022 – such as in *as expected* and the corresponding adverb of manner in German *erwartungsgemäß*), as well as realised as reduced non-finite relative clauses in attributive function (*observed in the data* and often reduced to a single word as in *obtained*) referring to the research, both of which are a rather common feature of written discourse (Meyer et al. 2002, 156). In Serbian, this includes the form *trpni glagolski pridev*, an adjectival form derived from verbs, indicating that an action is performed on something or someone (Stanojčić and Popović 2004, 403 – *odabrani, analizirani*). They are also used as text-deictic means to refer to specific text-portions of the article by the authors (*abovementioned, gore pomenuti, oben formulierten*), using (para-)deictic expressions like *above* and *oben* (Fandrych and Graefen 2002, 24).

Impersonal constructions are frequent in all three languages. In English, they often include extraposition constructions used to qualify the argument of the authors in the subordinate clause through the use of the dummy subject *it* (Biber et al. 1999, 125), as well as sentences with the existential *there* (Biber et al. 1999, 154; Quirk et al. 1985, 1405). In the technology sub-corpus, extraposition constructions are used to express the authors' evaluation of a statement and their commitment to the proposition in the subordinate clause (*it is believed, it is expected, it is felt, it is evident*), by which the writer can present the belief or opinion as objective, distancing the writer from the proposition in the subordinate clause (Hewings and Hewings 2002, 370). These constructions are found to be very frequent in hard sciences (Charles 2006, 499). In Serbian, these include *obezličene rečenice* with a deagentised agent and the reflexive pronoun *se* (*očekuje se*) as well as nominal predicates – *imenski predikat* – qualifying an occurence (*je objašnjiva, evidentno je, uočljivo je, je realno pretpostaviti*). In German, third-person singular neutrum form *es* is used as a semantically empty subject of the sentence (Duden 2022, 485) (*es ist nicht relevant*), as well as three types of impersonal clauses: (1) *um... zu* final clauses denoting a goal of the action, (2) *lassen sich*, a middle voice construction functioning as a passive substitute form (Duden 2022, 385), (3) the copular verbs *sein* and *bleiben* with the *zu* infinitive, which can be a modalised expression denoting possibility or necessity of a passive process (Duden 2022, 386), but can also be intepreted as the intention of the authors concerning what is to be done. This is also true for present participle constructions in German in the form *zu* + Partizip I, as they do not indicate necessity or possibility, but rather something that ensues in the research (*zu realisierenden*).

In English, the modal idiom *be to* is used with a future reference to denote the plan of the researcher regarding what will be done in the paper (Quirk et al. 1985, 143).

Occasionally, impersonal nouns *one* (in English) and *man* (in German) are also used to express vagueness and not directly attribute agency, thereby concealing authorial stance. Authors also tend to refer to themselves in a more depersonalised manner than through personal pronouns, by using the common noun *author(s)*, either in active voice or passive voice with the agent *by-(authors)* phrase. This form is used to clearly refer to the writer(s), but "the self is viewed as if it were another person […] [which] establishes distance between the writer as an individual and their role as a writer-researcher" (Charles 2006, 508)

The German sub-corpus in linguistics exhibits the use of lexical verbs *gelten* and *zeigen (sich)* to denote conclusions made by the authors in their research, while in the technology sub-corpus, the nominalised nouns often collocate with the verb *erfolgen* when denoting actions carried out as a part of the research, further emphasizing their metonymic use.

Non-finite clauses are not particularly frequent in this corpus. In English, *-ing* clauses are used as adverbial clauses of manner, denoting how the research was conducted, as subjects or viewpoint subjuncts (Quirk et al. 1985, 1069), while infinitival clauses function as adverbial clauses of purpose (also with the subordinator *in order to*). Non-finite clauses also function as adverbs of time used to establish a timeline of procedures (*prior to testing, after evaluating*).

In Serbian, this includes the non-finite form *glagolski prilog sadašnji* functioning as adverbials of time, cause, or manner (Piper et al. 2005, 463) (*imajući u vidu*). Verbal nouns – *glagolska imenica* – can also function as an adverbial of time (*pre ubacivanja, posle dekantovanja*), adverbials of cause (*radi uklanjanja*), and adverbial of manner (*korišćenjem sistema*). Finally, in Serbian, the passive reflexive construction can be used in causal clauses – *uzročne rečenice* (Stanojčić and Popović 2004, 319) (*kako bi se ispitala, kako bi se odredilo*).

Frequent combinations of depersonalisation and indetermination include modal passive voice with epistemic modals, where the authors express an attenuated claim and covertly express their stance (*can be described as, can be interpreted as, kann festgestellt werden, vermutet werden kann*), as well as passive and impersonal constructions in Serbian indicating attenuation and uncertainty (*može se smatrati, može se reći, pretpostavlja se, moguće je ustanoviti*). In the German sub-corpus, impersonal construction can also be combined with markers of indetermination (*so kann man feststellen, ist davon auszugehen*).

10.2 Indetermination

Indetermination is the overall third most frequent strategy in this corpus. However, unlike the previously mentioned strategy of depersonalisation (10.1), it is used most frequently in the English sub-corpus, with the frequency of 6.9 : 4.5 : 5.6 for English, Serbian and German, respectively, and in the linguistics sub-corpus, with the frequency of 6.9 : 4.6 : 5.9 for linguistics, economics and technology, respectively. Markers of indetermination encompass mostly modal and epistemic expressions used to express possibility and probability, vagueness and indetermination, and to attenuate the authors' claims and express their assumptions. Therefore, these markers indicate that the authorial claim is not a fact, but rather a value judgement or an opinion.

Markers of this strategy are most closely related to hedges or *Shields*, as per Prince, Frader and Bosk (1982) and Salager-Meyer (1994). As discussed in Chapter 4, markers of indetermination are more likely to contribute to the interpersonal dimension of the dialogue between the author and their readership, aiding authors to make their claims more acceptable through mitigation and prevent any opposition from other researchers (Martín-Martín 2008; Myers 1989), rather than displaying actual uncertainty in the claims being made. A summary of the most pertinent structures and their functions in the corpus is given in the following.

Modal verbs indicating possibility: *can/moći/können* are the most prominent form in all nine sub-corpora, but other modal verbs can be found as well: *may, might, could, would, should, need (not), trebati, dürfen, sollen, mögen* – they indicate an assumption, and *could*, *may* and *might* express logical possibility (Biber et al. 1999, 491). While *sollen* is a deontic modal verb, it can also be used for epistemic and evidential values (Haßler 2015, 193). This finding concurs with Clyne's (1991) that modal auxiliaries are the main hedging device.

Epistemic and lexical verbs are used in this strategy to "[commit] the speaker to neither the truth nor the falsity of the proposition" (Lyons 1977, 795) but express their attitude towards the proposition and "suggest degrees of doubt about an alternative interpretation of results or theoretical possibility" (Myers 1989, 14), including verbs such as: *appear, seem, suggest, imply, assume, believe, hypothesize, think; čini se*, *implicira, pretpostavlja, sugeriše, izgleda, deluje; nahelegen, scheinen, erscheinen, hinweisen, hindeuten, unterstellen, annehmen, ausgehen, vermuten, voraussetzen.* These verbs "offer tentative explanations for observed phenomena or put forward claims that may be vulnerable to attack" (Charles 2006, 511). The verb *seem*, as Aijmer (2009, 65) notes, can "encode probability and express more or less certainty". In English, these also include *tend to, deem to, seek to, aim to, try to,* and *tendieren* in German – as the authors are expressing their attitude towards what can presumably be done.

Modal adverbs indicating authorial assessments (Duden 2022, 799) are another prominent structure denoting this strategy, with the most pertinent examples including: *possibly, potentially, presumably, likely*, *seemingly, perhaps, plausibly, probably; možda, verovatno* (classified as modal particles expressing authorial attitude by Engel and Mrazović 1986, 912)*, potencijalno, eventualno; wahrscheinlich, vermutlich, eventuell, möglicherweise, potenziell/potentiell, scheinbar, vielleicht, wohl, nachweisbar, vergleichbar, erkennbar.*

Similarly to modal adverbs, modal adjectives are also used to indicate possibility and include the following pertinent examples from the corpus: *possible, likely, tentative, potential, suggestive, comparable; mogući*, *potencijalni; mögliche, potenzielle.*

In German, adjectives with the suffix *-bar* have a modal function as well (König and Gast 2018, 99), indicating something that can be done (*erkennbar, vergleichbar, erreichbar*). This is true for adjectives with the suffix *-able* (König and Gast 2018, 99) as well, as they indicate something that can be done (*obtainable, manageable*).

Modal and epistemic nouns are used as a part of this strategy to indicate the authors personal opinions and assumptions, as well as possibility. Most pertinent examples from the corpus include: *assumption, implication, estimate, speculation, tendency, potential; indicije, pretpostavka, nastojanje, mogućnost, tendencija, verovatnoća, mišljenje, potencijal; Indiz, Tendenz, Potential, Möglichkeit, Wahrscheinlichkeit, Vermutung, Annahme.*

In Serbian, the conditional form *potencijal* is used to denote possibility and authorial stance (Čikara 2017, 97 – *bi bilo, bi doprinelo*), especially of the modal verb *trebati*, used to indicate possibility: *trebalo bi.* In German, *Konjunktiv II* is also used to denote "greater tentativeness and less certainty" (König and Gast 2018, 113).

Conditional clauses are not particularly frequent in this corpus, as they are seen as markers of indetermination in instances when they denote a possible condition that may or may not be fulfilled, not a real attainable condition. This means they include the Second and Third Conditional in English, the conditional form *potencijal* in Serbian, indicating the condition for the action to be completed (Stanojčić and Popović 2004, 396), as well as *Konjunktiv II* in German in both dependent and main clause (Duden 2022, 237).

10.3 Subjectivisation

Subjectivisation is the overall second least frequently used strategy in this corpus, just before evaluative reference. This distribution suggests that the authors in this corpus are generally less inclined to refer to themselves overtly through markers of subjectivisation, as opposed to covertly (through markers of depersonalisation), either through first-person pronouns, or possessive determiners and inanimate nouns (with metonymic use). Indeed, subjectivisation is less frequent than depersonalisation in all but one sub-corpus – the English economics sub-corpus, where it is by far the most prominent use, with the frequency of 12.0 : 2.9 : 1.0 for English, Serbian, and German, respectively. Subjectivisation is also most frequent in the English sub-corpora in all three disciplines, followed by Serbian and finally by German. In addition, it is most prominent in the economics sub-corpus, but there is great disparity between the English sub-corpus and the Serbian and German one (as evidenced in the ratio of distributions above), but it is closely followed by a more equal distribution in the linguistics sub-corpus, with the frequency of 6.3 : 5.1 : 1.5 for English, Serbian, and German, respectively. The technology sub-corpus has the lowest frequence of subjectivisation markers and it is also the sub-corpus containing the lowest frequency of markers in the entire corpus for the strategy of subjectivisation. In the technology sub-corpus, subjectivisation markers are almost completely abandoned in favour of depersonalisation markers, and especially so in the Serbian and German sub-corpora, with only 6 and 4 markers identified, respectively. While authors in soft sciences seem to prefer subjectivisation markers slightly more than authors in hard sciences, these results indicate that writers in all (but one – the English economics sub-corpus) sub-corpora prefer implicit rather than explicit stance expression, which might suggest that persuasiveness and objectivity is related to depersonalised reporting in all (but one) cultures. It also suggests that personal contribution to the research and the field is deemphasized. As indicated in the analysis chapters (see 7.1.3), these markers do not include the use of "inclusive we" (Kuo 1999, 126; Wales 1996, 63) as these are not seen as markers of authorial stance, but rather used "as a proxy for a larger group of people" (Tang and John 1999, 27). The most pertinent structures from the corpus will be summarised in the following.

First-person plural markers are more prominent in all three linguistic sub-corpora, used to denote the actions – *experiments, analyses* – the author(s) of the papers conducted, i.e., what was investigated, examined and researched, thereby showing they are involved in the research process and their agency is explicitly marked – "authorial *we*" (Wales 1996, 66): *we investigated, we searched for, we compare; ustanovili smo, analizirali smo; wir betrachten, wir untersuchen.* These markers can indicate the uniqueness of a research path the authors chose (Tarone et al. 1981, 135). Some of these markers are also used for metapragmatic organisational purposes in the description of the order of the research in the English sub-corpus in order to guide the reader through the article (*we return to this; najviše pažnje posvetićemo*).

First-person plural markers are also used to denote the assumptions the authors hold in the most overt way, using verbs of cognition (*think, believe*), perception verbs or epistemic verbs (*suppose, suggest*): *we believe, we infer, we surmised; smatramo, mišljenja smo.* These markers combine subjectivisation and indetermination by indicating that a claim might be a personal opinion and assumption and therefore both the form and the content are carrying the message of overt agency and responsibility as a way of piggybacking meaning (Levinson 2000, 6). In Serbian, subjectivisation is combined with indetermination in explicit expressions of authors' opinion and stance (*mogli bismo dodati, verujemo, pretpostavljamo, smatramo*).

Far less prominent are first-person singular markers, used in the English sub-corpus in linguistics and economics and in the German sub-corpus of linguistics (and in one single instance in the Serbian linguistics sub-corpus), denoting the actions conducted by the author of the paper, showing their overt and sole responsibility for the research: *I discussed, I observe, I assume, I did not find evidence, I was interested in, I suspect that, my study; razmotriću; beschäftige ich mich*, *ich untersuche, meine Analyse*. Even in single-authored papers, first-person plural is still used in most cases, which was already noted by both Kuo (1999, 125) and Hyland (2002a, 1097) as "an intention to reduce personal attributions" Kuo (1999, 125) and was confirmed by my own more recent data.

Serbian and German differentiate among cases so that the first-person pronoun *mi/wir* can also be found in the dative (*nama, nam, mir, uns*) and accusative form (*nas, mich, uns*) in the corpus. In Serbian, these forms can denote both the subject of the clause and indirect objects. However, in the English economics sub-corpus, first-person plural pronouns can be found in the accusative case (*us*), whereby they are seen as patients of the clause and therefore deemphasized, but they still express the authors' viewpoint (R. Đorđević 2007, 97)

Possessive determiners and inanimate nouns (with metonymic use) are used to denote the work and research the authors conducted, their viewpoint and direct involvement: *our study, our corpus, our aim, our approach, our main interest; prema našoj oceni, naša pretpostavka, u našem slučaju; unsere Untersuchung, unser Befund, in unseren Experimenten.* These markers may combine subjectivisation and depersonalisation, as, on the one hand, inanimate nouns are still used metonymically and therefore state the researcher's agency only implicitly (as an instance of depersonalisation) while, on the other hand, the use of the possessive determiner not only limits the scope of the proposition to this specific study, but implicitly also claims 'authors' ownership' of the outlined results (which may be interpreted as subjectivisation).

In Serbian, dependent clauses functioning as adverbial clauses of purpose and time also contained first-person pronouns, indicating the intention of the authors (*kako bismo ustanovili*).

10.4 Intensification

Intensification is the overall second most frequent strategy in the entire corpus, just before indetermination. This might suggest that writers in this corpus are more inclined to express emphasis and qualify their statements through certainty and attitude markers, in order to convince the audience of the truth of their claims, rather than express possibility and assumptions. In accordance with this, this strategy is overall least frequent in the English sub-corpora (in linguistics and economics). It is most frequent in the German sub-corpus in linguistics and technology and in the Serbian sub-corpus of economics, while least frequent overall in the Serbian sub-corpus of technology.

Intensification is expressed through both certainty markers and attitude markers, two categories which may also overlap to a certain extent, as the motivation behind the use of an intensification marker cannot be disambiguated as expressing either certainty and author's emphasis, or just evaluating a statement. While Simon-Vandenbergen (2008, 1529) notes that emphasisers cannot be paraphrased as an expression of the speaker's certainty, but to reinforce the proposition, the emphasis of the proposition does in fact indicate the speaker's certainty behind the evaluation, and by conveying assuredness, to also persuade their readers. On the other hand, attitude markers "indicate the writer's affective […] attitude to propositions" (Hyland 2005b, 53) and "the writer's personal feelings or opinions about a proposition" (Charles 2007, 206). This qualification of claims may be seen as a positive politeness strategy displaying solidarity with the audience (Martín-Martín 2008, 139). The most pertinent examples from the corpus will be summarised in the following.

Certainty markers usually include degree adverbs indicating intensifying and emphasis (R. Đorđević 2007, 641) such as *very* and *certainly*. These markers also include subjuncts – emphasizers and intensifiers (R. Đorđević 2007, 651; Quirk et al. 1985, 583–597, seen as modal modificative and gradative adverbs and particles by Engel and Mrazović 1986): *actually, certainly, clearly, definitely, particularly, indeed, obviously, really, surely, completely, much, so, considerably, significantly, especially, extremely, essentially, absolutely; posebno/ naročito/izuzetno/pogotovo/osobito, svakako, upravo/zapravo, značajno/znatno, potpuno/u potpunosti/sasvim, zaista; vor allem, besonders, allerdings*, *insbesondere, selbstverständlich, wesentlich,* as well as the adverb of universal frequency *always* (R. Đorđević 2007, 646) and focusing subjuncts: *exactly, only, merely, especially, particularly, mainly* (R. Đorđević 2007, 653), also referred to as focus particles in König (1992, 142) and König and Gast (2018, 298).[74]

Additionally, certainty markers also include adjectives in Serbian and German such as *značajni/značajne/značajna, immens, klare, maßgeblich, enorm.*

On the other hand, attitude markers convey authors' point of view and evaluation of a statement through adjectives in all three languages: *prominent, (particularly) interesting/important/reportable, intriguing, (un)expected, intrinsically challenging, well known, worth noting, exceptional, unspectacular; zanimljiv, nije zanemarljiv, najznačajniji, najupečatljiviji, posebno zanimljiv, krucijalna, odlučujuća, u zadovoljavajućim granicama; wichtige, interessant, auffällig, markant, fragwürdig*, *überraschend, nicht unstrittig.* Additionally, in all three languages, attitude markers also include adverbs, which can be classified as viewpoint subjuncts (R. Đorđević 2007, 648), or adverbs of modality and manner

[74] König and Gast (2018, 298) also classify *nur* as a focus particle, and *erst* and *nur* are seen as both adverbs and modal particles (Wahrig-Burfeind 2008, 473, 1082).

(R. Đorđević 2007, 654) and value judgements of content (R. Đorđević 2007, 655): *interestingly, unfortunately, unexpectedly, paradoxically, (most) notably, impressively, undoubtedly, preferably, surprisingly; intrigantno, neočekivano, neosporno, pohvalno, neprihvatljivo; interessanterweise, idealerweise.*

Additionally, attitude markers also include nominal expressions in the English sub-corpora: *to play a key role, the significant role, meaningful difference/information, an important contribution, fundamental importance, unexpected phrasing/direction, of keen interest, a marked difference, an interesting vantage point/avenue,* as well as propositional phrases in all three languages: *of particular significance/relevance; na interesantan način, od izuzetnog značaja; von (großer) Bedeutung.*

Certainty markers can also precede attitude markers as premodifiers, e.g., *very similar, sasvim je neosporno, sehr bezeichnend, besonders relevant, vollig unsinnig*.

In the English sub-corpus, extraposition constructions can also function as attitude markers, combining intensification and depersonalisation, and encoding the attitude of the speaker and qualifying how the proposition expressed in the subordinate clause can be interpreted (Hewings and Hewings 2002, 370) (*it is worth pointing out, it is somewhat surprising, what is particularly interesting*).

In the German sub-corpus, the third-person singular neutrum form *es* is used as a semantically empty subject of the sentence combining depersonalisation and intensification (*es werwundert nicht, es ist sinnvoll*) and in copulative constructions (*problematisch ist, ist nicht überraschend*). In Serbian, impersonal constructions (*jasno se vidi*) and nominal predicates with the copular verb *biti* are also common (*jasno je, pohvalno je*), as well as relative clauses – *odnosne rečenice* (Stanojčić and Popović 2004, 309), commenting on a certain outcome (*što je i logično*).

Modal verbs in their deontic sense indicating logical necessity (Biber et al. 1999, 494) are also used in all three languages *must/should/morati/trebati/smeti/müssen/sollen* which can often combine intensification with subjectivisation or depersonalisation: *we should not assume, must take into account, must necessarily impose, there should be no presumption, needs to be addressed; treba imati na umu/ne treba smetnuti s uma, mora se početi od, mora da vodi računa, treba istaći, ne bi smeli imati; muss gleich betont werden, müsste zwangsläufig zu falschen Monophthongen führen, muss berücksichtigt werden, muss erfolgen, muss festgehalten werden,* as well as lexical verbs in finite and non-finite clauses: *gde leži uzrok* *najveće razlike, govori u prilog, to ni ne čudi što je veoma loš ishod, što je […] iznenađujuće; fällt es besonders auf, so überrascht es nicht*. English also employs modal verbs *need (not), have to* and *will* to indicate certainty and necessity. *Should* and *must* in English, *trebati* in Serbian as well as *sollen* in German could be assigned to both indetermination and intensification strategy, depending on the context of use.

10.5 Approximation

Approximation, on the other hand, is the fourth most frequent strategy in this corpus (or the third least frequent), and while it has some similarities to indetermination, it is far less frequent. It is overall used most frequently in the technology sub-corpus, in the German sub-corpora of economics and technology, and in the Serbian sub-corpus of linguistics. On the other hand, it is used least frequently in the German sub-corpus of linguistics, and in the Serbian sub-corpus of technology.

As discussed in Chapter 4 on the research model, unlike indetermination, approximation directly impacts certain parts of the propositional content of the utterance, expressing an approximation or estimation of, e.g., quantity, frequency, degree and time, indicating a degree of something. It thereby corresponds to Prince, Frader and Bosk's (1982) differentiation between *Approximators* (strategy of approximation) and *Shields* (strategy of indetermination). Pertinent structures from the corpus will be presented in the following.

This strategy includes the use of adverbs, as downtoners – approximators, compromisers, diminishers, and minimizers (R. Đorđević 2007, 652; Quirk et al. 1985, 597), modal particles (Engel and Mrazović 1986, 912), as well as quantity adverbs (Duden 2022, 797), gradative adverbs (Engel and Mrazović 1986, 726), and rounders: *almost, nearly, kind of, quite, rather, fairly, hardly, generally, relatively, typically, similarly, approximately, merely, only, partly, slightly, partially, somewhat, to some extent, around, circa, about (the same), more or less, barely;* *generalno, relativno, delimično/delom, obično, uglavnom, prilično, donekle/nešto, oko, unekoliko, neznatno; pauschal, näherungsweise, verhältnismäßig, eher, nahezu, relativ, kaum, teilweise, geenerell, durchschnittlich, mehr oder weniger, fast, etwas, knapp, rund, ungefähr, üblicherweise* (classified as estimation adverbs by Weinrich 2005, 591), as well as adverbs of low frequency (R. Đorđević 2007, 646): *occasionally* and style disjuncts in English (Quirk et al. 1985, 615–618): *typically speaking, generally speaking.*

In English, other prominent markers are closed-class quantifiers functioning as determiners (Quirk et al. 1985, 262): *several, most (of)* and *some (of),* in expressions indicating fuzziness, similarly to Lakoff's hedge *sort of* (1973): *some form of, some kind of, some amount of, some sort of, some air of, at some length, some way to, to some extent, in some instances, in some cases, some way to, some time ago, in most cases*, as well as a range of open-class quantifiers (Quirk et al. 1985, 264), consisting of noun phrases with the structure [Det – (Premodifier) - Head Noun + Postmodifier]: *a number of, a range of, a certain level of, a kind of, a variety of, a degree of, the majority of, something of a, a couple of,* prepositional phrases with the structure [Prep + NP]: *in any number of, in part, on average, on the whole, in general, at times, in a sense, to a degree, to a good approximation.*

In Serbian, prominent markers include indefinite pronouns – *neodređene pridevske zamenice* (Stanojčić and Popović 2004, 98): *neki, neke, nekoliko, kakve,* in expressions such as *nešto drugačije, tek nešto manje* (with the premodifying modal adverb *nešto = somewhat*), as well as in nominal phrases *na neki način, neki vid, u nekim slučajevima*, and prepositional expressions: *u izvesnoj meri, po pravilu, u načelu, u proseku.*

In German, prepositonal phrases are also used as approximative expressions: *zum Teil*, *in einigen Fällen, im Allgemeinen, in der Regel, im Mittel um, in ähnlicher Weise, mit sehr guter Näherung, in Analogie zur, in irgendeiner Form, im weitesten Sinne, im Prinzip, in unterschiedlichem Ausmaß, zu etwa gleichen Anteil, in den meisten Fällen, im Durchschnitt, im Großen und Ganzen, in etwa gleicher Menge.*

All language corpora include approximating adjectives: *relative, general, similar (to), certain, slight, approximate; određene, određeni, izvesna, pojedini, uobičajen, slična/slično/ slični/slične, približne, generalna, svojevrsna, bliski, blage, sporadična; höchst allgemeine, generelle, ähnlich, bestimmte*, *einige, manche, annähernde.* In English, these adjectives are also used in noun- and prepositional phrases: *in a similar manner, a similar trend, in certain instance, to varying extents, at similar levels.*

10.6 Evaluative Reference

The strategy of evaluative reference is the overall least frequently used strategy in this corpus, and it is least prominent in both the linguistics and economics sub-corpora, but the second least frequent in the technology sub-corpus (where subjectivisation takes the last place, see 10.3). This strategy is used most frequently in the English sub-corpus, followed by German, and finally Serbian. In addition, it is used most frequently in the linguistics sub-corpus, followed by the technology sub-corpus, and finally by the economics sub-corpus.

As this strategy does not have a rich theoretical background and structurally defined categories, as was the case for all five previous strategies, its most prominent expressions are mostly focused on predicative constructions, nominal and adjectival phrases, as well as finite and non-finite clauses to express several dimensions of evaluative reference in all three languages and across disciplines. In the corpus studied here, the following seven dimensions of evaluative reference can be identified:

1. <u>Gaps in existing research</u> are expressed through a variety of nominal and adjectival phrases, as well as non-finite and finite clauses, and this dimension can be said to be used fairly frequently in all nine sub-corpora: *there are few examples cited in the literature, little research has focused specifically on, there is little work focused on, the phenomenon remains under-investigated, has received very little coverage, there have been relatively few studies, has not been thoroughly investigated in the literature, seems to have been largely ignored in this literature, has been less studied, comparatively little has been done, we are not aware of any study concerned with, there is a relative lack of data in the open literature regarding, there exists little data in the literature, few studies on; nedovoljno istraženu i nezasluženo zanemarenu oblast*, *nedovoljno ispitana u nauci*, *nisu sistematski proučavane, tako da o tome postoji srazmerno mali broj studija, nije istražen u velikoj meri; gibt es bisher wenig Forschung, wurde in der Soziolinguistik lange Zeit ignoriert, Lücken in vielen Bereichen, entweder gar nicht oder nur ansatzweise beschrieben sind, dazu fehlen rezente Studien, bisher noch nicht systematisch erfasst wurde, bislang noch nicht explizit herausgearbeitet und analysiert, ist [...] bisher gering*, *fehlt komplett*, *bisher fehlt, nur wenige Studien existieren, sind bisher nicht analysiert, eine wissenschaftlich fundierte Analyse [...] steht bisher noch aus, fehlt häufig die systematische Untersuchung, ist in der Literatur nicht oder nur lückenhaft [...] zu finden.* By indicating this gap in previous research, a space for new research is opened, or rather, created (Kuo 1999, 128; Lakić 2015, 52; Swales 1990).
2. <u>Extensive research</u> previously done in the field is expressed through finite and non-finite clauses, only in the German linguistics and English and German technology sub-corpora: *it has seen extensive study; da Disziplinunterschiede in der Sprachverwendung gut dokumentiert sind, dies jedenfalls ist ein wiederkehrender Befund auch jener Untersuchungen, diese mehrfach in Studien getroffene Aussage, sind in der Literatur*

weitreichend diskutiert worden, wird gerade [...] in der Literatur mehrfach da rauf hingewiesen, in der Forschungsliteratur oft festgestellt wurde

3. Evaluation of previous research is expressed through markers of indetermination (modal verbs) and intensification (emphasizing and qualifying adverbs and adjectives), present in all three linguistics sub-corpora and in the English technology sub-corpus: *well-known study, groundbreaking work, benchmark corpus studies, the overwhelming positive results, useful insight, a key success, successfully demonstrated, have yielded interesting results, are very interesting, is imperative for, there are disadvantages with this method, is useful in the analysis of; svakako jedan od najzanimljivijih modela*, *ova ideja je pod znakom pitanja; die bekannte semantische Theorie, ist insbesondere relevant, blieben kontrovers, ist umstritten, auffällig ist, (Un)einigkeit herrscht*
4. Comparison with previous research is expressed through finite and non-finite clauses and prepositional and adjectival phrases. This dimension is present in all nine sub-corpora, consistently being the most prominent dimension, placing the current research in the existing research landscape, either to denote how the current work builds upon or is similar/different to previous work in the field (denoting comparison and contrast): *here we followed [author], this provides further evidence of […] (as described by [author]), we would concur with [author], like the model proposed by [author], in keeping with research […], as seen in previous studies, following [author], according to the taxonomy proposed by [author], building upon [author's] findings, based on previous work on [area], this study thus marks a departure from prior research while casting new light on those previous findings, we would certainly agree with their assessment, the results tie in with, these assertions support those of [author], this finding mirrors [author's], our data support and contribute to [author's] observation, as is the case in the studies, echoing the findings of previous studies, re-affirming other work, in contrast to our work, as compared with/compared to, unlike the previous studies, in a similar way to, in line with, analogous to, consistent with, similar to, reflective of, comparable with, distinct from, we follow, our work differs from those papers in a number of respects, our results are consistent with results, these results contrast with other, the results resonate with earlier findings, there is good agreement in, similar behavior has been reported/observed, similar observations were noted by [authors], there are deviations between; podaci za ovu situaciju preuzeti su iz prethodnog istraživanja, potvrdilo je nalaze ranijih istraživanja, nadovezujući se na tvrdnju [drugog autora], daleko manji nego kod naših govornica, slično našim*

govornicima, približno je jednak našem, *suprotno sugestiji [drugog autora], što nije u skladu sa nalazima [autora], to je potvrda studija čiji su rezultati jasno pokazivali, što potvrđuje nalaze [autorovog] istraživanja*, *korespondira podacima već ranijih istraživanja, što je potvrđeno u literaturi, koji je potvrđen i od drugih autora, u skladu sa rezultatima dobijenim u radovima nekih autora; wie auch in [Autor], mit einer sehr ähnlichen Studie, wie in der Studie [...] gezeigt wurde, diese Ergebnisse korrespondieren mit, dieser Befund bestätigt Ergebnisse [Autors], widerspricht der Hypothese, nicht wie [Autor] feststellt, entgegen der Annahme von [Autor], zeigen ein anderes Bild, im Gegensatz zu, im Vergleich zu, analog zu [Autor], anders als bei anderen Untersuchungen, stehen dabei im Einklang mit*

5. <u>The contribution of current research</u> to the respective research landscape is expressed through finite and non-finite clauses in all nine sub-corpora, combining evaluative reference with depersonalisation and subjectivisation, the former likely expressing modesty and the latter explicitly emphasizing the personal contribution to the field (Kuo 1999, 132): *to make a meaningful contribution regarding, this article seeks to make the following contributions, the current study makes an important contribution to, our findings will contribute to, we contribute to the literature by, our main contribution is to extend these results, we add to this literature by, this study is one of the first to, the results in this paper are the first to bear on this question, the methodological novelty of the paper lies; kako bismo precizno rasvetlili ovo pitanje i upotpunili saznanja, značajnost ovih rezultata […] ogleda se u, glavni naučni doprinos istraživanja je; an diesem Defizit setzt der vorliegende Beitrag an, somit ist der Mehrwert der vorliegenden Studie, experimente […] können dazu beitragen*
6. <u>The dimension of failure to contribute with the current research</u> is only present in the English linguistics sub-corpus and is also expressed by finite and non-finite clauses indicating that future work is needed: *such a focus is beyond the scope of the current paper, further work on [area] seems to be a promising area, further research is therefore needed, more research will be needed to understand, indicates that the phenomenon is worth exploring further; ali to zahteva drugačiju vrstu istraživanja, ovo je tema koja zahteva detaljniju analizu.* In the Serbian economics sub-corpus (see 7.2.6), this dimension overlaps with that of recommendations for future research to a great extent.
7. <u>Recommendations for future research</u> are expressed through finite and non-finite clauses: *these points are worthy of further investigation, it would be interesting to explore, obtaining such proof will be the subject of future research, for additional future*

work, a future area of research, were identified for additional study, additional research will be needed, further studies will be conducted on, subsequent studies will examine; za dublju analizu po ovom pitanju potrebno je poznavati, dalja istraživanja bi trebalo usmeriti na; in Zukunft sollte aber auch dieser Frage nachgegangen werden, wir eine Analyse [...] planen, *noch erweitert werden kann/muss, muss die Analyse für eine allgemeine Aussage vertieft werden, hierfür sind weitergehende korpuslinguistische Analysen notwendig, wäre daher in der Zukunft zu prüfen, die in einer weiteren Studie näher zu untersuchen sind, noch einer näheren Untersuchung bedarf, es besteht dennoch weiterer Untersuchungsbedarf, hier könnten zukünftige Studien anknüpfen und analysieren, für zukünftige Studien [...] ist es somit essenziell*, *untermauert weiteren Analysebedarf, diese weiterführenden Untersuchungen werden Aufschluss darüber geben, erfordert weitere umfangreiche Untersuchungen, weitere Analysen sind bereits in Planung, noch erheblichen Forschungsbedarf aufweist, ist Teil folgender Forschungsarbeiten, bei weiterführenden Studien ist zu klären*. In the English economics sub-corpus (see 8.1.6), this dimension also includes expressions of the potential limitations of the research, as an important aspect of the dimensions *future work* and *contributions of current research* (or lack thereof).

The summary of the most frequent and prominent linguistic forms of expression of stance in my corpus lends weight to the claim that "[...] correct grammatical choices in a written medium cannot be taught apart from considerations of rhetoric and subject matter" (Lackstrom, Selinker and Trimble 1988, 62). Adhering to the idea of disclosing systematic functional patterns of frequent structural patterns in my sub-corpora, the unified research model of stance (outlined in Chapter 4), while onomasiologically organized, included a semasiological level, focusing on the groups of formal expressions discussed in Chapter 3.2 and the functions they perform in a specific context. This allowed me to perform a qualitative context-based analysis of single token structures, which ultimately showed that while academic writing is inevitably context-dependent, certain grammatical forms used in academic writing do have fixed argumentative and rhetorical functions, which perpetuates their use and may be seen as norm-setting.

Following this summary of the most prominent linguistic expressions acting as formal markers of stance within the six strategies in my research model, some conclusions can be derived on their quantitative and qualitative use, in correspondence with my research questions and hypotheses (see Chapter 1). The eleventh and final chapter of this thesis will focus on the conclusions derived from this discussion, an outlook on future research, and final remarks.

Chapter Eleven

Conclusion

In the eleventh and final chapter of this thesis, some tentative conclusions will be drawn regarding potential cultural or disciplinary tendencies which can account for the differences in the distribution of stance markers. Furthermore, research limitations will be discussed after these conclusions, as well as potential future outlooks for this study. The chapter, and the dissertation, will close with some final remarks on the state of the current research landscape, recommendations regarding cultural differences in academic discourse rhetoric, and contributions of this research in this regard.

11.1 Conclusion

Based on the extensive qualitative analyses in Chapters 7–9, as well as the quantitative results given in Chapter 6, some conclusions can be drawn on the distribution and functions of stance markers according to languages, disciplines, and the central six strategies of their use as also discussed in Chapter 10.

To start with, one of the contributions of this research entails the creation of a unified model of stance employed in this study, based on previous research on categories related to stance (see Chapter 2). This model adopts an onomasiological approach, and combines both formal and functional criteria, displaying great variability of expression. Stance markers can indeed be found in all nine sub-corpora, as well as all six strategies, thereby confirming Hypothesis 1: stance markers are a universal functional category in academic discourse. Their presence in all six strategies in this corpus confirms the applicability and universal nature of this model in this corpus, as well as its permeability in academic discourse.

Therefore, while linguistic forms of stance markers may vary, their pragmatic, communicative and interpersonal functions can be said to be almost identical in all nine sub-corpora, with small discrepancies. Stance markers are used by authors in academic writing to diminish their presence and contribute to objectivity in reporting; to indicate tentativeness in presenting their claims, to present their assumptions and open the floor for alternative interpretations of findings; to signal their agentivity in the research explicitly; to denote their certainty and their attitude towards their findings, thereby contributing to persuasiveness; to approximate results in order to convey vagueness or precision; to evaluate the previous work done in the field, hint at gaps in previous research and position their own work in the research landscape. As my findings in Chapters 6–9 suggest, markers of stance differ both cross-culturally and cross-disciplinarily, as each discipline has its own preferred ways of expressing claims so that the nature of research as belonging to soft science or hard science is also reflected in different linguistic expressions of stance (see below for more details).

The quantitative analysis indeed shows different normalised frequencies of stance markers, depending on the language and the discipline. As indicated in Chapter 6 and based on Table 8 (see Chapter 10), it can be seen that the distribution of stance markers is quite consistently most frequent in the German sub-corpora (in all three disciplines), followed by English (in all three disciplines) and finally in Serbian (again in all three disciplines). Likewise, stance markers are most frequent in the technology sub-corpora (in all three languages), followed by linguistics (in all three languages) and finally in economics (in all three languages). This provides an answer to **Research Question 2** – how different the overall frequency of stance markers is, according to the three scientific fields – linguistics, economics, and technology, and three languages – English, Serbian, and German. This corresponds to findings by Blagojević (2008), indicating that Serbian authors tend to use fewer metadiscourse markers than English authors, both interpersonal and textual/organisational.

Comparing these findings to Hypothesis 2 (concerning the differing distribution of stance markers per strategy in languages) and Hypothesis 3 (concerning more markers being identified in soft disciplines) given in Chapter 1, neither German coming out on top in language sub-corpora, nor technology on top of disciplinary sub-corpora was to be expected. These findings also refute Hypothesis 3, as fewer stance markers are used in soft sciences than in hard sciences. The findings in cross-disciplinary differences in the use of hedges and stance markers therefore correspond more to Bloor and Bloor (1993), who reported very few instances in economics, than Varttala (2001), who found very many in economics and very few in technology. Additionally, in Gethkam's (2013) research, more impersonality devices are used in applied linguistics and technology than in economics (which corresponds to the use of subjectivisation devices in English economics sub-corpora in this research). Of course, these differing results can also be explained by different taxonomies employed in our respective studies. While *p*-values, as indicated in Chapter 6, suggest that there is statistical significance only among the disciplinary sub-corpora, as opposed to the language sub-corpora, the descriptive analysis could reveal valuable tendencies in the formal and functional use of stance markers in both language and disciplinary sub-corpora.

One reason why there is no statistical significance to be found among the language sub-corpora could be that there is a general trend in moving towards writing conventions of English, as the most important language of scientific writing, and the *lingua franca* of the international academic community. This would, however, have to be confirmed with additional research that lies beyond the scope of this paper. When it comes to the disciplinary sub-corpora, there are differences in how knowledge is negotiated and how arguments are formed, but they are not influenced by other writing cultures (and one writing culture in particular), as is the case in the German and Serbian sub-corpora, comprising articles written in an international academic discourse landscape dominated by English. On the contrary, disciplinary culture seems to be much more uniform and less prone to outside influences, as opposed to national culture, at least in my corpus (evidenced in the statistical significance found among the three disciplinary sub-corpora). This is in accordance with what Hyland and Salager-Meyer (2008, 326), as well as Taylor and Chen (1991, 332) suggest, as research into scientific discourse shows that rhetorical differences are more considerable on a disciplinary, rather than cross-cultural level. Unlike national cultures, disciplinary culture is "international to a greater or lesser extent" (Taylor and Chen 1991, 332). However, scientific discourse can be said to be influenced by both disciplinary and national conventions, as well as context (Hyland and Salager-Meyer 2008, 326), leading to "an internationalization of scientific discourse" (Taylor and Chen 1991, 332).

Therefore, also based on the results of both my quantitative and qualitative cross-cultural analysis of English, Serbian, and German sub-corpora, it cannot be said that there is a distinct 'English', or 'Serbian' or 'German' way of writing, however notable some of the differences between these languages may be. These differences do, however, show us a pattern of writing that is preferred in each language respectively, corresponding to Hypothesis 2 on the distribution of stance markers in languages (see Chapter 1). For instance, German writers prefer a depersonalised style of writing, and consequently, a less subjective style of writing. English writers prefer attenuating their statements through modal markers and while they do use a depersonalised style of writing, they also tend to display their identity in the text overtly. However, no broad generalizations can be made about "national rhetorical styles" (Taylor and Chen 1991, 332), at least based on my own corpora. Therefore, I cannot make broad claims about broad tendencies, but rather those pertaining to this particular corpus, at this particular time, with this particular model. It is rather the disciplinary, national, contextual, and co-textual writing cues working in harmony that can indicate to both experienced researchers and young researchers how to write, both in their mother tongue, and in English for academic purposes, which corresponds to the pedagogical aims of this research.

Research Question 3, concerning the distribution of strategies in the nine sub-corpora, can be answered by looking at the normalised frequency results in Table 10 in Chapter 6. Stance markers most frequently express the strategy of depersonalisation in all three languages and all three disciplines, while they least frequently express the strategy of evaluative reference in all three languages and all three disciplines. Intensification is the second most frequently expressed strategy, followed by indetermination, approximation, and subjectivisation. Stance markers are most frequent in the technology sub-corpus expressing depersonalisation, and accordingly, least frequent in the technology sub-corpus expressing subjectivisation. Finally, stance markers expressing depersonalisation are most frequent in the German sub-corpus, and accordingly, least frequent in the German sub-corpus expressing subjectivisation.

A graphic presentation of the distribution of stance markers in this corpus, according to languages and disciplines, in terms of normalised frequencies (number of markers per 1,000 words, given in Table 10 in Chapter 6) can be seen in Figure 19.

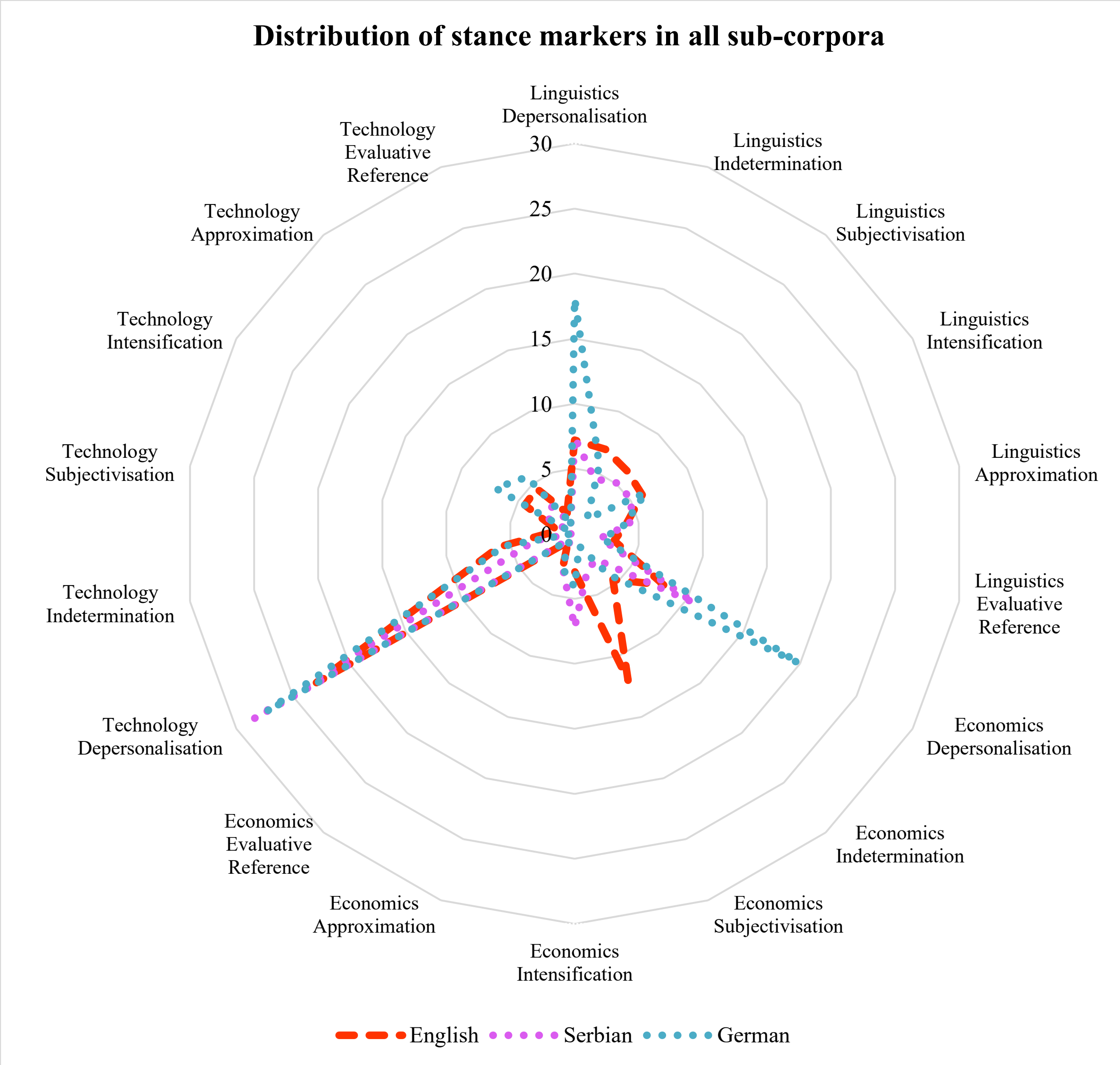

Figure 19: Distribution of stance markers in all sub-corpora (normalised frequencies)

Some of these findings have been accounted for in previous literature and may partly confirm Hypothesis 2 (see above and Chapter 1). The frequency of the strategy of depersonalisation comes as no surprise, especially in the technology sub-corpus, as it has been found in previous research as well that "[w]riters generally seek to disguise both their interpretive responsibilities and their rhetorical identities behind a screen of linguistic objectivity" (Hyland 2005b, 147), which corresponds to the frequent use of the strategy of depersonalisation, and the rare, virtually non-existent use of the strategy of subjectivisation, especially in the Serbian and the German sub-corpora. It has been noticed in previous research that hard sciences have a general preference for impersonal texts (Hyland 1994, 239, 2005a, 144; Köhler 1981, 246; Lachowicz 1981, 108), while soft sciences – humanities and social sciences – favour a more involved and personalised style of writing and more markers of self-mention (Charles 2006, 504; Deng and He 2023, 01; Hyland 2005a, 144, 2006, 29, 2015a, 34; Hyland and Tse 2004, 172).

While more drastic differences in the distribution of depersonalisation and subjectivisation markers were to be expected between soft sciences (such as linguistics and economics) and hard sciences (such as technology in my corpus), even these slighter distinctions in my data reveal the differences in reporting "ways of conducting research and persuading readers to accept their results" (Hyland 2001a, 215). Especially in the technology sub-corpus, the use of impersonal and passive constructions ensures objective reporting and the universalistic nature of findings. By not explicitly stating their involvement in the research process, writers aim to "highlight the phenomena under study, the replicability of research activities, and the generality of the findings" (Hyland 2001a, 216). As Tarone et al. (1981, 135) also note, passive voice is used to denote an "established or standard procedure" and logical deductions. This can explain why depersonalisation is so much more dominant in hard sciences than subjectivisation.

On the other hand, subjectivisation is more present in soft sciences (linguistics and English economics sub-corpora in particular), indicating a very different rhetorical practice. As there is more 'wriggle room' in soft sciences, as "the criteria of acceptability for interpretation are less clear-cut and variables less precisely measurable" (Hyland 2002a, 1098), passive voice with its depersonalised effects cannot always ensure the desired response from the audience. Therefore, writers in soft sciences use personal pronouns and possessive determiners to "construct an intelligent, credible, and engaging colleague, by presenting an authorial self firmly established in the norms of the discipline and reflecting an appropriate degree of confidence and authority" (Hyland 2001a, 216). In my own corpus, markers of subjectivisation denote personal responsibility being attributed to both the research procedure, and the findings, opinions and attitudes obtained, and serve to "strongly identify oneself with a particular argument and to gain credit for one's individual perspective of research decisions" (Hyland 2001a, 217). However, while in the field of linguistics, as a soft science, English and Serbian writers tend to use both depersonalisation and subjectivisation markers (with slight preference towards depersonalisation markers), German writers still write using a very depersonalised tone (18.1: 1.5 markers per 1,000 words in favour of depersonalisation). This can be explained by the overall greater preference within the national writing culture for impersonal constructions (Clyne 1987; Siepmann 2006), while English shows a greater preference for markers of subjectivisation than almost any other language (Clyne 1987; Mir-Dueñas 2010; Siepmann 2006). It also confirms Blagojević's (2007) finding that more markers of authorial presence can be found in social science articles in both English and Serbian, as well as Sanderson's (2008) finding that English speaking authors in humanities tend to employ more person reference than German speaking authors.

Furthermore, these findings also confirm previous conclusions made by Blagojević (2011a) regarding the use of self-mention markers in Serbian. As only one marker of first-person singular is found in the Serbian linguistics sub-corpus, these findings confirm the general preference in Serbian academic discourse to use first-person plural *mi* – indicating that the author is a part of a community and not an individual, thereby exhibiting their academic modesty and humility (Blagojević 2011a, 209). However, as subjectivisation is used less than depersonalisation, this contradicts the claim Blagojević (2011a, 216) made that Serbian speaking authors tend to use the plural pronoun *mi* – *pluralis modestie* – in lieu of impersonal constructions.

What can be concluded from the distribution of depersonalisation vs. subjectivisation markers in all nine sub-corpora is that authors in soft sciences seem to prefer subjectivisation markers slightly more than authors in hard sciences. However, authors in all (but one – the English economics sub-corpus) sub-corpora prefer implicit rather than explicit stance expression, which might suggest that persuasiveness and objectivity is related to depersonalised reporting in all (but one – the English economics sub-corpus) cultures. Therefore, markers traditionally associated with fields of hard sciences, denoting objectivity and impersonality, are actually a common trait of all three fields examined in this research, with depersonalisation being the most frequently used strategy in eight out of nine sub-corpora.

The more personalised style of writing can also be related to the use of markers of intensification and indetermination, which have somewhat similar overall frequencies of usage, with intensification being slightly more frequently used than indetermination. In my corpus, writers in all disciplines use both indetermination markers and intensification markers to qualify their statements, but both of these strategies are more frequently used in linguistics (which is to be expected, based on the nature of the research). This suggests that writers in the humanities have to express their assuredness in the claim they are making to their audience explicitly in order to establish a space for discussion. However, perhaps unexpectedly for the nature of the research, markers of intensification are used more frequently in economics than technology, while markers of indetermination are used more frequently in the technology, rather than the economics sub-corpus. While these differences are not considerable, especially in the strategy of intensification, this leads to the conclusion that writers in economics tend to rely slightly less on stance markers to qualify the status of their statements regarding their research outcomes, especially when attenuating and mitigating their claims. This might also mean that the potential for alternative interpretations is not as high as it might be for soft sciences such as linguistics in this corpus, but rather that the findings in economics can speak for themselves, especially when emphasized through intensification markers. Additionally, indetermination markers do not need to be used to open up the floor for possibilities for alternative interpretations and general acceptance from the audience in economics. On the other hand, in linguistics, writers use more indetermination markers to account for alternative interpretations and outcomes, "formally leaving open the (slight) possibility that the writers will be judged wrong" (Myers 1989, 14). By contrast, intensification markers "emphasize the strength of the writer's commitment, and thereby convince the reader through the force of the argument" (Hyland 2005b, 146), which might explain why the frequency of intensification markers is similar in both economics and technology. However, in technology, markers of indetermination are used more frequently than in economics, which might be used to potentially open the floor for more discussion, as the nature of data is exact and does not necessarily allow room for alternative interpretations, because the authors can be certain in the claims they are making.

Concerning cross-linguistic differences, it can be seen that the highest frequency of indetermination markers can be found in the English sub-corpus, followed by German, and then by Serbian. Perhaps accordingly, markers of intensification are most frequent in German, followed by Serbian, and then by English. This corresponds partly to Kreutz and Harres' (1997, 181) hypothesis that expressions which they term *hedges* and which correspond to both indetermination and intensification markers in my model (such as adverbs, modal particles, impersonal constructions and modal verbs), serve to downtone and mitigate assertions in English (thereby corresponding to indetermination markers), but, by contrast, express authors' attitude, assertion and authority in German (thereby corresponding to intensification markers). It can be said that German authors tend to express certainty and affect, while English authors tend to mitigate their statements. Clyne also notes that "reducing the proposition rather than concealing the person is of greater significance in the English texts" (Clyne 1991, 60), which corresponds to my findings on the distribution of indetermination and depersonalisation markers in the English sub-corpus, and the prominence of impersonal and passive constructions in the German sub-corpus. For Serbian, Blagojević (2008, confirmed in Blagojević 2007, 2011b and D. Đorđević 2016) found that authors in Serbian tend to use fewer hedges (which corresponds to my findings as well). Blagojević (2008) adds that Serbian authors also use more emphatic markers (confirmed by Novakov 2015) hiding their explicit presence in the text (which also corresponds to my findings). Trbojević Milošević (2012, 88) notes that Serbian culture "reveals a possible cultural script relating to directness of request". The notable frequency of intensification markers in the Serbian economics sub-corpus in my own data is accounted for in Blagojević's (2009) research of markers of authorial attitude in sociology, social psychology and philosophy in English and Serbian, where their use is more evident in the articles written by Serbian writers, "which means that these authors more readily express their attitudes than their English colleagues" (2009, 63).

However, while Myers (1989, 6) claims that "any attribution of a statement to a person weakens it", the expression of stance has to be seen in broader terms than simple mitigation and hedging, as the rhetorical functions behind different stance markers, as evident in this research as well, are indeed diverse. Personal attribution can indicate responsibility for the claims and uniqueness in an author's approach, while impersonal statements may refer to common, accepted and indisputable practices. Overt attribution of stance may indeed indicate doubt, but also certainty, and reinforce statements, or it may just indicate politeness and less face-threatening acts during claim-making, marking an author's evaluation rather than a fact.

The strategy of approximation is used less frequently than intensification and indetermination strategies, and most frequently in the technology sub-corpus. This finding is confirmed in Hyland (1996b, 1999a) and Varttala (2001) noting a higher frequency of markers related to numerical hedges – expressions such as *about, generally, approximately* – in hard sciences. It can be explained by the nature of data in technology, which is largely numerical, and the use of approximation markers may in fact contribute to more precision in the reporting of results (Hyland 1998a, 72). As the methods and procedures are considered standard in hard sciences (which is why they are reported through the use of the passive voice with no degree of subjectivity involved which might indicate uniqueness and individuality), the use of approximation markers, indeed, introduces more accuracy and precision as to what an author thinks they can rightfully claim (Salager-Meyer 1994, 155). This is also how the highest frequency of approximation markers in the German sub-corpora of technology and economics can be interpreted – a desire for a higher degree of precision. Additionally, Salager-Meyer (1994, 155) notes that the use of approximators "most closely [reflects] what we could call the 'institutionalized' language of science" – stressing the normative aspect of scientific writing.

Finally, as indicated in Hyland and Salager-Meyer (2008, 325), writers in smaller writing cultures may be less inclined to address a gap in previous research, as they are writing for a smaller community. They are rather more inclined to denote their study as valid and to emphasize its importance. Indeed, in my corpus, markers of evaluative reference are most frequent in the English sub-corpus in all three disciplines. However, my data does not indicate any considerable quantitative differences among the dimensions of this strategy in either the cross-disciplinary or the cross-cultural analysis. Both the indication of gaps in previous studies and the contribution of the current study, as well as the comparison against the research landscape are universal functions of this strategy in my corpus, regardless of the language or discipline. All of these dimensions signal allegiance to the discourse and scientific community, show knowledge of the established practices and research tradition within the discipline, and aid the construal of the writer identity.

Research Question 4 involves the linguistic means of expressing these six strategies, as discussed in my research model, which was an amalgamation of findings from previous research and material found in my own corpus. The linguistic means of expressing each strategy are given in the discussion chapter above (see Chapter 10), confirming that the expression of stance is inevitable in academic discourse. There are certain forms that keep repeating themselves and expressing similar functions, as “[r]epeatable linguistic styles emerge out of stancetaking strategies that prove repeatedly relevant and useful for particular speakers in particular kinds of interaction” (Johnstone 2009, 29). These forms are inherent to both national and disciplinary cultures in this corpus, as is very clearly visible from the distribution, the function and the frequency of these strategies, the way they are used by the authors to qualify their claims, to express possibility and precision, conviction and authority, to be polite and certain, and to dialogically rely on their predecessors. However, as is seen from the quantitative and the qualitative analysis, both language and disciplinary sub-corpora differ among themselves.

While these differences are only statistically significant in depersonalisation and evaluative reference, even in other strategies, it is confirmed that these forms depend on the linguistic resources made available in different languages, thereby confirming Hypothesis 4 on the difference in distribution of stance markers across different languages and disciplines (see Chapter 1). This also confirms Lazard’s claim that “[g]rammatical categories of different languages, even if they may bear some resemblance to one another, are always different” (2001, 364). Indeed, differences in the use of strategies of indetermination, intensification, and approximation indicate that there are "variations in the certainty and confidence with which arguments are expressed in different languages" (Hyland 2005b, 133) – corresponding to the resources available in different languages, which is one of the central assumptions of this study (see Chapter 1). The distribution of the six strategies indicates that certain functions in academic discourse can be seen as universal for all academic discourse, regardless of national or disciplinary culture. What varies are the specific means of expression, linguistic forms that depend on "culturally available resources" (Hyland 2012, 196) within national and disciplinary cultures, the resources available in the language to express these functions (R. Đorđević 2004, 29), as well as the writers' personal preferences (Berman 2004, 108).

For instance, regarding the strategy of indetermination, in the verb paradigm of English, the use of modal verbs is more grammaticalized than in German (Kortmann 1998, 147), as well as in Serbian, and they have a significant role in the English sentence structure. Unlike English, German differentiates among categories of tense, aspect, mood (Indikativ, Konjunktiv I and Konjunktiv II – which is less prominent in English), person and number (Kortmann 1998, 147), and so does Serbian (conditional mood – *potencijal*) (Stanojčić and Popović 2004, 395). Additionally, unlike English, that has a pretty rigid word order – "grammatical" word order (Kortmann 1998, 149), German, as well as Serbian, have a relatively free, i.e., "pragmatical" word order (Kortmann 1998, 149). Word order in English is typically SVO in declarative clauses, and in German V-2 (in main clauses) or V-final (in subordinate clauses) (Kortmann 1998, 150), while Serbian has a typical SVO word order, but there is more flexibility in their ordering, as morphological inflections for nominative and accusative help identify subject and object (Stanojčić and Popović 2004, 361). Furthermore, much like it is the case in German, Serbian word order also aids discourse-pragmatical purposes such as thematization and rhematization, while in English, this is done through specific constructions, such as passivization (Kortmann 1998, 149). This explains the variety of impersonal constructions in English, as the extraposition constructions in English highlight authorial stance, which also brings about another important distinction between English, German and Serbian, as clauses in English must have a syntactic subject, even dummy subjects (*it* and *there*), while in German and Serbian, clauses not containing a syntactic subject are possible (Kortmann 1998, 150). In addition to well documented differences in the formal inventories of the six strategies across languages, there are also noticeable disparities as to how well single structures are covered by current research. For instance, as shown in the theoretical background (Chapter 2), a lot more research exists surrounding adverbial expressions for the strategies of intensification and approximation in English than for the same strategies in Serbian and German.

Finally, Hawkins differentiates between English and German as more "loose-fit", versus more "tight-fit" languages, respectively, as "English regularly exhibits greater 'distance' between form and meaning […] I.e. English surface structures exhibit less correspondence with their semantic representations than do those of German" (Hawkins 1986, 6). By contrast, "the surface forms (morphological and syntactic) of German are in a closer correspondence with their associated meanings" (Hawkins 1986, 121). This means that linguistic choices in the English sub-corpora are more open to contextual interpretation, unlike my German or Serbian data.

Research Question 5 relates to any cultural or disciplinary background which may account for these findings, based on previous research. While indetermination is indeed used most frequently in English (thereby confirming Hypothesis 2) and indicating that writers in English tend to be least direct, the difference in the use of indetermination markers between the three disciplines is not as severe as one might expect (and as we can see from the *p*-value in Chapter 6, nor is it statistically significant). This, however, does confirm the hypothesis that writers in English use more markers of indetermination than in Serbian or German, as a part of the general trait of British and Anglo culture to avoid telling people what to do, imperatives and direct 'face-threatening', but rather use indirect ways of interaction (Wierzbicka 2010, 46). The higher frequency in markers denoting hedges (i.e. the strategy of indetermination), may be due to a higher variety of these markers in English, as opposed to Serbian and German (D. Đorđević 2016, 198). On the other hand, the distribution of intensification markers is far more varied, and while it is overall used most frequently in the sub-corpus of linguistics, the Serbian economics and the German technology sub-corpora show a higher frequency of intensification markers than any of the linguistics sub-corpora. This can potentially be explained by different motivations behind the use of such markers. In English, the more frequent use of indetermination and intensification markers may be seen as projecting the author's attitude, meant to "contribute to the writer's persona and establish a link with the disciplinary community" (Hyland 2005b, 149), thereby "[helping] create a convincing discourse and establish personal credibility, critical insight and disciplinary competence" (Hyland 2005b, 151). This is what the authors rely on in humanities and social sciences, as they also project themselves more overtly into the text (as evidenced by the more frequent use of subjectivisation markers), especially in English. This leads to the conclusion that in English, authors construct their authorial identity and authority by simultaneous overt projection of persona in the text along with the use of markers signalling their attitude, be it doubt (indetermination) or certainty (intensification). On the other hand, more frequent use of markers of indetermination is related to the tendency to express arguments in a more cautious manner in the soft disciplines (Hyland 2005b, 146). In Serbian and in German, less frequent use of markers of indetermination (signalling indirectness and caution) can be related to the cultural patterns of directness of expression, as German authors tend to express certainty and affect (Kreutz and Harres 1987) and Serbian authors tend to use more emphatic markers (Blagojević 2008, 2009; Novakov 2015), in addition to obscuring the authors' explicit presence in the text (evidenced in more frequent use of markers of depersonalisation in German and Serbian sub-corpora).

Along very similar lines, it can be said that in linguistics, stance is expressed through combinations of explicit authorial presence in the text and use of markers of indetermination and intensification to qualify statements (but perhaps less so in German). On the other hand, in hard sciences, "the activity of the discipline is primarily directed to the performance of experiments" (Charles 2003, 317). This explains the heavily placed emphasis on the actions and procedures conducted as a part of the research, supported by a more frequent use of markers of approximation (in accordance with the nature of the research). However, "despite the superficial objectivity and impersonality of the writing in materials, the use of certain network options allows a construction of stance that is clear and pervasive" (Charles 2006, 514), implying that the conveyance of stance in hard sciences revolves around the lack of authorial presence and non-direct attribution of responsibility in the text. These two characteristics "[enable] the writer to obscure the origin of any evaluation that is carried out", hiding the author's "subjective position" and making it less prone to criticism (Charles 2007, 207). As can be seen, in eight out of nine sub-corpora of this corpus, this seems to be a general tendency of the authors, regardless of where on the soft vs. hard spectrum a science falls, as even in soft sciences (with the exception of the English economics corpus), where knowledge is seen as traditionally more personally constructed, writers still denote their presence implicitly through impersonal constructions. This finding also refutes Hypothesis 3 (see Chapter 1), as impersonal constructions are more frequent in both soft science (linguistics and economics) sub-corpora in Serbian and German, as well as in the linguistics sub-corpus in English. However, it does confirm that in the English economics sub-corpus, authors tend to use more subjective expressions.

As Hyland notes, “rhetorical practices are inextricably related to the purposes of the disciplines” (2005a, 187). This is confirmed by Charles’s (2003, 313) observation that the variations in the expressions of stance stem from the “differences between the disciplines in research practices and the construction of knowledge”, where “writers have to present their propositions in a way that is appropriate and acceptable to the disciplinary community” (2006, 493). Procedures in hard sciences are more uniform and there is less room for interpretation, which is evidenced in the rhetorical practices of the disciplines (fewer markers of subjectivisation, intensification, and indetermination, at least in the English sub-corpora), as impersonal and passive constructions put an emphasis on the procedure itself rather the individuals conducting it, contributing to the strength of the claims (Hyland 2005a, 188). On the other hand, as indicated above, there is more room for interpretation in soft sciences, “less control of variables and greater possibilities for diverse outcomes” (Hyland 2005a, 187), which influences the way writers construct their persona in writing. While in hard sciences, the procedures and numbers may speak for themselves, in soft sciences, authors have to overtly indicate how a claim should be interpreted, thereby emphasizing their role in the research and data interpretation. The results of my own research might also confirm Duszak’s (1997a, 11) observation that academic articles in experimental sciences show more similarity in writing patterns, whereas soft sciences, social sciences and humanities display more variation in writing as “communication styles respond most strongly to language- and culture-bound discoursal preferences and constraints”. This is particularly evidenced in the dominance of depersonalisation in all the technology corpora.

However, as indicated previously, while there is a general guideline as to how the writing culture is to be conducted within a national and disciplinary culture, it should be born in mind that writing is not only dependent on one variable and conventions of national and disciplinary culture. Rather, a “creation of an authorial persona is an act of personal choice, and the influence of individual personality, confidence, experience, and ideological preference are clearly important. We are not the instruments of our disciplines and variables such as individuality and ideolecticity are important limitations on the kind of analysis presented here” (Hyland 2005a, 191). Therefore, all choices made in the writing process are simultaneously a prescribed practice of the discourse community (national and disciplinary), as well as individual traits and preferences. Therefore, “[t]he ways language is used on particular occasions are not wholly determined by these assumptions, but a disciplinary voice can only be achieved through a process of participating in such communities and connecting with these socially determined and approved beliefs and value positions" (Hyland 2005a, 191).

In addition, due to the overlap of genre conventions, the dynamic nature of conventions of disciplinary and national cultures, as well as many individual authorial distinctions in the style of writing, which exhibit an incredible heterogeneity of language in scientific discourse, one cannot necessarily talk of prescriptivism in this type of discourse – suggesting one right way to conduct academic discourse. However, much like Ivanič (1998, 45) noted, while acknowledging the need to avoid prescriptivism, and to refer to certain discourse conventions as correct and proper, this view cannot be taken too far, so a middle position might be the right way to go: "particular discourse characteristics *are* shaped by the current interests, values, beliefs and practices of particular social groups, and so position the writers as participating in these interests, values, beliefs and practices", which means that the writer's rhetorical choices show alignment with the discourse community, but individual differences also inevitably play a part and hence the authorial personal identity is simultaneously seen as contributing to discourse and being dynamically construed in discourse.

Contrastive analysis, at least in the context of this paper, examines differences between two notions of culture – national and disciplinary – as "ways of a people" (Lado 1971, 110). The act of writing, therefore, within a specific *culture* (national and disciplinary) involves the negotiation of the writer's stance in compliance, as well as in resistance to the prescribed norms, therefore emphasizing both the similarities and the differences between cultures and disciplines. As Kortmann (1998, 137) and R. Đorđević (2004, 1) point out, contrastive linguistics should not only focus on differences, but also on similarities between the contrasting languages (and in this case, cultures and disciplines). In this research, therefore, the triads mentioned above are compared based on a common trait (R. Đorđević 2004, 3) of the way of expressing authorial stance in academic writing. The type of analysis adopted in this research is therefore a selective contrastive analysis – a comparison of linguistic phenomena which may not be systemically connected but can belong to different levels of linguistic structure (R. Đorđević 2004, 109). The structures studied herein are linked to ideal cognitive models presenting the meaning of the structure, thereby relating syntax and semantics (along with pragmatic information) (R. Đorđević 2004, 33).

Along the lines of such a complex and integrated view of contrastive linguistics, complementary to a broad view of pragmatics as discussed by Bublitz and Norrick (2011, 4), encompassing "patterns of linguistic actions, language functions, types of inferences, principles of communication, frames of knowledge, attitude and belief, as well as organisational principles of text and discourse", ways of writing within a disciplinary culture or a national culture can be seen as a complex puzzle resembling Salvador Dali's portrait of Abraham Lincoln – *Lincoln in Dalivision* (1977): each piece of the puzzle may seem blurry, unique, and out of place, but it fits into a pattern and a broader view is how all the pieces fall into place. Therefore, both the linguistic context or co-text – influencing "what we think the world probably means" (Yule 2006, 114), as well as context – "our mental representation of those aspects […] that we use in arriving at an interpretation" (Yule 2006, 114) play a crucial role in deciphering the conventions within different writing cultures.

As the corpus constituting each of the nine sub-corpora for this research is reflective of nine discourse communities, three disciplinary cultures, as well as three national cultures, the goal of this dissertation was to descriptively present the most common rhetorical practices of authorial stance-taking in these discourse communities, in order to take a snapshot of the state of affairs and to investigate their similarities and differences in the construction of academic argumentation and writer identity. I am, as an author of this study and a member of one of the discourse communities herein, simultaneously acting as a reader of the texts investigated, and interpreting and elaborating on potential rhetorical intentions of their authors as a researcher. Therefore, I am both impacted by the rhetorical intentions behind the use of markers of stance-taking as employed by the authors of these articles and analyse them according to the unified model of stance (as discussed in Chapter 4). This means that my own analysis is also inevitably influenced by the rhetorical function of markers of stance-taking in my subject of description, so that my subjective perception is likely to feed into the qualitative analysis.

While this research does not tackle the transfer of cultural forms and meaning from native culture to a foreign culture, I agree that the knowledge of forms and meanings in one's native culture aids comprehension and differentiation in the foreign culture (R. Đorđević 2004, 49). By understanding the forms and meanings in your native language and culture, you are able to find similarities, as well as differences in the foreign language and culture. Therefore, the contrastive analysis (in the case of this study) comparing academic writing across languages and disciplines does indeed have sociolinguistic, descriptive and pedagogical implications, as observed by R. Đorđević (2004, 49).

This research aims to shed light on certain patterns of stance marker use in these nine sub-corpora and emphasize disciplinary and cultural differences in rhetorical strategies between

English, Serbian, and German. In this respect, the inclusion of English as the global academic *lingua franca* is particularly useful, as Vold points out:

> The choice of a language-contrastive approach is motivated by the view that not only English academic language with its specific features should be described but also its similarities and differences with other languages, so that students and researchers from non-English backgrounds can easily compare and contrast the academic language of their own mother tongue with English academic language. (Vold 2006a, 62)

In agreement with Vold, such cross-linguistic comparisons of Serbian and German against English allow for direct improvements in pragmatic competence of young researchers engaging in academic discourse. By doing so, this research hopes to contribute to mastering both the rhetorical strategies in different disciplines and aid their participation both in their native language and in the wider scientific community (see also Blagojević 2011b; Hinkel 2002).

Finally, the conclusions of this research can be summarized as follows:

- Stance markers in this corpus are most frequent in scientific articles written in the German language (in all three disciplines), followed by English, and finally Serbian.
- Stance markers in this corpus are most frequent in scientific articles written in the field of technology (in all three languages), followed by linguistics, and finally economics.
- The most frequently used strategy overall is depersonalisation, while evaluative reference is the overall least frequently used strategy.
- In all but one sub-corpus (the English economics sub-corpus), authors prefer depersonalisation markers over subjectivisation markers, revealing their preference towards implicit stance in this corpus. There is also a general preference towards implicit, depersonalised markers of stance in German.
- Indetermination is used most frequently in English, and in linguistics, and least frequently in Serbian, and in economics. This is attributable to cultural scripts of expressing (in)directness, and the more interpretative nature of data in linguistics, which might allow for alternative interpretations and outcomes and offering more room for discussion.
- Intensification is used most frequently in German, and in linguistics, and least frequently in English, and in technology. This is again attributable to cultural scripts of expressing (in)directness, and the nature of stance expression in linguistics, which relies on convincing the audience by emphasizing the strength of the argument and conveying the authors' certainty and attitude towards the claim.

- Approximation is used most frequently in German, and in technology, and least frequently in Serbian, and in economics. This is attributable to the more exact nature of data in hard sciences, as approximation markers contribute to more precision, as well as the cultural script of the presentation of knowledge (Kreutz and Harres 1997, 181) in German, which implies a more detached way of writing, and can be related to the style of writing in hard sciences and to the nature of data itself.
- Evaluative reference is used most frequently in English, and in linguistics, and least frequently in Serbian, and in economics. This can be attributable to cultural scripts and the size of academic discourse communities, as evaluative reference markers might be used less in smaller discourse communities. Additionally, the more personalised style of writing, related to the construction of stance in humanities, might account for the highest frequency in linguistics.

11.2 Outlook – Research limitations and future research

There are, of course, several limitations to this research which inevitably have to be mentioned and considered in future research.

Firstly, the size of the examined writing cultures is inevitably a contributing factor in the analysis, as the size of the discourse community impacts the "scientific writing conventions" (Hyland and Salager-Meyer 2008, 325). While the status of the languages being compared is supposed to be equal, the heterogeneity, both ethnic and linguistic (Mauranen 1993c, 159) of the English writing culture can neither be compared to the German writing culture (with possible three countries in which native speakers live) nor to the Serbian writing culture (with possible two countries in which native speakers live). By contrast, English as a native language is used in at least five countries, i.e., subcultures (in which native speakers of English constituting my corpus live) and its status as a scientific *lingua franca* and as the most important language in the international academic community differs dramatically from both German and Serbian. Similarly to what Mauranen observes for Finland, Serbian and German belong to "small, peripheral, internationally little known cultures, whose academics must struggle for international recognition by employing languages other than their own" (1993c, 158). Therefore, writers writing in English (be it native or non-native speakers) are aware that they are writing for an international audience (it is presumably with this is mind that they are writing in English), while writers in German or Serbian might only be writing for a "local readership" (Hyland and Salager-Meyer 2008, 325).

Secondly, the work on this corpus proved to be rather demanding, as the sheer amount of data, the number of categories and the polypragmatic nature of stance markers in my model added to the complexity of this research. Therefore, I have to account for any possible subjectivity in the analysis conducted, as other researchers might come to different interpretations of nuanced meanings stance markers convey. Additionally, this study was carried out within the framework of a single researcher dissertation project and it was therefore not checked for intercoder-reliability, but the tagging of the corpus was either confirmed in a second run of coding for a randomly chosen set of cases after 6 months or double-checked in the course of the discussion of the qualitative and quantitative results, readjusting tags where necessary and discussing ambiguous and problematic cases in the presentation of the results in Chapters 7–9. Consequently, the type of contrasting conducted here is still subjective (R. Đorđević 2004, 105), as I was the only researcher conducting this analysis. As Hyland notes, "[s]ome analysts would no doubt do things differently and other observers draw different interpretations from mine" (2012, 195). This is especially true given the fact that both the corpus and the research model are of my own design, so the degree of subjectivity is even greater. While my own model does adopt a lexico-grammatical methodological approach to a certain extent in the analysis of my corpus, meaning that certain features can be identified, quantified and analysed with a decent degree of reliability, as was also evident in my analysis, meanings of stance markers are frequently context-dependent. Additionally, some markers included in the analysis are inevitably more or less prototypical examples within their respective categories, and due to their context-dependent nature, their inclusion (or exclusion) might be debatable. Therefore, these categories are not set in stone, but rather quite slippery and it can be concluded that not all stance markers are equally representative members of their respective categories. This means that the interpretation of these elements may vary, but it is my hope that the research model and the analysis provided a consistent framework of both qualitative and quantitative analysis. However, this limit may be overcome at least partly by including directly translated articles into the corpus to obtain more objectivity in assigning means of expression to forms in the respective languages, which is a subject for further research.

Thirdly, there are probably other factors influencing the writing culture beyond what I included, e.g. the policy of journals, personal preferences etc. Therefore, inclusion of these factors in future research might yield a more accurate picture and contribute to representativeness of these results.

Furthermore, the comparability of texts used in my corpus cannot be accounted for, as no direct translations of texts in their respective languages into English were used, due to the nature of this research.

Finally, as Grabe and Kaplan (1996, 198) point out, “there is no universal theoretical model for contrast; it is regrettably the case that the findings of various scholars cannot easily be compared because results were often derived from different research paradigms and from different empirical bases”. While I attempted to rely on different previous models and subsume them together under the umbrella of my own research model, this might add to the subjectivity of my research.

Bearing in mind these limitations, there are several directions for future research. To start with, an advantage of this corpus is open-endedness, as more languages and more disciplines could potentially be added to it, thereby expanding inter-cultural and inter-disciplinary research, aiding pragmatic competence of non-native researchers, both in their mother tongues and in the lingua franca of international scientific community, which would further contribute to the descriptive and pedagogical value of this research. Additionally, including direct translations into the corpus systematically into future research might be an instrument of verifying cross-language comparability for my strategies and limit the subjective nature of the coding process in future research[75].

Finally, this research could also benefit from a more detailed analysis of potential developments in the time span analysed here. As all three languages have gone through significant changes, possibly also in the last 10 years, and some models of research have not gone through the same amount of updating and restructuring, nor to the same extent in all three languages, more recent data and possibly also more complex approaches could further contribute to the study of authorial stance-taking in academic writing. Last but not least, this research might also serve as a point of reference for a diachronic study in the future, as the model devised in this research can potentially also be applied further for analysing authorial stance beyond my own study.

[75] I would like to thank Prof. Dr. Jadranka Gvozdanović (personal communication) for this suggestion as a future line of research for my work.

11.3 Final remarks

Given the general tendency of language sub-corpora not to exhibit any statistically significant differences in my corpus, both in the overall frequency, as well as in the frequency among different strategies, there is one final remark to be made on this.

As already mentioned several times throughout this dissertation, English is considered, for all intents and purposes, the *lingua franca* of the international academic community as it is "the language of research communication par excellence in a preponderance of disciplines and fields" (Swales 2004, 58). Therefore, the comparison of any other writing culture, be it somewhat larger (such as German), or in fact much smaller (such as Serbian) with an enormous writing culture such as English, seems to be a double-edged sword. Firstly, using English as a threshold of comparison for any other writing culture in academic writing research only emphasizes the glaring differences among any other (smaller) writing culture and the English writing culture. This is obvious in my own research as well, in several aspects. To start with, the sheer comparability of the corpora in English and Serbian or German shows a blatant inequality of power: while writing in English opens doors to publishing in peer-reviewed international journals and inevitably gives advantage to native English speakers (Hyland 2016, 59), writing in a native language limits the researcher to mostly national journals. Salager-Meyer (2014, 79) discusses this issue regarding "peripheral" or "small journals", which "has nothing to do with size or print run, but refers to those journals published in peripheral countries that are mainly absent from international databases […] such as the Science Citation Index, The Social Science Citation Index or their equivalents". In fact, many of the journals in my own corpus were not in any international databases, as they are solely published in the researchers' native language. This brings about the other edge of the sword in my metaphor, as this leads to many journals finding alternative ways to ensure "better international visibility, and, as a consequence, […] a wider international readership" and consequently either switch to English or provide the English translation side-by-side of their published paper (Salager-Meyer 2014, 79). While the latter solution does not in itself have a harmful impact on the smaller writing culture (and was in fact found in my own corpus – see Jović 2020; Mićić and Šarčević 2015; Papović, Dević and Radivojević 2020; Rajić, Dalmacija, and Dalmacija 2012), the former quite literally drives the entire writing culture into extinction, up to a point where no comparison of writing cultures can be performed, as there is no relevant corpus. As indicated in Chapter 5, this was a large problem for the selection of my research corpus as well. Additionally, academic writing practices nowadays rely mostly on being able to write in

English, so as to be able to communicate with an international scientific community. This may have a negative impact on both the general research landscape in smaller scientific communities, as it may lead to loss of "local knowledge of science" (Pérez-Llantada 2021, 13), as well as on the pedagogical aspect of teaching academic writing cultures, as teaching and learning the writing culture in academic English takes primacy over other native writing cultures. For Serbian writers, for example, there is no formal education on the argumentative writing culture in Serbian (Blagojević 2012, 42). This may lead to the conclusion that the line between a national writing culture (e.g. Serbian) and the global English writing culture becomes blurred, as authors of scientific articles tend to adopt characteristics of the English writing culture rather than resorting to the writing culture of their mother tongue. Consequently, the smaller writing culture is influenced by the English one, or, as Lafuente-Millán (2012, 79) summarizes in his article, it may be seen as deviating from the international research articles to such an extent as to be considered "a different subgenre with its own generic integrity".

While this notion may seem hypocritical, as this research is also written in English (as a lingua *franca* by a researcher whose mother tongue is Serbian, completing her dissertation on contrastive linguistics in Germany), my research has given me an insight into the need to promote publications in other national languages. The lack of competence in academic writing in English from speakers of other languages may impair any opportunities of publishing in international journals, as their rhetorical and argumentative skills may simply not be up to par (Salager-Meyer 2014, 79). Therefore, publishing is a matter of compromising. On the one hand, publishing in English, once all the hurdles of reviewing and editing have been surpassed, inevitably opens the door to a larger audience and more connection among scientists. However, "it also creates problems for non-English-speaking countries because even if these countries' scientists are able to read scientific articles written in English, they must still translate this knowledge into a national context" (Salager-Meyer 2014, 79).

On the other hand, as Salager-Meyer (2014, 79) also recognises, research is abundantly being conducted and published outside of English-speaking countries. However, with the tendency to publish in English-written international journals with a high impact factor, other smaller journals miss out on these publications (which are potentially robust), and this impairs their own impact factor, leading to a great disbalance among national and international journals.

As I was also able to notice from my own corpus, some nationally recognised journals are published by researchers and professors at national universities, government owned companies, and communities of experts in a specific field. This means that national journals, although they are "peripheral", still aid the researchers' "career promotion" (Salager-Meyer 2014, 80). As Salager-Meyer also notices, a way to reconcile high publication costs of many smaller peripheral journals is to merge several peripheral journals into a co-publication under "national or regional professional associations with closely related scope of interests", which would decrease publication costs and contribute to publications of high-quality papers (Salager-Meyer 2014, 80). Therefore, the solution to promoting peripheral journals in other languages should not entail an increase in their number, but the opposite – a reduction in their number, more investment in their quality and more encouragement to publish in them (Salager-Meyer 2014, 80). Salager-Meyer also notes that adequate governmental financial support is crucial for both "the scientific growth and development of their country" (2014, 80) and the improvement of their national publications, as this would be achieved by the possibility of publishing papers in peripheral journals in several languages, one of them being English (2014, 81). Doing so would open up possibilities for greater visibility (as seen in the examples from my own corpus as well), as this would mean that the journal would potentially be bilingual or trilingual, thereby attracting both national authors, as well as international authors (Salager-Meyer 2014, 81). While the possibility of language experts specialized in academic writing aiding field experts in translating or editing their papers into English would be one option (Salager-Meyer 2014, 81), another option would be to have language experts for national languages, as well as two-way translations. If merging several peripheral journals does in fact cut publishing costs, then those funds could be invested towards these translations, which would aid journals, even smaller peripheral ones, to achieve a higher quality.

As Hyland notes, globalization of international publishing "offers greater opportunities for increased scholarly dialogue by broadening the corpus of academic literature, providing new avenues for research and collaboration, and opening more channels for reporting location-specific research" (2016, 59). However, globalization might lead to extreme "Englishization" (Swales 2004, 52) of academic writing, which does not seem to be completely positive, as it might lead to a decrease in quality or perishing of some discourse communities and the loss of invaluable culture-specific knowledge. Swales summarizes the potential detrimental effects:

> [P]roblematic aspects include the skewing of international research agendas toward those most likely to pass the gatekeeping role of major Anglophone research outlets; […] diminished nurturing of other academic languages, including paucity of research into their linguistic and rhetorical characteristics; reward systems that work against publications in local languages, and reduced resources (manuals, textbooks, workshops, courses) for native speakers of those

> languages to develop their academic style; and the possible imposition, stemming from gatekeeping practices, of a global ‘monoculture of the mind’. (Swales 2004, 52–53)

Many of these problematic aspects have been tackled to a certain extent in this research as well. The endeavour to reconcile participation in a global scientific community and promote national writing cultures is a multifaceted one, and perhaps this research has not contributed as much to this dialogue as I personally would have wanted. However, as Mauranen states, and I agree wholeheartedly, “[i]nsofar as rhetorical practices embody cultural thought patterns, we should encourage the maintenance of variety and diversity in academic rhetorical practices – excessive standardization may counteract innovation and creative thought by forcing them into standard forms” and these smaller cultures would therefore be treated as “cultural rainforests” (1993c, 172).

I therefore hope this research manages to shed some light on rhetorical practices of two smaller writing cultures, alert to some problems they might be facing, and propose some future and more extensive work that should be done in this respect.

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Appendix 1: Grammatical devices of authorial stance-taking

	modal verbs	(epistemic) lexical verbs	(modal) adverbials	(modal) adjectives	(epistemic) nouns	personal pronouns	impersonal and passive constructions
Adams Smith (1984)	x	x	x	x	x	x	x
Baratta (2009)						x	x
Barton (1993)	x	x	x			x	x
Besnier (1990)	x		x	x		x	x
Biber (1988)	x	x	x	x	x	x	x
Biber and Finnegan (1988)			x				
Biber and Finnegan (1989)	x	x	x	x	x		
Biber et al. (1999)	x	x	x	x	x		
Biber (2004)	x	x	x	x	x		
Biber (2006)	x	x	x	x	x	x	x
Blagojević (2008)	x	x	x	x	x	x	x
Blagojević (2009)	x		x	x	x		
Blagojević (2012)	x	x	x	x	x	x	x
Boye (2016)	x	x	x	x	x	x	x
Chafe (1986)	x	x	x	x		x	
Channel (1993)		x	x		x		
Clemen (1998)	x	x	x	x			x
Clyne (1991)	x	x					x
Coates (1983)	x						
Coates (1987)		x	x	x	x	x	
Crismore, Markkanen and Steffensen (1993)	x		x			x	x
Crismore and Vande Kopple (1997)		x				x	x

	modal verbs	(epistemic) lexical verbs	(modal) adverbials	(modal) adjectives	(epistemic) nouns	personal pronouns	impersonal and passive constructions
Crosthwaite, Cheung and Jiang (2017)	x	x	x	x	x	x	
Dafouz-Milne (2008)	x	x	x	x		x	x
D. Đorđević (2016)	x	x	x	x	x		
Fraser (2010a, 2010b)	x	x	x	x	x	x	x
Gray and Biber (2012)	x	x	x	x	x	x	x
Gray and Biber (2014)	x	x	x	x	x	x	x
Hidalgo Downing and Núñez Perucha (2013)	x	x	x			x	x
Hinkel (1997)	x	x	x			x	x
Hinkel (2003, 2005)			x				
Holmes (1982, 1988)	x	x	x	x	x		
Holmes (1984)	x	x	x	x		x	x
Hoye (1997)	x		x			x	
Hoye (2009)	x	x	x	x	x	x	x
Hunston (1993)	x	x	x	x		x	x
Hübler (1983)	x	x	x				
Hyland and Milton (1997)	x	x	x	x	x	x	x
Hyland (1994, 1996a)	x	x	x	x	x	x	x
Hyland (1996b)	x	x	x			x	x
Hyland (2000)	x	x	x	x	x		
Hyland (2005a)	x	x	x	x		x	

	modal verbs	(epistemic) lexical verbs	(modal) adverbials	(modal) adjectives	(epistemic) nouns	personal pronouns	impersonal and passive constructions
Hyland (2005b)	x	x	x	x	x	x	x
Kärkkäinen (1992)	x	x	x	x		x	
Kärkkäinen (2003)	x	x	x	x	x	x	x
Köhler (1981)	x						x
Kreutz and Harres (1997)	x	x	x			x	x
Lachowicz (1981)							x
Luukka and Markkanen (1997)						x	x
Martín-Martín (2008)	x	x	x	x	x	x	x
Meyer (1997)	x	x	x	x	x	x	x
Mihić Pijetlović (2020)	x	x	x	x	x		
Mir-Dueñas (2010)	x		x	x		x	x
Myers (1989)						x	x
Narrog (2016)	x	x	x	x	x	x	
Nuyts (2016)	x	x	x	x		x	
Palmer (1990)	x		x				
Perkins (1983)	x	x	x	x	x	x	x
Piqué, Posteguillo and Andreu-Besó (2001)	x						
Precht (2000)	x	x	x	x	x	x	x
Prince, Frader and Bosk (1982)	x	x	x	x		x	x
Reilly, Zamora and McGivern (2005)	x	x	x	x	x	x	x

	modal verbs	(epistemic) lexical verbs	(modal) adverbials	(modal) adjectives	(epistemic) nouns	personal pronouns	impersonal and passive constructions
Salager-Meyer (1994)	x	x	x	x		x	x
Salager-Meyer (1995)	x	x	x	x	x	x	x
Skelton (1997)	x	x	x	x	x	x	
Schramm (1996)		x					x
Stubbs (1986)	x	x	x		x	x	x
Swales et al. (1998)		x				x	
Swales and Burke (2003)			x	x			
Tarone et al. (1981)		x				x	x
G. Thompson and Ye (1991)		x					
Trbojević Milošević (2011)	x	x	x	x	x		
Vande Kopple (1985, 1997)	x	x	x	x		x	x
Varttala (2001)	x	x	x	x	x	x	x
Vučićević and Rakić (2020b)	x	x	x	x	x	x	x
Vuković (2015)	x	x	x	x	x	x	
de Waard and Pander Maat (2012)	x	x	x	x		x	x
Wilamova (2005)			x			x	x
Williams (1996)	x	x			x	x	x

Table A 1: A comparative look on pertinent grammatical devices of authorial stance-taking, drawn from previous literature on stance and related concepts

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Appendix 3: Additional examples of markers of stance from the corpus

Sub-corpus: Linguistics, English

DEPERSONALISATION

1) *The study reported in this article set out to* characterize specific patterns of language used in digitally based online auction sites, the 'e-marketplace'. *Using a corpus-based approach to data collection and analysis*, we characterized the language used in product descriptions listed on eBay and highlighted the ways in which the goal of selling a product through this medium creates its own discourse and constructs particular identities. (Knight, Walsh and Papagiannidis 2017, 255)

2) *The case study approach provides* particularly rich results for the interview *discussed here*. *Close analysis of the trajectory of the entire interaction reveals* the turn-by-turn intricacies of the interviewers' influence over the account produced by the interviewee, and *enables this to be linked to* the specific institutional goals underpinning this interaction. Significantly, *it also reveals* a change in the interviewers' position as the interaction progresses. *The identification of this 'shift', and the tracing of the corresponding shift in the interviewee's account from one of guilt to innocence, is an important contribution to* our understanding of the production of linguistic evidence in the police interview. (Haworth 2017, 198)

3) All materials *were digitally recorded* in a sound-attenuated booth using a head-mounted microphone connected to a Tascam HD-P2 Portable Stereo Audio Recorder. Stimuli *were elicited and recorded* in three stages. First, all contexts were read aloud by the male ‘‘narrator’’ and recorded during a single session; the narrator *was instructed* to read each context, displayed on a laptop monitor, with a neutral-yet-engaging tone of voice and *was provided* constructive feedback by the examiner. These recordings *were transferred* to a PC and edited to isolate the onset and offset of each context. Questions *were then recorded* during a second session by the female speaker who played the ‘‘Asker’’. She *was told* to imagine that she was interacting face-to-face with a female friend and to visualize each situation as the context unfolded. Each trial consisted of the following event sequence: (1) a title slide displayed on a computer monitor summarizing the theme of the trial (e.g., ‘‘Painting’’); (2) a slide showing the target Question to be produced; and (3) auditory presentation of the Question-prompting context recorded by the male speaker, played through the computer speakers. When prompted by the narrator, the Asker produced the Question in a manner consistent with the context, speaking into a head-mounted microphone connected to a digital recorder. Confident and uncertain questions *were recorded* in separate blocks, allowing the Asker to successfully adopt self-assured and uncertain frames of mind during the procedure. Prior to producing confident sounding questions, she *was explicitly told* that she felt confident and was only curious about her friend's opinion; before uncertain trials, she *was told* that she felt insecure and wanted her friend's reassurance. The Question recordings *were then edited* to mark their acoustic onset/offset and inserted at the end of the compliment-prompting contexts to facilitate production of the Responses at the third recording stage. (Fish, Rothermich and Pell 2017, 151)

4) Whenever Responders were unhappy with their performance, the trial *was repeated* from the beginning (no additional feedback *was provided* by the examiner). Responses

elicited in each of the four conditions (Sincere-Confident, Sincere-Uncertain, Insincere-Confident, Insincere-Uncertain) *were edited* to identify their acoustic onset/offset *and then combined* with their eliciting Question to create short dialogues for use in part two of the study. (Fish, Rothermich and Pell 2017, 151)

5) Tokens of /r/ *were coded* perceptually as rhotic or non-rhotic by one analyst. A total of 2,496 tokens *were included*. A random sample of 200 tokens *was coded* separately by a second analyst *and then compared* to the original scores. This cross-check showed 88 percent agreement between the two coders. The categorization of the remaining 12 percent of the tokens *was discussed* by the two analysts to come to an agreement as to their classification. (Eberhardt and Downs 2015, 129)

INDETERMINATION

6) As discussed above, while the consultants were *likely* aware that they were being filmed all the time during these appointments, the finding that [r-1] is favored in referee-designed speech *may be due to* the effect of the heightened awareness of being observed that is elicited by the one-on-one interview format. *Presumably*, there is a camera within eyeshot of the consultant during these interviews, and participants are no longer engaged in the events being filmed for the show, which *may draw* their attention to their actions and away from their speech. In the testimonials, as the audience multiplies exponentially (*potentially* millions of viewers at home), consultants produce higher rates of [r-1] than during direct interactions with their clients, shifting to a more prestigious style of speaking. Moreover, *it is possible that* the consultants operate under the assumption that the home audience is rhotic and so shift to greater rhoticity in order to accommodate to that norm. Awareness is a notoriously difficult concept to pin down in sociolinguistic research; however, *this speculation seems plausible*, given that we know of the different effects the viewing audience *may have* on the speech of reality show participants (Eberhardt and Downs 2015, 133)

7) Because the Brown corpora contain written published rather than, for instance, written unpublished texts or spoken conversations, *it could be argued that* these corpora are *more likely to* represent the standard English of adult, middle-class, professional speakers, who *tend to* have more opportunities to publish their writing than other types of people. Such writing *could perhaps be thought of* as existing at a "conservative" end of a linguistic spectrum. (Baker 2011, 69)

8) This measure therefore *seemed* effective at highlighting change, although *it did not seem to be* especially effective at pointing out words that were stable over time; (Baker 2011, 71)

9) *It would be potentially useful to* repeat the study by looking at word lists where all of the words had been grammatically tagged from the outset. (Baker 2011, 83)

10) While speakers (or in this case writers) *may attempt to* index a recognisably im/polite stance in designing a request, *this is not necessarily how* the request *may be evaluated* by the addressee or recipient. Interactants *may converge or diverge* in their evaluations of actions, including requests, as im/polite (Arundale, 2006; Eelen, 2001; Haugh, 2007; Mills, 2003; Watts, 2003). (Merrison et al. 2012, 1079)

11) This, however, *would be* in conflict with the students' overall construction of their relationship with their lecturers. One *potential* solution is to see their behaviour as an orientation to the humility associated with deference. The British students *seem to be* constructing an identity which ennobles the lecturer while humbling themselves. (Merrison et al. 2012, 1094)

12) Furthermore, because speakers do not always wait for hearers to respond before stating just kidding, as was the case in our opening example, or because hearers *may not have* a chance to respond, the anticipation of failed humor *may also exist*. This anticipatory usage of just kidding *likely* demonstrates concern on the part of the speaker to preserve or maintain face for the hearer. With that in mind, we situate our current analysis within the framework of rapport management in order to account for the *potential* relationship management function that just kidding and its variants serve. Because the use of conversational humor has been shown to play a role in relationship management (Martin, 2007), we believe that rapport management *can serve* as a useful framework to study occurrences and functions of just kidding, *with the assumption that* just kidding and it variants will co-occur with attempts at humor or play. (Skalicky, Berger and Bell 2015, 20)

13) We also coded 66 instances in which just kidding or its variants served more than one function (see Table 2). An example of this dual function was seen in the conversation between Roberta and Liz (Example 4, above), where interlocutors *may be* simultaneously attempting to inoculate an utterance while also moving a conversation back into a serious frame. Sixty-five of the 66 dual codes included the inoculation function, *further suggesting* the dominance of the inoculation function while also demonstrating that the pragmatic force of this formulaic sequence *can be* multifunctional depending on the situation. (Skalicky, Berger and Bell 2015, 28–29)

14) *It is possible that* these learners *would have displayed* attitudes comparable with those of their peers at the initial stages of language learning, but that their language learning experience over the course of three to four years *may have led* to a decrease in enjoyment and more negative self-perceptions. (Courtney et al. 2017, 843)

15) While *it seems likely that* a speaker's pitch often serves as a vital cue for evaluating (in)sincerity (combined with other vocal cues), variability in this literature implies that the acoustic markers of sincerity and deception *tend to* vary across contexts and individual speakers. (Fish, Rothermich and Pell 2017, 157)

16) The high density of verbs, however, *suggests that* persons with dementia *may, indeed, select* a verb and then choose a different verb or reissue the same verb, a process referred to in the interactional literature as 'repair'. This finding *suggests that* persons with dementia *may be* uncertain of the appropriateness of the syntactic–semantic fit upon their initial selection. (Stickle and Wanner 2019, 60)

SUBJECTIVISATION

17) *We manually coded* the transitivity patterns used by all persons with dementia. *We based our coding on* the nine transitivity (or 'valency') patterns described in the Longman Grammar of Spoken and Written English (henceforth LGSWE, Biber et al. 1999: 384.): SV (intransitive, 'He is sleeping'), SVA (copular plus adverbial, 'I didn't get through completely'), SV + A (intransitive plus adverbial, 'I just stood there'), SVO (monotransitive, 'I don't like peas'), SVP (copular verb with subject predicate, 'She is my sister'), SVOO (ditransitive pattern, 'They gave me a book'), SVOP

(complex transitive pattern, 'They called me a liar'), SV + clause ('He said he would leave'), and SVO + clause ('He told me I could get up'). (Stickle and Wanner 2019, 49)

18) During the identification process, *we took account of* the co-text of metonymy and the field-tenor-mode framework within which *we were working*. *We discussed* cases of disagreement in depth and brought in a third discussant in cases where *we were unable to reach* a decision. Using this technique, *we were able to* resolve all disagreements. *We excluded from our analysis* cases in which a modified form stood for an original form (u, tomo), although these could arguably be described as metonymy, for two reasons: first, because we did not feel that describing these forms as metonymic would add to the already large literature on the topic of respellings (e.g. Tagg 2012); and, secondly, because the sheer frequency of such forms would have skewed *our findings*. *We also excluded from our analysis* possible metonyms whose meaning was unclear from the context, such as the following: (Littlemore and Tagg 2018, 490)

19) *Our experiment* sought to shed light on the vocal (paralinguistic) cues that contribute to the perception of sincere and insincere communications. *Our main goal* was to determine whether impartial judges could use prosodic information to perceptually distinguish between sincere and insincere compliments (i.e., prosocial lies) when exposed to short verbal interactions between two friends. *Our secondary goal* was to explore whether the social context for interpreting the compliment (i.e., attitude of the Asker) influenced how speech prosody was used to rate speaker sincerity. Finally, *we examined* how compliments that produce strong impressions of speaker sincerity or insincerity differ at the acoustic level, to inform how sincerity judgements may be linked to specific acoustic cues provided by speakers. (Fish, Rothermich and Pell 2017, 155)

20) *We examined* five corpora representing a range of modalities and interaction types and searched each corpus for instances of just kidding and similar forms using the search terms joking, kidding, or JK (see Table 1). Because *we were interested in* how just kidding and its variants function in interaction and in conjunction with humor, *we examined* each occurrence in its original context and manually removed examples in which the sequence occurred in reported speech, quotes from scripted television shows or movies, retellings, and other instances where just kidding and its variants were not performing an immediate conversational function. *We also counted* immediate repetitions of any phrase as a single instance. The remainder of this section provides a brief description of the corpora used in this study as well as how data was extracted. (Skalicky, Berger and Bell 2015, 20–21)

21) *We now turn to* a more detailed discussion of each function in turn. To be consistent and to more easily discuss each example, *we have formatted* the extracts below to include line numbers. Because the different corpora all utilized different transcription conventions, *we removed* any original transcription conventions that were not relevant to the scope of the current study, focusing *our analysis* primarily on contextualization cues and language indicative of humor or attempts at humor. When necessary, *we explain* the meaning of any remaining transcription notations. *We have also added* emphasis (bold type) to places where speakers use just kidding or its variants.

Examples are otherwise unchanged from the original source. (Skalicky, Berger and Bell 2015, 23)

22) The focus of this paper is on the speech act of requests and how they are constructed within the medium of e-mail. While *we are evidently taking* a 'speech act' approach in identifying these data, *we also draw on* analytic techniques from across im/politeness theory, including some basic tenets of conversation analysis. In particular, *we take a data-driven approach* to the phenomena: the categories *we identify* arise from the data and are made relevant in that data. However, *we take a more discourse-analytic approach* in the application of those categories where, like the model proposed by Blum-Kulka et al. (1989a), *we seek to account for* all parts of the requestive speech act and recognise the 'work' each part does in the production of the overall discourse event. Thus, rather than consider requests as context-free head (main) acts, *we recognise* – and indeed value – the fundamental importance of the situated nature of their production. *For us*, this concern manifests itself in recognising that support for head acts may occur both externally to the request as well as internally. *Our analysis* focuses on the linguistic material which externally modifies these head acts and we use the notions of accounts, but-justifications, equity, equilibrium and obligation to explicate the patterns of these features within the requesting events in our British and Australian corpora. The purpose of the current paper is to explore whether (and to what extent) the same patterns hold for both these cultural sites. (Merrison et al. 2012, 1078)

23) Before engaging with these particular issues, however, *we first consider* key literature on requests, accounts, but-justifications, equity and equilibrium. This is followed in section three by an outline of our methodology. In section four, *we provide examples* of the various categories of interest and present the most notable quantitative findings. Section five discusses the implications of these for students' construction of both their own identities and the staff-student relationship. Finally, in section six, *we conclude by* showing how *our results* relate to Heider's notion of ought forces, which *we now move to discuss*. (Merrison et al. 2012, 1078)

24) In this paper, *our analysis* utilizes a multi-layered, corpus-based approach as a means of interrogating the data. From the data, *we characterize* some of the features of the ways in which 'new' and 'used' shoes are described. *We also compare* and contrast listings provided by 'experienced' and 'novice' sellers (i.e. with feedback scores of over 1,000 [o1,000] and under 100 [u100], respectively). (Knight, Walsh and Papagiannidis 2017, 236)

25) In this paper, *we do not focus on* the progress toward rhoticity, either in real or apparent time. Instead, *we are concerned with* the finding of the department store studies that the variable (r) remains tightly connected to social class in New York City, as well as being a highly salient feature of New York City English (NYCE). (Eberhardt and Downs 2015, 120)

26) In the current paper, *we add to research* on reality television by examining variation in rhoticity on TLC's Say Yes to the Dress. Through investigation of a well-known variable with a relatively new type of data source, *we revisit questions* posed in the department store studies and further explore the medium of reality television as a source of data for the sociolinguistic study of style. Instead of examining social-class-based variation in (r) among speakers in different stores, *we examine* how the perceived prestige of clients within a single store, Kleinfeld Bridal, correlates with the variable among employees who work there. Based on previous work on (r) in New

York City, as well as Bell's model of audience design, *we predict* that the consultants' use of (r) will vary in accordance with the prestige of their clients; that is, *we expect* consultants' rhoticity to correlate with the amount of money their clients intend to spend on their wedding gowns. (Eberhardt and Downs 2015, 124–125)

EVALUATIVE REFERENCE

27) Additionally, *further work on accommodation in the context of reality TV seems to be a promising area*, particularly connected with speaker identities and ideologies, *which was outside the scope of the current work*. Within this particular reality TV show, *it would be interesting to examine* consultants' stylistic variation with other linguistic features, such as the stable variable (ING) or the raising of BOUGHT, another iconic feature of NYCE (see Becker 2014b), to see if similar patterns obtain. (Eberhardt and Downs 2015, 137)

28) *We see this genre as having the potential to answer* sociolinguistic questions in new ways and providing a lens through which to examine established sociolinguistic concerns, such as performativity and identity, and speech design and style-shifting. *Future research on reality television will be able to* further delineate the boundaries of what the genre can offer and to discover new ways in which such data are able to contribute to the sociolinguistic enterprise. (Eberhardt and Downs 2015, 138)

29) *While a study by Herring suggested* that 'public forms of CMD (computer mediated discourse) are purportedly less polite than more private forms'(Herring 2002); *recent work by Knight et al. (2013, 2014) found that* levels of politeness in online discourse (CMD) often increased in specific forms of public CMD, especially when a large readership is likely. (Knight, Walsh and Papagiannidis 2017, 249)

30) *The paper has relevance for* both the understandings of the key defining features of online discourse and for enhancing methodologies for studying this text type. *Future research might extend the current study by*, for example, examining the levels of 'success' of sellers (i.e. rated by the number of buyers bidding for particular items and the prices at which they are sold), or by comparing patterns of language used by experienced and novice sellers listing other types of new and used items (such as clothes, cars, IT equipment, and so on). *There is also scope for research* which compares patterns of language used in listings targeted at male and female buyers and/or children and adults. *Other studies might look at* the differences in language used across different varieties of English eBay sites across the world. (Knight, Walsh and Papagiannidis 2017, 255)

31) The identification of this 'shift', and the tracing of the corresponding shift in the interviewee's account from one of guilt to innocence, *is an important contribution to our understanding of* the production of linguistic evidence in the police interview. (Haworth 2017, 198)

32) *Case studies such as this, where the linguistic analysis can be closely linked with the legal ramifications, can hopefully contribute to* making the linguistic findings accessible and meaningful to the right professional audiences. (Haworth 2017, 211)

33) *While our analytical categories draw from speech act theory, these categories are* significantly modified or even supplemented with new categories to make our analysis consistent with the methodological commitments of interactional sociolinguistics/pragmatics, as well as to accommodate the specific contingencies of e-mail as opposed to face-to-face interactional data. (Merrison et al. 2012, 1079)

34) We would maintain that *there are serious limitations to* the type of data that can be elicited by such means: *in promoting elicited stereotypical responses it risks* homogenising the data rather than allowing the heterogeneity of language to emerge. (Merrison et al. 2012, 1079–1080)

35) However, *the limited employment of orientation or solidarity moves in the requests elicited through DCTs found in this study seems to us* to be most likely an artifact of a methodology which does not employ naturally occurring e-mail data (where students have a very real investment in getting stuff done) rather than reflecting differences between the cohort of participants in our study and theirs. Or at least there is no way to be sure that what the students write in the DCT is how they would really make such requests, and so no way to make a reasonable comparison. (Merrison et al. 2012, 1080)

36) *We therefore suggest that collecting data via our method offers the opportunity to explore the prototypical rather than stereotypical behaviour* (cf. Blum-Kulka et al., 1989a) and additionally achieves the criterion of 'natural conditions' that Blum-Kulka et al. (1989a) sought, but we would argue, did not attain. (Merrison et al. 2012, 1081)

37) *While Antaki's focus is conversational data and the co-construction of dialogic joint action that that entails, we would nevertheless align ourselves with these views* since we share his commitment to a data-driven approach. (Merrison et al. 2012, 1081–1082)

38) While our initial assumption was that just kidding and its variants would serve the social purpose of clarifying humorous intent, *we were mindful that further research is needed in order to* fully realize the particular functions of certain formulaic language and its conditions of use (Schmitt and Carter, 2004). (Skalicky, Berger and Bell 2015, 19)

39) While researchers have long employed large corpora in order to gain a better understanding of lexical and grammatical patterns in language (e.g., Biber et al., 1999; Carter and McCarthy, 1997), the role of corpora in studies investigating pragmatic functions of language *has been less clear*, due to the inherent difficulty of analyzing pragmatic function in large, decontextualized corpora (Jucker et al., 2009; Romero-Trillo, 2008). (Skalicky, Berger and Bell 2015, 20)

40) In conclusion, *we offer this initial taxonomy so that future research* into this phrase or similar markers of humor can consider the functions we propose and continue to revise or add to them. *A promising direction for future research would be to* include more quantitative studies across larger, more balanced corpora in order to better generalize the tendencies of this phrase. *Sociolinguistic studies that better take into account the level of intimacy, power relations, and other sociolinguistic differences among interlocutors can also help shed light on* the rapport managing function of this phrase. (Skalicky, Berger and Bell 2015, 29–30)

41) Nevertheless, *while previous studies have provided essential and much-needed data on* the nature of learner differences in early language learning, many have tended to focus on individual factors in isolation, and *relatively few studies to date have investigated* the interaction of young learner variables, particularly in relation to different learning settings. *One notable exception is a study* undertaken by Haenni Hoti et al. (2011), which evaluated the role of L2 listening and reading skills on L3 acquisition. The results show that prior FL experience, L1 literacy, and perceptions of self-efficacy influenced L3 listening and reading outcomes. Thus, *to enhance our current understanding of* the role of individual factors in instructed language learning

for young, near-beginner language learners, the current article examines the effect of a number of individual learner variables on motivation and learner performance in two oral French tasks and how the individual variables interact, whilst controlling for differences in the learning context. (Courtney et al. 2017, 829)

42) *The original theoretical and empirical contribution of our research is threefold*. First, as a corpus-based analysis of naturally occurring metonyms, *our study provides a detailed and nuanced account of* the way metonymy behaves in a genre-based data set. Secondly, *our findings contribute to the existing literature on* linguistic creativity not only by foregrounding metonymy as another creative strategy available in everyday discourse but also by providing an explanatory account that brings together a view of creativity as residing in textual features with an understanding of the culturally contingent nature of creativity and an explanation of one of the cognitive mechanisms through which creativity works. In particular, *our study highlights* how in a constrained, intimate, and playful medium such as text messaging, people creatively exploit metonymy as a linguistic shortcut not only to save space but to heighten intimacy and bolster relationships through humour and the allusion to shared knowledge. Given growing recognition of the centrality of linguistic creativity in everyday interactions, *our work is important in* explaining one of the mechanisms through which such creativity draws on shared and unspecified knowledge to fulfil communicative functions. Thirdly, *the framework that we propose will be useful for* future corpus-based analyses of creative uses of metonymy in other contexts and across text types. (Littlemore and Tagg 2018, 504)

43) *A better understanding of the linguistic and interactional competence of persons living with dementia may lead to* communication strategies resulting in improved interactions, for both those with dementia and the people interacting with them. Additionally, *a better understanding of the specific areas of linguistic decrement and resilience experienced by persons with dementia during actual conversation may help* identify early symptoms and signs of progression. *Our investigation is a step toward that understanding*. (Stickle and Wanner 2019, 44)

44) *Rather than looking at how purely syntactic processes, such as gapping, might be affected, in the manner of Bates et al. (1995), we decided to* focus on an aspect of syntax that has its roots in the lexicon. Our analysis is designed to bring into relief differences of transitivity usage—frequencies or error—possibly due to dementia during the online task of face-to-face interaction as compared to patterns reflected in English conversation corpus studies involving non-impaired speakers. (Stickle and Wanner 2019, 50)

Sub-corpus: Linguistics, Serbian

DEPERSONALISATION

45) Kao referentni rečnik *korišćen je* Rečnik srpskoga jezika (RSJ), budući da su nas interesovala značenja koja su poznata najvećem broju govornika u savremenom sinhronom preseku. Najpre *su za svaki odabrani pridev preuzeta* sva značenja navedena u RSJ. Budući da *odabrani* pridevi pripadaju opštem leksičkom fondu, oni se odlikuju razgranatom polisemijom, te ukupni broj značenja za 22 ispitivana prideva iznosi 227 značenja. Intersubjektivnom saglasnošću dva jezička stručnjaka

(leksikograf i leksikolog) napravljena je selekcija značenja koja su opštepoznata za govornike savremenog jezika. Oni su na skali od 1 (sasvim neuobičajeno) do 5 (sasvim uobičajeno) procenjivali uobičajenost date definicije značenja imajući u vidu i kolokacije navedene kao ilustracije značenja. Tako su, na primer, iz razmatranja izbačena značenja prideva težak 5b. koji odaje silinu nečega; 8.a. u drugom stanju, bremenita, trudna (o ženi); prideva kratak 4.a. neznatan, slab; 4.b. fig. nesposoban, nemoćan (za nešto) itd. Nisu razmatrana ni ona značenja koja se ne mogu realizovati u obliku pozitiva (npr. pridev širok u značenju 4.a. (samo u komp. i sup.) [...]), značenja koja su uključivala specifičnu sintaksičku poziciju (npr. Drvo puno ploda), terminološka značenja (npr. kratak u značenju 1.đ. lingv. [...]) i ona označena sa „u imeničkoj službi" (npr. pridev mali u značenju 8. (u imeničkoj službi) [...]). (Jakić Šimšić and Vesić Pavlović 2020, 59–60) = was used; were taken for each selected adjective; selected; was made; were excluded from consideration; were not considered

46) Proces pripreme podataka za analizu tekao je u nekoliko faza. Najpre je formiran asocijativni antonimski rečnik na osnovu odgovora ispitanika. Odgovori ispitanika su najpre lematizovani, budući da su ih ispitanici navodili u različitim padežima, stepenima poređenja i rodovima. Na primer, za rečenicu-stimulus: „Iz hodnika se ulazi u široku prostoriju.", ispitanici su između ostalog naveli antonime: uska, usko, usku, Usku, uzak, užu. Zatim je, na osnovu prikupljenih podataka, za svaki od rečeničnih stimulusa napravljeno po jedno asocijativno polje, koje se sastoji od svih (lematizovanih) odgovora koje su ispitanici navodili, poređanih po opadajućoj asocijativnoj frekvenciji. (Jakić Šimšić and Vesić Pavlović 2020, 61) = the process of data preparation happened; was formed; were lematized; was, on the basis of the collected data, made for each of the sentence stimuli; lined up

47) Naime, nakon formiranja konkordanci oblika make u oba korpusa, izostavljeni su primeri koji u svom sastavu imaju make ali nisu predmet našeg interesovanja (npr. imenica make-up, u značenju šminka). Nakon toga upotrebe glagola make u oba korpusa analizirane su po kriterijumu gramatičko-leksičke prihvatljivosti u kontekstu. Za primere koji su u neizvornom korpusu ocenjeni kao neprihvatljivi, urađena je analiza grešaka. U centralnom delu istraživanja klasifikovali smo po upotrebama primere koji su ocenjeni kao prihvatljivi u oba korpusa, a zatim ih uporedili kvantitativno i kvalitativno, s tim što je najveći značaj u radu dat kvalitativnoj analizi neizvornog korpusa. (J. Marković 2018, 166) = after forming; were left out; were analysed; were evaluated; was one; were evaluated; is given

48) Osim toga, prefiks nad- kao leksički prefiks može da menja argumentnu strukturu deriviranog glagola u odnosu na motivni (Šarić 2011: 12), te se stoga u radu analiziraju rečenični modeli koje konstituišu ekscerpirani glagoli. Pri tome, polazeći od propozicije koja označava kakvu vanjezičku situaciju, kakav fragment stvarnosti (Kobozeva 2000: 219), posebna pažnja posvetiće se semantičkim obeležjima realizovanih argumenata u korelaciji sa značenjem koje analizirani glagol ostvaruje u datom kontekstu. Drugim rečima, cilj ovoga rada jeste da opiše valentnu strukturu glagola izvedenih prefiksom nad-, uz sagledavanje njihove semantičke valentnosti, tj. uz uočavanje leksičke kompatibilnosti glagola (tj. predikata) sa argumentima (Helbig 1992: 5–10). (Ajdžanović 2019, 58) = are analysed; excerpted; starting from the proposition; special attention will be given to; analysed; by observing; by spotting

INDETERMINATION

49) Ako je strah predmet, on *može pripadati* čoveku (moj, tvoj, njegov strah) i čovek njime *može rukovati*, ostaviti ga ili pokloniti nekome, što *implicira* da ga je prethodno držao u rukama. Veliki broj primera iz građe potvrđuje da čovek često krije strah od drugih ljudi, tačnije nastoji da sakrije ponašanje prouzrokovano strahom. Ovakvi konteksti ukazuju na kolektivno društveno uverenje da strah treba (sa)kriti, a posredno, *možda*, i na činjenicu da se iskazivanje emocija u srpskoj kulturi negativno vrednuje: (J. Jovanović 2015, 538) = can belong; can be handled; implies; perhaps

50) Građa pokazuje da strah *može biti* predmet naročite vrste. Često se konkretizuje kao teret, tj. izuzetno težak predmet, koji nije poželjno nositi, koji pritiska, lomi čoveka. *Ovo implicira* da strah *možemo konceptualizovati* i pomoću slikovne sheme nošenja, pri čemu su čovek, odnosno delovi njegovog tela (najčešće leđa) konceptualizuju kao nositelji, a strah-teret kao nošeni objekat. (J. Jovanović 2015, 539) = can be; this implies; can be conceptualized

51) Pravo podrazumeva postojanja sukoba (conflict) ili spora (dispute), ali *može predstavljati* i dobijenu bitku. U pravnim aktima *se mogu planirati* potezi i praviti taktike, ali *se borba može odvija* i na sudu. U tom smislu pravo je i zaštitnik i borac. Pravo je zaštitnik jer omogućava pravnu zaštitu fizičkim licima i organizacijama. Uz to, koristeći „jezik rata" pravo daje sebi veći značaj i težinu. (Stanojević Gocić 2015, 160) = can represent; can be planned; can take place

SUBJECTIVISATION

52) Najznačajniji deo *našeg istraživanja* posvećen je konceptualizaciji straha u književnom diskursu srpskog jezika. *Cilj nam je da ispitamo* koje pojmovne metafore za razumevanje osećanja (emotivno-psihološkog stanja) straha jedan pisac upotrebljava u svojim delima, *kao i da utvrdimo* da li se i na koji način one razlikuju od pojmovnih metafora aktivnih u konceptualizaciji straha u srpskom jeziku uopšte. S tim u vezi, *nastojaćemo da pokažemo* na kom nivou opštosti pojmovne metafore za konceptualizaciju straha prestaju da budu deo svakodnevnog govora i postaju karakteristika književnoumetničkog stila, prelazeći u kategoriju stilskih figura. (J. Jovanović 2015, 537) = our research; our goal is to investigate; as well as to determine; we will strive to show

53) Kao korpus za ovo istraživanje *koristili smo* pet romana Meše Selimovića: Derviš i smrt, Tvrđava, Ostrvo, Tišine i Krug. Iz navedenih dela *ekscerpirali smo* konstrukcije u kojima se javlja leksema strah i *sortirali ih* na osnovu semantičke sličnosti i/ili nekih zajedničkih formalnih karakteristika, registrujući pojmovnu metaforu koja nam omogućava da o strahu najpre mislimo, a zatim govorimo na određeni način. *Kako bismo uporedili* metafore koje pisac upotrebljava sa metaforama uobičajenim za konceptualizaciju straha u razgovornom diskursu, *ekscerpirali smo* prvih 1000 primera iz Elektronskog korpusa u kojima *smo pronašli* leksemu strah. Među njima *smo zatim uočavali* i pri analizi *uzimali u obzir* isključivo one kontekste koji su visokofrekventni. (J. Jovanović 2015, 537) = we used; we excerpted; we sorted; in order to compare; we excerpted; we found; we spotted; we took into account

54) U drugom delu rada (odeljak 3) *ispitaćemo* implicirane premise najpre iz kognitivne vizure, gde *ćemo na reprezentativnim primerima iz korpusa razgovornog jezika opisati* mehanizme aktiviranja impliciranih premisa u svesti interlokutorâ u različitim diskursnim situacijama i pokazati važnost njihove uloge u strukturisanju razgovora.

Takođe *ćemo, koristeći kognitivnu kategoriju mogućnost / nemogućnost identifikacije implicirane premise, ukazati* na neophodnost ovog tipa implikacije u svesti adresata kako bi obaveštajna semantika iskazane rečenice bila adekvatno protumačena. (Polovina and Knjižar 2019, 18) = we will investigate; we will […] describe; we will […] point at

EVALUATIVE REFERENCE

55) Istraživanja vezana za metafore u pravnom diskursu su *relativno novijeg datuma* jer se najpre negiralo njihovo postojanje, a zatim je njihovo istraživanje stavljeno u drugi plan. *Danas se, međutim, postojanje konceptualnih metafora u pravu uopšte ne dovodi u pitanje*. (Stanojević Gocić 2015, 161) = relatively new; today, however, the existence of conceptual metaphors in law is not questioned at all

56) Stoga su pitanja određivanja reprezentativnog korpusa i kulturne uslovljenosti metafora *pitanja koja treba dalje istražiti*. Identifikovane metafore *se mogu proveriti na većem broju primera*, jer smatramo da uočene metafore nisu jedine, ali da su potkrepljene dovoljnim brojem reprezentativnih primera. (Stanojević Gocić 2015, 161) = should be investigated further; can be checked in larger corpora

57) Ipak, čini se da je *najvažnija činjenica koju moramo uzeti u obzir – vreme koje je proteklo između istraživanja Ivića i Lehiste i ispitivanja koje ovde prezentujemo, a to je period od skoro pola veka*. Zbog toga, *poređenje naših rezultata sa rezultatima Ivića i Lehiste zahteva izvestan dijahronijski pristup*. Podaci predstavljeni u studiji Ivića i Lehiste *mogu poslužiti kao opis sistema bliskog sistemu* iz koga se razvio govor mlađe generacije Novosađana koji ovde predstavljamo. *Naši rezultati pokazuju izvesnu sličnost sa rezultatima* do kojih je došla Jokanović-Mihajlov. Autorkina istraživanja nisu bila usmerena ka opisu novosadskog govora, pa samim tim novosadski govornici nisu bili značajno zastupljeni. *Moguće je da su segmenti koji se poklapaju u našem i autorkinom istraživanju zajednički* svim vojvođanskim govorima, dok su „nepodudarnosti" u stvari specifičnosti vezane za novosadski govor. Ni Peco ni Pravica nisu se bavili realizacijom akcenata u novosadskom govoru, niti u vojvođanskom poddijalektu, pa, samim tim, *ni ne treba očekivati veću podudarnost između naših i njihovih rezultata.* (Sredojević and Subotić 2011, 125) = the most important fact that we must take into account is the time that passed between the research of Ivić and Lehista and the examination that we present here, which is a period of almost half a century; comparing our results with those of Ivić and Lehista requires a certain diachronic approach; can serve as a description of a system close to the system; our results show a certain similarity; it is possible that the segments that coincide in our and the author's research are common; nor should we expect greater agreement between our results and theirs

58) *U cilju uspešnijeg ovladavanja neleksičkim upotrebama i kolokacijama glagola, izvesno je neophodna i* kontekstualna i kontrastivna semantizacija praćena jezičkom produkcijom. Isto tako, *u cilju ovladavanja sintaksičkim osobenostima glagola make, prvenstveno kopulativnim upotrebama, potrebna je* dodatna sintaksička kontrastivna analiza njegovih upotreba. (Marković 2018, 178) = in order to more successfully master the non-lexical uses and collocations of verbs, it is certainly necessaryto [...];

in order to master the syntactic peculiarities of the verb make, primarily copulative uses, it is necessary to [...]

59) Imajući u vidu dobijene nalaze, *postoje brojni mogući pravci za buduća istraživanja*. Najpre, uključivanje većeg broja stimulusa, iz različitih leksičko-semantičkih grupa, *omogućilo bi da se proveri* da li postoje neke zakonitosti koje bi važile za samo neke od njih (npr. čuvanje antonima iz primarnog u sekundarnim značenjima). *Mogao bi se odabrati* i veći broj značenja koja bi bila aktivirana, a *moglo bi se ispitati* i da li će se isti nalazi dobiti kada se značenja ovog istog skupa prideva aktiviraju samo u kontekstu jedne reči. Najzad, *ispitivanje familijarnosti/poznavanja značenja kod ispitanika u mnogome bi odgovorilo na pitanje* zbog čega dolazi do disperzije navedenih antonima u sekundarnim apstraktnim značenjima. (Jakić Šimšić and Vesić Pavlović 2020, 69) = there are numerous possible directions for future research; would enable to check; could be chosen; could be investigated; examining the familiarity/knowledge of the meaning among the respondents would answer the question in many ways

Sub-corpus: Linguistics, German

DEPERSONALISATION

60) *Die Daten, auf denen die vorliegende Untersuchung beruht*, *wurden in der Pilot-studie LiPS-Minipanel erhoben*. Das LiPS-Minipanel erfasste drei Alterskohorten (6-, 11- und 15-Jährige bei der ersten Messung) migrationsbedingt mehrsprachi-ger Sprecher/innen mit den Herkunftssprachen Russisch, Türkisch und Vietname-sisch sowie eine monolingual deutschsprachige Vergleichsgruppe. Das Stichpro-bendesign sah Zufallsstichproben der Alters- und Sprachgruppen auf Basis von Melderegisterdaten vor. Die Auswahlgruppen *wurden durch das Geburtsdatum des Zielkindes sowie durch Staatsangehörigkeit bzw. Geburtsland von Kind und Eltern bestimmt*. Zugehörigkeit zu den Herkunftssprachgruppen Russisch, Türkisch bzw. Vietnamesisch *wurde angenommen*, wenn das Kind oder mindestens ein Elternteil in einem Land der ehemaligen Sowjetunion, der Türkei bzw. in Vietnam geboren wurde oder eine entsprechende Staatsangehörigkeit vorlag; für die Ziehung der monolingual deutschsprachigen Vergleichsgruppe *wurden Haushalte ausgewählt*, in denen Zielkind und beide Eltern deutsche Staatsangehörigkeit besaßen und in Deutschland geboren wurden. Nachdem insbesondere in der türkisch- und in der vietnamesischsprachigen Gruppe Probleme bei der Erreichbarkeit von Ziel-haushalten auftraten, *wurde die Auswahl von entsprechenden Probanden in allen Sprachgruppen durch ein Schneeballverfahren ergänzt*. *Der vorliegende Aufsatz beschränkt sich auf* Daten der ersten Erhebungswelle für die Alterskohorte der 11-Jährigen. Entsprechend der Fragestellung dieses Beitrags *wird die monolingual-deutschsprachige Vergleichsgruppe nicht berücksichtigt*. (Duarte et al. 2014, 73) = the data on which the present study is based were collected in the LiPS Minipanel pilot study; were […] determined; was […] assumed; was […] chosen; was […] supplemented; the present essay is limited to; was not […] observed

61) Die produktiven schriftlichen Sprachfähigkeiten der Kinder *wurden für das Deutsche und die Herkunftssprache mit einer erweiterten Version des Instruments »För-Mig-Tulpenbeet« (Reich u. a. 2008) erhoben*. Mithilfe einer fünfteiligen Bildergeschichte *wird eine schriftliche Narration elizitiert*, die produzierten Texte *werden anschließend profillanalytisch anhand zentraler Indikatoren des Sprachentwicklungsstands ausgewertet* (vgl. Gantefort/Roth 2008). Die Ergebnisse der Auswertungen *wurden in einen statistischen Index überführt*, der die schriftsprachlichen narrativen Fähigkeiten repräsentiert. Für die deutsche, türkische und vietnamesische Sprachversion *setzt sich der Index zusammen aus den Einzelindikatoren*: Textbewältigung, Verben (Types), Nomen (Types), Adjektive (Types), Satzverbindungen (Types) und Syntaxelemente (Types). Für die russische Sprachversion *ließen sich lediglich die Einzelindikatoren Textbewältigung und Verben (Types) in einer eindimensionalen Skala abbilden*. Die Rohwerte der Einzelindikatoren *gingen z-standardisiert* in den Gesamtindex für schriftsprachliche narrative Fähigkeiten ein, der zur Erleichterung der Interpretation ebenfalls *z-standardisiert wurde*. Die Reliabilität (Cronbachs-) des Index für schriftsprachliche narrative Fähigkeiten im Deutschen beträgt 0.902. Die Indizes für schriftsprachliche narrative Fähigkeiten im Russischen (Cronbachs- = 0.896), Türkischen (Cronbachs- = 0.881) und Vietnamesischen (Cronbachs- = 0.895) *wurden in eine gemeinsame Variable für schriftsprachliche narrative Fähigkeiten in der Familiensprache integriert*. (Duarte et al. 2014, 74) = were [...] collected; are [...] evaluated; were [...] converted; the index is made up of […]; could be depicted […]; were z-standardised; were z-standardised; were integrated

62) Allerdings *ist zu berücksichtigen, dass* im *hier untersuchten* fiktionalen Text grundsätzlich keine objektiven Genitive *zu finden sind* – auch nicht postnominal; alle nicht-possessiven nachgestellten Genitive *sind ausschließlich subjektiv zu lesen*. Aufgrund der fehlenden objektiven Genitive im fiktionalen Text *lassen sich über die Verteilung von subjektiven und objektiven Genitiven also keine Aussagen machen*. Insgesamt *zeigt sich* im fiktionalen Text aber, dass die pränominale Position für possessive (und bedingt auch für subjektive) Genitive reserviert ist – das bedeutet aber wiederum nicht, dass possessive und subjektive Genitive nicht auch postnominal auftreten könnten. (Klaus 2015, 217) = it should be taken into account; researched here; are to be found; are to be read; can be made […]; shows

63) Für die Überprüfung der phonetischen Distanz der Sprechlagen *wurden Sprachdaten in drei Situationen aufgenommen*. Mit der Lektüre einiger Wenkersätze – die erste Aufnahmesituation – *sollte eine standardnahe Sprechlage erhoben werden*. Der Umstand, dass diese Aufnahmen zu Beginn der Interviews *vorgenommen wurden*, die formelle Situation und der direkte Bezug zur geschriebenen Vorlage, lässt erwarten, dass eine für die Gewährspersonen am hohen Pol liegende Sprechlage *erhoben wurde.* Der zweite Teil ist das *oben dargestellte* leitfadengesteuerte Interview, das mit Lenz (2003) als formelle Sprechsituation *interpretiert wird*. *Zu erwarten ist* dementsprechend und gemäß der *oben dargestellten* Selbsteinschät-zung der Gewährsleute eine Sprechlage, die näher am standardsprachlichen Pol anzusetzen ist. (Schaufuß and Siebenhaar 2012, 98) = was recorded; should be recorded; were made; was raised; shown above; is interpreted; is to be expected; shown above

64) Im Folgenden *werden nur jene Nomen betrachtet*, die im Korpus mindestens dreimal als rechter Nachbar der untersuchten Adjektive auftraten. Für diese *wurden die Häufigkeiten des Auftretens als rechter Nachbar der verschiedenen attributiven Formen des jeweiligen Adjektivs addiert*. Dabei *wurden auch Steigerungsformen wie der Komparativ oder der Superlativ einbezogen*, Formen ohne Deklinationsendung hingegen *wurden nicht betrachtet*. Auf dieser Basis *wurde jeweils eine Liste erstellt*, welche *frequenzsortiert* die häufigsten rechten Nachbarn der Adjektive bei attributivem Gebrauch beinhaltet. (Dalmas et al. 2015, 18) = are considered; were added; were [...] included; were not observed; was created; frequency sorted

INDETERMINATION

65) Im Gegensatz dazu *können orate Äußerungen satzförmig realisiert werden*, müssen dies jedoch nicht. Auch *kann die Möglichkeit zur Sprachplanung im schriftlichen Text zu einer Erhöhung der Dichte an Informationen genutzt werden* (vgl. ebd., S. 106). Die Informationsdichte einer Äußerung oder eines Satzes richtet sich nach den darin enthaltenen Prädikationen. So *kann das Verhältnis der Anzahl der syntaktischen Prädikate zur Anzahl der nominalen Ergänzungen Auskunft über dessen literate oder orate Orientierung geben* (vgl. ebd., S. 113). Auch *können sogenannte ›sekundäre Prädikationen‹ weitere Informationen in eine Äußerung einbringen und somit zu einer Verdichtung von Informationen führen* (vgl. Maas 2008, S. 342). (Schroeder 2014, 25) = can be realised; can be used; can [...] provide; can lead to […]

SUBJECTIVISATION

66) *Wir teilen diesen Standpunkt nicht*, was allerdings nicht heißt, dass *wir Wörter, die quasi-synonym sind, als austauschbar betrachten*. Quasi-Synonyme lassen sich natürlich nicht ohne weiteres austauschen, aber *wir werden zeigen, dass* dies nicht unbedingt an ihrer Bedeutung liegt. *Unsere Arbeitshypothese* ist folgende: Es gibt zwar Reihen von Synonymen, die traditionell als semantisch identisch beschrieben wurden und tatsächlich semantisch identisch sein, dennoch lassen sie sich in ihrem Gebrauch unterscheiden. (Dalmas et al. 2015, 13) = we do not share this viewpoint; we […] observe; we will show; our working hypothesis

EVALUATIVE REFERENCE

67) Alle vier *sind in der bisherigen Forschung zur geschlechtsspezifischen Sprachverwendung diskutiert worden*. Obwohl deren Beziehung zum Sprechergeschlecht *oft sehr kritisch bewertet wurde und umstritten ist*, *kann eine Untersuchung dennoch nützlich sein*. Selbst wenn keine direkte Verbindung zwischen den untersuchten sprachlichen Mitteln und dem Sprachgebrauch von Männern und Frauen besteht, können diese Mittel dennoch zu verschiedenen, kontextuell relevanten Kommunikationsstilen beitragen. Diese Stile können mit geschlechtsspezifischer Sprachverwendung in Verbindung stehen, *da in der Forschungsliteratur oft festgestellt wurde*, dass Männer einen konkurrenzbetonten Sprechstil und Frauen einen kooperativen, dialogorientierten Sprechstil bevorzugen (Gräßel 1991, Coates 1993). (Schleef 2012, 4) = have been discussed in previous research on gender-

specific language use; has often been assessed very critically and is controversial, an investigation can still be useful; as is often stated in the research literature

68) Zu der Frage, inwieweit und in welchen gesellschaftlichen Bereichen geschlechtergerechte Sprachformen tatsächlich genutzt werden und inwiefern interne Empfehlungen und Vorgaben dazu, wie sie beispielsweise an Universitäten existieren, auch umgesetzt werden, *gibt es bisher wenig Forschung*. *Die einzige umfangreiche Untersuchung* haben Daniel Elmiger, Eva Schaeffer-Lacroix und Verena Tunger anhand von Behördentexten in der Schweiz durchgeführt (vgl. Elmiger et al. 2017a und 2017b). *Ihre Ergebnisse offenbaren einen beträchtlichen Sprachwandel in diesem Bereich*. (Acke 2019, 304); there has been little research so far; the only comprehensive investigation; their results reveal a significant language shift in this area

Sub-corpus: Economics, English

DEPERSONALISATION + EVALUATIVE REFERENCE

69) The single measure of school performance *employed in this paper* is the percentage of students gaining five or more GCSE passes at grades A* - C in any one year. Full performance results (discussed later) are published each year by the DCSF (*now referred to as* the Department for Education). *It is reasonable to suggest,* by implication, that good school performance will enhance future job possibilities. However, *this particular relationship is outside the scope of this study*. (Glen and Nellis 2010, 406)

INDETERMINATION

70) Earnings announcement information is the only information that *tends to* induce jump arrivals before their release time. This exception *may occur* because of *possible* information leakage or because firms sometimes do not release information at pre-scheduled times. All the other pre-scheduled variables, such as FOMC, NONFARM, and JOBLESS, *tend to* induce jump arrivals within the first 30 minutes after the news releases. (Lee 2012, 464)

INDETERMINATION + DEPERSONALISATION

71) *Results show that* for some firms, macroeconomic jump predictors remain important in predicting their idiosyncratic jumps. Hence, the macroeconomic news releases not only are *likely to* trigger jumps in the overall market but also occasionally induce stock price jumps in the absence of systematic jumps. This *could be* because some macroeconomic news *may not be* broadly influential enough to trigger jumps at the market level, whereas one individual stock *could be* more sensitive to the news to experience dramatic changes in prices. *This evidence simply demonstrates* the important role of macroeconomic information in extremely volatile stock markets. (Lee 2012, 469)

INDETERMINATION + EVALUATIVE REFERENCE

72) Finally, *it may be the case* that the private sector *may be willing* to fund improvements in state-funded secondary schooling, as low performing schools will mean that they *may find it* difficult to attract workers with children of secondary school age to areas where secondary school performance is poor. In such circumstances workers *may require* wages which allow them to educate their children at private schools or in extremis they *may not* move to a particular city. In addition, appropriate public transport policy *may enable* students to access good performing schools from a greater geographical distance and *perhaps* alleviate any upward pressures on local house prices. *These points are worthy of further investigation*. (Glen and Nellis 2010, 414)

SUBJECTIVISATION

73) *We investigate* the relation between disclosure standards and return-mood sensitivity using a panel of 46 countries from 1995 through 2009. Using daily data, *we estimate* RMS for each country-year as the association between market returns and deseasonalized cloudiness in the city that hosts a country's stock exchange. *We standardize* this association to correct for differences in estimation precision across country-years. *We find* that the average degree of RMS varies greatly across countries, suggesting that there are country-level factors, such as disclosure standards, that mitigate or exacerbate the effect of mood on market returns. *We create* country-year measures of disclosure standard quality using the World Economic Forum's Global Competitiveness Report and the disclosure index from the Center for International Financial Analysis and Research (CIFAR). *We isolate* the impact of disclosure standards by controlling for economic development and the fraction of Internet users, both of which proxy for the level of susceptible-investor participation (and hence independently suggest higher levels of return-mood sensitivity). *We also control for* each country's climate, legal tradition, and level of investor protection and estimate specifications using country and year fixed effects. *We find* consistent evidence that higher-quality disclosure standards are significantly associated with less return-mood sensitivity. These findings are consistent with higher-quality disclosures reducing the noise in returns induced by susceptible investor trading. (Bushee and Friedman 2016, 788)

74) *We construct our measure* of return-mood sensitivity based on the sensitivity of local market stock returns to deseasonalized cloudiness. For 26 cities and the period 1982 through 1997, Hirshleifer and Shumway (2003) examine the relation between daily stock market index returns and cloud cover in the city in which the stock market is located . *In our first stage*, *we extend* their sample to 46 countries between 1995 and 2009. As in Hirshleifer and Shumway (2003), *we estimate* regressions of daily local index returns (RET) on "sky coverage" (SKC), which is a measure of deseasonalized cloudiness. *We also control for* the world portfolio index return (WR), which reflects macroeconomic information. (Bushee and Friedman 2016, 795)

75) *We examine* how disclosure standard quality relates to return-mood sensitivity through the participation of susceptible investors. We develop a measure of return-mood sensitivity (RMS) using the previously documented relationship between urban

cloudiness and market returns. *We find* that higher-quality disclosure standards are significantly negatively associated with RMS after controlling for various country-level factors, including investor participation and investor protections. *We find evidence* that disclosure standards have a greater effect on RMS in countries with a higher level of investor participation, as proxied by GDP and Internet usage. Additionally, using mutual fund and insider ownership data, *we find evidence* that disclosure standards have the greatest effect on RMS when there are low levels of insider ownership and a mix of noninsider sophisticated and susceptible investors in the market. Together, these results suggest that high-quality disclosure standards discourage susceptible investors' mood-based trading and facilitate sophisticated investors' noise-eliminating arbitrage. (Bushee and Friedman 2016, 795)

76) Because the dimensions of Ψ and θ are equal, this system of moment conditions is exactly identified. *We estimate* equation (34) by GMM, in which *we use* a Newey-West weight matrix with a lag length of 2. Next, *we estimate* λ and ξ using the moment conditions in (23) and the measure of TFP given in (26). This estimation requires that *we plug in* the estimates of ω, a, and φ from the first step into (23). To account for the sampling variation associated with these three plug-in parameters, *we adjust* the weight matrix using their respective influence functions as in Newey and McFadden (1994). *We also cluster* the weight matrix at the city level. Third, *we substitute* the point estimates for gc, gPf, δ = λφ, α, φ, and ζ into (18) to obtain Λ. To calculate the sampling variance of Λ, *we need* the joint covariance matrix of these six parameters, which *we calculate* by stacking the influence functions of the parameters as shown by Erickson and Whited (2002). After this calculation, a standard application of the delta method gives the variance of Λ. See DFW for details. (Davis, Fisher and Whited 2014, 747)

77) The methodological novelty of the paper lies in *our approach* to the first of these questions. *We rule out* a standard difference-in-differences (DiD) approach for various reasons (most importantly because the data are censored and there is a lack of an appropriate counterfactual). Instead, *we apply* a recurrent-event survival analysis, which is ideal for applications such as this. Moreover, the characteristics of hazard analysis *allow us to think of* the years immediately following cartel breakdown as the treatment group and the later years as the control group. Therefore, *we are testing* whether the hazard of a merger is highest following cartel breakdown against the counterfactual of merger hazard that is constant over time periods. Unlike in standard survival analysis, here failure is recurrent (the typical market has more than one subsequent merger), and this requires the use of less standard recurrent-failure survival models. *We show* how *our main hypothesis* can be tested directly for the pooled sample by a straightforward test on the curvature of the Weibull distribution. (Davies, Ormosi and Graffenberger 2015, 562)

SUBJECTIVISATION + DEPERSONALISATION

78) As a solution, *I suggest* the jump predictor test (JPT). The intuition that underlies the JPT is simple. Notice that our inference problem requires linking jumps to information arrivals in continuous time, and likelihood inference is therefore desirable. Since we do not have continuous observations to use in optimizing the true likelihood function

for the jump intensity model within jump diffusion processes, *one needs to approximate* the true likelihood function by using discrete data. If there is no diffusion term in the model, *one obvious solution is to approximate* the true likelihood function by a simple time discretization method (later *referred to as* the full likelihood). This takes care of the first unobservability problem *mentioned above*. In the jump diffusion models *I consider* in this study, the presence of a diffusion term makes this likelihood function unavailable for direct application. To resolve this problem, jumps *are first detected* from the return time series by employing multiple nonparametric jump detection tests. By using these estimated jumps, an auxiliary (or pseudo) likelihood *is created*, and *I refer* to this as the partial likelihood in this article. *I show* that this partial likelihood is equivalent to the full likelihood. Because the full likelihood approximates the true likelihood in continuous time, the partial likelihood that is based on detected jumps *can be applied to* determine jump predictors in continuous-time models. The limiting distribution of parameter estimates *is derived from* the likelihood function and *can, by the usual significance tests, be used to determine* the importance or unimportance of any information predictor. (Lee 2012, 443)

Sub-corpus: Economics, Serbian

DEPERSONALISATION

79) Kako opšti metod momenata predstavlja efikasan metod ocene panel podataka, čak i u situaciji kada nisu zadovoljene osnovne pretpostavke svih ostalih ocenjivača, u nastavku rada *je potrebno fokusirati se* isključivo na rezultate *dobijene* primenom ovog ocenjivača. Rezultati ovog ocenjivača dati su u drugom delu tabele 3. Šarganov test pokazuje da su *izabrani* instrumenti validni, dok test serijske autokorelacije drugog reda pokazuje odsustvo autokorelacije, što ukazuje na validnost ovog ocenjivača. *Rezultati ovog ocenjivača potvrđuju* zaključke *iznete* na osnovu prethodna dva ocenjivača, tj. za priliv stranih direktnih investicija u *izabranim* zemljama značajne su samo dve varijable, stopa inflacije i stopa priliva SDI iz prethodnog perioda i obe varijable imaju negativnu vezu. (Papović, Dević and Radivojević 2020, 51) = is necessary to focus on; obtained; chosen; results confirm; stated; chosen

80) *Istraživanje je imalo za cilj da se utvrdi* uticaj razvojnih fondova na razvoj MSPP sektora. Iz ovako *definisanog* cilja, proizašli su sledeći zadaci: *da se izvrši* analiza svakog od *navedenih* fondova, *da se utvrdi* njihov značaj za privrede u kojima posluju, *da se napravi* SWOT analiza tri fonda, *uradi* komparativna analiza tri fonda i *daju* preporuke za dalje poslovanje. (Viduka, Varađanin and Todorović 2016, 66) = the goal of this research was to determine; defined; to perform; given; to determine; to make; to do; to give

81) Metode rada: U samom radu *autori su krenuli od* redovne statistike koju fond PIO daje na kraju svake godine i *smatrali su* da penziju treba orijentisati u odnosu na minimalnu mesečnu zaradu koju propisuje ministarstvo na mesečnom nivou. *Autori u svom radu koriste* intervale zarada to jest platne razrede kako su oni definisani u statističkom izveštaju Fonda i *svoje istraživanje oslanjaju* na modifikaciju istih pod ostalim nepromenjenim uslovima. *Početna hipoteza je* da se može ostvariti smanjenje

isplata iz Fonda Pio za penzije zaposlenim licima u iznosu većem od 10% a da se bitno ne naruči socijalna karta penzionera koji iste isplate primaju. (Plojović et al. 2014, 22) = authors started from; they considered; authors use; their research; the hypothesis is

82) *Izbor metoda koji je korišćen* u ovom radu *određen je* prirodom problema i ciljem koji *je iznet* u okviru predmeta istraživanja. *U radu će se koristiti* metod studije slučaja, a kao tehnika prikupljanja podataka *koristiće se* ispitivanje putem ankete među zaposlenima u Gradskoj upravi Grada Beograda. Nakon toga, *prikupljeni* materijal sa terena *će se obraditi* metodama kvantitativne i kvalitativne analize, a pre svega *primeniće se* statistička obrada podataka *uz primenu* metode analize, komparacije, interpretacije i zaključivanja, na osnovu rezultata kvantitativne analize. Takođe, ovom metodom, *istraživanje treba da ponudi odgovor* – u kojoj meri su žene zastupljene na rukovodećim mestima u Gradskoj upravi i da li su po svojim pravima izjednačene sa muškarcima, odnosno da li postoji neki vid diskriminacije. (Dragičević 2016, 43) = the choice of methods used; was determined; was brought out; will be used; will be used; collected; will be processed; will be applied; with the application; research should offer an answer

83) Na osnovu *navedenih* činjenica, *u ovom radu će se analizirati* komparativne kvantitativne procene veličine fiskalnih multiplikatora u Srbiji i u *odabranim* evropskim zemljama u tranziciji. Rad *je strukturiran* na sledeći način: *drugi odeljak analizira* makroekonomske uslove koji preovlađuju u *analiziranim* zemljama u godinama koje su prethodile krizi; *treći odeljak fokusira se* na efikasnost fiskalnog odgovora u *posmatranim* zemljama *merenu* veličinom i determinantama fisklanih multiplikatora u njima; *četvrti odeljak predstavlja rezultate* ekonometrijske analize i *interpretaciju rezultata* kroz kratku diskusiju njihove konzistentnosti sa iskustvom konkretne zemlje. *Poslednji odeljak zaključuje.* (Vuković 2013, 3) = stated; will be analyzed in this paper; chosen; is structured; the second section analyzes; analysed; the third section focuses on; observed; measured; the fourth section presents the results; with the interpertation of results; the last section concludes

Sub-corpus: Economics, German

DEPERSONALISATION

84) Graphisch *lässt sich dieser Zusammenhang sehr gut veranschaulichen*. Hierfür *werden private Kapitalerträge i. H. v. 40.000 € pro Jahr unterstellt* (2016), also Kapitalerträge bei denen ceteris paribus die Günstigerprüfung zur Anwendung kommt. Zudem *wird die Belastung bei Abgeltungsteuer ohne Günstigerprüfung skizziert*. Weiterhin *wird der zugehörige Graph der Regelbesteuerung (§ 32a EStG) in Form einer linearen Durchschnittsteuerbelastung über dem Grundfreibetrag abgetragen*. Die Günstigerprüfung nach § 32d Abs. 6 EStG führt lediglich dazu, dass anstelle des linearen Abgeltungsteuersatzes von 25 % insoweit der Regeltarif nach § 32a EStG zur Anwendung kommt; die nach § 20 EStG *ermittelten* privaten Kapitalerträge *werden den Einkünften i. S. d. § 2 EStG hinzugerechnet*. Faktisch *wird durch die Günstigerprüfung insoweit der Regeltarif nach § 32a EStG innerhalb der Abgeltungsteuer angewandt*. Im System der Abgeltungsteuer ist hierdurch aber keine

allgemeine Verankerung des Grundfreibetragsabzugs erfolgt (s. Abb. 4, S. 186). (Kollruss 2018, 185) = can be illustrated; is [...] assumed; is [...] outlined; is [...] shown; detemined; will [...] be included; is [...] applied

85) Im Rahmen eines Pre-Tests (n = 74) *wurde zunächst je ein Erfahrungs- bzw. Suchgut mit entsprechenden extrinsischen Produktmerkmalen bestimmt*. Eine ausführliche Dokumentation des Pre-Tests findet sich im Anhang. Ausgehend von den *ermittelten* Ergebnissen *wurden Laufschuhe als Produkt mit einem hohen Anteil an Erfahrungseigenschaften ausgewählt*. Als Marke mit „guter" bzw. „schlechter" Reputation *wurde „adidas" bzw. „FILA" gewählt* und als „hoher" bzw. „niedriger" Preis *wurde 169 € bzw. 69 € festgesetzt*. Als Suchgut *wurden Digitalkameras gewählt* mit den Ausprägungen „Olympus" (hohe Reputation) bzw. „Praktica" (niedrige Reputation) für die Marke sowie 289 € („hoch") bzw. 149 € („niedrig") für den Preis. Die Dauer der GzG *wurde in beiden Produktfällen auf 30 Tage festgesetzt*. (Vieth and Eisenbeiß 2011, 1297) = were [...] determined; determined; were [...] chosen; were [...] chosen; was [...] set; were [...] chosen; was [...] set

86) In dieser Untersuchung *wird neben der allgemeinen Berechnung für den gesamt deutschen Raum die von Anger, C. und Lupo, K. (2007) bereits vorgenommene Separierung übernommen*. Zusätzlich findet *eine weitere regionale Separierung* statt. Dabei *werden die Analysen auf die Nuts-1-Ebene ausgeweitet*. Auf diese Weise ergeben sich Bildungsrenditen pro Bundesland. Zur Ermittlung der besten Methodik *wird zunächst von einem einfachen Modell, geschätzt mit der Methode der kleinsten Quadrate, ausgegangen*. Dieses *kann durch die Kontrolle der Annahmen geprüft werden*, weiterentwickelt und über die Two-Stage- und die Three-Stage-Least-Squares-Methode *ausgebaut werden*. Der Artikel gliedert sich wie folgt. Im zweiten Abschnitt *werden der Datensatz und die Variablen beschrieben*. Im dritten Abschnitt *sind die Modelle und verschiedenen Methoden zur Ermittlung der Bildungsrendite sowie die daraus resultierenden Ergebnisse hergeleitet und dargestellt*. Im letzten Abschnitt folgt ein zusammenfassendes Fazit. (Reilich 2012, 85) = is [...]adopted; a further reginal separation; are [...] expanded; is [...] based on; can [...] be checked; are [...] extended; are described; are [...] derived and presented

87) Zur Berechnung der Bildungsrendite *wird der Ansatz von Mincer, J. (1974) angewendet*. Dabei *sind ausschließlich nicht selbständig Erwerbstätige in die Untersuchung einbezogen*, die zumindest in Teilzeit beschäftigt sind. Einige Datensatzreduzierungen *mussten aufgrund von fehlenden Antworten vorgenommen werden*. Eine weitere - in der Literatur übliche - Reduktion *ist durch eine Altersbeschränkung gegeben*. Die *hier durchgeführte Analyse* bezieht sich auf Individuen zwischen dem 30. und 60. Lebensjahr. *Grund dieser Einschränkung ist*, dass für hohe Qualifizierung ein langer Bildungsweg vonnöten ist und damit viele unter 30-jährige, die ein akademisches Niveau anstreben zumeist noch im Ausbildungsprozess sind. Die obere Grenze ist notwendig, da viele Erwerbstätige nicht bis zum Renteneintrittsalter tätig sind. *Berücksichtigt man* die genannten Einschränkungen, reduziert sich der Datensatz auf 4.693 Individuen. (Reilich 2012, 85) = is [...] used; are [...] included; had [...] to be made; is [...] given; analysis performed here; the reason for this limitation is; if one takes into account...

88) Die Anzahl der Bücher im Haushalt liegt im ursprünglichen SOEP-Datensatz nicht in metrischer Form vor, sondern lediglich ordinalskaliert. *Um der notwendigen Äquidistanz Rechnung zu tragen*, *wird die Variable umkodiert* in eine einfache Dummy variable. Dabei *wird die Grenze bei 200 Büchern gesetzt*. All jene, die 200 und mehr Bücher besitzen, *bekommen den Wert 1 zugeordnet*. Alle Individuen die weniger als 200 Bücher haben, *sind mit 0 gelistet*. 69 % der Befragten haben weniger Bücher als der Grenzwert. *Berechnet man* das durchschnittliche Einkommen für beide Gruppen separat, so haben jene mit über 200 Büchern einen durchschnittlichen Bruttostundenlohn von 20,97 € (10,88) und damit ein im Mittel über 4,50 € höheres Einkommen als diejenigen mit wenigen Büchern. Diese Variable soll als Instrument in die Hilfsregression zur Ermittlung der Bildungsdauer eingehen. (Reilich 2012, 91) = in order to take the necessary equidistance into account, the variable is recoded; is [...] set, are assigned; are listed; if one takes into account...

Sub-corpus: Technology/Engineering, English

DEPERSONALISATION

89) Spray drying *was performed* using a pilot scale spray dryer. This is a tall-form cocurrent spray drier of 3.6 m height × 1.2 m diameter (Spray Processes, Bedford UK). A peristaltic pump (Watson-Marlow 510U) *was used* to deliver the feed solution to the atomizer. The atomization *was performed* by a twin-fluid nozzle, using compressed air as the atomizing gas. Ambient air was directly heated in a burner using natural gas, allowing control of the inlet air temperature. The operation *was started* by feeding distilled water and the outlet temperature *was set* by adjusting the liquid feed and air flow rate. Once the required outlet temperature was reached, the solution *was fed* into the drying chamber. Powder A *was spray dried* with the inlet and outlet temperatures *set* to 245 °C and 100 °C, while powder B *had* inlet and outlet temperatures *set* to 170 °C and 80 °C respectively. The particles were separated by a cy-clone and collected in a receiving vessel. The final products *were sealed* immediately in 1-L open containers which *were placed* in a drying cabinet for 1 h. The containers *were then sealed and stored* at room temperature. (Prime et al. 2011, 1105)

90) Differential scanning calorimetry (DSC) was among the techniques which *were employed* for the examination of the virgin polymers and polymer blends. The analyses *were performed* using a TA Instruments 2010 DSC. Samples of between 10.0 and 12.0 mg *were weighed* using a Sartorius scales having a resolution of 1 × 10−5. The samples *were then placed* in non-hermetic aluminum pans, which *were crimped* prior to testing with an empty crimped aluminum pan *being used* as the reference cell. Calorimetry scans *were carried out* by heating each sample at a rate of 10 ◦C per minute from an initial temperature of 40 ◦C to a final temperature of 90 ◦C with volatiles *being removed* from the purging head with nitrogen at a flow rate of 30 mL per minute. Calibration of the instrument *was performed* using indium as standard. (Healy et al. 2018, 6)

91) Colorimetry *was conducted* on Blend 4A and Blend 4B *to ascertain* if the inclusion of HNTs imparted any significant change in color of the blends and also *to further verify*

that HNTs had been dispersed throughout the polymeric matrix. Table 4 represents the colorimetric data which *was recorded* for each of the samples *analyzed* and *it is apparent* that the majority of the changes are occurring in the Hunter b value which is the color coordinate between blue (−100) and yellow (+100). The most noticeable change *was observed* for Blend 4B which obtained a Hunter b value of 7.81 *when compared to* that of the control sample, Blend 4, where a value of 0.89 *was attained*. Also, as can be observed the ΔE value (overall change) *was calculated* from collectively taking the changes for Hunter L, Hunter a and Hunter b into consideration and from this *it can be concluded* that out of the two samples, Blend 4A and Blend 4B, that Blend 4A illustrates the better optical properties of the two. *This is to be expected* owing to the *aforementioned* sample have a ΔE value, 3.06, closer to that of the control, Blend 4, and it also only contains two weight percent of the nanoclay, HNTs. Furthermore, as Blend 4B has a higher ΔE value *it can be said* that the higher loadings of HNTs, six weight percent, have a significant influence on the color of the sample. (Healy et al. 2018, 7)

92) All experiments *were conducted* in a conventional three electrode cell. The working electrode *was constructed* from 1mm thick polycrystalline iron foil (as supplied by Alfa Aesar-Johnson Matthey, purity 99.9945% (metals basis)) with a geometric surface area of 0.16 cm2. Prior to each experiment the surface of the working electrode *was polished* successively with 1200 grit carbimet paper and a slurry of 0.3 micron alumina powder until a “mirror bright” finish *was achieved*. A platinum wire electrode (CH Instruments, cat no. CHI 115) *was employed* as the counter electrode and a mercury-mercuric oxide (Hg/HgO) reference electrode (CH Instruments, cat no. CHI 152) *was utilised* as the reference standard, therefore all voltages are quoted against this reference electrode. A 0.5 M NaOH solution served as both the electro-polymerization medium and the supporting electrolyte for the redox switching and electro-catalytic studies. This solution *was prepared* from sodium hydroxide pellets (Sigma-Aldrich, minimum 99% purity) *using* Millipore water (resistivity > 18 MΩ cm). *Before commencing* each experiment, nitrogen gas *was bubbled* through the electrolyte solution for 20 min. (Lyons and Doyle 2011, 5712)

Sub-corpus: Technology/Engineering, Serbian

DEPERSONALISATION

93) *Pre ubacivanja peska* u kotao *uzet je* uzorak peska (0 uzorak peska). *Radi određivanja* sadržaja K2O u pesku [7] on *se razara* fluorovodoničnom, sumpornom i azotnom kiselinom. *Posle otparavanja* silicijuma, ostatak *se rastvara* u vodi i *određuje* sadržaj kalijum oksida u rastvoru. U kotao *je nasuto* 244 kg peska i to neaktivni sloj 133 kg, ostatak je aktivni sloj peska. Eksperiment u kotlu sa fluidizovanim slojem *je rađen* sa ljuskom lešnika. *Pored kompletne analize* biogoriva (vlaga 12,84%, pepeo 1,89%, sumpor sagorivi 0,11%, isparljive materije 66,65%, sagorljive materije 85,27%, donja toplotna moć goriva 16135 kJ/kg) *određen je* i sadržaj kalijum i natrijum oksida u pepelu nastalom sagorevanjem ljuske lešnika (K2O = 11,35%, Na2O = 0,65%). Pepeo iz biogoriva *se razara i prevodi* u rastvor za određivanje kalijuma na isti način kao i

uzorci peska. *Posle završenog ispitivanja* sagorevanja ljuske lešnika u kotlu, *ispuštan je* pesak i *uzeto je* više uzoraka peska iz kotla. Iz kotla *je ispušteno* 189 kg peska i na svakih 45 kg *uzet je* uzorak peska za određivanje sadržaja kalijuma. Uzorci *su označeni* kao pesak I, II, III i IV. Pored ovih uzoraka peska, *uzet je* i uzorak peska između dve promaje. Na isti način na koji *je razoren i pripremljen* uzorak peska 0, *pripremljeni su* i uzorci peska *uzeti iz kotla nakon ispitivanja*. Sadržaja K2O u rastvorima *dobijenim* razaranjem peska i pepela *je određen* plamenofotometrijskom metodom na plamenom fotometru model 360, Serwood Scientific Ltd. *Dobijeni* rezultati su prikazani u Tabeli 1. (Marinković et al. 2016, 219–220) = before inserting; was taken; in order to determine; is destroyed; after evaporation; is dissolved and determined; is filled; is done; after the complete analysis; was determined; is destroyed and transferred; after the examination; was released; was taken; was released; was taken; are marked; was taken; was destroyed and prepared; were prepared; were taken; obtained; was determined; obtained

94) U ovom radu *je ispitana* cev izlaznog međupregrejača pare iz termoelektrane snage 210 MW. Cev je bila u eksploataciji 200.000 h pri radnoj temperaturi od 540 °C i maksimalnom radnom pritisku od 4,6 MPa. Za potrebe eksperimenta, cev *je savijena* procesom hladne deformacije, pri čemu je dobijen cevni luk. Grejna površina koja *je bila na raspolaganju za ispitivanje* nije imala nijedan cevni luk sa uglom od 180° koji je neophodan za eksperiment, jer je grejna površina sačinjena od cevnih lukova od 90° koji su povezani ravnim deonicama. To je razlog zašto *je cevni luk izrađen* od prave deonice cevi. Cevni luk *je napravljen* od niskolegiranog Cr-Mo-V čelika za rad na povišenim temperaturama, klase 12H1MF (u literaturi se može naći pod oznakom 12X1MΦ po ruskom standardu ili 12KH1MF na engleskom govornom području [32]). Na slici 1.a prikazan je cevni luk nakon eksploatacije i savijanja, dok su na slici 1.b prikazane dimenzije cevnog luka, sa tri otvora namenjena za vijke, za potrebe eksperimenta. Za realizaciju eksperimenta namenski *je napravljen* držač za cevni luk koji *je izrađen* od konstrukcionog čelika S235 (EN 10025) i sastoji se od dva oslonca i četiri stopice. Dimenzije oslonca su 267x2x290 mm, sa četiri otvora prečnika 5,5 mm. Dimenzije stopice su 100x2x50 mm. Stopice *su procesom zavarivanja elektrolučnim postupkom spojene* sa osloncem, pri čemu *su dve stopice zavarene* za jedan oslonac. Držač *je uz pomoć četiri vijka, dimenzije M5x60 mm, pričvršćen* za cevni luk. Tri vijka, koja se nalaze u istoj ravni, prolaze kroz cevni luk, dok *je četvrti vijak postavljen* 15 mm iznad cevnog luka. Vijci *su postavljeni* tako da omoguće pomeranje gornjeg dela cevnog luka tokom eksperimenta, samo po vertikalnoj osi, odnosno z osi. Međusobna rastojanja kao i položaj elemenata u sklopu, prikazan je na slici 2. (Pavkov et al. 2020, 52–53) = was researched; was bent; was available for research; was made from; was made from; was made; was made from; are […] joined; are welded; are attached to; are set

95) Metoda konačnih elemenata (MKE) *je korišćena* kao alat za numeričku analizu ponašanja cevnog luka usled dejstva pritisnog opterećenja. MKE *je primenjena* da bi se proverilo da teme cevnog luka, pri maksimalnoj sili od 4922 N dobijenoj na mikrokidalici tokom eksperimenta, nije u oblasti plastične deformacije, kao i da se proceni pouzdanost *dobijenih* rezultata ovom metodom *u cilju upoređivanja* sa eksperimentalnim rezultatima. Programski paket za MKE koji *je korišćen* u ovom radu je Abaqus [38-44]. Numerički model teži da bude što približniji

eksperimentalnim uslovima. Pošto su model i primenjena geometrija opterećenja simetrični, samo *je jedna polovina modela analizirana i prikazana*, dok *je držač zanemaren*, slika 6. Držač je imao značaja u eksperimentu, *kako bi se onemogućilo* pomeranje donje polovine uzorka, pričvršćenog sa tri vijka, duž x i z osa *i tako izbeglo* potencijalno pomeranje i obrtanje cevnog luka oko sopstvene ose, dok je njihovo prisustvo u numeričkoj analizi nepotrebno. Tokom numeričke analize, sila dejstva utiskivača od 4922 N je u tački, na rastojanju 190 mm od početka cevnog luka. (Pavkov et al. 2020, 56) = is used; is applied; obtained; in order to compare; is used; is analysed and shown; is neglected; in order to enable and avoid;

Sub-corpus: Technology/Engineering, German

DEPERSONALISATION

96) Das Filtrat *wurde viermal mit jeweils 100 mL Ethylacetat extrahiert*, die organische Phase *abgetrennt*, über Na2SO4 *getrocknet*, im Rotationsverdampfer *eingeengt* und via GC-MS *analysiert*. Die Quantifizierung von Phenol, Guajakol und Catechol erfolgte durch eine Kalibrierung und Detektion über die GC-FID. (Zurbel et al. 2019, 486) = was […] extracted, separated, dried, concentrated and analysed

97) Als zeolithische Trennschicht *wurden in dieser Arbeit zu-nächst MFI-Membranen mit einem Si/Al-Verhältnis von 270 innen auf poröse, röhrenförmige Träger (Fraunhofer IKTS, Hermsdorf) aufgebracht*. Die asymmetrisch aufgebauten Träger bestehen aus a-Al2O3 (Korund), wobei die abschließende Schicht (innen) eine Porengröße von 200 nm aufweist. Für die Synthese *wurden sowohl Einkanalträger (l = 125 mm, da = 10 mm, di = 7,0 mm), als auch Mehrkanalträger (19 Kanäle, l = 200 mm, da = 25 mm, di = 3,5 mm pro Kanal; s. Abb. 1) verwendet*. Die Enden der Trägerrohre *wurden verglast* (jeweils 13 mm pro Seite). Die Synthese der Mikrofiltrationsmembranen *wurde nach einem bereits beschriebenen Protokoll [19] durchgeführt*. Dazu *wurde eine ca. 20 lm dicke Keimschicht aus gemahlenen Silikalithpartikeln (Basis TZP 9023 Südchemie) über Schlickergussverfahren erzeugt*. In einem zweiten Schritt *wurde die Syntheselösung (molare Zusammensetzung = 100 Si aus Levasil® : 3,33 Tetrapropylammoniumhydroxid : 3,33 Tetrapropylammoniumbromid : 3,33 Natriumhydroxid : 2000 Wasser) in den Tefloneinsatz eines Edelstahlautoklaven gegeben und die keramischen Träger in der Lösung platziert*. Die Außenseite der Trägerrohre *wurde vorab mit Teflonband bedeckt,* damit sich nur an der Innenwand der Träger eine Membranschicht ausbildet. Danach *wurde die hydrothermale Schichtsynthese für 48 h bei 453 K durchgeführt und die entstandenen Membranen bei 723 K für 5 h im Luftstrom kalziniert* (Heizrate 1 K min–1), *um das bei der Synthese eingesetzte Templat aus den gebildeten MFI-Poren zu entfernen*. Zusätzlich zu den *zuvor beschriebenen* Ein- bzw. Mehrkanalrohren *wurden die Innenseiten von Kapillaren (Kerafol, Germany, l = 125 mm, da = 3,0 mm, di = 2,4 mm; s. Abb. 1) mit einer Zeolithschicht ausgestattet*. Die Beschichtung der Kapillaren erfolgte analog zu der beschriebenen Beschich-tungsmethode für die Ein- und Mehrkanalrohre [19]. Für die Syntheselösung *wurde der gleiche Ansatz wie oben beschrieben verwendet*. Die Hydrothermalsynthese erfolgte für 24 h bei 453 K. Der abschließende

Templatausbrand *wurde bei 723 K für 5 h im Luftstrom durchgeführt* (Heiz-rate 0,5 K min–1). Abb. 2 zeigt rasterelektronenmikroskopische Aufnahmen der *erzielten* MFI-Beschichtungen. Die Schichtdicke der MFI-Schichten liegt dabei bei allen Trägergeometrien zwischen 20 und 50 lm. In allen drei Fällen *konnten rissfreie Membranen erhalten werden*. Durch die lm dicke MFI-Keimschicht *wurde in allen Fällen eine transmembrane Druckbeständigkeit von mindestens 10 bar erzielt*. (Neubauer et al. 2013, 715) = were […] applied; were […] used; were glazed; was […] carried out; was […] created; was […] placed; was […] covered; was […] calcined; in order to remove […]; mentioned before; were […] equipped; were […] used; was […] carried out; achieved; could […] be obtained; was […] achieved

98) Es *wurden Untersuchungen zur Adsorption organischer und anorganischer Schwefelverbindungen, Wasser und Kohlendioxid aus einem Trägergas an einem Silica-Alumina-Gel und einem Zeolithen durchgeführt*. Die Adsorptionskapazitäten *wurden mithilfe von Massenbilanzen aus den gemessenen Durchbruchskurven bestimmt*. Die auf diese Weise *erhaltenen* Adsorptionsisothermen *wurden an bekannte Isothermengleichungen angepasst*. Aus dem Vergleich der Stoffsysteme *lässt sich eine eindeutige Tendenz herleiten*: Je polarer das Adsorptivmolekül ist, desto besser adsorbiert es an beiden polaren Adsorbentien. Für das große Molekül Ethylmercaptan *konnten bei der Untersuchung des mikroporösen 5A-Zeolithen sterische Effekte beobachtet werden*. (Steuten et al. 2013, 342) = were […] carried out; were […] determined; obtained; were […] adjusted; could […] be observed

99) Als Referenzgase *wurde in Anlehnung an reale Dosierpro-zesse auf die Gase Luft mit 20,9 % Sauerstoff und Stickstoff mit einer Reinheit von 99,998 % zurückgegriffen*. *Um den Konzentrationsverlauf im Partikelbulk zu erfassen*, *wurde ein optischer Sensor basierend auf dem Prinzip der Fluoreszenzlöschung [17, 18] gewählt und in einer Höhe h = 5 mm oberhalb des Behältergrunds positioniert* (Abb. 1g). Während den Messungen *wurde die Sauerstoffkonzentration im Partikelbulk aufgezeichnet*. Die Überwachung der Spülvolumenströme *wurde mit thermischen Massendurchflussmessern durchgeführt*. Für die Versuche *wurden ausgehend von einem Referenz-produkt drei unterschiedliche Partikelfraktionen in Form von Glasperlen mit einer Porosität von e = 0,33 verwendet*. Die Partikelgrößenverteilungen *wurden durch Laserbeugung für jede der Fraktionen bestimmt*, wobei sich folgende mittlere Partikeldurchmesser zeigten: Fraktion 1: D50,3 = 611 mm; Fraktion 2: D50,3 = 263 mm; Fraktion 3: D50,3 = 238 mm. (Freiberger and Janoske 2017, 1195) = were […] used; in order to record [...], was […] chosen and positioned; was […] recorded; was […] used; was […] determined

100) In Abb. 4 sind für unterschiedliche Begasungssituationen die Konzentrationsentwicklungen für die verschiedenen Partikelgrößenverteilungen dargestellt. *Hierbei ist zu erkennen*, dass mit sinkendem mittlerem Durchmesser die Konzentration im landenden Partikelbulk sinkt, was eine bessere Spülung des Produkts und eine bessere Mitnahme der N2-Konzentration für kleine Partikelgrößen bedeutet. Dieses Verhalten *lässt sich unabhängig der Spülmechanismen mit einer Ausnahme abbilden* (Abb. 5) und für alle weiteren in dieser Arbeit durchgeführten Messungen bestätigen. Es ist ebenfalls zu erkennen, dass die Konzentrationsentwicklung der Fraktionen 2 und 3 sehr nahe beieinander liegen, *was*

darauf zurückzuführen ist, dass die mittleren Partikeldurchmesser beider Fraktionen nahe beieinander liegen (Fraktion 2 mit D50, 3 = 263 mm, Fraktion 3 mit D50, 3 = 238 mm). Die Ausnahme zu diesen Ergebnissen *wurde bei den Dosierversuchen mit Sinterschnecke und deaktivierter Ringbegasung aufgezeichnet und ist in Abb. 5 dargestellt*. (Freiberger and Janoske 2017, 1196) = it can be seen here; can be mapped; can be traced back to; was […] recorded

101) *Um die geforderte Stabilität der Gläser zu untersuchen*, fand die Auslagerung lasergefügter Probekörper im Institut für Energie- und Klima-forschung (IEK-2) Jülich unter Rohgasbelastung statt. Das Rohgas entsprach der nach einer allothermen Vergasung eines Kohle-Biomasse-Mix resultierten Zusammensetzung (36,1 % H2, 26,4 % CO, 10,2 % CO2, 15,1 % H2O (v), 0,01 % H2S, 0,001 % NaCl, 0,04 % KCl). Die thermische Behandlung/Auslagerung der gefügten S-SiC-Kapsel erfolgte *unter der o.g.* Gaszusammensetzung bei 800 °C, 850 °C bzw. 900 °C für 250 h in einem 4-Rohr-Ofen (Fa. Prüfer GmbH) [14, 20]. Anschließend *wurden REM- und EDX-Untersuchungen durchgeführt*, *um Änderungen der Oberflächenbeschaffenheit zu charakterisieren.* Gemeinsam mit den gefügten Kapseln *wurden auch stirnseitig gefügte Vollstäbe bei 850 °C ausgelagert*, *um unter diesen Belastungsbedingungen die Entwicklung der Verbundfestigkeit zu ermitteln.* Exemplarisch *wird die registrierte Entwicklung bei 850 °C für den S-SiC-Verbund mit dem Lot YAlSi1 präsentiert*, sehr ähnliche Ergebnisse liegen auch für das Lot EG0221 vor. Der Ausgangszustand der Oberflächen ist in der Abb. 6 wiedergegeben. Die *markierten* Bereiche 1 und 2 *wurden zur Durchführung von EDX-Untersuchungen gewählt*. Im Grundwerkstoff-Bereich *ergaben die REM-Untersuchungen* die *zu erwartende* Oberflächenbeschaffenheit des SSiC, worauf bereits während der Herstellung eine dünne SiO2-Schicht (Abb. 7b) entsteht. *Durch die EDX-Analyse konnte nachgewiesen werden*, dass diese gleichmäßige SiO2-Schicht durch die Laserbestrahlung nicht beeinträchtigt wird. Auf der Oberfläche der Fügenaht *sind Bestandteile des Lotes nachgewiesen worden* (Abb. 7a). Nach Auslagerung der Probekörper erschien die belastete Oberfläche optisch glasig. Die somit entstandene Beschichtung ist über die S-SiC-Fläche als auch über den Fügenahtbereich gleichmäßig verteilt. Abplatzungen und Ablösungen dieser Schicht von der Trägeroberfläche *konnten durch mikroskopische Untersuchungen nicht festgestellt werden*. REM-Aufnahmen bestätigten die Entstehung einer Glas-schicht mit teilweise kristallisierten Silikaten auf der Ober-fläche unter der Einwirkung der Rohgasatmosphäre, wie auch von [20] berichtet wird (Abb. 8). (Börner, Lippmann and Hurtado 2014, 1775) = in order to examine [...]; under the abovementioned; were […] carried out; in order to characterize […]; were […] aged, in order to determine […]; is […] presented; marked; were […] chosen; the EDX examinations showed; to be expected; the EDX analysis could be proven; were […] detected; could not be determined […]

EVALUATIVE REFERENCE

102) Aktivkohlen zählen aufgrund ihrer Wirtschaftlichkeit und hohen Beladekapazität zu den wichtigsten Adsorbentien. Zur Untersuchung der inneren Struktur dieser Materialien *werden bisher nur die Standard-Methoden, wie Stickstoff-und Jodadsorption [1 – 3] genutzt.* Unterstützt werden diese durch weitere Verfahren, wie

z. B. durch Dampf-Adsorption und Mikroskopie [4 – 5]. Aktivkohlen sind der Molekular-simulation nur schwer zugänglich [6], _da die innere Struktur nicht vollständig geklärt ist_. _Experimente zu Adsorptionsgleichgewichten können dazu beitragen_, ein realistisches Modell der inneren Struktur der Aktivkohle zu entwickeln, um die in Simulationen benötigten intermole-kularen Potentiale genauer zu ermitteln [7]. Von vielen Autoren werden zwar Messdaten geliefert, aber oft nur Messungen mit einer Aktivkohle, d. h. auch nur einem Aktivierungsgrad [1, 8 – 12]. Werden verschiedene Aktivierungsgrade untersucht, _fehlt häufig die systematische Untersuchung der Aktivkohlen mit unterschiedlichen Lösemitteln_. Oft werden nur ein oder zwei Lösemittel vermessen [1, 13 – 14] oder es wird nur ein klei-ner Temperaturbereich abgedeckt [10, 15 – 16], _weil die verwendeten Messmethoden diesen beschränken_ [17]. (Fickinger et al. 2014, 47) = only standard methods [...] have been used; because the internal structure is not completely clear; experiments on […] can contribute to; there is often a lack of systematic testing of […]; the measurement methods used limit this

103) Eine wichtige Voraussetzung für solche Untersuchungen war zunächst eine sichere analytische Methode für die Quantifizierung von Benzol, _die bislang für den Spurenbereich nicht verfügbar war_. Vorhandene Methoden _führten bei Anwendung in verschiedene Laboratorien zu signifikant unterschiedlichen Konzentrationswerten_ und selbst innerhalb eines Labors zeigten sich Konzentrationsunterschiede bei Einsatz verschiedener Methoden. Schließlich _konnte jedoch eine zuverlässige, hochsensible Nachweismethode_ für Benzol unter Verwendung der Stabilisotopenverdünnungsanalyse (SIVA) entwickelt und erprobt werden [15]. (Frank and Schieberle 2020, 398) = which was previously not available for […]; led to significantly different concentration values […]; a reliable, highly sensitive detection method was developed